EASA
European Union Aviation Safety Agency

Flight Examiner Manual

Module 10 - Balloons

Table of Contents

List of acronyms	
AFM	Aircraft Flight Manual
AIP	Aeronautical Information Publication
AoC	Assessment of Competence
ATC	Air Traffic Control
ATO	Approved Training Organisation
BFCL	Balloon Flight Crew Licensing
BPL	Balloon Pilot Licence
BOP	Balloon Air Operations
DTO	Declared Training Organisation
EASA	European Union Aviation Safety Agency
EDD	Examiner Difference Document
FE	Flight Examiner
FEM	Flight Examiner Manual
FI	Flight Instructor
HT	Head of Training
ID	Identification Document
KSA	Knowledge, Skill and Attitude
LAPL	Light Aircraft Pilot Licence
MEL	Minimum Equipment List
MS	Member State
NOTAM	Notice to air Missions
OB	Observable Behaviour
OPC	Operator Proficiency Check
PIC	Pilot in Command
PC	Proficiency Check
R/T	Radio-Telephony
SERA	Standardised European Rules of the AIR
SOP	Standard Operating Procedure
TEM	Threat and Error Management
Glossary of terms	
Candidate	means the person being tested or checked by the examiner. This person may be a pilot for whom the test or check would be required, a senior examiner or the inspector of the competent authority who is conducting the examiner certification acceptance test.

Examiner	means the person certified to conduct a skill test, proficiency check or an assessment of competence.
Examiner applicant	means the person seeking certification as an examiner.
Flight manual or other appropriate document	means balloon flight manual, pilot operating manual, operation manuals, navigation charts or any other document required to ensure safety of flight.
Inspector	means the inspector of the competent authority conducting the examiner assessment of competence.
Operator (policy)	means the person or organisation responsible for the management of the balloon and their applicable operating procedures. This information may be included in the Aircraft Flight Manual (AFM), pilot operating manuals, and company operations manuals as applicable.
Senior Examiner	means an examiner specifically tasked and authorised by the competent authority to observe skill tests or proficiency checks for the revalidation of examiner certificates.
Airmanship	means the consistent use of good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives.
Competency	means a combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.
Test	For brevity in this manual where the term test is used, this applies to a skill test or proficiency check or assessment of competence where applicable to the licence, rating or certificate being sought by the candidate.
Class	1) "Hot-air balloon" class 2) "Gas balloon" class 3) "Mixed balloon" class 4) "Hot-air airship" class
Group	"Hot-air balloon" class: 1) group A: envelope capacity up to 3 400 m3 (120 069 ft3); 2) group B: envelope capacity between 3 401 m3 (120 070 ft3) and 6 000 m3 (211 888 ft3); 3) group C: envelope capacity between 6 001 m3 (211 889 ft3) and 10 500 m3 (370 804 ft3); 4) group D: envelope capacity of more than 10 500 m3 (370 804 ft3).

I. General

1.0 Introduction

1.1 ICAO - Adoption of International Standards and Recommended Practices (ICAO SARPS)

According to the International Civil Aviation Organization (ICAO), for as long as air travel depends on qualified pilots or other air and ground personnel, their competence, skills and training will remain the essential guarantee of efficient and safe operations. Adequate personnel training and licensing also instil confidence among States, leading to international recognition and acceptance of personnel qualifications and licences and greater trust in aviation on the part of the traveller [i].

Article 37 of the Chicago Convention sets out an undertaking by all contracting States to secure the highest practicable degree of uniformity in regulations, standards, procedures, and organisation in relation to aircraft, personnel, airways and auxiliary services in all matters in which uniformity will facilitate and improve air navigation[ii].

ICAO Annex 1[iii] contains Standards and Recommended Practices adopted by the International Civil Aviation Organization as the minimum standards for personnel licensing. Compliance with these ICAO standards requires that, a candidate shall, before being issued with any pilot licence or rating, meet such requirements in respect of age, knowledge, experience, flight instruction, skill and medical fitness, as are specified for the applicable licence or rating. Also, that, an applicant for any pilot licence or rating shall demonstrate, in a manner determined by the competent authority, such requirements for knowledge and skill as are specified for that licence or rating.

1.2 EASA – The European Union Aviation Safety Agency

EASA administers the European Union's strategy for aviation safety. Its stated mission is to promote the highest common standards of safety and environmental protection in civil aviation. The Agency develops common safety and environmental rules at the European level. It monitors the implementation of standards through inspections in the Member States and provides the necessary technical expertise, training and research. The Agency works hand in hand with the national authorities which continue to carry out many operational tasks, such as certification of approved training organisations or licensing of pilots.

While it is generally the case that individual contracting ICAO member States worldwide are responsible for promulgating laws and regulations and for articulating rules (specific operating regulations) and procedures for the adoption of ICAO SARPs, in Europe the European Union has adopted a shared approach to aviation regulation by implementing common rules in the field of civil aviation. These rules are given effect under a European Commission regulation generally referred to as the "Basic Regulation" [iv]. The Basic Regulation provides the ground for a suite of implementing rules, initially drafted by EASA and enforceable in each European Member State.

1.3 Aircrew Regulation - The European Aircrew Regulation and Part-BFCL - Balloon Flight Crew Licensing

The implementing rules include an aircrew regulation, which gives legal effect to ICAO Annex 1 pilot licence standards in Europe. Among other things, the European aircrew regulation lays down the requirements for the extension of privileges, different ratings for pilots' licences and the conditions for issuing, maintaining, amending, limiting, suspending or revoking licences. Also, the privileges and responsibilities of the holders of licences, and the certification of persons responsible for providing flight training (instructors) and for testing pilots' skills (examiners).

The Part-BFCL annex establishes the requirements for the issue of a balloon pilot licence ("BPL") and associated privileges, ratings and certificates, and the conditions for their validity and use.

2.0 FEM – Flight Examiner Manual

The requirements for pilot examiners for balloons (FE(B)) in the European flight crew licencing system are set out in in sub-part FE (ANNEX III) of Part-BFCL. This subpart deals with the common requirements for all examiners and the specific prerequisites, experience and standardisation requirements. The so called EASA Rule Book Balloons (Easy Access Rules) also contains the Acceptable Means of Compliance (AMC) and Guidance Material (GM) for the initial standardisation of examiners and the revalidation and renewal of examiner certificates. The AMC material also contains a general guide to the content of a test.

This Flight Examiner Manual (FEM) is not intended to be legally binding and is designed as a companion document to the examiner standardisation requirements and guidance already set out in Part-BFCL. In addition to the regulatory contents of Part-BFCL, the purpose of this FEM is to give standardisation and best practice guidance to examiners for the conduct of tests.

Each competent authority may provide supplementary guidance and instructions specific to its territory. This information can be found in the Examiner Differences Document (EDD) and the content of this document should be covered in detail during examiner standardisation and refresher courses. The EDD should be referenced by examiners routinely when conducting tests on candidates for which the competent authority is not the same that issued the examiner's certificate.

2.1 Feedback for future revisions

The purpose of this feedback is to develop and improve all modules in the FEM. All comments and suggestions will be reviewed, and incorporated in the appropriate module, when applicable. Due to the volume of comments received, an individual response will not be sent to each commentator.

All module feedback for consideration is appreciated and should be sent to fclexaminers@easa.europa.eu.

3.0 FEM Structure and use

This FEM module contains the following chapters:

Chapter I: Common requirements for all examiner categories.
Chapter II: Skill Test standards - BPL:
- 1.0 - General applicable framework
- 2.0 - BPL - Hot-air Balloon class
- 3.0 - BPL - Gas Balloon class
- 4.0 - Decision making flow
- 5.0 - Test Debriefing
- 6.0 - Completion of all applicable records

Chapter III: Skill Test standards - Extension of privileges to another class
- 1.0 - General applicable framework
- 2.0 - Extension of privileges to the Hot-Air Balloon class
- 3.0 - Extension of privileges to the Gas Balloon class
- 4.0 - Extension of privileges to the Hot-air Airship class
- 5.0 - Decision making flow
- 6.0 - Test Debriefing
- 7.0 - Completion of all applicable records

Chapter IV: Skill Test standards - Commercial operating rating
- 1.0 - General applicable framework
- 2.0 - Commercial operating rating in the hot-air balloon class
- 3.0 - Commercial operating rating in the gas balloon class
- 4.0 - Commercial operating rating in the hot-air Airship class
- 5.0 - Decision making flow
- 6.0 - Test Debriefing
- 7.0 - Completion of all applicable records

Chapter V: Test standards for assessment of competence for FI (B)
Chapter VI: Test standards for examiner assessment of competence
Chapter VII: Senior examiners standardisation and assessments of competence for senior examiners
Appendix 1: TEM
Appendix 2: SERA

All examiners should be familiar with the common requirements (chapter I) and additionally the chapter(s) specific to their examiner privileges.

Each chapter contains two guidance tables for the examiner for use when conducting a test.

The skill test item table contains expanded guidance and additional explanations of each skill test item for the applicable Part-BFCL test.

The Knowledge Skill and Attitude (KSA) table contains the relevant competences to be demonstrated, presented in terms of knowledge, skill, and attitude.

KNOWLEDGE	This cell describes the desirable knowledge of the candidate when applying the skills and attitudes necessary to comply with rules, principles and to solve problems. Knowledge is specific information required to enable a learner to develop and apply the skills and attitudes to recall facts, identify concepts, apply rules or principles, solve problems, and think creatively in the context of work[v].
SKILL	This cell describes the desirable skill required by a candidates to perform the test item. Skill is the ability to perform an activity or action. It may be divided into three skill types: motor, cognitive and metacognitive skills.
ATTITUDE	This cell describes the attitude required by a candidate to perform the test item. Attitude is a persistent internal mental state or disposition that influences an individual's choice of personal action toward some object, person or event and that can be learned. Attitudes have affective components, cognitive aspects and behavioural consequences. To demonstrate the "right" attitude, and a learner needs to "know how to be" in a given context
Note: The intention of this table is to provide typical, tangible assessment elements in order to evaluate the satisfactory performance of a task during a test.	

These tables are provided as guidance to assist the examiner when assessing the requirements and the competencies required for satisfactory performance of each test item, appropriate to the licence, rating or certificate being sought. The examiner is expected to use sound judgement when considering the overall competency of the candidate.

4.0 Examiner requirements & privileges

Examiners are the main evaluators of entry standards for the aviation system. As such, they should set the example for their respective professions. They must have a thorough knowledge of the licensing system, high personal integrity and portray a professional and prepared approach to the conduct of any test.

This is attested by a certificate, which authorises the examiner to conduct skill tests, proficiency checks and assessments of competence. Therefore, when conducting a skill test or proficiency check, examiners are not acting on a delegation from their competent authority but exercising the privileges that are given to them by the certificate they hold. [vi]

Additionally, to comply with the Basic Regulation, holders of an examiner certificate shall:

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

4.1 Limitations of privileges in case of vested interests

ICAO requires that "States shall ensure that personnel performing safety oversight functions are provided with guidance that addresses ethics, personal conduct and the avoidance of actual or perceived conflicts of interest in the performance of official duties"[vii].

In this respect, the BFCL Regulation requires that examiners shall not conduct:

> (a) a skill test or assessment of competence of an applicant for the issue of a licence, rating or certificate to whom he or she has provided more than 50 % of the required flight instruction for the licence, rating or certificate for which the skill test or assessment of competence is taken; or
> (b) a skill test, proficiency check or assessment of competence whenever he or she feels that his or her objectivity may be affected.
>
> It is recommended that in such cases that 50 % should be spread throughout the course, and not performed towards the end of the course. Approved Training Organisations (ATOs) and Declared Training Organisations (DTOs) should plan and arrange assignments between instructors and students appropriately.

The BFCL Regulation gives guidance of situations where the examiner should consider if their objectivity is affected. The examples given are when the candidate is a relative or a friend of the examiner, or when they are linked by economic interests or political affiliations, etc.

It is acknowledged that in small sport/industry like ballooning, it is likely that examiners and candidates will be known to each other in many cases.

It is not possible to set out every situation where an examiner may feel their objectivity may be compromised. In reality, examiners conducting tests are often very specialised

on a balloon class and may be working in a specific environment where it is not practical to find another available qualified examiner, for example:

- Examiners for rare balloons, airships, etc., where no other examiner exists
- Examiners who are instructors in the same ATO or DTO or members of the same flying club as the test candidate

Examiners are independent arbiters, individually responsible for their decisions they make. This means that the unique common factor in all tests, regardless of the environment, is the direct relationship between the examiner and the candidate for a licence or rating.

In all cases, when conducting a test or check, the examiner's primary responsibility is to act professionally, in the best interest of aviation safety, regardless of the nature of the relationship with the test candidate(s). In this respect, examiners should only conduct tests where they are satisfied that their independence is not in doubt and when they are free of conflict of interest. It is the examiner's responsibility when making an assessment to make sure that the test can be performed without having doubts about the impartiality of the result.

4.2 Threat and Error Management (TEM)

In addition to the skills and knowledge required for a particular grade of pilot licence, it is equally important that the examiner pays attention to the 'soft skills' required to make good decisions while piloting a balloon.

All flight and ground instruction for EASA licences include the principles of Threat and Error Management (TEM). The aircrew regulation gives clear guidance on the principles of Threat and Error management for the Multi-Pilot Licence (MPL); however, the regulation does not go into detail for other licences. Examiners conducting skill tests for the first issue of a licence should check that the candidate clearly understands and is familiar with these principles at the level appropriate for the grade of licence sought.

Regardless of the grade of licence being examined, all examiners should be familiar with the principles of TEM and be able to discuss the TEM framework with ATO/DTO instructors as well as test candidates.

As there is no specific explanation contained in Part-BFCL it is helpful to check the explanations provided in other EU regulations. The aircrew regulation sets out one model that explains the principles of TEM, simply referred to as the "the TEM model".

According to this model, three basic components of TEM from the perspective of flight crews are:

- Threats,
- Errors, and,
- Undesired Aircraft States.

This model proposes that threats and errors are part of everyday aviation operations that must be managed by flight crews, since both threats and errors carry the potential to generate undesired aircraft states.

More information on TEM is available in the aircrew regulation, ICAO Doc.9868 and ICAO Circular 314 (see also Appendix 1 of this document).

Examiners need to be cautious to strike the right balance of knowledge and application required for the licence sought. Where a candidate has a lack of knowledge or is weak in the application of TEM principles, examiners will need to use sound judgement when deciding how to proceed. For instance, a BPL candidate may be unfamiliar with the TEM terminology but may still exhibit sound decision-making skills in the pre-flight and the flight. In this case, the examiner can simply ensure that the candidate is made familiar with the TEM principles in the flight debrief and may also consider briefing the Head of Training (HT) of the ATO/DTO ensure that future candidates are better prepared.

4.3 Just Culture

The civil aviation system should promote a 'safety culture' facilitating the spontaneous reporting of occurrences and thereby advancing the principle of a 'just culture'. 'Just culture' is an essential element of a broader 'safety culture', and these principles are regulated in Europe by regulation (EU) No 376/2014[viii].

'Just culture' means a culture in which persons:

- are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training,
- are encouraged to report safety-related information.

It should not, however, absolve individuals of their normal responsibilities and gross negligence, wilful violations and destructive acts are not tolerated.

Examiners should be aware of the importance of reporting, analysis and follow up of occurrences in civil aviation and promote a positive Just Culture environment.

5.0 Approved & Declared Training Organisations (ATOs & DTOs)

An ATO is an organization staffed, equipped and operated in a suitable environment offering flying training and/or theoretical knowledge instruction for specific flight training courses approved by the competent authority in accordance with PART-ORA. ATOs are required to have a management system which corresponds to the size of the organization and the nature and complexity of its activities and a function to monitor compliance of the organization with the relevant requirements.

A DTO is an organisation which is entitled to provide training to pilots on the basis of a Declaration made to the competent authority. A DTO is required to have a "DTO training programme" describing in detail the training courses provided by that DTO.

The BFCL Regulation provides that "Except for the skill test for the commercial operation rating as specified in point BFCL.215, an applicant for a skill test shall be recommended for the test by the ATO or the DTO that is responsible for the training undertaken by the applicants, once the training is completed. The training records shall be made available to the examiner by the ATO or DTO". In this respect, examiners need to be aware that the BFCL Regulation requires that "When conducting skill tests, proficiency checks and assessments of competence, a balloon examiner shall verify that the applicant complies with all the qualification, training and experience requirements of this Annex for the issue, revalidation or renewal of the licence, privileges, rating or certificate for which the skill test, proficiency check or assessment of competence is taken".

Examiners should be familiar with the management system of ATOs and the organisational structure of DTOs, particularly when conducting a test on a candidate using an ATO or DTO's facilities/aircraft. It is quite likely the ATO or DTO will have operational rules applicable to the dispatch of aircraft which will apply equally to the examiner as the PIC.

6.0 Data protection

Data protection is a very serious issue in the European legal framework, and it has a wide-ranging impact on different stakeholders and sectors. The EU General Data Protection Regulations (GDPR) are directly applicable in all EU member States, to provide legal certainty for individuals and businesses throughout the EU and the protection of natural persons in relation to the processing of personal data is a fundamental right[ix].

GDPR is designed to give individuals more control over their personal data. The key principles under the GDPR are:

- Lawfulness, fairness and transparency;
- Purpose Limitation;
- Data minimisation;
- Accuracy;
- Storage Limitation;
- Integrity and confidentiality, and,
- Accountability.

Part of an examiner's responsibility is the protection of a candidate's personal data when it is processed for the purpose of completing a test. Examiner's need to be aware of these responsibilities and take care to comply with the applicable requirements taking account of the many varied circumstances in which a test might conducted. Examiners shall maintain records for 5 years with details of all skill tests, proficiency checks and assessments of competence performed and their results.

7.0 Part BOP

When a test is conducted in a balloon anywhere in the Union, the operational rules shall be as set out in subpart BAS of the Annex II (Part-BOP).
Examiners conducting tests in balloons should be thoroughly familiar with the operational rules applicable to conduct the flight test. Examiners should check that candidates have a sufficient knowledge of the air operations requirements applicable to the grade of licence or rating sought.

8.0 Schedule planning

An examiner should plan a test or check flight taking into consideration the maximum and minimum durations of an individual test and the proportion of time allocated to each test item. The maximum duration has two aspects to it. The examiner cannot unnecessarily protract a test because that may unfairly degrade the candidate's performance, and a candidate must be able to perform all practical tasks and answer all questions within a reasonable time frame. The examiner should consider the weather conditions, Air Traffic Control (ATC) requirements and local procedures.

The GM published by EASA provides some interpretation guidance for examiners related to the minimum time needed for a certain test profile and as well about the maximum number of tests to be conducted by an examiner on a certain day. This guidance should be taken into account by the examiner but finally the amount of time needed for a certain test in a certain specific situation is up to the decision of the examiner. The individual test should last as long as it will take to address all the content items foreseen. It should however be highlighted that a specific minimum time for a certain test included and required by an EASA AMC (e.g. 30 minutes for a BPL or 45 minutes for a commercial operations rating) will have to be fulfilled as long as no alternative AMC exists.

9.0 Pilot in Command (PIC)

When conducting a test in a balloon, the respective roles of the examiner and candidate must be clearly defined, particularly with respect to real or simulated emergencies. For flight tests, there must always be a clear understanding of who has control of the balloon. Prior to flight, the pilots involved should conduct a briefing that includes reviewing the procedures for exchanging controls.
In most of the tests the examiner will act as PIC although not necessarily physically flying the balloon.

10.0 Communication with the candidate

As clearly stated in Part-BFCL an examiner shall have the ability to apply interpersonal and communication skills to establish an effective working relationship with the candidate without language barriers.

A candidate can easily be confused by unclear communication during a test. The use of non-relevant communication must be kept to a minimum to reduce the possibility of errors and mistakes. This means that the careful use of unambiguous language is very important.

The examiner should keep good voice communication habits in mind, such as remembering to:

- Give the 'candidate' precise instructions
- Articulate clearly
- Liaise with ATC and provide concise, easily understood intentions;
- If necessary, prompt the candidate about required sequence of events (for example following a missed approach and fly on);

During the ground and flight portion of the practical test, the examiner should assess the candidate's knowledge of the topic in accordance with the level of learning most appropriate for the applicable skill test AMC of Part-BFCL. While the oral questioning will continue throughout the entire practical test, the examiner must use discretion when asking questions during the flight portion of the evaluation and avoid distractions that could compromise the safety of the flight.

The examiner should inform the candidate that he or she should feel free to ask any question or precision before and during the test.

11.0 Conduct of the test

11.1 Examiner behaviour

The examiner should encourage a friendly and relaxed atmosphere to develop both before and during a test to enable the candidate to fully demonstrate their abilities. A negative or hostile approach should not be used. During the test, the examiner should avoid negative body language, comments or criticisms and all assessments should be reserved for the debriefing.

The performance of a candidate 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 their favour by the adoption of a friendly and sympathetic attitude. Any suggestion of haste during briefing should be avoided and the candidate should be encouraged to ask as many questions as they wish at the conclusion of each section. Clear and unhurried instructions at this stage will not only serve to put the candidate at his ease but will ensure the test proceeds smoothly and without unnecessary delay.

Examiners are responsible for improving all training and flight instruction in ATOs/DTOs by feeding back information on items or sections of tests that are most frequently repeated or failed. They must also assist in maintaining and, where possible, improving air safety standards by displaying good airmanship and flight discipline during tests. An examiner should not re-examine a failed candidate without the agreement of the candidate.

11.2 Purpose of a test

The purpose of a test is to determine through a practical demonstration that a candidate has acquired or maintained the required level of knowledge, skill or proficiency consistent with the privileges of the certificate or rating being exercised. They must demonstrate competency in operating the balloon in both normal and non-normal operations in accordance with the appropriate skill test AMC of Part-BFCL.

All tests should contain the following basic sequence of events:

1. Test administration;
2. Pre-flight briefing;
    A. Examiner briefing
    B. Candidate briefing
    C. Oral examination on the ground
3. Conduct of the test;
4. Test debriefing;
5. Completion of all applicable records.

12.0 Test administration

The examiner is ultimately responsible for making the appropriate notification to the candidate's competent authority. A review of the competent authority's test paperwork, in particular the guidance on how to complete the form, should be reviewed for correct completion.
In case of the candidate's authority is in a different Member State, the examiner is required to review the EDD to ascertain the applicable procedures for the test.

The test should begin at the appropriate time as agreed with or notified to the candidate's licencing authority.

13.0 Pre-flight briefing

13.1 Examiner briefing

The Examiner should state the purpose of the test and outline their role at the beginning of the briefing to ensure no ambiguity exists that you are conducting a test. This ensures the candidate understands that the examiner is there to check them and not train them. The candidate should approach the test as if it were a real flight.

The briefing should cover the following:

1. Licensing and identification checks, as necessary;
2. The objective of the flight;
3. Test or check sequence;
4. Contents of exercise to be performed;
5. Operating procedures to be followed (for example Aircraft Flight Manual);
6. Balloon limitations;
7. Weather assessment;
8. Respective roles of the candidate and the examiner during the test (for example during emergency);
9. Administrative procedures.
10. Responsibility for the use of R/T, including simulated R/T, if applicable
11. The freedom for the candidate to ask questions must be emphasised.

13.2 Candidate briefing

The candidate should be given time and facilities to prepare for the test flight. Pre-flight preparation requires the candidate to assess the weather conditions and make their decision whether to proceed with the flight or not. The candidate must consider the requirements of all the sections of the test that they are taking. The examiner should 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.

13.3 Oral examination on the ground (when applicable)

It is important that the examiner is well prepared for the oral examination. The examiner should define the level of knowledge the candidate needs to demonstrate and prepare questions that are fit for purpose.
The examiner should consider the appropriate level of knowledge for the applicable test in the following order; what,

- The pilot MUST know
- The pilot SHOULD know
- Would be BENEFICAL to know

The examiner should keep in mind that raising questions in areas where the candidate needs to find information in documentation takes longer than memory answers. The examiner may further use pictures or graphs, pre-defined questions or content of the questions which are stemming from the theoretical examinations.

Extended pre-flight activities clearly beyond the timeframe normally given to the candidates may be an indication of substandard performance. If the examiner decides that the candidate has failed the test due to knowledge deficiencies, the examiner must record this in a suitable manner.
By the end of the knowledge assessment (oral examination and briefing), the examiner shall determine if the candidate's level of knowledge is adequate to continue to the testing of skills.

The examiner shall predominantly ask questions and have a good understanding of question techniques. Often, the candidate input may lead to new questions. This requires the examiner to be flexible and follow leads but use questions to direct and get back on track.

The examiner should always keep in mind that the competent authority might ask for some more detailed information about the questions raised and the answers given by the candidate. Therefore a thorough documentation of this knowledge assessment is always needed.

14.0 Test items

A test is intended to simulate a practical flight. The examiner shall consider which kind of scenario enables the best evaluation possibilities for the candidate, while ensuring that the candidate is not confused, and air safety is not compromised.

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

The test schedule, as briefed, should not normally be altered by an examiner. However, the examiner may change the sequence of sections or manoeuvres to achieve an orderly and efficient flow of a practical flight having regard to existing conditions or circumstances but shall not miss out any items. It should also be reminded that test schedules usually contain several emergency / abnormal procedures and exercises. In order to assess the candidate's reaction to a (simulated) emergency or event which suddenly occurs, it is vital that the examiner has the right to simulate those events or to initiate an in-flight replanning at any time.

The examiner should be flexible to the possibility of changes arising from ATC instructions, or other circumstances affecting the test. Should a flight not proceed as briefed, the examiner shall remain flexible and alert in order to achieve as much as possible in the changed circumstances. In an aircraft, briefing a candidate during the test for a change to the sequence of the test is acceptable, but the examiner shall ensure that the candidate fully understands and accepts the changes, otherwise the test should be suspended

14.1 Aircraft safety

The safety of the flight must be the prime consideration at all times. The examiner is expected to use good judgement when simulating any emergency or abnormal procedure, having regard to local conditions and aircraft safety throughout. The examiner and candidate must be constantly alert for other traffic. When performing test items that have the potential to affect safety, the examiner will ask the candidate to simulate that portion of the manoeuvre. The examiner will assess the candidate's use of visual scanning and collision avoidance procedures throughout the flight portion of the test.

The proficiency check in accordance with BFCL.215(d)(2)(i) and the operator proficiency check in accordance with BOP.ADD.315 in a balloon of the relevant class may be conducted during a commercial passenger ballooning (CPB) operation, provided that abnormal and emergency procedures are simulated before or after the flight on the ground without passengers on board.
The balloon must not be used outside the flight manual limits. Burner failure should be carried out at a safe height above the ground, considering all the risks associated with this manoeuvre.

The examiner must be prepared to intervene if safety will be compromised.

15.0 Standard of completion

An examiner shall ensure that a candidate completes a test in accordance with the Part-BFCL and is assessed against the required test standards. In-flight exercises shall include each relevant item or section of the test.

Although a test may specify flight test tolerances, a candidate should not be expected to achieve these at the expense of smoothness or stable flight. Each test has its own specific pass/fail criteria which is detailed in the applicable AMCs of Part-BFCL. In general, there are 3 possible outcomes for all tests:

1. A 'pass', provided that the candidate demonstrates the required level of knowledge, skill or proficiency and, where applicable, remains within the flight test tolerances for the licence or rating.

2. A 'fail' provided that any of the following apply:

    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 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.

3. A 'partial pass' in accordance with the criteria defined in the relevant skill test included in the relevant AMCs of Part-BFCL.

Pass standards

- Failure in any item of a section shall cause the applicant to fail the entire section. If the applicant fails in only one section, he or she shall repeat only that section. Failure in more than one section shall require the applicant to retake the entire test.

- If the applicant needs to retake the test in accordance with the first paragraph and fails in any section, including those sections that have been passed at a previous attempt, the applicant shall retake the entire test.

- If the applicant fails to achieve a pass in all sections of the test within two attempts, he or she shall receive further practical training.

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

Should a candidate choose not to continue a test for reasons considered inadequate by an examiner, the candidate will be assessed as having failed those items or sections not attempted.

If the test is terminated for reasons considered adequate by the examiner, only these items or sections not completed shall be tested during a subsequent retest.

An examiner may terminate a test at any stage, if it is considered that the candidate's competency requires a complete retest.

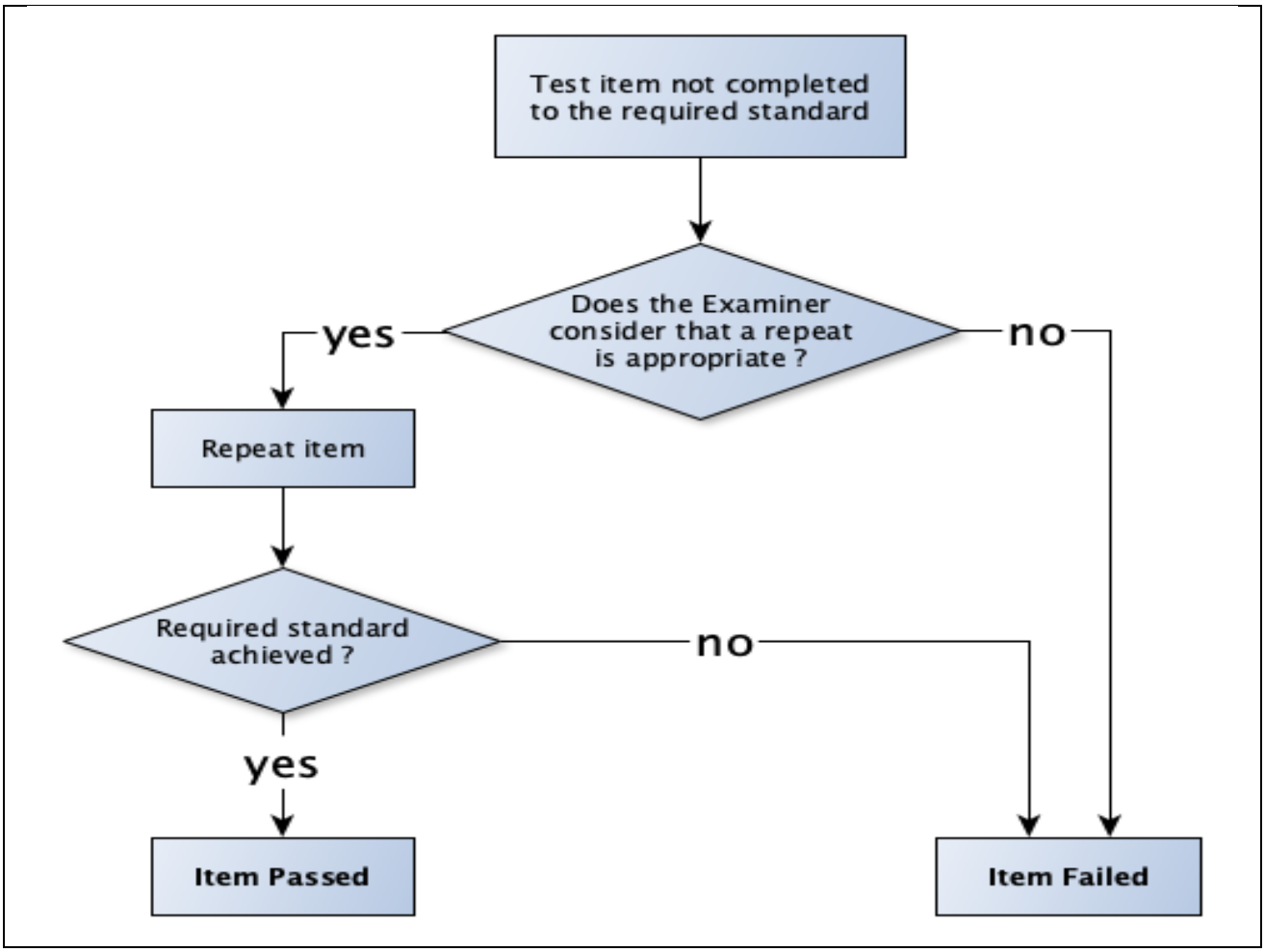
15.1 Repeat items

At the discretion of the examiner, any manoeuvre or procedure of the test may be repeated once by the candidate. The examiner may stop the test at any stage if it is considered that the applicant's demonstration of flying skills requires a complete re-test.

As general guidance, the examiner's discretion should only be exercised when they consider that the candidate does not require remedial training. Repeats, if possible, should be completed when all other test items have been attempted to allow the examiner an opportunity to assess the overall performance of the candidate.

Repeats should be recorded if required by the candidate's licencing authority.

15.2 Repeat item flow chart



15.3 Pilot competency assessment guidance

The pass or fail criteria of the relevant AMC of Part-BFCL must be applied to all tests. The competency tables below maybe used as support to debrief and provide guidance on how to improve a candidate's performance in the future. Lack of specific competencies may be identified as root causes of the failure of the performance of a task.

15.3.1 Competency based assessment

A formal competency-based assessment, based on competencies alone, requires a specific training course for instructors and examiners.

15.3.2 Competency guidance

Airmanship is defined as the consistent use of good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives.

ICAO has defined competency as a dimension of human performance that is used to reliably predict successful performance on the job or task. A competency is manifested and observed through behaviours that utilise the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions.

ICAO has further defined the assessment of competency, the determination by an instructor, assessor or evaluator as to whether a candidate meets a required competency standard under given conditions, by collecting evidence from observable behaviours. Assessment takes place during instruction and evaluation.

EASA, based on the ICAO recommendations, has defined a set of pilot competencies as follows:

- Application of Knowledge [KNO]
- Application of procedures and compliance with regulations [PRO]
- Aircraft Flight Path Management, manual control [FPM]
- Communication [COM]
- Leadership and Teamwork [LTW]
- Problem Solving and Decision Making [PSD]
- Situation awareness and management of information [SAW]
- Workload Management [WLM]

The competencies provide individual and/or team countermeasures to threats and errors to avoid undesired aircraft states[1].

This table should only be used as guidance for an examiner to debrief the candidate's airmanship performance overall and give guidance on how to improve their airmanship in the future. This competency assessment does not affect the pass or fail criteria of the applicable AMC of Part-BFCL.

[1] For more explanation, refer to ICAO Doc 9868 – Threat & Error Management Model – TEM. Undesired aircraft states are characterized by divergences from parameters normally experienced during operations (e.g. aircraft position or speed deviations, misapplication of flight controls, or incorrect systems configuration) associated with a reduction in margins of safety.

Competency	Competency description	Observable Behaviour (OB)
Application of Knowledge (KNO)	Demonstrates knowledge and understanding of relevant information, operating instructions, aircraft systems and the operating environment	1.1. Demonstrates practical and applicable knowledge of limitations and systems and their interaction 1.2. Demonstrates required knowledge of published operating instructions 1.3. Demonstrates knowledge of the physical environment, the air traffic environment including routings, weather and the operational infrastructure 1.4. Demonstrates appropriate knowledge of applicable legislation 1.5. Knows where to source required information 1.6. Demonstrates a positive interest in acquiring knowledge 1.7. Is able to apply knowledge effectively
Application of procedures and compliance with regulations [PRO]	Identifies and applies appropriate procedures in accordance with published operating instructions and applicable regulations	2.1. Identifies where to find procedures and regulations 2.2. Applies relevant operating instructions, procedures and techniques in a timely manner 2.3. Follows Standard Operation Procedures (SOPs) unless a higher degree of safety dictates an appropriate deviation 2.4. Operates aircraft systems and associated equipment correctly 2.5. Monitors aircraft systems status 2.6. Complies with applicable regulations. 2.7. Applies relevant procedural knowledge
Communication [COM]	Communicates through appropriate means in the operational environment, in both normal and non-normal situations	3.1. Determines that the recipient is ready and able to receive information 3.2. Selects appropriately what, when, how and with whom to communicate 3.3. Conveys messages clearly, accurately and concisely 3.4. Confirms that the recipient demonstrates understanding of important information 3.5. Listens actively and demonstrates understanding when receiving information 3.6. Asks relevant and effective questions 3.7. Uses appropriate escalation in communication to resolve identified deviations 3.8. Uses and interprets non-verbal communication in a manner appropriate to the organisational and social culture 3.9. Adheres to standard radiotelephone phraseology and procedures
Aircraft Flight Path Management,	Controls the flight path through manual control.	4.1. Controls the balloon manually with accuracy and smoothness as appropriate to the situation

manual control [FPM]		4.2. Monitors and detects deviations from the intended flight path and takes appropriate action 4.3. Manually controls the balloon 4.4. Manages the flight path to achieve optimum operational performance 4.5. Maintains the intended flight path during manual flight whilst managing other tasks and distractions
Leadership and Teamwork [LTW]	Influences others to contribute to a shared purpose. Collaborates to accomplish the goals of the team	5.1. Encourages team participation and open communication 5.2. Demonstrates initiative and provides direction when required 5.3. Engages others in planning 5.4. Considers inputs from others 5.5. Gives and receives feedback constructively 5.6. Addresses and resolves conflicts and disagreements in a constructive manner 5.7. Exercises decisive leadership when required 5.8. Accepts responsibility for decisions and actions 5.9. Carries out instructions when directed 5.10. Applies effective intervention strategies to resolve identified deviations 5.11. Manages cultural and language challenges, as applicable
Problem Solving and Decision Making [PSD]	Identifies precursors, mitigates problems, and makes decisions	6.1. Identifies, assesses and manages threats and errors in a timely manner 6.2. Seeks accurate and adequate information from appropriate sources 6.3. Identifies and verifies what and why things have gone wrong, if appropriate 6.4. Perseveres in working through problems whilst prioritising safety 6.5. Identifies and considers appropriate options 6.6. Applies appropriate and timely decision-making techniques 6.7. Monitors, reviews and adapts decisions as required 6.8. Adapts when faced with situations where no guidance or procedure exists 6.9. Demonstrates resilience when encountering an unexpected event
Situation awareness and management of information [SAW]	Perceives, comprehends and manages information and anticipates its effect on the operation	7.1. Monitors and assesses the state of the balloon and its systems 7.2. Monitors and assesses the balloon's energy state, and its anticipated flight path 7.3. Monitors and assesses the general environment as it may affect the operation 7.4. Validates the accuracy of information and checks for gross errors

		7.5. Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected 7.6. Develops effective contingency plans based upon potential risks associated with threats and errors 7.7. Responds to indications of reduced situation awareness
Workload Management [WLM]	Maintains available workload capacity by prioritising and distributing tasks using appropriate resources	8.1. Exercises self-control in all situations 8.2. Plans, prioritises and schedules appropriate tasks effectively 8.3. Manages time efficiently when carrying out tasks 8.4. Offers and gives assistance 8.5. Delegates tasks 8.6. Seeks and accepts assistance, when appropriate 8.7. Monitors, reviews and cross-checks actions conscientiously 8.8. Verifies that tasks are completed to the expected outcome 8.9. Manages and recovers from interruptions, distractions, variations and failures effectively while performing tasks

16.0 Test debriefing

The examiner should conduct a fair, unbiased debriefing of the candidate based on identifiable factual items. The examiner should refer to the flight test tolerances given in the relevant test. A balance between friendliness and firmness should be evident. The debrief must be transparent and if relevant, an ATO/DTO representative or the instructor may be present.

The examiner should exercise sound judgement and impartiality throughout. To assist with this, each examiner should maintain brief, factual, and unobtrusive notes of the event so that all aspects may be debriefed comprehensively.
Attention should be paid to the following points:

- Summarize the overall performance of the candidate
- Only observed performance can be evaluated
- Comments are important and they require factual explanations
- Advise the candidate on how to avoid or correct mistakes
- Mention any other areas for development noted
- Give any advice considered helpful for the improvement of flight safety
- Allow time for questions from the candidate

Generally, the debriefing should start with giving the candidate the result of the test.

If the test is passed

The examiner should:

- Encourage the trainee to self-assess
- Use the facilitation technique on 2 or 3 topics to analyse how the candidate may improve their performance
- Provide recommendations based on identifiable factual items
- Promote positive performance observed during the test.

If the test is partial passed or failed

The examiner should:

- Provide evidence based on identifiable factual items explaining why the performance does not meet with the required standard (should be ranked from the most to the least severe)

- Provide recommendations based on identifiable factual items.

- Promote positive performance observed during the test.

The examiner should detail any further training requirements and explain the candidate's right of compliant and appeal.

Best practice of dealing with a failed test:

- Avoid telling the candidate of a fail test result when in the aircraft

- Summarize and emphasize good performance where appropriate
- A fail or partial pass result must be founded on observable facts
- Give any advice considered helpful for subsequent tests.

In case of a failed or discontinued test, the examiner should provide appropriate advice to assist the candidate in re-tests.

Any comment on, or disagreement with, an examiner's test evaluation or assessment made during a debriefing should be recorded by the examiner on the test form. This should be signed by the examiner and countersigned by the candidate if possible.

17.0 Completion of all applicable records

Examiners should review the EDD for the applicable procedures of the competent authority responsible for the candidate's licence.

The examiner notes used during the debriefing may normally contain more details than the test report, however, the test report must reflect the debriefing.

In case of a fail or a partial pass the justification for failure should be written clearly on the test report. The examiner shall write which item was failed and why it was failed.

The examiner should provide the candidate with a signed report of the test and submit without delay copies of the reports and documentation that are required by the competent authority responsible for the candidate's licence.
Examiners shall maintain records for 5 years with details of all skill tests, proficiency checks and assessments of competence performed and their results.

The examiner should confirm the test result in the candidate log book and sign it.

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

18.0 Complaints and disagreements

Part-BFCL defines that any comment on, or disagreement with, an examiner`s test or check evaluation or assessment made during a debriefing will be recorded by the examiner on the test or check report, and will be signed by the examiner and countersigned by the candidate.
The competent authority which will issue or has issued the pilot licence will receive those comments or disagreements and should deal with them.

Candidates should consult the appropriate competent authority for details of any applicable complaint procedure.

II. Skill test standards – BPL

1.0 General applicable framework

Flight rules:	VFR
Operational rules:	Part-BOP (BOP BAS)
Equipment:	Balloon
Applicable class:	Hot-air balloon or Gas balloon
Applicable hot-air group:	A
Required examiner certificate:	FE(B)

1.1 Introduction

The basic privileges of a BPL holder are to fly with passengers, as PIC under VFR, in the group A hot-air balloon class or in the gas balloon class, depending in which class the candidate has passed the skill test. The holder is to act without remuneration and is restricted to engage in non-commercial operations. Depending on the medical held a BPL holder may fly either within the EU member states only (LAPL medical) or in the territory of all ICAO contracting states (class 2 medical).

When conducting the skill test, the examiner must have due regard for the limited experience that a BPL candidate may have. Nonetheless, the examiner should also appreciate that upon licensing the pilot will be responsible for the safety of his or her passengers, with the privilege to operate internationally almost unrestricted. This may bring the new balloon pilot into a variety of different situations, including unfamiliar airspace, flight rules and terrain.

1.2 Test administration

The examiner should allow an applicant adequate time to prepare for the skill test. The examiner should plan the skill test so that all required exercises can be performed while allowing sufficient time for each of the exercises and with due regard to the weather conditions, traffic situation, ATC requirements and local procedures.

The test is intended to simulate a practical flight, flown under VFR.

As required by the AMC the practical BPL skill test shall last at least 30 minutes but should in any case allow to address all the required exercises. The time needed for the flight and for the whole examination is dependent on many variables and changing elements that a fixed timeframe or minimum / maximum time cannot be provided.

The examiner should plan not more than a total of two skill tests, proficiency checks or assessment of competence per day.

The examiner is the PIC during such skill tests. Unless agreed with the examiner or needed to be in line with the required minimum landing mass based on the load calculation no other person should be allowed in the balloon. Additionally, ATO/DTO limitations should be considered.

Before proceeding with the test, the examiner shall verify that the prerequisites are met, including the BPL skill test recommendation; the ATO/DTO shall make available the training records for verification if requested. Accordingly, the following documents and conditions shall be verified:

- Passport or personal identification document
- Medical EASA Class 2 or LAPL medical
- Successful completion of the BPL theoretical exam within the last 24 months
- Pilot logbook, showing at least the following minimum flight instruction in hot-air balloons that represent group A of that class or in gas balloon (applicable class) signed by the head of training of the ATO/DTO:
  ⇒ 16 hours of total flight instruction
  ⇒ 12 hours of dual flight instruction
  ⇒ 10 inflations and 20 take-offs and landings
  ⇒ One supervised solo flight with a flight time of at least 30 minutes.
- Relevant BPL skill test form filled, and endorsed by the ATO/DTO (recommendation) if applicable
- Aircraft documents
- Current navigation charts if applicable
- Third party liability insurance certificate of the balloon
- Specific equipment for the flight part (eg. Transponder)

When the examiner is satisfied that the prerequisite requirements are met; he or she should seek confirmation that the candidate is fit and ready for the test. If so, the examiner formally starts the test.

1.3 Examiner briefing

The examiner must brief the following elements:

- Freedom for the candidate to ask questions
- Purpose and aim of the skill test
- Applicable weather minimum
- Examiner has PIC responsibility; the candidate acts autonomously as if he or she was the PIC
- Handling of radiocommunications during specific parts of the test
- Examiner role-play in normal operations and simulated emergencies
- Burner or pilot light failure-simulation or parachute or valve failure-simulation (minimum safety height, handling of the balloon).
- Handling of possible contingencies (technical, weather, ATC)
- Handling of actual emergencies
- Pass, fail, and partial pass criteria, repeat items option, and examination termination rules.

When covering pass/fail criteria the examiner should also cover general completion standards, including decision-making and airmanship. Some assessment items may require specific emphasis for the applicant to understand what is required. These completion standards should be agreed by the applicant and the examiner should consider actual flight conditions when briefing them. Items which could require special emphasis could be:

- Use of check lists
- Standard operating procedures
- Flight path and landing; expectation on handling and precision
- Navigation accuracy
- Simulated emergencies; expectation on handling, checklist use and what and how to simulate.

When explaining the completion standards the examiner should also review how the applicant has been trained by the ATO or DTO as procedures and flight techniques might differ between organisations. This is especially important for manoeuvres such as: "operation at low level", "landing approach", "missed approach" and all simulated emergencies.

1.4 Candidate flight briefing

The examiner should allow the candidate to brief uninterrupted; the candidate should conclude their briefing by making a go/no-go decision. The briefing should cover the following aspects:

- Selection of the take-off site
- Weather situation and forecast
- Area to be overflown and landing opportunities to be expected
- NOTAMs, including relevant local military restrictions, as applicable
- Airspace structure
- Balloon limitations
- Fuel planning or ballast planning
- Load calculation
- Aircraft status and documents, including maintenance release
- Crew and passenger briefings
- TEM aspects

1.5 Oral examination on the ground

The examiner should verify the relevant theoretical knowledge of the candidate during the briefing on the ground by asking questions related, as far as possible, to the planned flight covering, for example, the following areas:

- Follow-up questions to the candidate's briefing
- Regulations (EU and relevant specific national requirements)
- Licensing (e.g. BPL privileges, ratings recency, currency requirements)
- Operational aspects / Part-BOP (Subpart BAS)

- Weather information and interpretation
- Airspace structure and limitations
- Aircraft systems, limitations, performance, load planning
- Flight planning
- Navigation charts
- Emergency procedures

2.0 BPL - Hot-air Balloon class

2.1 Skill test items

The use of checklist(s), airmanship, control of the balloon by external visual reference, look-out procedures, etc. apply in all sections.

The following tables are designed to give the examiner guidance when assessing the candidate. The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation (licence, medical, permits to take-off, insurance, charts, AFM, logbooks, checklists, etc.), flight planning, NOTAM and weather briefing	• *check if all documents required for a private, passenger carrying flight are carried and correct* • *obtain and assess all elements of the prevailing and forecasted weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate operational flight plan and check navigation chart* • *determine that the hot-air balloon is correctly fuelled for the flight*
b	Balloon inspection and servicing	• *check balloon serviceability record and technical log* • *perform all elements of the balloon pre-flight inspections as detailed in the AFM* • *confirm that the balloon is in a serviceable and safe condition for flight* • *check and complete all necessary documentation*
C	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
D	Load calculation	• *complete mass schedule and check load calculation* • *calculate balloon limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd and make sure that no one who is not directly involved in the take-off preparation enters the danger zone of the balloon and the fan* • *verify clothing of passengers and crew* • *perform crew briefing* • *complete an appropriate passenger and emergency procedure briefing*
f	Assembly and layout	• *position the balloon correctly for take off* • *assemble correctly rigging envelope, basket and burner* • *perform burner test by ensuring that at no time unburned liquid gas is released* • *make sure that Instruments installed and checked* • *use restraint line* • *perform pre-inflation checks*
g	Inflation and pre-take-off procedures	• *perform crowd control* • *check position of crew members (especially crew at crown line)* • *use of the inflation fan, cold inflation* • *proceed with hot inflation.*
h	Take-off	• *perform pre-take-off checks and briefings;* • *check and release parachute system* • *heat for controlled climb;* • *use 'hands off and hands on' procedure for ground crew;* • *assess the lift* • *use of quick release;* • *assess the wind and obstacles;* • *take-off taking into account current wind speed, shelter and prepare for false lift.*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb in accordance with the manufacturer's flight manual* • *manage the effect on envelope temperature* • *complete all necessary climb checks (e.g. collision avoidance)* • *return balloon to straight and level flight at agreed level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight by* *use of instruments only* *use of visual references only* *all available means* • *use of parachute and turning vents (if applicable)* • *complete all necessary checks*
c	Descent to level flight	• *descent with a predetermined rate of descent climb in accordance with the manufacturer's flight manual* • *complete all necessary descent checks* • *return balloon to straight and level flight at agreed level/ altitude* • *maintain lookout throughout*
d	Operating at low level	• *use of burner, whisper burner and parachute* • *maintain look-out procedures* • *avoid contact with obstacles* • *avoid of sensitive areas and nature protection areas* • *be aware of landowner relations*
e	ATC compliance and R/T procedures (if applicable)	• *use standard phraseology* • *use radiotelephony equipment correctly*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *plot expected track* • *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress*
d	Maintenance of altitude	• *control balloon using visual attitude flying techniques*
e	Fuel management	• *pay attention to fuel requirement and expected fuel consumption* • *check fuel state and pressure* • *manage cylinder contents gauge and change procedure*
f	Communication with retrieve crew	• *determine that the retrieve crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*
g	ATC compliance and R/T procedures (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach from low level, missed approach and fly on	• *manage the rate of descent* • *demonstrate correct use of burner and parachute* • *maintain good look-out procedures* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
b	Approach from high level, missed approach and fly on	• *manage the rate of descent* • *demonstrate correct use of burner and parachute* • *maintain good look-out procedures* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
c	Pre-landing checks	• *carry out appropriate checks and drills (e.g. shutting off the liquid light before ground contact, preparing the parachute line, etc.)*
d	Passenger pre-landing briefing	• *determine that the passenger is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the passenger demonstrates understanding of important information*
e	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
f	Landing, dragging and deflation	• *use final landing check-list* • *shut off liquid pilot lights before touch down* • *check if passengers ready and in landing position* • *hold deflation cords in hands* • *use of parachute (or other deflation system) and turning vents (if applicable)* • *maintain look-out procedures* • *manage dragging and deflation*
g	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
h	Actions after flight (recording of the flight, closing flight plan (if applicable), briefing passengers for packing the balloon, contact landowner)	• *record the flight,* • *brief passengers for packing balloon* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures		
a	Simulated fire on the ground and in the air	Fire on the ground: • *shut off fuel supply at the cylinder valve* • *send all persons not directly involved fighting the fire to a safe distance* • *try to put of fie with extinguisher* • *make sure that all remaining persons retreat to a safe distance if the fire cannot be extinguished immediately* Fire in the air • *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher and fire blanket* • *shut off fuel supply at leaking cylinder valve* • *identify the cause of the fire* • *prepare for landing with remaining burner (if fire could be completely extinguished) or for a hard landing (if burner cannot relighted)* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated pilot light and burner failures	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *when time permits, investigate possible cause of pilot light or burner failure and take corrective action* Pilot light failures: • *re-light with the pilot light or by using the cross flow* • *use an external ignition source (if other options do not work)* • *demonstrate actions in case that all pilot lights fail and cannot relighted* Burner failures*:* • *demonstrate transfer control to other burner* • *shut off the fuel supply to the defective burner unit at cylinder valve* • *land as soon as possible* • *plan and execute further actions to ensure safe recovery of balloon, passengers*
c	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
d	Simulated passenger health problems	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *taking care of passenger (e.g., Asking at another passenger to support)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
e	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the balloon used for the skill test*

2.2 Standard of completion

To pass the BPL skill test, the candidate should demonstrate the ability to:

a. operate the balloon within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship; that is, to consistently use good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives;

d. apply aeronautical knowledge;

e. maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

Compared to requirement (a) completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 2.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

2.3 Knowledge, skills and attitude assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 2.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • aircraft flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology • content of SOPs and check lists
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, Aeronautical Information Publication (AIP) • SOP and checklist usage • smooth handling of the balloon • clear and assertive communication
Attitude	• looking for information and assess them critically • safety-minded rather than mission-minded • takes effective decisions • assertive when in doubt • aware of his limited experience and abilities

Section 2 - General Airwork	
Safe and smooth hot-air balloon operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• limitation values of the balloon (e.g. maximum take-off mass, minimum landing mass, max wind speed, etc.) • envelope temperature limitations
Skill	• establishment of stabilised flight path as required • smooth handling of the balloon • smooth flight path changes, following the established SOPs
Attitude	• acquire and update his knowledge about his position and potential threats (e.g. traffic, terrain, flight path) and consider their future evolution • set priorities (Fly, Navigate, Communicate, Manage) • assertive, seek clarification of doubts and misunderstandings before acting

Section 3 – En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology • fuel consumption principles
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicate clearly, assertively, and in due time • flight replanning • fuel management
Attitude	• aware of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • always aware of other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
Safe arrival and approach in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and fly-on procedures and applicable SOPs • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g., post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach and fly-on drills
Attitude	• awareness of the other traffic • mindfulness about the environment and its impact (e.g. wind, sun, impending fog, night) • considerations related to other traffic • assertiveness related to radiotelephony communication

Section 5 - Abnormal and Emergency Procedures

Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • standard phraseology for emergency and abnormal situation
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting priorities (Fly, Navigate, Communicate, Manage)

3.0 BPL - Gas balloon class

3.1 Skill test items

The use of checklist(s), airmanship, control of balloon by external visual reference, look-out procedures, etc. apply in all sections.

The following tables are designed to give the examiner guidance when assessing the candidate. The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation, flight planning, NOTAM and weather briefing	• *check all documents required for a private, passenger carrying flight are correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log and chart* • *determine that the aeroplane is correctly fuelled for the flight*
b	Balloon inspection and servicing	• *check balloon serviceability record and technical log* • *perform all elements of the balloon pre-flight inspections as detailed* • *confirm that the balloon is in a serviceable and safe condition for flight* • *check and complete all necessary documentation*
C	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
D	Load calculation	• *complete mass schedule* • *calculate balloon limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd* • *verify clothing* • *perform crew briefing* • *complete an appropriate passenger emergency procedure briefing for the examiner*
f	Assembly and layout	• *position the balloon correctly for take off* • *assemble correctly rigging envelope and basket* • *perform ballast test*
g	Inflation and pre-take-off procedures	• *perform crowd control* • *apply inflation procedure accordingly to the manufacturer's flight manual* • *pay attention to avoidance of electrostatic discharge*
h	Take-off	• *perform pre-take-off checks and briefings;* • *control climb;* • *demonstrate 'hands off and hands on' procedure for ground crew;* • *assess the lift;* • *assess the wind and obstacles;* • *take-off in wind of different speeds, with and without shelter; and preparation for false lift.*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb in accordance with the manufacturer's flight manual* • *complete all necessary climb checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight by* *use of instruments only* *use of visual references only* *all available means* • *use parachute and valve* • *complete all necessary checks*
c	Descent to level flight	• *descend with a predetermined rate of descent in accordance with the manufacturer's flight manual* • *Use parachute and valve* • *complete all necessary descent checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
d	Operating at low level	• *use of ballast, parachute and valve* • *maintain look-out procedures* • *avoid of low-level obstacles* • *avoid of sensitive areas and nature protection areas* • *be aware of landowner relations*
e	ATC compliance and R/T procedures (if applicable)	• *use standard phraseology* • *use radiotelephony equipment correctly*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *plot expected track* • *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress and ballast consumption*
d	Maintenance of altitude	• *control balloon using visual attitude flying techniques*
e	Ballast management	• *pay attention to minimum ballast* • *arrange and secure ballast* • *check ballast requirement and expected ballast consumption* • *manage ballast reserve*
f	Communication with retrieve crew	• *determine that the retrieve crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*
g	ATC compliance and R/T procedures (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach from low level, missed approach and fly on	• *use ballast, parachute and valve* • *maintain look-out procedures* • *use trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
b	Approach from high level, missed approach and fly on	• *manage the rate of descent* • *use ballast, parachute and valve* • *maintain look-out procedures* • *use trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
c	Pre-landing checks	• *carry out appropriate checks and drills*
d	Passenger pre-landing briefing	• *determine that the passenger is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the passenger demonstrates understanding of important information*
e	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
f	Landing, dragging and deflation	• *use ballast and parachute or valve* • *maintain look-out procedures* • *use rip panel* • *pay attention to avoidance of electrostatic discharge* • *manage dragging and deflation*
g	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
h	Actions after flight	• *record of the flight,* • *brief passengers for packing balloon* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures		
a	Simulated closed appendix during take-off and climb	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated parachute or valve failure	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *when time permits, investigate possible cause of engine failure and take corrective action* • *plan and execute further actions to ensure safe recovery of aeroplane, passengers and crew*
c	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
d	Simulated passenger health problems	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *take care of passenger (e.g., asking at another passenger to support)* • *inform ATC of practice of emergency situation and assistance required (where appropriate)*
e	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the balloon used for the flight test*

3.2 Standard of completion

To pass the BPL skill test, the candidate should demonstrate the ability to:

a. operate the balloon within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship; that is, to consistently use good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives;

d. apply aeronautical knowledge;

e. maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

Compared to requirement (a), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 3.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

3.3 Knowledge, skills and attitude assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 3.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • aircraft flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, AIP) • standard SOP and checklist usage • smooth aircraft handling • communicating clearly and assertively
Attitude	• looking for information and assess them critically • safety-minded rather than mission-minded • taking effective decisions • assertiveness when in doubt • awareness of his limited experience and abilities

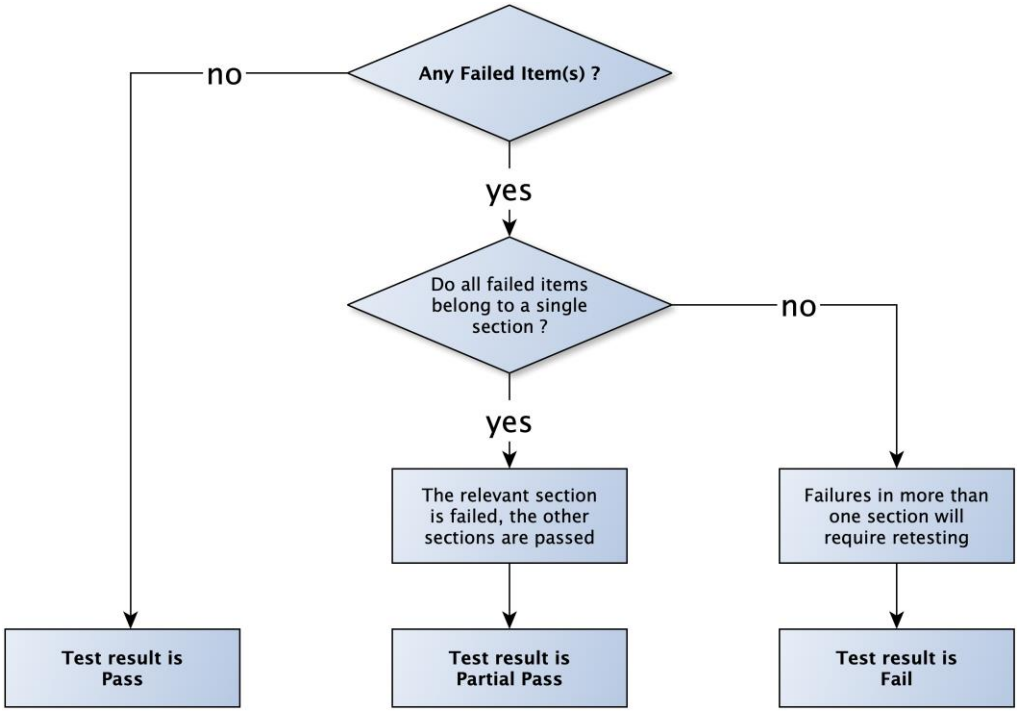
Section 2 - General Airwork	
Safe and smooth aircraft operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• aircraft limitation values • procedure of use of parachute or valve
Skill	• establishing stabilised flight path as required • smooth aircraft handling • managing of ballast • smooth flight path changes, following the established SOPs
Attitude	• acquiring and updating knowledge about position and potential threats (e.g. traffic, terrain, flight path) and considering their future evolution • setting priorities (Fly, Navigate, Communicate, Manage) • assertiveness, seeking clarification of doubts and misunderstandings before acting

Section 3 - En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicating clearly, assertively, and in due time • flight replanning
Attitude	• awareness of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • consideration related to other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
Safe arrival at a suitable landing area in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• arrival procedures, passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and fly on procedures • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g. post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• operating balloon within the applicable limitations • precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach procedures
Attitude	• awareness of the other traffic, their intentions, and the resulting impact • mindfulness about the environment and its impact • considering other traffic • assertiveness related to radiotelephony communication

Section 5 - Abnormal and Emergency Procedures	
Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • standard phraseology for emergency and abnormal situation
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting of priorities (Fly, Navigate, Communicate, Manage)

4.0 Decision making flow chart



5.0 Test debriefing

The debriefing should begin with the examiner informing the candidate about the result of the test. After that, the examiner should make use of a facilitated discussion and emphasise the relevant strengths and weaknesses demonstrated by the candidate. If the test is failed, the examiner shall inform the candidate and the training organisation regarding any training recommendation. The examiner should mention the right of disagreeing with or commenting on the examiner's decisions, according to the procedures set by the candidate's competent authority. With the agreement of the candidate, the examiner may allow the responsible instructor or the head of training to take part in the debriefing.

6.0 Completion of all applicable records

All relevant records and forms must be completed. The examiner should make sure that the forms established by the competent authority responsible for the licence of the candidate will be used (see also the EDD). This includes, but is not limited to:

- Relevant operational documentation, logbook of the balloon
- Candidate’s pilot logbook, as relevant
- Skill test protocol and examiner report
    - original to the applicant, respectively as per the candidate's competent authority instructions
    - 1 copy to the candidate`s competent authority
    - 1 copy to the examiner’s competent authority
    - 1 copy for the examiner’s records
    - Candidate logbook

For any failed or partially failed test, the justification for failure must be written or printed on the examiner report. The reasons for failure must be clear and motivated; a mere indication of which item was failed is not adequate nor sufficient. Any re-training recommendation should as well be written in the examiner report.

III. Skill test standards – Extension of privileges to another class

1.0 General applicable framework

Flight rules:	VFR
Operational rules:	Part-BOP (BOP BAS)
Equipment:	Balloon
Applicable class:	Hot-air balloon or Gas balloon or Hot-air Airship
Applicable hot-air group:	A
Required examiner certificate:	FE(B)

1.1 Introduction

The privileges of the extension of privileges to another class holder are to act as PIC on this class, within the privileges of the relevant balloon pilot license held.

1.2 Test administration

The examiner should allow an applicant adequate time to prepare for the skill test. The examiner should plan the skill test so that all required exercises can be performed while allowing sufficient time for each of the exercises and with due regard to the weather conditions, traffic situation, ATC requirements and local procedures.

The test is intended to simulate a practical flight, flown under VFR.

As required by the AMC these skill tests shall last at least 30 minutes but should in any case allow to address all the required exercises. The time needed for flight and for the whole examination is dependent on so many variables and changing elements that a fixed timeframe or minimum / maximum time cannot be provided.

The examiner should plan not more than a total of two skill tests, proficiency checks or assessment of competence per day.

The examiner is the PIC during such skill tests. The examiner is the PIC during such skill tests. Unless agreed with the examiner or needed to be in line with the required minimum landing mass based on the load calculation no other person should be allowed in the balloon. Additionally, ATO/DTO limitations should be considered.

Before proceeding with the test, the examiner shall verify that the prerequisites are met, including the BPL skill test recommendation; the ATO/DTO shall make available the training records for verification if requested. Accordingly, the following documents and conditions shall be verified:

- Passport or personal identification document

- BPL

  In cases where the applicant does not hold hot-air balloon privileges, the ATO or DTO, based on the candidate's experience, may decide to conduct training elements as per point (c) of AMC2 BFCL.130 on hot-air balloons before starting with the flight instruction on hot-air Airships, in order to allow the candidate to develop competence in hot-air aircraft operation.
- Medical EASA Class 2 or LAPL medical
- Pilot logbook, signed by the head of training of the ATO / DTO, showing at least the following minimum flight instruction:

  ⇒ 5 dual instructional flights for Hot-air balloon class and Gas balloon class

  ⇒ 5 hours of dual flight instruction for Hot-air airship class
- Relevant class skill test form filled, and endorsed by the ATO/DTO if applicable
- Aircraft documents
- Current navigation charts if applicable
- Third party liability insurance document of the balloon
- Specific equipment for the flight part

When the examiner is satisfied that the prerequisite requirements are met; he or she should seek confirmation that the candidate is fit and ready for the test. If so, the examiner formally starts the test.

1.3 Examiner briefing

The examiner must brief the following elements:

- Freedom for the candidate to ask questions
- Purpose and aim of the skill test
- Applicable weather minimum
- Examiner has PIC responsibility; the candidate acts autonomously as if he or she was the PIC
- Handling of radiocommunications during specific parts of the test
- Examiner role-play in normal operations and simulated emergencies
- Burner or pilot light failure-simulation or parachute or valve failure-simulation or engine failure-simulation (minimum safety height, handling of the balloon).
- Handling of possible contingencies (technical, weather, ATC)
- Handling of actual emergencies
- Pass, fail, and partial pass criteria, repeat items option, and examination termination rules.

When explaining the pass/fail criteria the examiner should cover general completion standards, including decision-making and airmanship. Some assessment items may require specific emphasis for the applicant to understand what is required. These completion standards should be agreed by the applicant and the examiner should consider actual flight conditions when briefing them. Items which could require special emphasis could be:

- Use of check lists
- Standard operating procedures

- Flight path and landing; expectation on handling and precision
- Navigation accuracy
- Simulated emergencies; expectation on handling, checklist use and what and how to simulate.

In covering the completion standards, the examiner should also review how the applicant has been trained by the ATO or DTO as procedures and flight techniques might differ between organisations. This is especially important for manoeuvres such as: "operation at low level", "landing approach", "missed approach" and all simulated emergencies.

1.4 Candidate flight briefing

The examiner should allow the candidate to brief uninterrupted; the candidate shall conclude their briefing by making a go/no-go decision. The briefing should cover the following aspects:

- Selection of the take-off site
- Weather situation and forecast
- The area which has to be overflown and the landing opportunities to be expected
- NOTAMs, including relevant local military restrictions, as applicable
- Airspace structure
- Balloon or hot-air airship limitations
- Fuel planning or ballast planning
- Load calculation
- Aircraft status and documents, including maintenance release
- Crew and passenger briefings
- TEM aspects

1.5 Oral examination on the ground

The examiner should verify the relevant theoretical knowledge of the candidate during the briefing on the ground by asking questions related, as far as possible, to the planned flight covering, for example, the following areas:

- Follow-up questions to the candidate's briefing
- Regulations (EU and relevant specific national requirements)
- Licensing (e.g. BPL privileges, ratings recency, currency requirements)
- Operational aspects Part-BOP (Subpart BAS)
- Weather information and interpretation
- Airspace structure and limitations
- Theoretical knowledge for extension of privileges to another balloon class (AMC4 BFCL.150 (c)(2))
- Aircraft systems, limitations, performance, load planning
- Flight planning
- Navigation charts
- Emergency procedures

2.0 Extension of privileges to hot-air balloon

To extend the privileges of a BPL to hot-air balloon privileges, BPL holders should take the skill test for the initial issue of a BPL on hot-air balloons.

Refer to chapter II skill test standards – BPL, subpart 2.0.

3.0 Extension of privileges to gas balloon

To extend the privileges of a BPL to gas balloon privileges, BPL holders should take the skill test for the initial issue of a BPL on gas balloons.

Refer to chapter II skill test standards – BPL, subpart 3.0.

4.0 Extension of privileges to the hot-air airship class

4.1 Skill test items

The use of checklist(s), airmanship, control of hot-air airship by external visual reference, look-out procedures, etc. apply in all sections.

The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation, flight planning, NOTAM and weather briefing	• *check all documents required for a private, passenger carrying flight are correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log and chart* • *determine that the aeroplane is correctly fuelled for the flight*
b	Hot-air airship inspection and servicing	• *check hot-air airship serviceability record and technical log* • *perform all elements of the hot-air airship pre-flight inspections as detailed* • *confirm that the hot-air airship is in a serviceable and safe condition for flight* • *check and complete all necessary documentation*
C	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
D	Load calculation	• *complete mass schedule* • *calculate hot-air airship limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd* • *verify clothing* • *perform crew briefing* • *complete an appropriate passenger emergency procedure briefing for the examiner*
f	Assembly and layout	• *position the hot-air airship correctly for take off* • *assemble correctly rigging envelope, gondola, burner and engine* • *perform burner test;* • *perform pre-inflation checks*
g	Inflation and pre-take-off procedures	• *perform crowd control* • *use of the inflation fan, cold inflation* • *use pressurisation (if applicable)* • *proceed hot inflation.*
h	Take-off	• *perform pre-take-off checks and briefings;* • *heat for controlled climb;* • *'hands off and hands on' procedure for ground crew;* • *assess the wind and obstacles;* • *take-off in wind of different speeds, with and without shelter; and preparation for false lift.*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb* • *manage the effect on envelope temperature* • *use the maximum rate of climb according to the manufacturer's flight manual* • *complete all necessary climb checks* • *return hot-air airship to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight by:* *use of instruments only* *use of visual references only* *all available means* • *use parachute and turning vents (if applicable)* • *complete all necessary checks*
c	Turns	• *demonstrate the correct lookout technique before, during and after turns* • *establish and maintain throughout the turn the nominated altitude and speed*
d	Stationary flight	• *control airship using visual attitude flying techniques* • *maintain the altitude*
e	Descent to level flight	• *descent with a predetermined rate of descent* • *use fast descent* • *use the maximum rate of descent according to the manufacturer's flight manual* • *perform cold descent* • *complete all necessary descent checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
f	Operating at low level	• *use burner, whisper burner and parachute* • *maintain look-out procedures* • *avoid of low-level obstacles* • *avoid of sensitive areas and nature protection areas* • *be aware of landowner relations*
g	ATC compliance (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress and ballast consumption*
d	Plotting and steering expected track	• *complete all elements of VFR planning for the route with particular reference to planned altitudes and safe levels of operation*
e	Maintenance of altitude	• *control balloon using visual attitude flying techniques*
f	Fuel management	• *pay attention to fuel requirement and expected fuel consumption* • *check fuel state and pressure* • *manage cylinder contents gauge and change procedure*
g	Pressure and engine parameter checks	• *set engine power in accordance with AFM* • *complete all necessary checks and drills*
h	Communication with ground crew	• *determine that the ground crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*

i	ATC compliance (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach, missed approach and go-around	• *use engine, burner and parachute* • *maintain look-out procedures* • *use of trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *apply appropriate power and control airship attitude to initiate a safe climb* • *maintain take off power until a safe manoeuvring altitude is reached and then adjust to a normal climb* • *complete all necessary checks and drills*
b	Pre-landing checks	• *carry out appropriate checks and drills*
c	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
d	Landing and deflation	• *use parachute (or other deflation system) and turning vents (if applicable)* • *maintain look-out procedures* • *manage deflation*
e	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
f	Actions after flight	• *record the flight* • *brief passengers for packing hot-air airship* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures		
a	Simulated fire on the ground and in the air	**ON THE GROUND** • *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher* • *evacuate the site with safety distance* • *make suitable emergency R/T calls (if applicable)* • *inform rescue services* **IN THE AIR** • *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated pilot light, burner and engine failures	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *re-light with the pilot light* • *maintain control of airship attitude following simulated engine failure* • *identify failed engine* • *complete checks and drills* • *when time permits, investigate possible cause of engine failure and take corrective action* • *plan and execute further actions to ensure safe recovery of hot-air airship, passengers*
c	Approach with simulated engine failure, missed approach and go-around	• *maintain a stable approach without engine* • *make a clear decision to land/go-around at or before appropriate asymmetric committal altitude/height (ACH)* • *at ACH or when instructed, carry out a go-around to establish a safe climb*
d	Simulated passenger health problems	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *taking care of passenger (e.g., Asking at another passenger to support)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
e	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
f	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the balloon used for the flight test*

4.2 Standard of completion

To pass the hot-air airship skill test, the candidate should demonstrate the ability to:

a. operate the hot-air airship within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship;

d. apply aeronautical knowledge;

e. maintain control of the airship at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

Compared to requirement (a), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 4.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

4.3 Knowledge, skills and attitude assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 4.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • aircraft flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, AIP) • standard SOP and checklist usage • smooth aircraft handling • communicating clearly and assertively
Attitude	• looking for information and assess them critically • safety-minded rather than mission-minded • taking effective decisions • demonstrating assertiveness when in doubt • awareness of his limited experience and abilities

Section 2 - General Airwork	
Safe and smooth aircraft operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• aircraft limitation values • procedure of use of parachute or valve
Skill	• establishing stabilised flight path as required • smooth aircraft handling • smooth flight path changes, following the established SOPs
Attitude	• acquiring and updating his knowledge about his position and potential threats (e.g. traffic, terrain, flight path) and consider their future evolution • setting priorities (Fly, Navigate, Communicate, Manage) • assertiveness, seeking clarification of doubts and misunderstandings before acting

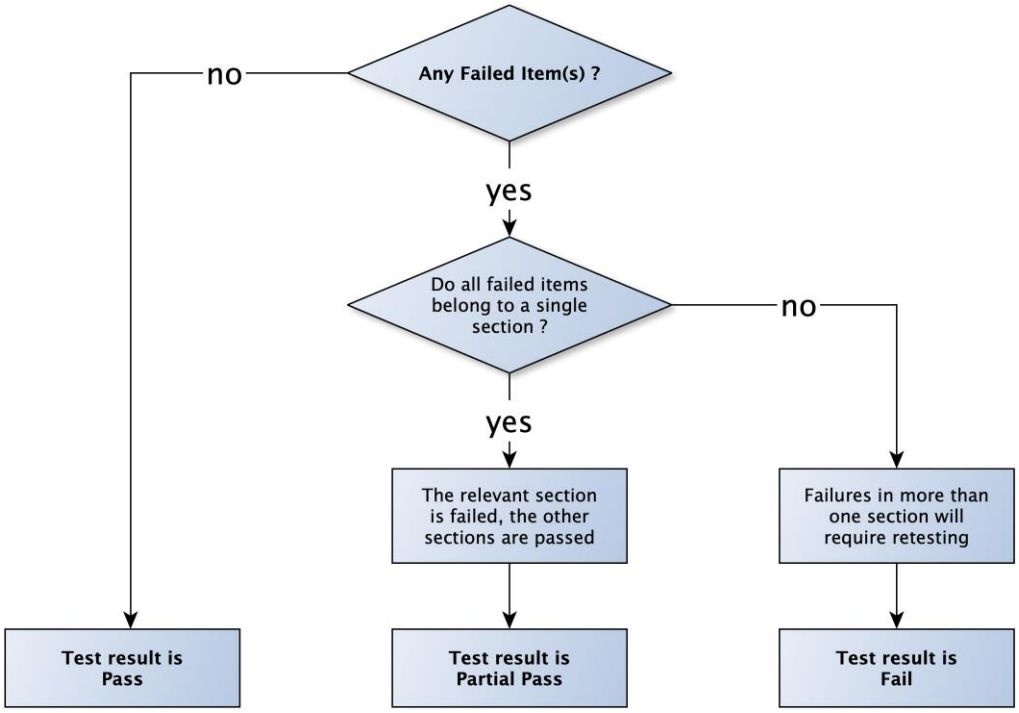
Section 3 - En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicating clearly, assertively, and in due time • flight replanning
Attitude	• awareness of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • considering other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
safe arrival at the intended landing site/area in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• arrival procedures, passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and going around procedures applicable SOPs • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g. post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• operating hot air airship within the applicable limitations • precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach procedures
Attitude	• awareness of the other traffic, their intentions, and the resulting impact • mindfulness about the environment and its impact • considering other traffic • assertiveness related to radiotelephony communication

Section 5 - Abnormal and Emergency Procedures

Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • engine failure emergency procedure • engine-out pattern and key positions • standard phraseology for emergency and abnormal situation
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation • adapting aircraft configuration for single-engine operation, if applicable • safe engine-out approach and landing
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting of priorities (Fly, Navigate, Communicate, Manage)

5.0 Decision making flow chart



6.0 Test debriefing

The debriefing should begin with the examiner informing the candidate about the result of the test. After that, the examiner should make use of a facilitated discussion and emphasise the relevant strengths and weaknesses demonstrated by the candidate. If the test is failed, the examiner shall inform the candidate and the training organisation regarding any training recommendation. The examiner should inform the candidate about the right of disagreeing or commenting, according to the procedures set by the candidate's competent authority. With the agreement of the candidate, the examiner may allow the responsible instructor and / or the head of training to take part in the debriefing.

7.0 Completion of all applicable records

All relevant records and forms must be completed (check EDD in case it is a different competent authority). This includes, but is not limited to:

- Relevant operational documentation, logbook of the balloon
- Logbook of the candidate
- Skill test protocol and examiner report
    - original to the applicant, respectively as per the candidate's competent authority instructions
    - 1 copy to the candidate’s competent authority
    - 1 copy to the examiner’s competent authority
    - 1 copy for the examiner’s records
    - Candidate logbook

For any failed or partially failed test, the justification for failure must be written / printed on the examiner report. The reason for failure must be clear and motivated; a mere indication of which item was failed is not adequate nor sufficient. Any re-training recommendation should be written in the examiner report.

IV. Skill test standards – Commercial operating rating

1.0 General applicable framework

Flight rules:	VFR
Operational rules:	Part-BOP (BAS&ADD not for initial rating)
Equipment:	Balloon
Applicable class:	Hot-air balloon or Gas balloon or Hot-air Airship
Applicable hot-air group:	A or B or C or D
Required examiner certificate:	FE(B)

1.1 Introduction

The key privileges of a commercial operating rating holder are to act as PIC in commercial operations under VFR in the hot-air balloon group or gas balloon class or hot-air airship class, depending in which the candidate has passed the skill test, respectively on which she or he is qualified. The holder is to act with remuneration in commercial operations. Depending on the medical held a BPL holder also holding such rating may fly either within the EU member states only (LAPL medical) or within the territory of all ICAO contracting states (class 2 medical).

When conducting the skill test, the examiner must have due regard for the experience that a commercial operating rating candidate may have. Nonetheless, the examiner should appreciate that with holding the rating the pilot will acquire the privilege to act as PIC in commercial operations in VFR, and be responsible for the safe conduct of such operations, including the safety of commercial passengers or payload.

1.2 Test administration

The examiner should allow an applicant adequate time to prepare for the skill test. The examiner should plan the skill test so that all required exercises can be performed while allowing sufficient time for each of the exercises and with due regard to the weather conditions, traffic situation, ATC requirements and local procedures.
The test is intended to simulate a practical flight, flown under VFR.
As required by the AMC the practical commercial operations skill test should last at least 45 minutes but should in any case allow to address all the required exercises. The time needed for flight and for the whole examination is dependent on many variables and changing elements that a fixed timeframe or minimum / maximum time cannot be provided.

The skill test may be conducted in two flights.
The examiner should plan not more than a total of two skill tests, proficiency checks or assessment of competence per day.

The examiner is the PIC.
Before proceeding with the test, the examiner shall verify that the prerequisites are met. Accordingly, the following documents and conditions shall be verified:

- Passport or personal identification document
- The candidate is at least 18 years old
- Medical EASA Class 2
- Pilot logbook, showing the following minimum:
  ⇒ 50 hours of flight time and 50 take-offs and landings as PIC on balloons
- Privileges for the group and the class of balloon in which the privileges of the commercial operation rating will be tested
- Aircraft documents
- Current navigation charts if applicable
- Third party liability insurance document of the balloon
- Specific equipment for the flight part

When the examiner is satisfied that the prerequisite requirements are met, they should seek confirmation that the candidate is fit and ready for the test. If so, the examiner formally starts the test; it is a good practice to take this opportunity to show the examiner credentials.

1.3 Examiner briefing

The examiner must brief the following elements:

- Freedom for the candidate to ask questions
- Purpose and aim of the skill test
- Applicable weather minimum
- Examiner has PIC responsibility; the candidate acts autonomously as if he or she was the PIC
- Handling of radiocommunications during specific parts of the test
- Examiner role-play in normal operations and simulated emergencies
- Burner or pilot light failure-simulation or parachute or valve failure-simulation or engine failure-simulation (minimum safety height, handling of the balloon).
- Handling of possible contingencies (technical, weather, ATC)
- Handling of actual emergencies
- Pass, fail, and partial pass criteria, repeat items option, and examination termination rules.

When covering pass/fail criteria the examiner should cover general completion standards, including decision-making and airmanship. Some assessment items may require specific emphasis for the applicant to understand what is required. These completion standards should be agreed by the applicant and the examiner should consider actual flight conditions when briefing them. Items which could require special emphasis could be:

- Use of check lists
- Standard operating procedures
- Flight path and landing; expectation on handling and precision
- Navigation accuracy
- Simulated emergencies; expectation on handling, checklist use and what and how to simulate.

When explaining the completion standards the examiner should also take in account that procedures and flight techniques which might differ.

1.4 Candidate flight briefing

The examiner should allow the candidate to brief uninterrupted; the candidate shall conclude their briefing by making a go/no-go decision. The briefing should cover the following aspects:

- Selection of the take-off site
- Weather situation and forecast
- Area which has to be overflown and the landing opportunities to be expected
- NOTAMs, including relevant local military restrictions, as applicable
- Airspace structure
- Balloon or hot-air airship limitations
- Fuel planning or ballast planning
- Load calculation
- Aircraft status and documents, including maintenance release
- Crew and passenger briefings
- TEM aspects

1.5 Oral examination on the ground

The examiner should verify the relevant theoretical knowledge of the candidate during the briefing on the ground by asking questions related, as far as possible, to the planned flight covering, for example, the following areas:

- Follow-up questions to the candidate's briefing
- Regulations (EU and relevant specific national requirements)
- Licensing (e.g. BPL privileges, ratings recency, currency requirements)
- Operational aspects Part-BOP (Subpart BAS and Subpart ADD)
- Weather information and interpretation
- Airspace structure and limitations
- Aircraft systems, limitations, performance, load planning
- Flight planning
- Navigation charts
- Emergency procedures

2.0 Commercial operating rating hot-air balloon

2.1 Skill test items

The use of checklist(s), airmanship, control of balloon by external visual reference, look-out procedures, etc. apply in all sections.

The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation, flight planning, NOTAM and weather briefing	• *check all documents required for a private, passenger carrying flight are correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log and chart* • *determine that the hot-air balloon is correctly fuelled for the flight*
b	Balloon inspection and servicing, minimum equipment list (MEL)	• *check balloon serviceability record and technical log* • *perform all elements of the balloon pre-flight inspections as detailed* • *confirm that the balloon is in a serviceable and safe condition for flight* • *use MEL (if applicable)* • *check and complete all necessary documentation*
C	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
D	Load calculation	• *complete mass schedule* • *calculate balloon limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd* • *verify clothing* • *perform crew briefing* • *complete an appropriate passenger emergency procedure briefing for the examiner*
f	Assembly and layout	• *position the balloon correctly for take off* • *assemble correctly rigging envelope, basket and burner* • *perform burner test;* • *use quick release* • *perform pre-inflation checks*
g	Inflation and pre-take-off procedures including passenger involvement and briefing	• *perform crowd control* • *brief and Involve passenger* • *use the inflation fan, cold inflation* • *proceed hot inflation.*
h	Take-off	• *perform pre-take-off checks and briefings;* • *heat for controlled climb;* • *demonstrate 'hands off and hands on' procedure for ground crew;* • *assess the lift;* • *use the quick release* • *assess the wind and obstacles in accordance with AFM*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb in accordance with the manufacturer's flight manual* • *manage the effect on envelope temperature* • *complete all necessary climb checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight by:* *use of instruments only* *use of visual references only* *all available means* • *use parachute and turning vents (if applicable)* • *complete all necessary checks*
c	Descent to level flight	• *descend with a predetermined rate of descent in accordance with the manufacturer's flight manual* • *complete all necessary descent checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
d	Operating at low level	• *use burner, whisper burner and parachute* • *maintain look-out procedures* • *avoid low-level obstacles* • *avoid sensitive areas and nature protection areas* • *be aware of landowner relations*
e	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *plot expected track* • *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress*
d	Maintenance of altitude	• *control balloon using visual attitude flying techniques*
e	Fuel management	• *pay attention to fuel requirement and expected fuel consumption* • *check fuel state and pressure* • *manage cylinder contents gauge and change procedure*
f	Communication with retrieve crew	• *determine that the retrieve crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*
g	ATC compliance and R/T procedures (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach from low level, missed approach and fly on: Passenger briefing and execution of exercise	• *use of burner and parachute* • *brief passenger* • *maintain look-out procedures* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
b	Approach from high level, missed approach and fly on: Passenger briefing and execution of exercise	• *manage the rate of descent* • *use burner and parachute* • *use restraint system for the pilot-in-command* • *brief passenger* • *maintain look-out procedures* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
c	Pre-landing checks	• *carry out appropriate checks and drills*
d	Passenger pre-landing briefing	• *determine that the passenger is ready and able to receive information* • *brief passenger on safety position* • *convey messages clearly, accurately and concisely* • *confirm that the passenger demonstrates understanding of important information*
e	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
f	Final passenger briefing, landing, dragging and deflation	• *use final landing check-list* • *check if passenger ready and in landing position* • *hold deflation cords on the PIC hands* • *switch off the pilot lights before touch down* • *use of parachute (or other deflation system) and turning vents (if applicable)* • *brief passengers* • *maintain look-out procedures* • *manage dragging and deflation*
g	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
h	Actions after flight	• *record the flight,* • *brief passengers for packing balloon* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures

a	Simulated fire on the ground and in the air	**ON THE GROUND** • *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher* • *evacuate the site with safety distance* • *make suitable emergency R/T calls (if applicable)* • *inform rescue services* **IN THE AIR** • *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated pilot light and burner failures	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *re-light with the pilot light* • *when time permits, investigate possible cause of engine failure and take corrective action* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew*
c	Simulated passenger health problems	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *take care of passenger (e.g., Asking at another passenger to support)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
d	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
e	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the balloon used for the flight test*

2.2 Standard of completion

To pass the commercial operating rating skill test in the hot-air balloon class, the candidate should demonstrate the ability to:

a. operate the balloon within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship;

d. apply aeronautical knowledge;

e. maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

f. stay within the following limits. Those tolerances are for general guidance; the examiner should make allowance for turbulent conditions and the handling qualities and performance of the hot-air balloon used:

Height	normal flight: ± 100 ft
	with simulated emergency: ± 150 ft

Compared to requirement (a) and (f), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 2.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

2.3 Knowledge, skill and attitude assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 2.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • hot-air balloon flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, AIP) • standard SOP and checklist usage • smooth hot-air balloon handling • communicating clearly and assertively
Attitude	• looking information and assess them critically • safety-minded rather than mission-minded • taking effective decisions • assertiveness when in doubt • awareness of his limited experience and abilities

Section 2 - General Airwork	
Safe and smooth hot-air balloon operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• hot-air balloon limitation values • envelope temperature limitations • pilot light limitations (temp/alt)
Skill	• establishing stabilised flight path as required • smooth hot-air balloon handling • smooth flight path changes, following the established SOPs • correct and systematic application of recovery drills • use of burner to support pilot light failure
Attitude	• acquiring and updating the knowledge about the position and potential threats (e.g. traffic, terrain, flight path) and considering their future evolution • setting priorities (Fly, Navigate, Communicate, Manage) • assertiveness, seeking clarification of doubts and misunderstandings before acting

Section 3 - En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicating clearly, assertively, and in due time • flight replanning
Attitude	• awareness of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • considering other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
Safe arrival and approach in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• arrival procedures, passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and fly on procedures • landing check-list: pilot light off • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g., tanks valves closed, post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• operating balloon within the applicable limitations • precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach procedures
Attitude	• awareness of the other traffic, their intentions, and the resulting impact • mindfulness about the environment and its impact • considering other traffic • assertiveness related to communication

Section 5 - Abnormal and Emergency Procedures	
Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • standard phraseology for emergency and abnormal situation • com-loss situations
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting priorities (Fly, Navigate, Communicate, Manage)

3.0 Commercial operating rating gas balloon

3.1 Skill test items

The use of checklist(s), airmanship, control of balloon by external visual reference, look-out procedures, etc. apply in all sections.

The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation, flight planning, NOTAM and weather briefing	• *check all documents required for a private, passenger carrying flight are correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log and chart* • *determine that the aeroplane is correctly fuelled for the flight*
b	Balloon inspection and servicing, minimum equipment list (MEL)	• *check balloon serviceability record and technical log* • *perform all elements of the balloon pre-flight inspections as detailed* • *confirm that the balloon is in a serviceable and safe condition for flight* • *use MEL (if applicable)* • *check and complete all necessary documentation*
c	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
d	Load calculation	• *complete mass schedule* • *calculate balloon limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd* • *verify clothing* • *perform crew briefing* • *complete an appropriate passenger emergency procedure briefing for the examiner*
f	Assembly and layout	• *position the balloon correctly for take off* • *assemble correctly rigging envelope and basket* • *perform ballast test*
g	Inflation and pre-take-off procedures including passenger involvement and briefing	• *perform crowd control* • *brief and Involve passenger* • *apply inflation procedure accordingly to the manufacturer's flight manual* • *pay attention to avoidance of electrostatic discharge*
h	Take-off	• *perform pre-take-off checks and briefings* • *control climb* • *demonstrate 'hands off and hands on' procedure for ground crew* • *assess the lift* • *assess the wind and obstacles* • *take-off in wind of different speeds, with and without shelter and preparation for false lift.*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb in accordance with AFM* • *complete all necessary climb checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight by:* *use of instruments only* *use of visual references only* *all available means* • *use the parachute and valve* • *complete all necessary checks*
c	Descent to level flight	• *descend with a predetermined rate of descent in accordance with AFM* • *use of parachute and valve* • *complete all necessary descent checks* • *return balloon to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
d	Operating at low level	• *use ballast, parachute and valve* • *maintain look-out procedures* • *avoid of low-level obstacles* • *avoid of sensitive areas and nature protection areas* • *be aware of landowner relations*
e	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *plot expected track* • *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress and ballast consumption*
d	Maintenance of altitude	• *control balloon using visual attitude flying techniques*
e	Ballast management	• *pay attention to minimum ballast* • *arrange and secure ballast* • *check ballast requirement and expected ballast consumption* • *manage ballast reserve*
f	Communication with retrieve crew and passengers	• *determine that the retrieve crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*
g	ATC compliance and R/T procedures (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate* • *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach from low level, missed approach and fly on: passenger briefing and execution of exercise	• *manage rate of descent* • *use ballast, parachute and valve* • *brief passengers* • *maintain look-out procedures* • *use of trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
b	Approach from high level, missed approach and fly on: passenger briefing and execution of exercise	• *manage the rate of descent* • *use ballast, parachute and valve* • *brief passengers* • *maintain look-out procedures* • *use of trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *maintain climb until a safe altitude is reached* • *complete all necessary checks and drills*
c	Pre-landing checks	• *carry out appropriate checks and drills*
d	Passenger pre-landing briefing	• *determine that the passenger is ready and able to receive information* • *brief passenger on safety position* • *convey messages clearly, accurately and concisely* • *confirm that the passenger demonstrates understanding of important information*
e	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
f	Final passenger briefing, landing, dragging and deflation	• *use ballast and parachute or valve* • *brief passenger* • *maintain look-out procedures* • *use of rip panel* • *pay attention to avoidance of electrostatic discharge* • *manage dragging and deflation*
g	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
h	Actions after flight	• *record of the flight,* • *brief passengers for packing balloon* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures

a	Simulated closed appendix during take-off and climb	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated parachute or valve failure	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *when time permits, investigate possible cause of engine failure and take corrective action* • *plan and execute further actions to ensure safe recovery of aeroplane, passengers and crew*
c	Simulated passenger health problems	• *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
d	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of balloon, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
e	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the balloon used for the flight test*

3.2 Standard of completion

To pass the commercial operating rating skill test in the gas balloon class, the candidate should demonstrate the ability to:

a. operate the balloon within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship;

d. apply aeronautical knowledge;

e. maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

f. stay within the following limits. Those tolerances are for general guidance; the examiner should make allowance for turbulent conditions and the handling qualities and performance of the gas balloon used:

Height	normal flight: ± 100 ft
	with simulated emergency: ± 150 ft

Compared to requirement (a) and (f), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 3.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

3.3 Knowledge, Skill and Attitude (KSA) assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 3.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • aircraft flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, AIP) • standard SOP and checklist usage • smooth aircraft handling • communicating clearly and assertively
Attitude	• looking for information and assess them critically • safety-minded rather than mission-minded • taking effective decisions • assertiveness when in doubt • awareness of the limited experience and abilities

Section 2 - General Airwork	
Safe and smooth aircraft operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• aircraft limitation values • procedure of use of parachute or valve
Skill	• establishing stabilised flight path as required • smooth handling of the gas balloon • managing of ballast • smooth flight path changes, following the established SOPs • correct and systematic application of recovery drills
Attitude	• acquiring and updating his knowledge about the position and potential threats (e.g. traffic, terrain, flight path) and consider their future evolution • setting priorities (Fly, Navigate, Communicate, Manage) • assertiveness, seeking clarification of doubts and misunderstandings before acting

Section 3 - En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicating clearly, assertively, and in due time • flight replanning
Attitude	• awareness of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • considering about other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
Safe arrival and approach in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• arrival procedures, passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and fly on procedures • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g. post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• operating balloon within the applicable limitations • precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach procedures
Attitude	• awareness of the other traffic, their intentions, and the resulting impact • mindfulness about the environment and its impact • considering other traffic • assertiveness related to radiotelephony communication

Section 5 - Abnormal and Emergency Procedures	
Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • standard phraseology for emergency and abnormal situation • com-loss situations
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation
Attitude	• information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting priorities (Fly, Navigate, Communicate, Manage)

4.0 Commercial operating rating hot-air airship

4.1 Skill test items

The use of checklist(s), airmanship, control of hot-air airship by external visual reference, look-out procedures, etc. apply in all sections.

The mandated skill test items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Pre-flight Operation, inflation and take-off		
a	Pre-flight documentation, flight planning, NOTAM and weather briefing	• *check all documents required for a private, passenger carrying flight are correct* • *obtain and assess all elements of the prevailing and forecast weather conditions* • *obtain and assess all aeronautical information and NOTAMS* • *complete an appropriate flight navigation log and chart* • *determine that the aeroplane is correctly fuelled for the flight*
b	Hot-air airship inspection and servicing, minimum equipment list (MEL)	• *check hot-air airship serviceability record and technical log* • *perform all elements of the hot-air airship pre-flight inspections as detailed* • *confirm that the hot-air airship is in a serviceable and safe condition for flight* • *use MEL (if applicable)* • *check and complete all necessary documentation*
C	Suitability of launch site	• *choose the site function permission, characteristics, adjacent field and weather conditions*
D	Load calculation	• *complete mass schedule* • *calculate hot-air airship limitations applicable to the launch site and forecast weather conditions and make adjustments if required for actual conditions before take-off*
e	Crowd control, crew and passenger briefings	• *manage crowd* • *verify clothing* • *perform crew briefing* • *complete an appropriate passenger emergency procedure briefing for the examiner*
f	Assembly and layout	• *position the hot-air airship correctly for take off* • *assemble correctly rigging envelope, gondola, burner and engine* • *perform burner test and engine test* • *perform pre-inflation checks*
g	Inflation and pre-take-off procedures including passenger involvement and briefing	• *perform crowd control* • *brief and Involve passenger* • *use the inflation fan, cold inflation* • *demonstrate pressurisation (if applicable)* • *proceed hot inflation.*
h	Take-off	• *perform pre-take-off checks and briefings;* • *heat for controlled climb;* • *demonstrate 'hands off and hands on' procedure for ground crew;* • *assess the wind and obstacles;* • *take-off in wind of different speeds, with and without shelter;*
i	ATC compliance and R/T procedures (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 2 - General Airwork		
a	Climb to level flight	• *climb with a predetermined rate of climb in accordance with AFM* • *manage the effect on envelope temperature* • *complete all necessary climb checks* • *return hot-air airship to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
b	Level flight	• *maintain level flight b:* *use of instruments only* *use of visual references only* *all available means* • *complete all necessary checks*
c	Turns	• *demonstrate the correct lookout technique before, during and after turns* • *establish and maintain throughout the turn the nominated altitude and speed*
d	Stationary flight	• *control the airship using visual attitude flying techniques* • *maintain the altitude*
e	Descent to level flight	• *descend with a predetermined rate of descent in accordance with AFM* • *complete all necessary descent checks* • *return hot-air airship to straight and level flight at nominated level/ altitude* • *maintain lookout throughout*
f	Operating at low level	• *use of engine, burner, whisper burner and rip panel* • *maintain look-out procedures* • *avoid of low-level obstacles* • *avoid of sensitive areas and nature protection areas* • *be aware of landowner relations*
g	ATC compliance (if applicable)	• *demonstrate standard R/T procedures and phraseology* • *demonstrate compliance with ATC instructions*

Section 3 - En-route Procedures		
a	Dead reckoning and map reading	• *identify position visually by reference to ground features and map*
b	Marking positions and time	• *manage the navigation*
c	Orientation and airspace structure	• *maintain awareness of surrounding terrain, obstacles and restricted airspaces* • *navigate by means of calculated headings, ground speed and time* • *monitor flight progress*
d	Plotting and steering expected track	• *complete all elements of VFR planning for the route with particular reference to planned altitudes and safe levels of operation*
e	Maintenance of altitude	• *control hot-air airship using visual attitude flying techniques*
f	Fuel management	• *pay attention to fuel requirement and expected fuel consumption* • *check fuel state and pressure* • *manage cylinder contents gauge and change procedure and Check petrol fuel level*
g	Pressure and engine parameter checks	• *set engine power in accordance with AFM* • *complete all necessary checks and drills*
h	Communication with ground crew	• *determine that the ground crew is ready and able to receive information* • *convey messages clearly, accurately and concisely* • *confirm that the retrieve crew demonstrates understanding of important information*
i	ATC compliance (if applicable)	• *maintain two-way R/T communication using correct phraseology throughout* • *obtain ATC clearances or flight information, as appropriate*

		• *comply with ATC clearances and instructions when required*

Section 4 - Approach and Landing Procedures		
a	Approach, missed approach and go-around	• *use burner and engine* • *maintain look-out procedures* • *use trail rope (if applicable)* • *execute a timely decision to discontinue the approach either when instructed or as considered necessary* • *apply appropriate power and control airship attitude to initiate a safe climb* • *maintain take off power until a safe manoeuvring altitude is reached and then adjust to a normal climb* • *complete all necessary checks and drills*
b	Pre-landing checks	• *carry out appropriate checks and drills*
c	Selection of landing field	• *consider weather and wind conditions, landing surface and obstructions* • *maintain adequate lookout and collision avoidance*
d	Landing and deflation	• *use rip panel parachute (or other deflation system)* • *maintain look-out procedures* • *manage deflation*
e	ATC compliance (if applicable)	• *obtain and comply with ATC clearances using correct R/T phraseology* • *maintain awareness of other traffic through R/T and lookout*
f	Actions after flight	• *record the flight,* • *brief passengers for packing hot-air airship envelope* • *contact landowner*

Section 5 - Abnormal and Emergency Procedures		
a	Simulated fire on the ground and in the air	• *analyse emergency or abnormal situation and formulate appropriate plan* • *use fire extinguisher* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
b	Simulated pilot light, burner and engine failures	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute emergency drills* • *re-light with the pilot light* • *maintain control of airship attitude following simulated engine failure* • *identify failed engine* • *complete checks and drills* • *when time permits, investigate possible cause of engine failure and take corrective action* • *plan and execute further actions to ensure safe recovery of hot-air airship, passengers*
c	Approach with simulated engine failure, missed approach and go-around	• *maintain a stable approach without engine* • *make a clear decision to land/go-around* • *when instructed, carry out a go-around to establish a safe climb*

d	Simulated passenger health problems	• *analyse emergency or abnormal situation and formulate appropriate plan* • *choose a suitable landing area with due regard for landing surface, surroundings and wind velocity* • *plan descent to achieve a safe approach to chosen landing area such that a safe landing would be likely* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
e	Other abnormal and emergency procedures as outlined in the appropriate flight manual	• *analyse emergency or abnormal situation and formulate appropriate plan* • *execute abnormal or emergency drills* • *plan and execute further actions to ensure safe recovery of hot-air airship, passengers and crew* • *use check list to confirm actions when time permits* • *make suitable emergency R/T calls (given to examiner but not transmitted)* • *inform ATC of practice emergency situation and assistance required (where appropriate)*
f	Oral questions	• *demonstrate knowledge of maintaining, operating, emergency handling and limitations of the hot-air airship used for the flight test*

4.2 Standard of completion

To pass the commercial operating rating skill test in the hot-air airship class, the candidate should demonstrate the ability to:

a. operate the hot-air airship within its limitations;

b. complete all manoeuvres with smoothness and accuracy;

c. exercise good judgment and airmanship;

d. apply aeronautical knowledge;

e. maintain control of the hot-air airship at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

f. stay within the following limits. Those tolerances are for general guidance; the examiner should make allowance for turbulent conditions and the handling qualities and performance of the hot-air airship used:

Height	normal flight: ± 100 ft
	with simulated emergency: ± 150 ft

Compared to requirement (a) and (f), completion standards (b) to (e) don't rely on quantitative tolerance, but on qualitative one. Usage of guidance provided in subpart 4.3 should provide for a fact-based and consistent assessment and decision of those qualitative requirements.

4.3 Knowledge, Skill and Attitude (KSA) assessment guidance

The following tables are designed to give the examiner guidance when assessing the KSAs required by the candidate to successfully complete each section of the test. It should aid the examiner to assess the standard of completion elements laid down in subpart 4.2 under (b) to (e), and determine the result.

For each section a brief narrative of the section's objectives is provided, together with the most relevant KSAs.

Section 1 - Pre-flight Operation, inflation and take-off	
Planning and preparation of a safe and compliant flight, including the usage of TEM. Safe and compliant usage of the aircraft on the ground and during the transition to flight	
Knowledge	• applicable regulations (rules of the air, operational, licensing) • weather information interpretation and understanding • NOTAM interpretation and understanding • aircraft flight manual structure, relevant information usage • aeronautical charts interpretation and usage • radio communication procedures and standard phraseology
Skill	• flight preparation information retrieval • searching in official reference documents (e.g. AFM, AIP) • standard SOP and checklist usage • smooth aircraft handling • communicating clearly and assertively
Attitude	• looking for information and assess them critically • safety-minded rather than mission-minded • taking effective decisions • assertiveness when in doubt • awareness of limited experience and abilities

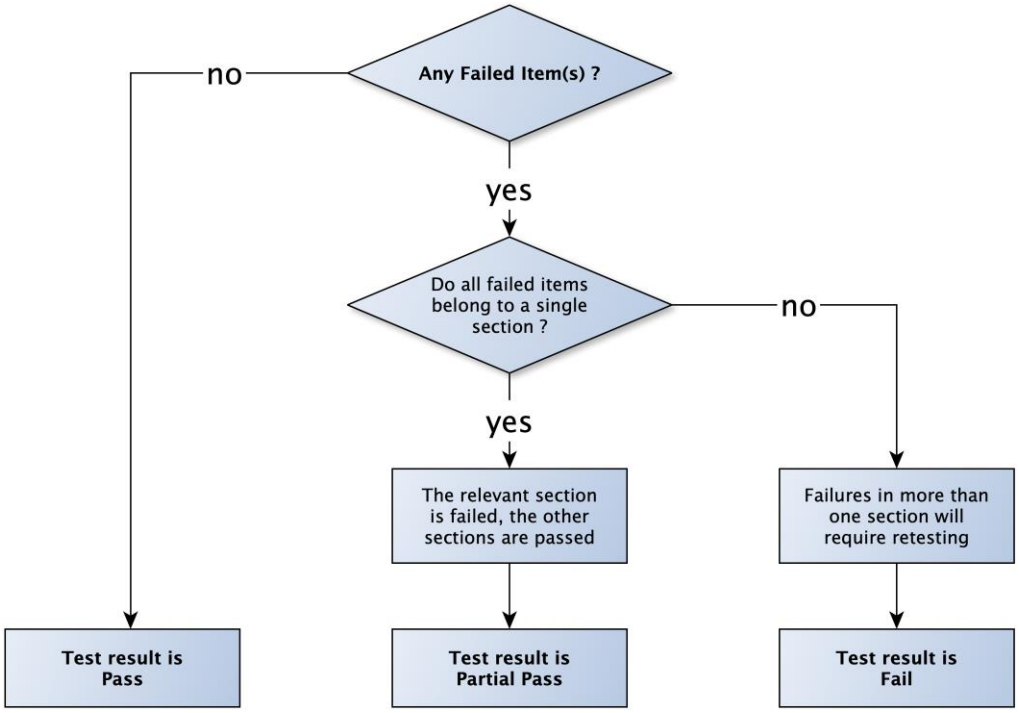
Section 2 - General Airwork	
Safe and smooth aircraft operation throughout the certified flight envelope, awareness of the envelope limits and how to return to a safe flight, should an excursion occur	
Knowledge	• aircraft limitation values • procedure of use of rip panel parachute or valve
Skill	• establishing stabilised flight path as required • smooth aircraft handling • smooth flight path changes, following the established SOPs • correct and systematic application of recovery drills
Attitude	• acquiring and updating the knowledge about the position and potential threats (e.g. traffic, terrain, flight path) and consider their future evolution • setting priorities (Fly, Navigate, Communicate, Manage) • assertiveness, seeking clarification of doubts and misunderstandings before acting

Section 3 - En-route Procedures	
Navigating safely and effectively between A and B, in compliance with the regulation; monitoring the flight and maintaining an awareness of the changing environment; implementing adequate solutions as necessary	
Knowledge	• navigation charts legend and charts interpretation • onboard navigation and communication equipment use and limitation • applicable regulation (airspace class, weather minima) • radiotelephony requirements, procedures, and applicable standard phraseology
Skill	• chart and ground reading (reconciliation of ground features and chart information) • proficient usage of onboard navigation and communication equipment • smooth tracking of the required ground track while maintaining altitude • communicating clearly, assertively, and in due time • flight replanning
Attitude	• awareness of the current situation and its possible evolution, and proactively generating options • setting priorities (Fly, Navigate, Communicate, Manage) and manage workload • taking effective decisions, displaying leadership • considering other traffic and the potential threat • readiness and willingness to seek assistance as necessary (e.g. from ATC)

Section 4 - Approach and Landing Procedures	
Safe arrival and approach in compliance with the regulation; stable approach leading to a safe landing; discontinuation of the approach or landing	
Knowledge	• arrival procedures, passenger briefing structure and purpose • applicable landing techniques with different winds • missed approach and going around procedures and applicable SOPs • radiotelephony requirements, procedures, and applicable standard phraseology • post-flight actions (e.g. post-flight inspection, logbook entry, flight plan closing, occurrence reporting)
Skill	• operating hot air airship within the applicable limitations • precise and stable approach path • timely decision to abort the approach or landing • correct and systematic application of missed approach procedures
Attitude	• awareness of the other traffic, their intentions, and the resulting impact • mindfulness about the environment and its impact • considering other traffic • assertiveness related to radiotelephony communication

Section 5 - Abnormal and Emergency Procedures	
Spotting, assessing, and addressing emergencies or abnormals using the appropriate procedures, maintaining a safe flight throughout; decisions to discontinue the flight to ensure safety, if necessary	
Knowledge	• emergency drills memory items • understanding of all emergency and abnormal procedures • engine failure emergency procedure • engine-out pattern and key positions • standard phraseology for emergency and abnormal situation • com-loss situations
Skill	• timely execution of emergency drills memory items • proper use of the applicable checklist • ability to deal according to the AFM • situation assessment, decision and solution implementation • safe engine-out approach and landing
Attitude	• assessment of the current situation under engine failure • information gathering and problem solving • informed decision making • awareness of time or height availability and exhaustion • informed decision making and effective implementation • setting priorities (Fly, Navigate, Communicate, Manage)

5.0 Decision making flow chart



6.0 Test debriefing

The debriefing should begin with the examiner informing the candidate about the result of the test. After that, the examiner should make use of a facilitated discussion and emphasise the relevant strengths and weaknesses demonstrated by the candidate. If the test is failed, the examiner shall inform the candidate regarding any training recommendation. The examiner should mention the right of disagreeing with or commenting on the examiner's decisions, according to the procedures set by the candidate's competent authority.

7.0 Completion of all applicable records

All relevant records and forms must be completed (check EDD in case the candidate has a different competent authority). This includes, but is not limited to:

- Relevant operational documentation, logbook of the balloon
- Logbook of the candidate
- Skill test protocol and examiner report
    - original to the applicant, respectively as per the candidate's competent authority instructions
    - 1 copy to the candidate’s competent authority
    - 1 copy to the examiner’s competent authority
    - 1 copy for the examiner’s records
    - Candidate logbook

For any failed or partially failed test, the justification for failure must be written / printed on the examiner report. The reason for failure must be clear and motivated; a mere indication of which item was failed is not adequate nor sufficient. Any re-training recommendation should be written in the examiner report.

V. Test standards for assessment of competence for the FI(B)

1.0 General applicable framework

Flight rules:	VFR
Operational rules:	Part-BOP (BOP BAS)
Equipment:	Balloon
Applicable class:	Hot-air balloon or Gas balloon
Applicable hot-air group:	A
Required examiner certificate:	FE(B) (BFCL.415(c))

1.1 Introduction

The basic privileges of FIs are to conduct flight instruction for the issue of a BPL licence, during the required training flight for the recency of BPL pilots, for the extension of privileges to further classes and groups of balloons and for a night rating and a tethered flight rating, provided that the FI(B) holds the corresponding extension, as applicable and received the specific training in providing instruction for the relevant rating.

1.2 Assessment administration

The oral theoretical knowledge examination part of the assessment of competence, is subdivided into a test lecture of max. 45 minutes and an oral test for knowledge of items of section 1 and the 'core instructor competencies: teaching and learning' content given in the instructor course.
The examiner should provide the candidate with advance information regarding the topic of the assessment to provide the candidate with sufficient time to prepare the test lecture and the respective flight exercises.
The 'student' is either a real balloon student pilot under training or, in all other cases, the FE(B) or another FI(B). The applicant is required to explain the relevant exercises and to demonstrate their conduct to the 'student'. Thereafter, the 'student' executes the same manoeuvres which can include typical mistakes of inexperienced students. The applicant is expected to correct mistakes orally or, if necessary, by intervening physically.
The assessment of competence should also include additional demonstration exercises, as decided by the examiner and agreed upon with the applicant before the assessment. These additional exercises should be related to the training requirements for the applicable instructor certificate.
If more than one flight is necessary in order to complete all relevant exercises, these flights should be completed as close together in time as practicable and, in any case, within a period of 6 months.

Before proceeding with the examination, the examiner shall verify that the prerequisites are met. The following documents shall be verified for completion, validity and correctness, and be ready for the assessment:

- Valid personal identification document or passport;
- Licence BPL;
- Pilot logbook to prove compliance with prerequisites and recency requirements;
- Medical certificate class 2 or LAPL;
- Certificate of the successfully attended teaching and learning course if applicable;
- Confirmation of ATO / DTO that the training course has been attended;
- Balloon documents;
- Current navigation charts if applicable
- Third party liability insurance of the balloon
- Specific equipment for the flight part

Once satisfied that the requirements are met and conditions fulfilled, the examiner should seek confirmation that the candidate is fit and ready for the assessment of competence. If so, the examiner formally starts the assessment.

1.3 Examiner briefing

The examiner must brief the following elements:

- Seek confirmation from the candidate about his readiness and fitness to formally proceed with the assessment;
- Applicable weather minimum;
- Examiner has PIC responsibility; the candidate acts autonomously
- Handling of R/T by the student pilot (or demonstration by the instructor candidate) during specific parts of the assessment;
- Examiner role-play in normal operations and simulated emergencies;
- Burner or pilot light failure-simulation or parachute or valve failure-simulation (minimum safety height, handling of the balloon);
- Handling of possible contingencies (technical, weather, ATC);
- Handling of actual emergencies;
- Pass / fail criteria, repeat items option, and assessment termination rules.

When covering pass/fail criteria the examiner should cover general completion standards, including decision-making and airmanship. Some assessment items may require specific emphasis for the applicant to understand what is required. These completion standards should be agreed by the applicant and the examiner should consider actual flight conditions when briefing them. Items which could require special emphasis could be:

- Simulated emergencies; expectation on handling, checklist use and what and how to simulate and finally the specific role of the applicant as instructor

When explaining the completion standards the examiner should also review how the applicant has been trained by the ATO or DTO as procedures and flight techniques might

differ between organisations. This is especially important for manoeuvres such as: "operation at low level", "landing approach", "missed approach" and all simulated emergencies etc.

1.4. Program of the Assessment of Competence (AoC)

The AoC must include all applicable items laid down in the assessment form.

The topic of the test lecture is to be provided by the examiner at least 2 days prior the assessment.

General procedure:

a. Oral theoretical knowledge examination:

- **Test lecture**
  The candidate acting as instructor teaches a test lecture to one or more 'flight students' not longer than 45 minutes. The topic for this test lecture is selected by the examiner from the corresponding AMC and GM to Part BFCL. The test lecture must be given to other "students", one of whom will be the examiner.

- **Theoretical knowledge oral test**
  The oral test may take place between the test lecture and the pre-flight briefing. The oral examination includes questions on the topics according to Section 1 and on topics covering the content of the teaching and learning part of the course. Those questions must be of such form and number that an objective assessment can be carried out.

b. Instruction flight examination:

The instruction flight includes the following elements:

1. Operational briefing (pilots briefing for the flight);
   instructor briefing with reference to the air exercises
2. Instruction flight and/or handling of given malfunctions; and
3. Instructor debriefing.

Weather minima

The weather conditions for flights must allow the safe conduct of the planned training flight and is to be carried out in accordance with the flight manual for the balloon used.

The actual 'students' level must be taken into account.

1.5 Assessment items

The observing and instructing of the student pilot related to the use of checklist(s), airmanship, control of balloon by external visual reference, look-out procedures, etc. apply in all sections.

The mandated assessment items are stated in the left column. Expanded guidance and additional explanations are provided in the right column.

Section 1 - Theoretical knowledge oral		
1.1	Air law	*"Theoretical knowledge oral test"* *In addition, oral test related to teaching and learning topics*
1.2	Aircraft general knowledge	
1.3	Flight performance and planning	
1.4	Human performance and limitations	
1.5	Meteorology	
1.6	Navigation	
1.7	Operational procedures	
1.8	Principles of flight	
1.9	Training administration	
1.10	Assessment of a BPL student's readiness for first solo flight	
1.11	Particularities of pre-flight briefing prior to the first solo flight of a BPL student	

Section 2 – Pre-flight briefing		
2.1	Visual presentation	***Management of the learning environment*** • *applies TEM in the context of instruction* • *briefs on safety procedures for situations that are likely to develop during instruction* • *plans and prepares training media, equipment and resources* • *briefs on balloon limitations that may influence training, when applicable* • *creates and manages conditions (e.g., airspace, ATC, weather, time, etc.) to be suitable for the training objectives* • *manages time, training media and equipment to ensure that training objectives are met* ***Instruction*** • *references approved sources (operations and technical sources, training manuals and regulations)* • *states clearly the objectives and clarifies roles for the training* • *follows the approved training programme* • *applies instructional methods as appropriate, (e.g. explanation, demonstration, learning by discovery, facilitation, in-seat instruction)* • *sustains operational relevance and realism* • *adapts the amount of instructor inputs to ensure that the training objectives are met* • *continuously assesses trainee's competencies* • *encourages the trainee to self- assess* • *provides positive reinforcement*
2.2	Technical accuracy	
2.3	Clarity of explanation	
2.4	Clarity of speech	
2.5	Instructional technique	
2.6	Use of models and aids	
2.7	Student participation	

		Interaction • *demonstrates respect for the trainee, e.g. for culture, language and experience* • *demonstrates patience and empathy, e.g. by actively listening, reading non-verbal messages and encouraging dialogue* • *manages trainee´s barriers to learning* • *encourages engagement and mutual support* • *coaches the trainees* • *supports the goal and training policies of the ATO/DTO and Authority* • *shows integrity (e.g. honesty and professional principles)* • *demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behaviour* • *actively seeks and accepts feedback to improve own performance* ***Assessment and evaluation*** • *complies with ATOs/DTOs and authority requirements* • *ensures that the trainee understands the assessment process* • *applies the competency standards and conditions Assesses trainee's competencies* • *performs grading*

Section 3 – Flight		
3a.1	Arrangement of demo	***Management of the learning environment*** • *applies TEM in the context of instruction* • *intervenes appropriately, at the correct time and level (e.g., progresses from verbal assistance to taking over control)* • *resumes instruction as practicable after any intervention* • *creates and manages conditions (e.g., airspace, ATC, weather, time, etc.) to be suitable for the training objectives* • *adapts to changes in the environment whilst minimizing training disruptions* • *manages time, training media and equipment to ensure that training objectives are met* ***Instruction*** • *follows the approved training programme* • *applies instructional methods as appropriate, (e.g. explanation, demonstration, learning by discovery, facilitation, in-seat instruction)* • *sustains operational relevance and realism* • *adapts the amount of instructor inputs to ensure that the training objectives are met* • *adapts to situations that might disrupt a planned sequence of events* • *continuously assesses trainee's competencies* • *allows trainee to self-correct in a timely manner* • *provides positive reinforcement* ***Interaction*** • *shows respect for the trainee, e.g. for culture, language and experience* • *shows patience and empathy, e.g. by actively listening, reading non-verbal messages and encouraging dialogue* • *manages trainee´s barriers to learning* • *encourages engagement and mutual support* • *coaches the trainees* • *supports the goal and training policies of the ATO/DTO and Authority* • *shows integrity (e.g. honesty and professional principles)*
3a.2	Synchronisation of speech with demo	
3a.3	Correction of faults	
3a.4	Aircraft handling	
3a.5	Instructional technique	
3a.6	General airmanship and safety	
3a.7	Positioning and use of airspace	

		• *demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behaviour* • *actively seeks and accepts feedback to improve own performance* ***Assessment and evaluation*** • *complies with ATOs/DTOs and authority requirements* • *applies the competency standards and conditions Assesses trainee's competencies* • *performs grading*

Section 4 – Post-flight de-briefing		
4.1	Visual presentation	***Management of the learning environment*** • *applies TEM in the context of instruction indicators and as commented above /evaluation* • *plans and prepares training media, equipment and resources* • *manages time, training media and equipment to ensure that training objectives are met* ***Instruction*** • *references approved sources (operations and technical sources, training manuals and regulations)* • *applies instructional methods as appropriate, (e.g. explanation, demonstration, learning by discovery, facilitation, in-seat instruction)* • *continuously assesses trainee's competencies* • *encourages the trainee to self- assess* • *allows trainee to self-correct in a timely manner* • *applies trainee-centered feedback techniques (e.g. facilitation, ...)* • *provides positive reinforcement* ***Interaction*** • *demonstrates respect for the trainee, e.g. for culture, language and experience* • *demonstrates patience and empathy, e.g. by actively listening, reading non-verbal messages and encouraging dialogue* • *manages trainee´s barriers to learning* • *encourages engagement and mutual support* • *coaches the trainees* • *supports the goal and training policies of the ATO/DTO and Authority* • *shows integrity (e.g. honesty and professional principles)* • *demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behaviour* • *actively seeks and accepts feedback to improve own performance* ***Assessment and evaluation*** • *complies with ATOs/DTOs and authority requirements* • *ensures that the trainee understands the assessment process* • *applies the competency standards and conditions Assesses trainee's competencies* • *provides recommendations based on the outcome of the assessment* • *makes decisions based on the outcome of the summative assessment* • *provides clear feedback to the trainees* • *reports strengths and weaknesses of the training system (training environment, curriculum, assessment/evaluation) including feedback from trainees* • *suggests improvements for the training system* • *produces reports using provided appropriate forms and media*
4.2	Technical accuracy	
4.3	Clarity of explanation	
4.4	Clarity of speech	
4.5	Instructional technique	
4.6	Use of models and aids	
4.7	Student participation	

1.6 Standard of completion

To pass the assessment of competence, the candidate should demonstrate the ability to:

a. provide a student with the basis for an upcoming lesson during a long briefing.
b. recognise errors and is able to discuss them briefly and comprehensibly with the student
c. keep always control and overview during the instruction lesson
d. to qualify a flight lesson factually
e. operate the balloon self within its limitations;
f. exercise good judgment and airmanship; that is, to consistently use good judgement and well-developed knowledge, skills and attitudes to accomplish flight objectives;
g. apply aeronautical knowledge;
h. maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt;

1.7 Competence assessment guidance

It should enable the examiner to assess the standard of completion elements laid down in subpart 1.6 under (a) to (h), and determine the result.

Instructor competencies	Competency description	Observable behaviors
Pilot Competencies	See ICAO Pilot Competency Framework	• Refers to observable behaviors in ICAO Pilot competency framework
Management of the learning environment	Ensures that the instruction, assessment and evaluation are conducted in a suitable and safe environment	• Applies TEM in the context of instruction/evaluation • Briefs on safety procedures for situations that are likely to develop during instruction/evaluation • Intervenes appropriately, at the correct time and level (e.g., progresses from verbal assistance to taking over control) • Resumes instruction/evaluation as practicable after any intervention • Plans and prepares training media, equipment and resources • Briefs on training devices or aircraft limitations that may influence training, when applicable • Creates and manages conditions (e.g., airspace, ATC, weather, time, etc.) to be suitable for the training objectives • Adapts to changes in the environment whilst minimizing training disruptions • Manages time, training media and equipment to ensure that training objectives are met
Instruction	Conducts training to develop the trainee´s competencies	• References approved sources (operations and technical sources, training manuals and regulations) • States clearly the objectives and clarifies roles for the training • Follows the approved training programme • Applies instructional methods as appropriate, (e.g. explanation, demonstration, learning by discovery, facilitation, in-seat instruction) • Sustains operational relevance and realism • Adapts the amount of instructor inputs to ensure that the training objectives are met • Adapts to situations that might disrupt a planned sequence of events

		• Continuously assesses trainee's competencies • Encourages the trainee to self- assess • Allows trainee to self-correct in a timely manner • Applies trainee-centered feedback techniques (e.g. facilitation, ...) • Provides positive reinforcement
Interaction	Supports the trainee's learning and development Demonstrates exemplary behavior (role model)	• Shows respect for the trainee, e.g. for culture, language and experience • Demonstrates patience and empathy, e.g. by actively listening, reading non-verbal messages and encouraging dialogue • Manages trainee´s barriers to learning • Encourages engagement and mutual support • Coaches the trainees • Supports the goal and training policies of the Operator/ATO or DTO and Authority • Shows integrity (e.g. honesty and professional principles) • Demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behaviour • Actively seeks and accepts feedback to improve own performance
Assessment and evaluation	Assesses the competencies of the trainee Contributes to continuous training system improvement.	• Complies with Operator / ATOs or DTOs and authority requirements • Ensures that the trainee understands the assessment process • Applies the competency standards and conditions • Assesses trainee's competencies • Performs grading • Provides recommendations based on the outcome of the assessment • Makes decisions based on the outcome of the summative assessment • Provides clear feedback to the trainees • Reports strengths and weaknesses of the training system (training environment, curriculum, assessment/evaluation) including feedback from trainees • Suggests improvements for the training system • Produces reports using provided appropriate forms and media

Note: See also AMC1 BFCL.325 FI(B) competencies and assessment

1.8 Assessment debriefing

The debriefing should begin with the examiner informing the candidate about the result of the assessment. After that, the examiner should make use of a facilitated discussion and emphasise the relevant strengths and weaknesses demonstrated by the applicant. If the assessment is failed, the examiner should inform the candidate and the training organisation regarding any training requirements. The examiner should mention the right of disagreeing with or commenting on the examiner's decisions, according to the procedures set by the applicant's competent authority. With the agreement of the candidate, the examiner may allow the responsible instructor and / or the head of training to take part in the debriefing.

1.9 Completion of all applicable records

All relevant records and forms must be completed (check also the EDD if the candidate has a different competent authority). This includes, but is not limited to:

- Relevant operational documentation, aircraft logbook
- Assessment protocol and examiner report
    - 1 signed copy to the applicant
    - 1 copy to the applicant's competent authority
    - 1 copy to the examiner's competent authority
    - 1 copy for the examiner's records
- Candidate logbook

For any failed assessment, the justification for failure must be written / printed on the examiner report. The reason for failure must be clear and motivated; a mere indication of which item was failed is not adequate nor sufficient. Any re-training recommendation should be written in the examiner report.

VI. Test standards for examiner AoC - FE(B)

1.0 General applicable framework

Flight rules:	VFR
Operational rules:	Part-BOP (BOP BAS)
Equipment:	Balloon
Applicable class:	Hot-air balloon or Gas balloon or Hot-air Airship
Applicable hot-air group:	A or B or C or D
Required examiner certificate:	Inspector or senior examiner

1.1 Introduction

The standards of competence of pilots depend to a great extent on the competence of examiners. This module complements the standardisation requirements set out in subpart FE of the Part-BFCL in order to standardise an examiner (Applicant) for an initial, revalidation or renewal of an EASA examiner certificate.

This module should be used by the inspector or senior examiner in conjunction with the appropriate FEM module for the test being conducted by the examiner (Applicant).

1.2 Test administration

An inspector of the competent authority or a senior examiner must be specifically tasked by the examiner applicant's competent authority to conduct the AoC. The examiner (applicant) should provide the inspector or senior examiner with advance information regarding their chosen skill test or proficiency check scenario in order to assess and agree that the planned test is compliant with the relevant AMC containing the Part-BFCL test profile.

The inspector or senior examiner should verify the examiner (Applicant's) credentials and check documentation such as:

1. Licence, instructor certificate and medical (if applicable)
2. Standardisation course completion certificate (if applicable)
3. Examiner certificate (if applicable)

1.3 Inspector or senior examiner briefing

The inspector or senior examiner must brief the following elements to the examiner (applicant):

- Purpose of the AoC
- Confirm and agree the contents of the test to be observed and how it will be achieved.
- Examiner (applicant's) PIC responsibility;
- Examiner role-play in normal operations and simulated emergencies
- The examiner (applicant) 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 in doubt.
- Agree that on completion of the test the inspector or senior examiner and the examiner (applicant) will confer before debriefing or announcing the result of the test to the candidate. This is to ensure a common assessment standard.
- Remind the examiner (applicant) that the briefing and de-briefing are to be directed to the candidate. The inspector or senior examiner will emphasise that they will take no part in the conduct of the detail.
- Ask the examiner (Applicant) if they have any questions and confirm that they have been adequately briefed.

1.4 Examiner (Applicant) flight briefing

The examiner (applicant) should be allowed to brief the candidate(s) uninterrupted following the guidance in the appropriate FEM test module and the related AMC and GM. The briefing should include at least the following elements:

- Purpose of the skill test, proficiency check or assessment of competence;
- Applicable weather minimum;
- Pass, fail, and partial pass criteria, repeat items option, and examination termination rules;
- Examiner responsibility;
- Freedom for the candidate to ask questions;
- Safety and emergency briefing

1.5 Oral examination on the ground

The inspector or senior examiner should be satisfied that the examiner (applicant) demonstrates adequate knowledge of the regulatory requirements associated with the function of an examiner.

1.6 Assessment of Competence (AoC)

The following tables are designed to give the inspector or senior examiner guidance when assessing the competency of the examiner (applicant) during the AoC. The assessment items are stated in the left column. Expanded guidance and additional explanations are provided in the right column. This will aid the inspector or senior examiner when debriefing the examiner (applicants) performance and analysing each section of the test in relation to specific competencies required for a successful outcome.

<table>
<tr><th colspan="3">Section 1 – Briefing the candidate</th></tr>
<tr><td>1</td><td>Objective of the flight</td><td rowspan="13">The examiner (Applicant):
Gives the candidate time and facilities to prepare for the test flight
Demonstrates an appropriate level of engagement and interaction with the candidate
Uses facility during the briefing
Delivers all briefing items comprehensively and constructively
Introduces non-technical competency and behavioural markers appropriately
Generates a positive and constructive atmosphere
Answers questions from the candidate and provides references where applicable
Invites for Questions
Provides clear structure and clarity of the test profile.
Generates a high level of engagement
Defines clearly what is expected from the crew
Explains pass, fail, and partial pass criteria including test limitations
Provides an appropriate safety and emergency briefing</td></tr>
<tr><td>2</td><td>Licensing checks, as necessary</td></tr>
<tr><td>3</td><td>Freedom for the ‘candidate’ to ask questions</td></tr>
<tr><td>4</td><td>Operating procedures to be followed (for example operators manual)</td></tr>
<tr><td>5</td><td>Weather assessment</td></tr>
<tr><td>6</td><td>Operating capacity of ‘candidate’ and examiner</td></tr>
<tr><td>7</td><td>Aims to be identified by ‘candidate’</td></tr>
<tr><td>8</td><td>Simulated weather assumptions</td></tr>
<tr><td>9</td><td>Contents of exercise to be performed</td></tr>
<tr><td>10</td><td>Agreed balloon limitations</td></tr>
<tr><td>11</td><td>Use of R/T</td></tr>
<tr><td>12</td><td>Respective roles of ‘candidate’ and examiner (for example during emergency)</td></tr>
<tr><td>13</td><td>Administrative procedures</td></tr>
<tr><th colspan="3">Section 2 – Conduct of test</th></tr>
<tr><td>1</td><td>Need to give the ‘candidate’ precise instructions</td><td rowspan="3">The examiner (applicant):
Should maintain the necessary level of communication with the candidate
Comprehensively observes the candidate’s conduct and performance</td></tr>
<tr><td>2</td><td>Responsibility for safe conduct of the flight</td></tr>
<tr><td>3</td><td>Intervention by examiner, when necessary</td></tr>
</table>

4	Liaising with ATC and the need for concise, easily understood intentions	• Makes a comprehensive observation of the candidate's R/T standards • Takes clear, accurate and effective notes • Never obstructs or distracts the candidate under test, acting intuitively to not impede the efficient conduct of the detail • Does not intervene unless absolutely necessary • Advocates health & safety and ensures that this is to the highest standards at all times • Demonstrates the best possible practice to avoid an unsafe situation developing • Correctly sequences failures The examiner (applicant): • Should be flexible where necessary to adjust the test item sequence to optimise time management • Demonstrates skilled use of repeats for maximum value of the candidate • Allows candidate to demonstrate situational awareness with regard to position and time available • The standard of radiotelephony demonstrated by the examiner applicant should be assessed and must be at the high standard
5	Prompting the 'candidate' about required sequence of events (for example following a go-around or a missed approach)	
6	Keeping brief, factual and unobtrusive notes	
Section 3 – Candidate assessment		
1	Allowing questions from the 'candidate'	The examiner (applicant): • Should refer to the flight test tolerances given in the relevant Part-BFCL test AMC form • Should be fully at ease with assessing the required standard and identifying this to the crew • Assesses overall competency including non-technical performance with no missed items • Gathers clear and irrefutable evidence gathered to support their assessment • Identifies in-depth root causes of performance • Assesses areas of good performance as well as areas that require improvement
2	Giving results of the test and any sections failed	
3	Giving reasons for failure	
Section 4 – Debriefing		
1	Advising the candidate on how to avoid or correct mistakes	The examiner (applicant): • should demonstrate the ability to conduct a fair, unbiased debriefing of the 'candidate' based on identifiable factual items • Should keep a balance between friendliness and firmness should be evident • Should be a proficient facilitator always moving the de-brief in the required direction • Allows the `candidate´ to drive the conversation whilst controlling the debriefing agenda
2	Mentioning of any other points of criticism noted	
3	Giving advice considered helpful	

		• Checks understanding and summarizes the specific debrief points • Maintains awareness of the candidate`s welfare • Assesses areas of good performance as well as areas that require improvement • Should have a clear understanding of root causes to all actions
Section 5 – Recording of Documentation		
1	Using of relevant test or check form	• Demonstrates the ability to complete the relevant records correctly • Demonstrates concise & factual note taking • Demonstrates adherence to the candidates licencing authority's forms and requirements • Is mindful of their data protection responsibilities
2	License entry, if applicable	
3	Notification of failure form	
Section 6 – Demonstration of Theoretical Knowledge		
1	Examiner (applicant) should demonstrate to the inspector or senior examiner a satisfactory knowledge of the regulatory requirements associated with the function of an examiner	• Excellent standard of regulatory and theoretical knowledge • The senior examiner should assess the level of the examiner's (applicant`s) knowledge throughout the AoC and use that assessment to form a judgement

1.7 Assessment debriefing

The inspector or senior examiner will discuss the assessment with the examiner (applicant) before the candidate is debriefed and informed of the result.

If the inspector or senior examiner agrees with the examiner (applicant's) assessment of the candidate, the examiner (applicant) should proceed with the de-briefing of the candidate. If the examiner (applicant's) assessment is different from that of the inspector or senior examiner, the result should be discussed, and the standards explained to the examiner (applicant).

When the inspector or senior examiner is satisfied that correct assessment standardization has been agreed, the examiner (applicant) should carry out the de-briefing as per the applicable FEM module and if all other aspects of the assessment are satisfactory the AoC may be assessed as a 'Pass'.

If the inspector or senior examiner is not satisfied that the examiner (applicant) has demonstrated the required standard in the conduct of the entire check or assessment, the inspector or senior examiner should de-brief the candidate and complete the paperwork.

1.8 Completion of all applicable records

All relevant records of the competent authority must be completed.

For a failed assessment of competence, the justification for failure must be included in the examiner report. The reason for failure must be clear and based on factual evidence. Any re-training recommendation should also be written in the examiner report.

VII. Senior examiners standardisation and assessments of competence for senior examiners

The AMC 1 BFCL.445; BFCL.460 contains these specific points:

1.0 A Senior examiner specifically tasked by the competent authority to observe skill tests or proficiency checks for the revalidation of examiner certificates should:

(1) hold a valid or current examiner certificate appropriate to the privileges being granted;
(2) have examiner experience of a level acceptable to the competent authority; and
(3) have conducted a number of skill tests or proficiency checks as an FE(B).

2.0 The competent authority may conduct a pre-assessment of the applicant or candidate carrying out a skill test and proficiency check under the supervision of an inspector of the competent authority.

3.0 Applicants should be required to attend a senior examiner briefing, course or seminar arranged by the competent authority. The content and duration will be determined by the competent authority and should include:

(1) pre-course self-study;
(2) legislation;
(3) the role of the senior examiner;
(4) an examiner assessment; and
(5) national administrative requirements.

4.0 The validity of the authorisation should not exceed the validity of the examiner's certificate, and in any case should not exceed 5 years. The authorisation may be revalidated in accordance with procedures established by the competent authority.

Appendix 1: TEM

Flight crews must also manage undesired aircraft states, since they carry the potential for unsafe outcomes. Undesired state management is an essential component of the Threat and Error Management (TEM) model, as important as threat and error management. Undesired aircraft state management largely represents the last opportunity to avoid an unsafe outcome and thus maintain safety margins in flight operations.

Threats:

1) Threats are defined as events or errors that occur beyond the influence of the pilot increase operational complexity, and which must be managed to maintain the margins of safety. During typical flight operations, pilot have to manage various contextual complexities. Such complexities would include, for example, dealing with adverse meteorological conditions, operations surrounded by high mountains, aircraft malfunctions, errors committed by other people outside of the basket, such as maintenance workers, and so forth. The TEM model considers these complexities as threats because they all have the potential to negatively affect flight operations by reducing margins of safety;
2) Some threats can be anticipated, since they are expected or known to the pilot. For example, pilot can anticipate the consequences of a thunderstorm by briefing his response in advance;
3) Some threats can occur unexpectedly, such as an in-flight aircraft malfunction that happens suddenly and without warning. In this case, pilot must apply skills and knowledge acquired through training and operational experience;
4) Lastly, some threats may not be directly obvious to, or observable by, pilot immersed in the operational context, and may need to be uncovered by safety analysis. These are considered latent threats. Examples of latent threats include equipment design issues, optical illusions;
5) Regardless of whether threats are expected, unexpected, or latent, one measure of the effectiveness of a pilot's ability to manage threats is whether threats are detected with the necessary anticipation to enable the pilot to respond to them through deployment of appropriate countermeasures;
6) Threat management is a building block to error management and undesired aircraft state management. Although the threat-error linkage is not necessarily straightforward, and although it may not be always possible to establish a linear relationship, or one-to-one mapping between threats, errors and undesired states, archival data demonstrates that mismanaged threats are normally linked to pilot errors, which in turn are often linked to undesired aircraft states. Threat management provides the most proactive option to maintain margins of safety in flight operations, by voiding safety-compromising situations at their roots. As threat managers, pilot is the last line of defence to keep threats from impacting flight operations.

Errors:

1) Errors are defined actions or inactions by the pilot that lead to deviations from organisational or pilot intentions or expectations. Unmanaged or mismanaged errors frequently lead to undesired aircraft states. Errors in the operational context thus tend to reduce the margins of safety and increase the probability of adverse events;
2) Errors can be spontaneous (for example without direct linkage to specific, obvious threats), linked to threats, or part of an error chain. Examples of errors would include the inability to maintain stabilised approach, or misinterpreting an ATC clearance;
3) Regardless of the type of error, an error's effect on safety depends on whether the pilot detects and responds to the error before it leads to an undesired aircraft state and to a potential unsafe outcome. This is why one of the objectives of TEM is to understand error management (for example detection and response), rather than to solely focus on error causality (for example causation and commission). From the safety perspective, operational errors that are timely detected and promptly responded to (for example properly managed),

errors that do not lead to undesired aircraft states, do not reduce margins of safety in flight operations, and thus become operationally inconsequential. In addition to its safety value, proper error management represents an example of successful human performance, presenting both learning and training value;

4) Capturing how errors are managed is then as important, if not more, as capturing the prevalence of different types of error. It is of interest to capture if and when errors are detected and by whom, the response(s) upon detecting errors, and the outcome of errors. Some errors are quickly detected and resolved, thus becoming operationally inconsequential, while others go undetected or are mismanaged. A mismanaged error is defined as an error that is linked to or induces an additional error or undesired aircraft state;
5) The TEM model classifies errors based upon the primary interaction of the pilot at the moment the error is committed. Thus, in order to be classified as aircraft handling error, the pilot must be interacting with the aircraft (for example through its controls). In order to be classified as procedural error, the pilot must be interacting with a procedure (for example checklists; SOPs; etc.). In order to be classified as communication error, the pilot must be interacting with people (ATC, ground crew, passengers, etc.);
6) Aircraft handling errors, procedural errors and communication errors may be unintentional or involve intentional non-compliance. Similarly, proficiency considerations (for example skill or knowledge deficiencies, training system deficiencies) may underlie all three categories of error. In order to keep the approach simple and avoid confusion, the TEM model does not consider intentional noncompliance and proficiency as separate categories of error, but rather as sub-sets of the three major categories of error.

Undesired aircraft states:

1) Undesired aircraft states are pilot-induced aircraft position, misapplication of flight controls, associated with a reduction in margins of safety. Undesired aircraft states that result from ineffective threat or error management may lead to compromising situations and reduce margins of safety in flight operations. Often considered at the cusp of becoming an incident or accident, undesired aircraft states must be managed by pilot;
2) Example of undesired aircraft states would include an unstabilised approach. Events such as equipment malfunctions can also reduce margins of safety in flight operations, but this would be considered threats;
3) Undesired states can be managed effectively, restoring margins of safety, or pilot response(s) can induce an additional error, incident, or accident.

Countermeasures:

a. Pilot must, as part of the normal discharge of his operational duties, employ countermeasures to keep threats, errors and undesired aircraft states from reducing margins of safety in flight operations. Examples of countermeasures would include checklists, briefings and SOPs, as well as personal strategies and tactics. Pilot dedicate significant amounts of time and energies to the application of countermeasures to ensure margins of safety during flight operations. Empirical observations during training and checking suggest that as much as 70 % of pilot activities may be countermeasures-related activities.
b. Other countermeasures are more directly related to the human contribution to the safety of flight operations. These are personal strategies and tactics, individual and team countermeasures that typically include canvassed skills, knowledge and attitudes developed by human performance training. There are basically three categories of individual and team countermeasures:

   A. planning countermeasures: essential for managing anticipated and unexpected threats;

   B. execution countermeasures: essential for error detection and error response;

C. review countermeasures: essential for managing the changing conditions of a flight.

Appendix 2: SERA

When a test is conducted in a balloon the rules of the air shall be applied.

The operation of an aircraft either in flight, on the movement area of an aerodrome or at an operating site shall be in compliance with the general rules, the applicable local provisions and, in addition, when in flight, with the visual flight rules.

Example specific rule for balloon:

VFR MINIMUM HEIGHTS — PERMISSION FROM THE COMPETENT AUTHORITY

The competent authority should specify the conditions under which the permission is or may be granted, including the minimum heights above the terrain, water or the highest obstacle within a radius of 150 m (500 ft) from an aircraft practising forced landings, a balloon or an aircraft executing ridge or hill soaring.

[i] Manual of Procedures for Establishment and Management of a State's Personnel Licensing System - Doc 9739

[ii] Convention on International Civil Aviation ICAO - Doc 7300/9

[iii] Annex 1 to the Convention on International Civil Aviation - Personnel Licensing

[iv] REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2018 on common rules in the field of civil

[v] ICAO PNS TRG Doc 9868

[vi] Evaluation report on the implementation of Aircrew Regulation (Regulation (EU) No 2018/395), Part-BFCL, Subpart FE Examiners

[vii] Conflicts of Interest in Civil Aviation Consolidation of ICAO Provisions July 2019

[viii] REGULATION (EU) No 376/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation

[ix] REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data