PERSONNEL

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Barbados Civil Aviation

Department

BCAD Document PLAC-057

PRIVATE PILOT-
AIRSHIP LICENCE
SKILL TEST STANDARDS

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Subject: PRIVATE PILOT – AIRSHIP LICENCE SKILL TEST STANDARDS
BCAD Advisory Circular PLAC-057
Date: 07/10/30

FOREWORD

1. (1) The BCAD has developed skill test standards for airmen licences and ratings and these are published as BCAD PL Advisory Circulars (PLACs). This PLAC establishes the standards for the private pilot licence skill tests for the airship category BCAD inspectors and designated pilot skill test examiners shall conduct skill tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in skill test preparation. Other PLACs have been developed for other airmen licences and can be obtained from the BCAD website: www.bcad.gov.bb.

(2) Terms, such as "shall" and "must" are directive in nature and when used in this document indicate that an action is mandatory. Guidance information is described in terms of "should" and "may" indicating the actions are desirable or permissive, but not mandatory.

(3) The BCAD gratefully acknowledges the valuable assistance provided by the FAA in the development of these skill test standards (STS).

(4) The Barbados Civil Aviation Regulations (BCARs) can be obtained from the Barbados Government printery, Bay Street, St. Michael Barbados. BCARS General Application& Personnel Licensing, cover the requirements for personnel licensing.

(5) This PLAC may be downloaded from the BCAD website at www.bcad.gov.bb. Subsequent changes to this PLAC will also be available on BCAD web site.

(6) Comments regarding this publication should be sent to:

The Barbados Civil Aviation Department,
Grantley Adams International Airport,
Christ Church
Barbados

_____

E. A. Archer
Director of Civil Aviation

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CONTENTS

PURPOSE

1. The purpose of this BCAD Advisory Circular (PLAC) is to prescribe the standards that shall be used by BCAD inspectors and designated skill test examiners when conducting private pilot—airship skill tests. Flight instructors are expected to use this document when preparing applicants for skill tests. Applicants should be familiar with this document and refer to these standards during their training.

GENERAL

2. (1) An applicant for a Barbados Private Pilot licence is required under BCARS No.1 to demonstrate to the Authority through a skill test, his ability to perform as a pilot in command of an aircraft, the relevant procedures and manoeuvres prescribed by the BCARs, with a degree of competence appropriate to the privileges granted to the holder of a Private Pilot Licence. This PLAC has been published by the BCAD to establish the standards for the Private Pilot Licence skill test for the airship category. BCAD inspectors and designated skill test examiners shall conduct skill tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in preparing students for the required skill test for a Barbados Private Pilot Licence.

SKILL TEST STANDARDS CONCEPT

3. BCARS General Application& Personnel Licensing specifies the areas of operation in which knowledge and skill must be demonstrated by the applicant before the issue of a pilot licence or rating. The BCARs provide the flexibility to permit the BCAD to publish STSs containing the areas of operation and specific tasks in which pilot competency shall be demonstrated. The BCAD shall revise this STS whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the BCARs and the STS is mandatory for the evaluation of private pilot applicants**.**

SKILL TEST DESCRIPTION

4. (1) This BAC contains the STS for private pilot - airship. This includes the AREAS OF OPERATION and TASKS required for the issuance of an initial private pilot—airship licence and for the addition of other aircraft category ratings.

(2) AREAS OF OPERATION are phases of the skill test arranged in a logical sequence within each standard. They begin with pre-flight preparation and end with post flight procedures. The examiner may conduct the skill test in any sequence that results in a complete and efficient test; however, the ground portion of the skill test shall be accomplished before the flight portion.

(3) TASKS are titles of knowledge areas, flight procedures, or manoeuvres appropriate to an AREA OF OPERATION.

(4) The TASKS required for each additional aircraft category rating are shown in the Rating Task Table on page 16, if applicable.

(5) NOTE is used to emphasize special considerations required in the AREA OF

OPERATION or TASK.

(6) REFERENCE identifies the publication(s) that describe(s) the TASK. Descriptions of TASKS are not included in the standards because this information can be found in the current issue of the listed references. Publications other than those listed may be used for references if their content conveys substantially the same meaning as the referenced publications. Many of the publications listed are publications published by the Federal Aviation Administration of the United States (FAA), and adopted by BCAD in cooperation with the FAA. The most recent version of these references should be used. The STSs are based on the following references:

BCAR	General Application &Personnel Licensing Regulations
BCAR	Airworthiness
BCAR	Air Operations
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
	Flying Training Handbook
	Pilot's Weight and Balance Handbook (formerly 91-23)
	Cold Weather Operation of Aircraft (formerly 91-13)
FAA AC 00-6	Aviation Weather
FAAAC 00-45	Aviation Weather Services
FAA AC 60-22	Aeronautical Decision Making
FAA AC 61-84	Role of Pre-flight Preparation
FAA AC 90-48	Pilot's Role in Collision Avoidance
FAA AC 120-51	Crew Resource Management Training
AIP	Aeronautical Information Publication – Eastern Caribbean
AFD	Airport Facility Directory
AFM	BCAD Approved Airship Flight Manual
POH	Pertinent Pilot's Operation Handbooks
NOTAMS	Notices to Airmen
Other	Industry related materials

(7) The Objective lists the important elements that must be satisfactorily performed to demonstrate competency in a TASK. The Objective includes:

(a) Specifically what the applicant should be able to do;
(b) The conditions under which the TASK is to be performed; and
(c) The acceptable standards of performance.

(8) The following abbreviations have the meanings shown:

ADM	Aeronautical Decision Making
AIRMETS	Airman's Meteorological Information
APV	Approach with Vertical Guidance
AFD	Airport Facility Directory
ATC	Air Traffic Control
AIP	Aeronautical Information Publication of the Eastern Caribbean
ATS	Air Traffic Service

BCARS	Barbados Civil Aviation Regulations
CRM	Crew Resource Management
FAA AC	Federal Aviation Administration Advisory Circular
FSTD	Flight Simulation Training Device
NOTAM	Notice to Airmen
NPA	Nonprecision Approach
PIREP(s)	Pilot Weather Reports
SIGMETS	Significant Meteorological Advisory
SRM	Single Pilot Resource Management
STS	Skill Test Standards
SUA	Single Use Airspace
TFR	Temporary Flight Restriction

USE OF SKILL TEST STANDARDS

5. (1) The BCAD requires that all private pilot skill tests be conducted in accordance with the appropriate private pilot STS and the policies set forth herein. Applicants shall be evaluated in all tasks included in the areas of operation of the appropriate STS (unless otherwise noted).

(2) An applicant who holds at least a private pilot licence seeking an additional aircraft category rating in the airship category shall take the entire private pilot – airship skill test in full.

(3) In preparation for each skill test, the flight test examiner shall develop a written "plan of action." The "plan of action" shall include all tasks in each area of operation, unless noted otherwise. If the elements in one task have already been evaluated in another task, they need not be repeated. For example, the "plan of action" need not include evaluating the applicant on complying with markings, signals, and clearances at the end of the flight, if that element was sufficiently observed at the beginning of the flight. **Any task selected for evaluation during a skill test shall be evaluated in its entirety.**

(4) The flight test examiner is not required to follow the precise order in which the areas of operation and tasks appear in this document. The flight test examiner may change the sequence or combine tasks with similar Objectives to have an orderly and efficient flow of the skill test..

(5) The flight test examiner is expected to use good judgment in the performance of simulated emergency procedures. The use of the safest means for simulation is expected. Consideration must be given to local conditions, both meteorological and topographical, at the time of the test, as well as the applicant's workload, and the condition of the aircraft used. If the procedure being evaluated would jeopardize safety, it is expected that the applicant will simulate that portion of the manoeuvre.

SPECIAL EMPHASIS AREAS

6. (1) Skill test examiners shall place special emphasis upon areas of aircraft operations considered critical to flight safety. Among these are:

(a) Wake turbulence avoidance;
(b) Low level wind shear;
(c) In-flight collision avoidance;
(d) Runway incursion avoidance; and
(e) Checklist usage.

(2) Although these areas may not be specifically addressed under each TASK, they are essential to flight safety and will be evaluated during the skill test.

SKILL TEST PREREQUISITES: PRIVATE PILOT - AIRSHIP LICENCE

7. An applicant for a private pilot - airship skill test is required by BCARs (General Application &Personnel Licensing Regulations) (GA&PEL) to:

(a) Age: Be not less than 17 years of age.
(b) Medical fitness: hold Class 2 medical certificate issued under Regulation 30 GA&PEL as appropriate to the level of licence held; and.
(c) Language: Be able to read, speak, write, and understand the English language; and
(d) Training: Obtain the applicable training and aeronautical experience prescribed for the instrument rating sought;
(e) Language Proficiency: Be able to read, speak, write and understand the English Language.
(f) Instructor Authorization: Obtain a written statement from an authorized flight instructor certifying that the applicant has been given flight training in preparation for the skill test within 60 days preceding the date of application. The statement shall also state that the instructor finds the applicant competent to pass the skill test and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the Airman Knowledge Test Report.

AIRCRAFT AND EQUIPMENT REQUIRED FOR THE SKILL TEST

8. (1) the private pilot - airship applicant is required to provide an airworthy, certificated aircraft for use during the skill test. Its operating limitations must not prohibit the TASKS required on the skill test. Flight instruments are those required for controlling the aircraft without outside references. The aircraft shall have fully functioning dual controls, except as authorized by the DCA.

USE OF BCAD APPROVED FLIGHT SIMULATION TRAINING DEVICES

9. Reserved.

FLIGHT INSTRUCTOR RESPONSIBILITY

10. (1) An appropriately rated flight instructor is responsible for training the pilot applicant to acceptable standards in all subject matter areas, procedures, and manoeuvres

included in the TASKS within the appropriate skill test standard.

(2) Because of the impact of their teaching activities in developing safe, proficient pilots, flight instructors should exhibit a high level of knowledge, skill, and the ability to impart that knowledge and skill to students. Additionally, the flight instructor must certify that the applicant is able to perform safely as a private pilot – airship and is competent to pass the required skill test.

(2) Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of effective visual scanning, collision avoidance, and runway incursion avoidance procedures. These areas are covered, in part, in AP 90-48, Pilot's Role in Collision Avoidance; FAA-H-8083-3, Aeroplane Flying Handbook; FAA-H-8083-25, Pilot's Handbook of Aeronautical Knowledge; and the Aeronautical Information Publication.

SKILL TEST EXAMINER[1] RESPONSIBILITY

10. (1) The skill test examiner conducting the skill test is responsible for determining that the applicant meets the acceptable standards of knowledge and skill of each task within the appropriate STS. This is an ongoing process throughout the test. Oral questioning, to determine the applicant's knowledge of tasks and related safety factors, should be used judiciously at all times, especially during the flight portion of the skill test. Examiners shall test to the greatest extent practicable the applicant's correlative abilities rather than mere rote enumeration of facts throughout the skill test.

(2) If the skill test examiner determines that a task is incomplete, or the outcome uncertain, he may require the applicant to repeat that task, or portions of that task. This provision has been made in the interest of fairness and does not mean that instruction, practice, or the repeating of an unsatisfactory task is permitted during the certification process. In this case, the remaining tasks of the skill test phase should be completed before repeating the questionable task.

(3) Throughout the flight portion of the skill test, the skill test examiner shall evaluate the applicant's use of visual scanning and collision avoidance procedures.

SATISFACTORY PERFORMANCE

11. Satisfactory performance to meet the requirements for licence issue is based on the applicant's ability to safely -

(a) Perform the tasks specified in the areas of operation for the licence or rating sought within the approved standards;

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1 The word “examiner” denotes either the BCAD inspector or BCAD designated pilot examiner who conducts the practical test.

(b) Demonstrate mastery of the aircraft with the successful outcome of each task performed never seriously in doubt;

(c) Demonstrate satisfactory proficiency and competency within the approved standards;

(d) Demonstrate sound judgment; and

(e) Demonstrate single-pilot competence if the aircraft is type certificated for single-pilot operations.

UNSATISFACTORY PERFORMANCE

12. (1) The tolerances represent the performance expected in good flying conditions. If, in the judgment of the flight test examiner, the applicant does not meet the standards of performance of any task performed, the associated area of operation is failed and therefore, the skill test is failed.

(2) The skill test examiner or applicant may discontinue the test at any time when the failure of an area of operation makes the applicant ineligible for the licence or rating sought. **The test may be continued *ONLY* with the consent of the applicant.** If the test is discontinued, the applicant is entitled credit for only those areas of operation and their associated tasks that were satisfactorily performed. However, during the retest, and at the discretion of the flight test examiner, any task may be re-evaluated, including those previously passed.

(3) Typical areas of unsatisfactory performance and grounds for disqualification are -

(a) Any action or lack of action by the applicant that requires corrective intervention by the flight test examiner to maintain safe flight;

(b) Failure to use proper and effective visual scanning techniques to clear the area before and while performing manoeuvres;

(c) Consistently exceeding tolerances stated in the Objectives;

(d) Failure to take prompt corrective action when tolerances are exceeded.

(4) When a notice of disapproval is issued, the flight test examiner shall record the applicant's unsatisfactory performance in terms of the area of operation and specific task(s) not meeting the standard appropriate to the skill test conducted. The area(s) of operation/tasks not tested and the number of skill test failures shall also be recorded. If the applicant fails the skill test because of a special emphasis area, the Notice of Disapproval shall indicate the associated task.

AERONAUTICAL DECISION MAKING AND RISK MANAGEMENT

13. (1) The examiner shall evaluate the applicant’s ability throughout the skill test to use good aeronautical decision making procedures in order to evaluate risks. The examiner shall accomplish this requirement by developing scenarios that incorporate as many TASKS as possible to evaluate the applicants risk management in making safe aeronautical decisions. For example, the examiner may develop a scenario that incorporates weather decisions and

performance planning.

(2) The applicant's ability to utilize all the assets available in making a risk analysis to determine the safest course of action is essential for satisfactory performance. The scenarios should be realistic and within the capabilities of the aircraft used for the skill test.

CREW RESOURCE MANAGEMENT (CRM)

14. (1) CRM refers to the effective use of all available resources: human resources, hardware, and information. Human resources include all groups routinely working with the cockpit crew or pilot who are involved with decisions that are required to operate a flight safely. These groups include, but are not limited to flight operations officers/dispatchers, cabin crewmembers, maintenance personnel, air traffic controllers, and weather services. CRM is not a single task, but a set of competencies that must be evident in all tasks in this STS as applied to either single pilot operations or crew. CRM competencies, grouped into three clusters of observable behaviour, are:

(a) COMMUNICATIONS PROCESSES AND DECISIONS

1. Briefing
2. Inquiry/Advocacy/Assertiveness
3. Self-Critique
4. Communication with Available Personnel Resources
5. Decision Making

(b) BUILDING AND MAINTENANCE OF A FLIGHT TEAM

1. Leadership/Followership
2. Interpersonal Relationships

(c) WORKLOAD MANAGEMENT AND SITUATIONAL AWARENESS

1. Preparation/Planning
2. Vigilance
3. Workload Distribution
4. Distraction Avoidance
5. Wake Turbulence Avoidance

(2) CRM deficiencies almost always contribute to the unsatisfactory performance of a TASK. Therefore, the competencies provide an extremely valuable vocabulary for debriefing. For debriefing purposes, an amplified list of these competencies, expressed as behavioural markers, may be found in FAA AC 120-51, Crew Resource Management Training, as amended. These markers consider the use of various levels of automation in flight management systems.

(3) The standards for each CRM competency as generally stated and applied are subjective. Conversely, some of the competencies may be found objectively stated as required operational procedures for one or more TASKS. Examples of the latter include briefings, radio calls, and instrument approach callouts. Whether subjective or objective, application of CRM competencies are dependent upon the composition of the crew.

HOW THE EXAMINER APPLIES CREW RESOURCE MANAGEMENT

15. (1) Examiners are required to exercise proper CRM competencies in conducting tests as well as expecting the same from applicants.

(2) Pass/Fail judgments based solely on CRM issues must be carefully chosen since they may be entirely subjective. Those Pass/Fail judgments which are not subjective apply to CRM-related procedures in FAA-approved operations manuals that must be accomplished, such as briefings to other crewmembers. In such cases, the operator (or the aircraft manufacturer) specifies what should be briefed and when the briefings should occur. The examiner may judge objectively whether the briefing requirement was or was not met. In those cases where the operator (or aircraft manufacturer) has not specified a briefing, the examiner shall require the applicant to brief the appropriate items from the following note. The examiner may then judge objectively whether the briefing requirement was or was not met.

(3) The majority of aviation accidents and incidents are due to resource management failures by the pilot/crew; fewer are due to technical failures. Each applicant shall give a crew briefing before each takeoff/departure and approach/landing. If the operator or aircraft manufacturer has not specified a briefing, the briefing shall cover the appropriate items, such as runway, SID/STAR/IAP, power settings, speeds, abnormals or emergency prior to or after takeoff, emergency return intentions, missed approach procedures, FAF, altitude at FAF, initial rate of descent, DH/MDA, time to missed approach, and what is expected of the other crewmembers during the takeoff/SID and approach/landing. If the first takeoff/departure and approach/landing briefings are satisfactory, the examiner may allow the applicant to brief only the changes, during the remainder of the flight.

SINGLE-PILOT RESOURCE MANAGEMENT

16. Single-Pilot Resource Management refers to the effective use of ALL available resources: human resources, hardware, and information. It is similar to Crew Resource Management (CRM) procedures that are being emphasized in multi-crewmember operations except that only one crewmember (the pilot) is involved. Human resources "...include all other groups routinely working with the pilot who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, weather briefers, maintenance personnel, and air traffic controllers." Pilot Resource Management is not a single TASK; it is a set of skill competencies that must be evident in all TASKS in this skill test standard as applied to single-pilot operation.

APPLICANT'S USE OF CHECKLISTS

17. Throughout the skill test, the applicant is evaluated on the use of an appropriate checklist. Proper use is dependent on the specific task being evaluated. The situation may be such that the use of the checklist, while accomplishing elements of an Objective, would be either unsafe or impractical, especially in a single-pilot operation. In this case, a review of the checklist after the elements have been accomplished would be appropriate. Division of attention and proper visual scanning should be considered when using a checklist.

USE OF DISTRACTIONS DURING SKILL TESTS

18 Numerous studies indicate that many accidents have occurred when the pilot has been distracted during critical phases of flight. To evaluate the applicant's ability to utilize proper control technique while dividing attention both inside and/or outside the cockpit, the flight test examiner shall cause realistic distractions during the flight portion of the skill test to evaluate the applicant's ability to divide attention while maintaining safe flight.

POSITIVE EXCHANGE OF FLIGHT CONTROLS

19. (1) During flight training, there must always be a clear understanding between students and flight instructors of who has control of the aircraft. Prior to flight, a briefing should be conducted that includes the procedure for the exchange of flight controls. A positive three-step process in the exchange of flight controls between pilots is a proven procedure and one that is strongly recommended.

(2) When the instructor wishes the student to take control of the aircraft, he or she will say, "You have the flight controls." The student acknowledges immediately by saying, "I have the flight controls." The flight instructor again says, "You have the flight controls." When control is returned to the instructor, follow the same procedure. A visual check is recommended to verify that the exchange has occurred. There should never by any doubt as to who is flying the aircraft.

ADDITIONAL RATING TASK TABLES

20. **Reserved.**

SECTION TWO

APPLICANT'S SKILL TEST CHECKLIST: PRIVATE PILOT LICENCE - AIRSHIP

APPOINTMENT WITH THE FLIGHT TEST EXAMINER:

FLIGHT TEST EXAMINER'S NAME: _____

LOCATION: _____

DATE/TIME: _____

I. ACCEPTABLE AIRCRAFT

- ☐ Aircraft Documents:
  - Airworthiness Licence
  - Registration Licence
  - Operating Limitations
- ☐ Aircraft Maintenance Records:
  - Logbook Record of Airworthiness Inspections and AD Compliance
  - Applicable Airworthiness Directives
- ☐ Pilot's Operating Handbook,
- ☐ BCAD Approved Airship Flight Manual
- ☐ Radiotelephony Licence

II. PERSONAL EQUIPMENT

- ☐ Skill Test Standards
- ☐ Current Aeronautical Charts
- ☐ Computer and Plotter
- ☐ Flight Plan Form
- ☐ Flight Logs
- ☐ Current and Appropriate Flight Information Publications

III. PERSONAL RECORDS

- ☐ Identification-Photo/Signature ID
- ☐ Pilot Licence Currently Held (if applicable)
- ☐ Current and Appropriate Medical Certificate
- ☐ Completed BCAD Form PL001, Application For Flight Crew Licence, Rating, Authorization or Validation Certificate with authorized instructor’s Signature (If applicable)
- ☐ Original Aviation Knowledge Test Report
- ☐ Pilot Logbook or Approved Training Organization (ATO) document containing an authorized instructor’s endorsement certifying the applicant is prepared for the required skill test.
- ☐ BCAD Form PL005, Notice of Denial (if applicable)
- ☐ Examiner's Fee (if applicable)

EXAMINER'S PRACTICAL TEST CHECKLIST
PRIVATE PILOT—AIRSHIP

APPLICANT'S NAME_____

LOCATION_____

DATE/TIME _____

I. PREFLIGHT PREPARATION

- **A.** Certificates and Documents
- **B.** Weather Information
- **C.** Cross-country Flight Planning
- **D.** National Airspace System
- **E.** Performance and Limitations
- **F.** Operation of Systems
- **G.** Aeromedical Factors

II. PREFLIGHT PROCEDURES

- **A.** Pre-flight Inspection
- **B.** Cockpit Management
- **C.** Engine Starting
- **D.** Unmasting and Positioning for Takeoff
- **E.** Ground Handling
- **F.** Before Takeoff Check

III. AIRPORT OPERATIONS

- **A.** Radio Communications and ATC Light Signals
- **B.** Traffic Patterns
- **C.** Airport and Runway Markings and Lighting

IV. TAKEOFFS, LANDINGS, AND GO-AROUND

- **A.** Ground Weigh-off
- **B.** Up-Ship Takeoff
- **C.** Wheel Takeoff
- **D.** Approach and Landing
- **E.** Go-around

V. PERFORMANCE MANEUVERS

- **A.** Straight-and-Level Flight
- **B.** Ascents and Descents
- **C.** Level Turns
- **D.** In-flight Weigh-off
- **E.** Manual Pressure Control

F. Static and Dynamic Trim

VI. GROUND REFERENCE MANEUVERS

A. Rectangular Course
B. Turns Around a Point

VII. NAVIGATION

A. Pilotage and Dead Reckoning
B. Navigation Systems and Radar Services
C. Diversion
D. Lost Procedures

VIII. EMERGENCY OPERATIONS

A. Engine Fire During Flight
B. Envelope Emergencies
C. Free Ballooning
D. Ditching and Emergency Landing
E. Systems and Equipment Malfunctions

IX. POSTFLIGHT PROCEDURES

A. Masting
B. Post-Masting

AREAS OF OPERATION

I. PREFLIGHT PREPARATION

A. TASK: CERTIFICATES AND DOCUMENTS

REFERENCES: 14 CFR parts 43, 61, 91; FAA AC 61-21, FAA AC 61-23; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to certificates and documents by explaining the appropriate—

    a. pilot certificate privileges and limitations.
    b. medical certificate, class and duration.
    c. pilot logbook or flight record, required entries.

2. Exhibits knowledge of the elements related to certificates and documents by locating and explaining the—

    a. airworthiness and registration certificates.
    b. operating limitations, placards, instrument markings, handbooks, and manuals.
    c. weight and lift data, including the equipment list.
    d. airworthiness directives and compliance records, maintenance/inspection requirements, and appropriate records.

B. TASK: WEATHER INFORMATION

REFERENCES: FAA AC 00-6, FAA AC 00-45, FAA AC 61-23, FAA AC 61-84; AIP.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to weather information by analyzing weather reports and forecasts from various sources with emphasis on—

    a. PIREP’s.
    b. SIGMET’s and AIRMET’s.
    c. wind shear reports.

2. Exhibits knowledge of the elements related to weather information by explaining various atmospheric conditions, and their effect on airship flight, including—

   a. atmospheric influence.
   b. atmospheric stability.
   c. pressure and temperature changes.
   d. terrain effect on winds.
   e. cloud formations.

3. Makes a competent "go/no-go" decision based on available weather information.

C. TASK: CROSS-COUNTRY FLIGHT PLANNING

REFERENCES: FAA AC 61-21, FAA AC 61-23, FAA AC 61-84; Navigation Charts; Airport/Facility Directory; AIP.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to cross-country flight planning by presenting and explaining a preplanned VFR cross-country flight of maximum duration, appropriate to the airship used for the flight test, as previously assigned by the examiner. The final flight plan shall include real-time weather to the first fuel stop, with maximum allowable passenger and baggage loads.
2. Uses appropriate, current aeronautical charts.
3. Plots a course for the intended route of flight, considering terrain and service ceiling.
4. Identifies airspace, obstructions, and alternate airports.
5. Selects easily identifiable en route checkpoints.
6. Selects the most favourable altitudes, considering weather conditions and equipment capabilities.
7. Computes headings, flight time, and fuel requirements.
8. Selects appropriate navigation systems/facilities and communication frequencies.
9. Considers availability of facilities and ground crew at destination.
10. Extracts and applies pertinent information from NOTAM's, the Airport/Facility Directory, and other flight publications.
11. Completes a navigation log and simulates filing a VFR flight plan.

D. TASK: NATIONAL AIRSPACE SYSTEM

REFERENCES: 14 CFR part 91; Navigation Charts; AIP.

Objective. To determine that the applicant exhibits knowledge of the elements related to the National Airspace System by explaining:

1. Basic VFR Weather Minimums – for all classes of airspace.
2. Airspace classes – their boundaries, pilot certification, and equipment requirements for the following—

a. Class A.
b. Class B.
c. Class C.
d. Class D.
e. Class E.
f. Class G.

3. Special use airspace and other airspace areas.

E. TASK: PERFORMANCE AND LIMITATIONS

REFERENCES: FAA AC 61-21, FAA AC 61-23, FAA AC 61-84, FAA AC 91-23; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to performance and limitations by explaining the use of charts, tables, and appropriate data, if available from the manufacturer, to determine performance in various phases of flight, including operational characteristics and loading, and the adverse effects of exceeding limitations.
2. Computes operating weight, maximum load, and trim condition.
3. Determines airship performance under the following conditions—

   a. weight limitations.
   b. static and dynamic lift capability.
   c. effect of superheat on ballonets(s) and percent of fullness.
   d. effect of gas purity and superheat on lift.
   e. temperature and humidity changes on performance and lift.
   f. temperature inversion on descents.
   g. leaks in ballonet(s) and envelope.
   h. average ballonet volume with respect to total envelope volume and service ceiling.
   I. loss of gross lift when above pressure height.
   j. relationship of ballonet fullness to pressure height.
4. Determines airship performance, considering the effects of the following conditions—

   a. weights and lift (static and dynamic).
   b. relationship of ballonet fullness to pressure height.
   c. superheat on percent of fullness.
   d. average ballonet volume with respect to total envelope volume.
   e. loss of gross lift when above pressure height.
   f. leaks in ballonets and envelope.
   g. gas purity on lift.
   h. superheat on lift.
   I. maximum rate climb and descent limitations.

F. TASK: OPERATION OF SYSTEMS

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to the operation of systems on the airship provided for the flight test by explaining at least three of the following:

1. Surface control systems.
2. Flight instruments and associated controls.
3. Landing gear.
4. Engines.
5. Propellers.
6. Fuel and oil system.
7. Electrical system.
8. Envelope/ballonet pressure systems.
9. Environmental system.
10. Avionics and auxiliary equipment.
11. Any system unique to the airship flown.
12. Ground support equipment.

G. TASK: AEROMEDICAL FACTORS

REFERENCES: FAA AC 61-21; AIP.

Objective. To determine that the applicant exhibits knowledge of the elements related to aeromedical factors by explaining:

1. The symptoms, causes, effects, and corrective actions of at least three of the following—

    a. hypoxia.
    b. hyperventilation.
    c. middle ear and sinus problems.
    d. spatial disorientation.
    e. motion sickness.
    f. carbon monoxide poisoning.
    g. stress and fatigue.

2. The effects of alcohol, and drugs, including over-the-counter drugs.
3. The effects of nitrogen excesses during scuba dives upon a pilot and/or passenger in flight.

II. PREFLIGHT PROCEDURES

A. TASK: PREFLIGHT INSPECTION

REFERENCES: FAA AC 61-21; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to pre-flight inspection. This shall include which items must be inspected, the reasons for checking each item, and how to detect possible defects.
2. Inspects the airship with reference to the checklist.
3. Verifies the airship is in condition for safe flight.

B. TASK: COCKPIT MANAGEMENT

REFERENCES: FAA AC 61-21; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to cockpit management procedures.
2. Ensures all loose items in the cockpit and passenger area are secured.
3. Briefs passengers on the use of safety belts and emergency procedures.
4. Organizes essential material and equipment in a logical, efficient flow pattern.
5. Maintains orderly records reflecting progress of the flight, as appropriate.
6. Utilizes all appropriate checklists.

C. TASK: ENGINE STARTING

REFERENCES: FAA AC 61-21, FAA AC 61-23, FAA AC 91-13; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to engine starting. This shall include the use of an external power source and starting under various atmospheric conditions, as appropriate.
2. Observes safety precautions related to starting, considering open hangars, other aircraft, and the safety of nearby persons and property on the ramp.
3. Accomplishes the correct starting procedure including proper adjustment of engine controls.
4. Prevents movement of airship during and after start.
5. Completes the appropriate checklist.

D. TASK: UNMASTING AND POSITIONING FOR TAKEOFF

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Briefs ground crew and coordinates hand signals and voice commands.
2. Prevents airship from riding up on the mast.
3. Ensures proper envelope pressure and trim before coming off the mast.
4. Uses ground crew and airship controls properly to move away from the mast and into position for takeoff.
5. Divides attention inside and outside the cockpit so as to avoid possible immediate takeoff after coming off the mast.
6. Completes the appropriate checklist.

E. TASK: GROUND HANDLING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to ground handling, appropriate to the airship provided for the practical test.
2. Determines the required number of crew members, considering the weather conditions, the status of the airship, and the method of handling.
3. Briefs the ground crew on all pertinent phases of ground handling procedures.
4. Maintains coordination with the crew chief and the proper use of hand signals and voice commands with the crew.
5. Recognizes undesirable airship movement and takes appropriate action.
6. Maintains proper envelope pressure and trim and alertness for wind shifts.
7. Maintains proper position while controlled by the ground crew.

F. TASK: BEFORE TAKEOFF CHECK

REFERENCES: FAA AC 61-21; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to the before takeoff check.
2. Positions the airship properly to avoid hazards.
3. Divides attention inside and outside the cockpit.
4. Ensures that engine temperatures and pressures are suitable for run-up and takeoff.
5. Accomplishes the before takeoff check and confirms that the airship is in safe operating condition.
6. Reviews takeoff performance, wind direction and speed, expected takeoff distance, emergency procedures, and the departure procedure.
7. Ensures that the takeoff path is clear of obstacles.

8. Assures no conflict with traffic prior to takeoff.
9. Completes the appropriate checklist.

III. AIRPORT OPERATIONS

A. TASK: RADIO COMMUNICATIONS AND ATC LIGHT SIGNALS

REFERENCES: FAA AC 61-21, FAA AC 61-23; AIP.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to radio communications and ATC light signals.
2. Selects appropriate frequencies.
3. Transmits using recommended phraseology.
4. Acknowledges radio communications and complies with instructions.
5. Uses prescribed procedures following radio communications failure.
6. Interprets and complies with ATC light signals.

B. TASK: TRAFFIC PATTERNS

REFERENCES: FAA AC 61-21, FAA AC 61-23; AIP.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to traffic patterns. This shall include operations at controlled and uncontrolled airports, runway incursion and collision avoidance, wake turbulence avoidance, and wind shear.
2. Complies with traffic pattern procedures.
3. Maintains proper spacing from other traffic.
4. Corrects for wind drift to maintain the proper ground track.
5. Maintains orientation with the runway or landing area to be used.
6. Establishes a final approach at an appropriate distance from the runway or landing area.
7. Maintains the appropriate traffic pattern altitude, ±200 feet (60 meters).
8. Maintains airspeed for the current static condition of the airship.
9. Completes the appropriate checklist.

C. TASK: AIRPORT AND RUNWAY MARKINGS AND LIGHTING

REFERENCES: FAA AC-61-21, FAA AC 61-23; AIP.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to airport and runway markings and lighting.
2. Identifies and interprets airport, runway and taxiway markings.
3. Identifies and interprets airport, runway and taxiway lighting.

IV. TAKEOFFS, LANDINGS, AND GO-AROUND

A. TASK: GROUND WEIGH-OFF

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to ground weigh-off.
2. Determines the static and trim condition.
3. Maintains zero inclination and heading into the wind.
4. Prevents fore-and-aft surge.
5. Checks weigh-off and trim with neutral elevators when HANDS OFF command is given.
6. Ballasts the airship according to the conditions and type of flight contemplated without exceeding the weight limits.
7. Completes the appropriate checklist.

B. TASK: UP-SHIP TAKEOFF

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to an upwind takeoff.
2. Determines heaviness limitations and weather conditions under which an up-ship takeoff may be made.
3. Ensures that sufficient ground crew are available so as to obtain adequate upward velocity.
4. Idles engines and uses the rudder as necessary during weigh-off.
5. Remains within the takeoff heaviness limits.
6. Uses proper and timely hand signals and voice commands with ground crew.
7. Applies up elevator pressure as ground crew lifts airship and transitions to a nose-up attitude keeping tail clear of the ground.
8. Applies power as the airship nears the top of its upward thrust.
9. Prevents the tail from striking the ground.
10. Increases airspeed sufficiently to carry the load dynamically.
11. Completes the appropriate checklist.

C. TASK: WHEEL TAKEOFF

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to a wheel takeoff. This shall include a wheel takeoff under various degrees of heaviness, including maximum heavy conditions.

2. Determines the approximate takeoff roll and ensures that the area is clear and sufficient, considering wind conditions and field surface.
3. Positions the airship to utilize the maximum available takeoff area and maintains trim.
4. Uses the proper hand signals and voice commands with the ground crew.
5. Applies power slowly, in a timely manner.
6. Attains sufficient airspeed to carry the load dynamically while on the wheel.
7. Uses elevators to assist the airship in lifting dynamically.
8. Maintains directional control and the proper inclination to keep the tail off the ground.
9. Completes the appropriate checklist.

D. TASK: APPROACH AND LANDING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to an approach and landing, including light and heavy airships.
2. Accomplishes static weigh-off prior to commencing the approach.
3. Adjusts trim, as necessary, for landing, considering weight and condition of air.
4. Coordinates flight and power controls, as necessary.
5. Makes smooth and gradual approach maintaining direction and angle of descent.
6. Recognizes and adheres to waveoff signals.
7. Lands at a speed appropriate for approaching the ground crew.
8. Reverses thrust, if applicable.
9. Completes the appropriate checklists.

E. TASK: GO-AROUND

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Makes a timely decision to discontinue the approach to landing.
2. Uses correct procedures for a light or heavy airship, as appropriate.
3. Coordinates use of power and flight controls to effect a smooth transition to a climb attitude.
4. Completes the appropriate checklist.

V. PERFORMANCE MANEUVERS

A. TASK: STRAIGHT-AND-LEVEL FLIGHT

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant

1. Exhibits knowledge of the elements related to straight-and-level flight.
2. Uses the flight controls in a smooth, coordinated manner with minimum pitching and yawing.
3. Adjusts and maintains dynamic trim.
4. Maintains the specified altitude, ±200 feet (60 meters) and the specified heading, ±20°.

B. TASK: ASCENTS AND DESCENTS

REFERENCE: Airship flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to ascents and descents, including limitations.
2. Ascends and descends while keeping the gas pressure within operating limits.
3. Demonstrates proper pressure control and makes smooth altitude changes.
4. Controls rates of ascent and descent, ±300 feet (90 meters) per minute.

C. TASK: LEVEL TURNS

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to level turns.
2. Enters, maintains, and rolls out of level turns with smooth, coordinated control application.
3. Uses elevators and rudders properly to control effects of rolling tendency, loss of dynamic lift.
4. Maintains the specified altitude, ±200 feet (60 meters) and rolls out on the assigned heading, ±20°.

D. TASK: IN-FLIGHT WEIGH-OFF

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to in-flight weigh-off.
2. Steers the airship into the wind in level flight at a minimum altitude of at least 500 feet (150 meters) AGL.
3. Reduces the power to the specified airspeed and stabilizes the airship.
4. Determines if the airship is being affected by updrafts or downdrafts.
5. Neutralizes the elevator and rudder controls.
6. Observes the attitude of the airship and pressure differential in the ballonets.
7. Determines trim and static condition.
8. Adjusts trim properly.

E. TASK: MANUAL PRESSURE CONTROL

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to manual pressure control.
2. Controls the pressure manually as recommended by the manufacturer to a predetermined valve(s) setting.
3. Monitors operation of pressure valves and system.
4. Maintains a constant altitude, ±200 feet (60 meters).

F. TASK: STATIC AND DYNAMIC TRIM

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to static and dynamic trim.
2. Establishes static trim for various weight conditions.
3. Establishes dynamic trim for various flight conditions.

VI. GROUND REFERENCE MANEUVERS

A. TASK: RECTANGULAR COURSE

REFERENCES: FAA AC 61-21; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to a rectangular course.
2. Selects a suitable altitude and ground reference.
3. Plans the manoeuvre so as to enter at traffic pattern altitude, at an appropriate distance from the selected reference area.
4. Applies adequate wind drift correction during straight-and-turning flight to maintain a constant ground track around the rectangular reference area.
5. Divides attention between coordinated airship control and the ground track.
6. Maintains altitude, ±200 feet (60 meters).

B. TASK: TURNS AROUND A POINT

REFERENCES: FAA AC 61-21; Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to turns around a point.
2. Selects the ground reference point.
3. Plans the manoeuvre so as to enter at 600 to 1,000 feet (180 to 300 meters) AGL at an appropriate distance from the reference point.
4. Applies adequate wind drift correction to track a constant radius circle around the selected reference point.
5. Divides attention between airship control and the ground track, and maintains coordinated flight.
6. Maintains altitude, ±200 feet (60 meters).

VII. NAVIGATION

A. TASK: PILOTAGE AND DEAD RECKONING

REFERENCES: FAA AC 61-21, FAA AC 61-23, FAA AC 61-84.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to pilotage and dead reckoning.
2. Follows the preplanned course solely by visual reference to landmarks.
3. Identifies landmarks by relating the surface features to chart symbols.
4. Navigates by means of precomputed headings, groundspeed, and elapsed time.
5. Makes a reasonable estimate of heading, groundspeed, arrival time, and fuel consumption to the destination.
6. Corrects for, and records, the differences between pre-flight fuel, groundspeed, and heading calculations and those determined en route.
7. Verifies the airship's position within 3 nautical miles of the flight planned route at all times.
8. Arrives at the en route checkpoints or destination within 5 minutes of the ETA.
9. Maintains the appropriate altitude, ±200 feet (60 meters) and established heading, ±20°.
10. Completes all appropriate checklists.

B. TASK: NAVIGATION SYSTEMS AND RADAR SERVICES

REFERENCES: FAA AC 61-21, FAA AC 61-23; Navigation Equipment Operation Manuals.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to navigation systems and radar services.
2. Selects and identifies the appropriate navigation system/facility.
3. Locates the airship's position using radials, bearings, or coordinates, as appropriate.
4. Intercepts and tracks a given radial or bearing, if appropriate.
5. Recognizes and describes the indication of station passage, if appropriate.
6. Recognizes signal loss and takes appropriate action.
7. Uses proper communication procedures when utilizing ATC radar services.
8. Maintains the appropriate altitude, ±200 feet (60 meters).

C. TASK: DIVERSION

REFERENCES: FAA AC 61-21, FAA AC 61-23.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to diversion.
2. Selects an appropriate alternate airport and route.
3. Diverts promptly toward the alternate airport.
4. Makes a reasonable estimate of heading, groundspeed, arrival time, and fuel consumption to the alternate airport.
5. Maintains the appropriate altitude, ±200 feet (60 meters) and established heading, ±20°.

D. TASK: LOST PROCEDURES

REFERENCES: FAA AC 61-21, FAA AC-23.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to lost procedures.
2. Selects the best course of action when given a lost situation.
3. Maintains the original or an appropriate heading and climbs, if necessary.
4. Identifies the nearest concentration of prominent landmarks.
5. Uses navigation systems/facilities and/or contacts an appropriate ATC facility for assistance.

VIII. EMERGENCY OPERATIONS

A. TASK: ENGINE FIRE DURING FLIGHT

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to engine fire during flight by explaining the procedures used for:

1. Applying full power in an attempt to blow out the fire in the affected engine.
2. Extinguishing the fire.
3. Shutting down the engine, using the checklist, if the fire persists.
4. Preparing to land at the earliest opportunity.

B. TASK: ENVELOPE EMERGENCIES

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant exhibits knowledge of the elements related to envelope emergencies by explaining the procedures used for:

1. A puncture or rip in the gas envelope and/or in a ballonet.
2. An excessive helium loss.
3. Rain /icing on the envelope.
4. Emergency valve operations.

5. Emergency air-to-helium operations.

C. TASK: FREE BALLOONING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to free ballooning.
2. Assesses airship static condition and determines ballast needs.
3. Establishes equilibrium in a timely manner.
4. Turns off all nonessential electrical equipment.
5. Determines cause of engine failure and attempts restart.
6. Selects suitable landing site and establishes communications with the crew.
7. Uses minimum helium valving and ballast dumping during descent.
8. Secures loose equipment.
9. Completes the appropriate emergency checklist.

D. TASK: DITCHING AND EMERGENCY LANDING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to ditching and emergency landing.
2 Simulates jettisoning ballast, considering potential fire hazard when dumping fuel.
3. Instructs passengers in safety procedures.
4. Ensures life jackets are on correctly, if ditching.
5. Secures loose equipment.
6. Simulates securing all systems to minimize chance of fire or other damage.
7. Completes the appropriate emergency checklist.

E. TASK: SYSTEMS AND EQUIPMENT MALFUNCTIONS

REFERENCE: Airship Flight Manual.

NOTE: The examiner shall not simulate a system or equipment malfunction in a manner that may jeopardize safe flight or result in possible damage to the airship.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to systems and equipment malfunctions appropriate to the airship used for the practical test.
2. Takes appropriate action for simulated emergencies such as—

a. Control system/actuator malfunction.
b. Fuel starvation.

c. Electrical system malfunction.
d. Propeller malfunction.
e. Pressure system malfunction.
f. Engine or nacelle fire.
g. APU fire.

IX. POSTFLIGHT PROCEDURES

A. TASK: MASTING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to masting.
2. Maintains coordination with crew chief through use of proper hand signals and voice commands.
3. Remains in control of airspeed and positions airship properly.
4. Coordinates use of power and flight controls.
5. Places airship in proper trim and ballast when approaching the mast.
6. Completes the appropriate checklist.

B. TASK: POST-MASTING

REFERENCE: Airship Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to post-masting, appropriate to the airship used for the practical test.
2. Uses proper engine shutdown procedures.
3. Complies with equipment requirements for maintaining envelope pressure.
4. Ensures mast security relative to weather conditions.
5. Gives consideration to weather with the airship on the mast.
6. Completes the appropriate checklist.

APPENDIX

TASK VS. FLIGHT SIMULATION TRAINING DEVICE CREDIT

Reserved