



# TTCAA Advisory Circular

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**Subject: FLIGHT INSTRUCTOR SKILL TEST STANDARDS**

**TTCAA Advisory Circular TAC-PEL071**

**Date: 06/10/02**

## FOREWORD

1. (1) The TTCAA has developed skill test standards for airmen licences and ratings and these are published as TTCAA Advisory Circulars (TACs). This TAC establishes the standards for the flight instructor skill tests for the aeroplane category and the single-engine and multi-engine classes. Although helicopter and powered lift categories are included in this document, they are only at the “in development” stage at this time. TTCAA inspectors and designated pilot flight 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 TACs have been developed for other airmen licences and can be obtained from the TTCAA website: [www.caa.gov.tt](http://www.caa.gov.tt).

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

(4) The Trinidad and Tobago Civil Aviation Regulations (TTCAR) can be obtained from the Trinidad and Tobago Government Printery, Victoria Avenue, Port of Spain, Trinidad. TTCAR No.1, Part II and Part III cover the requirements for personnel licencing.

(5) This TAC may be downloaded from the TTCAA website at <http://www.caa.gov.tt>. Subsequent changes to this TAC will also be available on TTCAA web site.

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

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## CONTENTS

Foreword.....	1
Purpose .....	5
General .....	5
Skill Test Standards Concept.....	5

### SKILL TEST STANDARDS DESCRIPTION AND REFERENCE INFORMATION

General .....	5
Note .....	5
Reference.....	5
Objective.....	6
Use of the Skill Test Standards.....	6
Plan of Action.....	7
Special Emphasis Areas.....	7
Skill Test Prerequisites .....	8
Aircraft and Equipment Required for the Skill Test .....	8
Flight Instructor Responsibility .....	9
Flight test examiner Responsibility .....	9
Satisfactory Performance.....	10
Unsatisfactory Performance.....	10
Crew Resource Management (CRM).....	11
Applicant's Use of Checklists.....	11
Use of Distractions during Skill Tests .....	11
Positive Exchange of Flight Controls .....	11
Initial Flight Instructor Certification.....	12
Addition of Aircraft Category and/or Class Ratings to a Flight Instructor Rating.....	12
Renewal or Reinstatement of a Flight Instructor Rating.....	12

### SECTION 1: FLIGHT INSTRUCTOR—AEROPLANE (SINGLE-ENGINE)

CONTENTS .....	14
APPLICANT'S SKILL TEST CHECKLIST .....	17
FLIGHT TEST EXAMINER'S SKILL TEST CHECKLIST.....	18

#### AREAS OF OPERATION:

I. FUNDAMENTALS OF INSTRUCTING.....	21
II. TECHNICAL SUBJECT AREAS .....	23
III. PREFLIGHT PREPARATION.....	27
IV. PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT .....	29
V. PREFLIGHT PROCEDURES.....	30
VI. AIRPORT AND SEAPLANE BASE OPERATIONS .....	34
VII. TAKEOFFS, LANDINGS, AND GO-AROUNDS .....	36
VIII. FUNDAMENTALS OF FLIGHT .....	43
IX. PERFORMANCE MANOEUVRES.....	45
X. GROUND REFERENCE MANOEUVRES.....	47
XI. SLOW FLIGHT, STALLS, AND SPINS .....	49
XII. BASIC INSTRUMENT MANOEUVRES .....	53
XIII. EMERGENCY OPERATIONS.....	56
XIV. POSTFLIGHT PROCEDURES .....	58

#### SECTION 2:

CONTENTS .....	62
APPLICANT'S SKILL TEST CHECKLIST .....	65
FLIGHT TEST EXAMINER'S SKILL TEST CHECKLIST.....	66

#### AREAS OF OPERATION:

I. FUNDAMENTALS OF INSTRUCTING .....	69
II. TECHNICAL SUBJECT AREAS .....	71
III. PREFLIGHT PREPARATION.....	75

IV.	PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT .....	76
V.	PREFLIGHT PROCEDURES.....	77
VI.	AIRPORT AND SEAPLANE BASE OPERATIONS .....	81
VII.	TAKEOFFS, LANDINGS, AND GO-AROUNDS.....	83
VIII.	FUNDAMENTALS OF FLIGHT .....	88
IX.	PERFORMANCE MANOEUVRES .....	90
X.	GROUND REFERENCE MANOEUVRES.....	91
XI.	SLOW FLIGHT AND STALLS .....	93
XII.	BASIC INSTRUMENT MANOEUVRES .....	95
XIII.	EMERGENCY OPERATIONS.....	98
XIV.	MULTIENGINE OPERATIONS.....	101
XV.	AFTER-LANDING PROCEDURES .....	104

## PURPOSE

1. The purpose of this TTCAA Advisory Circular (TAC) is to prescribe the standards that shall be used by TTCAA inspectors and designated flight test examiners when conducting flight instructor—airplane (FI) 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 Trinidad and Tobago Flight Instructor Rating is required under TTCAR No.1 to demonstrate to the Authority through a skill test, his ability to perform as a flight instructor the relevant procedures and manoeuvres prescribed by the TTCAR, with a degree of competence appropriate to the privileges granted to the holder of a Flight Instructor Rating. This TAC has been published by the TTCAA to establish the standards for the Flight Instructor Rating skill tests for the airplane category and the single-engine and multi-engine classes. TTCAA inspectors and designated flight 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 Trinidad and Tobago Flight Instructor Rating.

## SKILL TEST STANDARD CONCEPT

3. TTCAR No.1 specifies the areas of operation in which knowledge and skill must be demonstrated by the applicant before the issue of a flight instructor rating. The TTCAR provide the flexibility to permit the TTCAA to publish STSs containing the areas of operation and specific tasks in which pilot competency shall be demonstrated. The TTCAA shall revise this STS whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the TTCAR and the STS is mandatory for the evaluation of flight Instructor applicants.

## SKILL TEST STANDARDS DESCRIPTION AND REFERENCE INFORMATION

### *General*

4. (1) Tasks are titles of knowledge areas, flight procedures, or manoeuvres appropriate to an areas of operation. The abbreviation(s) within parentheses immediately following a task refer to the category and/or class aircraft appropriate to that task. The meaning of each abbreviation is as follows:

- (a) ASEL Airplane—Single-Engine Land ;
- (b) AMEL Airplane—Multiengine Land;
- (c) ASES Airplane—Single-Engine Sea ;
- (d) AMES Airplane—Multiengine Sea

*Note:* When administering a test based on sections 1 and 2 of this STS, the tasks appropriate to the class airplane (ASEL, ASES, AMEL, or AMES) used for the test shall be included in the plan of action. The absence of a class indicates the task is for all classes.

### *Note*

5. “NOTE” is used to emphasize special considerations required in the areas of operation or task.

### *Reference*

6. (1) Reference identifies the publication(s) that describe(s) the task. Descriptions of tasks and manoeuvre tolerances are not included in these standards because this information can be found in the current issue of the listed reference. Publications other than those listed may be used for references if their content conveys substantially the same meaning as the referenced publications.

(2) These skill test standards are based on the following references:

TTCAR No.1	General Application and Personnel Licensing
TTCAR No.2	Operations
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8083-1	Aircraft Weight and Balance Handbook
FAA-H-8083-3	Aeroplane Flying Handbook
FAA-H-8083-9	Aviation Instructor's Handbook
TAC-PEL061	Instrument Rating Skill Test Standards
TAC-PEL066	Commercial Pilot Skill Test Standards
TAC-PEL056	Private Pilot Skill Test Standards
FAA-H-8083-15	Instrument Flying Handbook
STARs	Standard Terminal Arrivals
NOTAMs	Notices to Airmen
POH/AFM	Pilot Operating Handbooks and –Approved aeroplane /rotocraft flight manual

### **Objective**

7. (1) The Objective lists the 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) Conditions under which the task is to be performed; and
- (c) Acceptable performance standards.

(2) The flight test examiner determines that the applicant meets the task Objective through the demonstration of competency in all elements of knowledge and/or skill unless otherwise noted. The Objectives of tasks in certain areas of operation, such as Fundamentals of Instructing and Technical Subjects, include only knowledge elements. Objectives of tasks in areas of operation that include elements of skill, as well as knowledge, also include common errors, which the applicant shall be able to describe, recognize, analyze, and correct.

(3) The Objective of a task that involves pilot skill consists of four parts. The four parts include determination that the applicant exhibits:

- (a) Instructional knowledge of the elements of a task. This is accomplished through descriptions, explanations, and simulated instruction;
- (b) Instructional knowledge of common errors related to a task, including their recognition, analysis, and correction;
- (c) The ability to demonstrate and simultaneously explain the key elements of a task. The task demonstration must be to the commercial pilot skill level; the teaching
- (d) Techniques and procedures should conform to those set forth in FAA-H-8083-25, Pilot's Handbook of Aeronautical Knowledge; FAA-H-8083-9, Aviation Instructor's Handbook; FAA-H-8083-3, Aeroplane Flying Handbook; and FAA-H-8083-15, Instrument Flying Handbook; and the ability to analyze and correct common errors related to a task.

### **USE OF THE SKILL TEST STANDARDS**

8. (1) The TTCAA requires that all Flight Instructor skill tests be conducted in accordance with the appropriate Flight Instructor Skill Test Standards and the policies set forth herein.. The flight instructor applicant must be prepared to demonstrate the ability to instruct effectively in ALL tasks included in the areas of operation of the appropriate skill test standards, unless otherwise noted. All of the procedures and manoeuvres in the Private Pilot and Commercial Pilot Skill Test Standards have been included in the Flight Instructor Skill Test Standards.

However, the flight instructor STS allows the flight test examiner to select one or more tasks in each areas of operation therefore allowing the skill test for initial certification to be completed within a reasonable time frame. In certain areas of operation, there are required tasks, which the flight test examiner must select. These required tasks are identified by NOTES immediately following the areas of operation titles.

(2) The term "instructional knowledge" means the instructor applicant is capable of using the appropriate reference to provide the "application or correlative level of knowledge" of a subject matter topic, procedure, or manoeuvre. It also means that the flight instructor applicant's discussions, explanations, and descriptions should follow the recommended teaching procedures and techniques explained in FAA-H-8083-9, Aviation Instructor's Handbook.

(3) In preparation for the skill test, the flight test examiner shall develop a written "plan of action." The "plan of action" for an initial certification test shall include one or more tasks in each areas of operation and shall always include the required tasks. If the applicant is unable to perform a task listed in the "plan of action" due to circumstances beyond his/her control, the flight test examiner may substitute another task from the applicable areas of operation.

### PLAN OF ACTION

9. (1) The "Plan of Action" for a test administered for the addition of an aircraft category and/or class rating to a flight instructor rating shall include the required areas of operation as indicated in the table at the beginning of each section. The required tasks appropriate to the rating(s) sought must also be included. In some instances, notes identify additional required tasks. Any task selected shall be evaluated in its entirety.

*Note: areas of operation XI, Slow Flight, Stalls, and Spins, contains tasks referred to as "proficiency" and "demonstration." The intent of tasks A and B (proficiency) is to ensure that the flight instructor applicant is tested on proficiency for the purpose of teaching these tasks to students that are required for pilot certification. The intent of tasks C, D, and E (demonstration) is to ensure that the flight instructor applicant is knowledgeable and proficient in these manoeuvres and can teach them to students for both familiarization and stall/spin awareness purposes.*

(2) With the exception of the required tasks, the flight test examiner shall not tell the applicant in advance, which tasks will be included in the "plan of action." The applicant should be well prepared in all knowledge and skill areas included in the standards. Throughout the flight portion of the skill test, the flight test examiner will evaluate the applicant's ability to simultaneously demonstrate and explain procedures and manoeuvres, and to give flight instruction to students at various stages of flight training and levels of experience.

(3) The purpose for including common errors in certain tasks is to assist the flight test examiner in determining that the flight instructor applicant has the ability to recognize, analyze, and correct such errors. The common errors listed in the task Objectives may or may not be found in the task References. However, the TTCAA considers their frequency of occurrence justification for their inclusion in the task Objectives. The flight test examiner shall not simulate any condition that may jeopardize safe flight or result in possible damage to the aircraft.

(4) 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

10. The flight test examiner shall place special emphasis on the applicant's demonstrated ability to teach precise aircraft control and sound judgment in aeronautical decision making. Evaluation of the applicant's ability to teach judgment shall be accomplished by asking the applicant to describe the presentation of practical problems that would be used in instructing students in the exercise of sound judgment. The flight test examiner shall also emphasize the evaluation of the applicant's demonstrated ability to teach spatial disorientation, wake turbulence and

low level wind shear avoidance, checklist usage, positive exchange of flight controls, runway incursion avoidance, and any other directed special emphasis areas.

### **SKILL TEST PREREQUISITES**

**11. (1)** An applicant for a flight instructor—initial skill test is required by TTCAR No.1 to:

- (a) Be at least 18 years of age;
- (b) Be able to read, speak, write, and understand the English language. If there is a doubt, English Language Skill Standards;
- (c) Hold either a commercial/instrument pilot or airline transport pilot licence with an aircraft category rating appropriate to the flight instructor rating sought;
- (d) Have an endorsement from an authorized instructor on the fundamentals of instructing appropriate to the required knowledge test;
- (e) Have passed the appropriate flight instructor knowledge test(s) since the beginning of the 24th month before the month in which he or she takes the skill test; and
- (f) Have an endorsement from an authorized instructor certifying that the applicant has been given flight training in the areas of operation listed in TTCAR No.1:81 and Schedule 8 and a written statement from an authorized flight instructor within the preceding 60 days, that instruction was given in preparation for the skill test. The endorsement shall also state that the instructor finds the applicant prepared for the required skill test, and that the applicant has demonstrated satisfactory knowledge of the subject area(s) in which the applicant was deficient on the airman knowledge test.

(2) An applicant holding a flight instructor rating who applies for an additional rating on his Flight Instructor Rating is required by TTCAR to:

- (a) Hold a valid pilot licence with ratings appropriate to the flight instructor rating sought;
- (b) Have at least 15 hours as pilot-in-command in the category and class aircraft appropriate to the rating sought;
- (c) Have passed the appropriate knowledge test prescribed for the issue of a flight instructor rating with the rating sought since the beginning of the 24th month before the month in which he/she takes the skill test; and
- (d) Have an endorsement from an authorized instructor certifying that the applicant has been given flight training in the areas of operation listed in TTCAR No.1, Part III, and a written statement from an authorized flight instructor within the preceding 60 days, that instruction was given in preparation for the skill test. The endorsement shall also state that the instructor finds the applicant prepared for the required skill test, and that the applicant has demonstrated satisfactory knowledge of the subject area(s) in which the applicant was deficient on the airman knowledge test.

### **AIRCRAFT AND EQUIPMENT REQUIRED FOR THE SKILL TEST**

**12. (1)** The Flight Instructor-aeroplane applicant is required by TTCAR No.1:110 to provide an aircraft with a current airworthiness certificate and the necessary equipment and controls. The aircraft must –

- (a) Be of Trinidad and Tobago registration, or at the discretion of the flight test examiner administering the skill test, of foreign registration properly certified by the State of Registry and of the same category, class and type, if applicable, for the licence and/or rating for which the applicant is applying;



- (b) Have fully functioning dual controls; and
- (c) Be capable of performing all areas of operation appropriate to the rating sought and have no operating limitations, which prohibit its use in any of the areas of operation, required for the skill test.

### **FLIGHT INSTRUCTOR RESPONSIBILITY**

**13. (1)** An appropriately rated flight instructor is responsible for training the flight instructor applicant to acceptable standards in all subject matter areas, procedures, and manoeuvres included in the tasks within each areas of operation in the appropriate flight instructor 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. The flight instructor must certify that the applicant is:

- (a) Able to make a practical application of the fundamentals of instructing;
- (b) Competent to teach the subject matter, procedures, and manoeuvres included in the standards to students with varying backgrounds and levels of experience and ability;
- (c) Able to perform the procedures and manoeuvres included in the standards to at least the commercial pilot skill level while giving effective flight instruction; and
- (d) Competent to pass the required skill test for the issue of the flight instructor rating with the associated category and class ratings or the addition of a category and/or class rating to a flight instructor rating.

(3) The term "Commercial Pilot Skill Level" is defined, for the purpose of this publication, as performing a procedure or manoeuvre within the tolerances listed in the TTCAA Commercial Pilot Skill Test Standards. If the manoeuvre appears only in a Private Pilot Skill Test Standard, the term means that the applicant's performance is expected to be "more precise" than that indicated by the stated tolerances. This "more precise" performance must be determined by the flight test examiner through the exercise of subjective judgment.

(4) Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of, and the ability to teach, effective visual scanning, runway incursion avoidance, and collision avoidance procedures. The flight instructor applicant should develop and use scenario based teaching methods particularly on special emphasis areas. These areas are covered in, 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 current Aeronautical Information Manual.

### **FLIGHT TEST EXAMINER RESPONSIBILITY**

**14. (1)** The flight test examiner conducting the skill test is responsible for determining that the applicant meets acceptable standards of teaching ability, knowledge, and skill in the selected tasks. The flight test examiner makes this determination by accomplishing an Objective that is appropriate to each selected task, and includes an evaluation of the applicant's:

- (a) Ability to apply the fundamentals of instructing;
- (b) Knowledge of, and ability to teach, the subject matter, procedures, and manoeuvres covered in the tasks;
- (c) Ability to perform the procedures and manoeuvres included in the standards to the commercial pilot skill level while giving effective flight instruction; and
- (d) Ability to analyze and correct common errors related to the procedures and manoeuvres covered in the tasks.

(2) It is intended that oral questioning be used at any time during the ground or flight portion of the skill test to determine that the applicant can instruct effectively and has a comprehensive knowledge of the tasks and their related safety factors.

(3) During the flight portion of the skill test, the flight test examiner shall act as a student during selected manoeuvres. This will give the flight test examiner an opportunity to evaluate the flight instructor applicant's ability to analyze and correct simulated common errors related to these manoeuvres. The flight test examiner will place special emphasis on the applicant's use of visual scanning and collision avoidance procedures, and the applicant's ability to teach those procedures.

(4) Flight test examiners should to the greatest extent possible test the applicant's application and correlation skills. When possible scenario based questions should be used during the skill test. The flight test examiner will evaluate the applicant's ability to teach visual scanning, runway incursion avoidance, and collision avoidance procedures.

(5) If the flight test examiner determines that a task is incomplete, or the outcome uncertain, the flight test examiner 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. When practical, the remaining tasks of the skill test phase should be completed before repeating the questionable task.

(6) On multiengine skill tests where the failure of the most critical engine after lift off is required, the instructor applicant and flight test examiner must give consideration to local atmospheric conditions, terrain and type of aircraft used. However the failure of an engine shall not be simulated until attaining at least  $V_{sse}/V_{yse}$  and at an altitude not lower than 500 feet AGL.

(7) During simulated engine failures on multiengine skill tests, after simulated feathering of the propeller the engine shall be set to zero thrust. The flight test examiner shall require the instructor applicant to simultaneously demonstrate and explain procedures for landing with a simulated feathered propeller with the engine set to zero thrust.

### **SATISFACTORY PERFORMANCE**

**15.** The skill test is passed if, in the judgment of the flight test examiner, the applicant demonstrates satisfactory performance with regard to:

- (a) Knowledge of the fundamentals of instructing;
- (b) Knowledge of the technical subject areas;
- (c) Knowledge of the flight instructor's responsibilities concerning the pilot certification process;
- (d) Knowledge of the flight instructor's responsibilities concerning logbook entries and pilot licence endorsements;
- (e) Ability to demonstrate the procedures and manoeuvres selected by the flight test examiner to at least the commercial pilot skill level while giving effective instruction;
- (f) Competence in teaching the procedures and manoeuvres selected by the flight test examiner;
- (g) Competence in describing, recognizing, analyzing, and correcting common errors simulated by the flight test examiner; and,
- (h) Knowledge of the development and effective use of a course of training, a syllabus, and a lesson plan.

### **UNSATISFACTORY PERFORMANCE**

**16. (1)** If, in the judgment of the flight test examiner, the applicant does not meet the standards of performance of any task performed, the applicable areas of operation is considered unsatisfactory and therefore, the skill test is failed. The flight test examiner or applicant may discontinue the test at any time when the failure of an

areas of operation makes the applicant ineligible for the licence or rating sought. The test will 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 satisfactorily performed; however, during the retest and at the discretion of the flight test examiner, any task may be re-evaluated, including those previously considered satisfactory. Specific reasons for disqualification are:

- (a) Failure to perform a procedure or manoeuvre to the commercial pilot skill level while giving effective flight instruction;
- (b) Failure to provide an effective instructional explanation while demonstrating a procedure or manoeuvre (explanation during the demonstration must be clear, concise, technically accurate, and complete with no prompting from the flight test examiner);
- (c) Any action or lack of action by the applicant which requires corrective intervention by the flight test examiner to maintain safe flight;
- (d) Failure to use proper and effective visual scanning techniques to clear the area before and while performing manoeuvres.

(2) When a disapproval notice is issued, the flight test examiner shall record the applicant's unsatisfactory performance in terms of areas of operation and specific tasks not meeting the standard appropriate to the skill test conducted. If the applicant fails the skill test because of a special emphasis area, the Notice of Disapproval shall indicate the associated tasks. An example would be: areas of operation IX, Manoeuvring During Slow Flight, failure to teach proper collision avoidance procedures.

### **CREW RESOURCE MANAGEMENT (CRM)**

17. 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: dispatchers, cabin crewmembers, maintenance personnel, air traffic controllers, and weather services. CRM is not a single tasks, but a set of competencies that must be evident in all tasks in this skill test standard as applied to either single pilot or crew operations.

### **APPLICANT'S USE OF CHECKLISTS**

18. Throughout the skill test, the instructor applicant is evaluated on the use and teaching of an appropriate checklist. Proper use is dependent on the specific tasks 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**

19. 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 outside the cockpit, the flight test examiner shall cause realistic distractions using 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**

20. (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 be any doubt as to who is flying the aircraft. The instructor applicant is expected to teach proper positive exchange of flight controls during the skill test.

### **INITIAL FLIGHT INSTRUCTOR CERTIFICATION**

**21. (1)** An applicant who seeks initial flight instructor certification will be evaluated in all areas of operation of the standards appropriate to the rating(s) sought. The flight test examiner shall refer to the NOTE in the front of the areas of operation to determine which and how many tasks shall be tested.

### **ADDITION OF AIRCRAFT CATEGORY AND/OR CLASS RATINGS TO A FLIGHT INSTRUCTOR RATING**

**22.** An applicant who holds a Flight instructor rating and seeks an additional aircraft category and/or class rating will be evaluated in at least the areas of operation and tasks that are unique and appropriate to the rating(s) sought (see table at the beginning of each section). At the discretion of the flight test examiner, the applicant's competence in all areas of operation may be evaluated.

### **RENEWAL OR REINSTATEMENT OF A FLIGHT INSTRUCTOR RATING**

**23.** TTCAR No.1:87 allows an individual that holds a flight instructor rating to renew or reinstatement that certificate by passing a skill test. The flight test examiner shall develop a plan of action that includes the areas of operation and at least the minimum number of tasks prescribed in the table at the beginning of each section. The Renewal or Reinstatement of one rating on a Flight instructor rating renews or reinstates all privileges existing on the certificate.

**SECTION 1**

**FLIGHT INSTRUCTOR**

**AEROPLANE—SINGLE-ENGINE**

**Practical Test Standards**

**CONTENTS: SECTION 1**  
**FLIGHT INSTRUCTOR**  
**AEROPLANE—SINGLE-ENGINE Skill Test Standards**

**CONTENTS**

**Aeroplane Single-Engine**

**CHECKLISTS:**

Applicant's Skill Test Checklist .....	17
Flight test examiner's Checklist .....	18

**AREAS OF OPERATION:**

**I. FUNDAMENTALS OF INSTRUCTING**

A. The Learning Process .....	21
B. Human Behavior and Effective Communication .....	21
C. The Teaching Process .....	21
D. Teaching Methods .....	21
E. Critique and Evaluation .....	22
F. Flight Instructor Characteristics and Responsibilities .....	22
G. Planning Instructional Activity .....	22

**II. TECHNICAL SUBJECT AREAS**

A. Aeromedical Factors .....	23
B. Visual Scanning and Collision Avoidance .....	23
C. Principles of Flight .....	23
D. Aeroplane Flight Controls .....	23
E. Aeroplane Weight and Balance .....	24
F. Navigation and Flight Planning .....	24
G. Night Operations .....	24
H. High Altitude Operations .....	24
I. Federal Aviation Regulations and Publications .....	25
J. National Airspace System .....	25
K. Navigation Systems .....	25
L. Logbook Entries and Certificate Endorsements .....	25
M. Water and Seaplane Characteristics .....	26
N. Seaplane Bases, Rules, and Aids to Marine Navigation .....	26

**III. PREFLIGHT PREPARATION**

A. Certificates and Documents .....	27
B. Weather Information .....	27
C. Operation of Systems .....	27
D. Performance and Limitations .....	27
E. Airworthiness Requirements .....	28

**IV. PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT**

A. Manoeuvre Lesson .....	29
---------------------------	----

**V. PREFLIGHT PROCEDURES**

A. Preflight Inspection .....	30
B. Cockpit Management .....	30
C. Engine Starting .....	30
D. Taxiing—Landplane .....	31
E. Taxiing—Seaplane .....	31
F. Sailing .....	32

G.	Before Takeoff Check .....	32
<b>VI.</b>	<b>AIRPORT AND SEAPLANE BASE OPERATIONS</b>	
A.	Radio Communications and ATC Light Signals .....	34
B.	Traffic Patterns.....	34
C.	Airport and Runway Markings and Lighting .....	34
<b>VII.</b>	<b>TAKEOFFS, LANDINGS, AND GO-AROUNDS</b>	
A.	Normal and Crosswind Takeoff and Climb .....	36
B.	Short-Field (Confined Area (ASES)) Takeoff and Maximum Performance Climb.....	36
C.	Soft-Field Takeoff and Climb .....	37
D.	Glassy-Water Takeoff and Climb .....	37
E.	Rough-Water Takeoff and Climb .....	37
F.	Normal and Crosswind Approach and Landing .....	38
G.	Slip to a Landing .....	38
H.	Go-Around/Rejected Landing .....	39
I.	Short-Field (Confined Area (ASES)) Approach and Landing.....	39
J.	Soft-Field Approach and Landing .....	40
K.	Power-off 180° Accuracy Approach and Landing .....	41
L.	Glassy-Water Approach and Landing .....	41
M.	Rough-Water Approach and Landing .....	42
<b>VIII.</b>	<b>FUNDAMENTALS OF FLIGHT</b>	
A.	Straight-and-Level Flight.....	43
B.	Level Turns .....	43
C.	Straight Climbs and Climbing Turns .....	43
D.	Straight Descents and Descending Turns .....	44
<b>IX.</b>	<b>PERFORMANCE MANOEUVRES</b>	
A.	Steep Turns .....	45
B.	Steep Spirals.....	45
C.	Chandelles .....	46
D.	Lazy Eights .....	46
<b>X.</b>	<b>GROUND REFERENCE MANOEUVRES</b>	
A.	Rectangular Course .....	47
B.	S-Turns Across a Road.....	47
C.	Turns Around a Point .....	48
D.	Eights on Pylons .....	48
<b>XI.</b>	<b>SLOW FLIGHT, STALLS, AND SPINS</b>	
A.	Manoeuvring During Slow Flight.....	49
B.	Power-On Stalls (Proficiency).....	49
C.	Power-Off Stalls (Proficiency).....	50
D.	Crossed-Control Stalls (Demonstration) .....	50
E.	Elevator Trim Stalls (Demonstration) .....	51
F.	Secondary Stalls (Demonstration) .....	51
G.	Spins .....	52
<b>XII.</b>	<b>BASIC INSTRUMENT MANOEUVRES</b>	
A.	Straight-and-Level Flight.....	53
B.	Constant Airspeed Climbs .....	53
C.	Constant Airspeed Descents .....	54
D.	Turns to Headings.....	54
E.	Recovery from Unusual Flight Attitudes.....	55

**XIII. EMERGENCY OPERATIONS**

**A.** Emergency Approach and Landing (Simulated).....56  
**B.** Systems and Equipment Malfunctions .....56  
**C.** Emergency Equipment and Survival Gear .....57

**XIV. POSTFLIGHT PROCEDURES**

**A.** Postflight Procedures .....58  
**B.** Anchoring .....58  
**C.** Docking and Mooring .....58  
**D.** Beaching .....59  
**E.** Ramping .....59



## APPLICANT'S SKILL TEST CHECKLIST

### APPOINTMENT WITH INSPECTOR OR FLIGHT TEST EXAMINER:

NAME \_\_\_\_\_

DATE/TIME \_\_\_\_\_

#### ACCEPTABLE AIRCRAFT:

- View-Limiting Device (if applicable)
- Aircraft Documents: Airworthiness Certificate Registration Certificate Operating Limitations
- Aircraft Maintenance Records
- Airworthiness Inspections
- Pilot's Operating Handbook, Approved Aeroplane Flight Manual

#### PERSONAL EQUIPMENT:

- Current Aeronautical Charts  Computer and Plotter
- Flight Plan Form
- Flight Logs
- Current AIM
- Current **Airport** Facility Directory

#### PERSONAL RECORDS:

- Pilot licence
- Medical Certificate
- Completed TTCAA, Airman Certificate and/or Rating Application
- Airman Knowledge Test Report
- Logbook with Instructor's Endorsements
- Letter of Discontinuance (if applicable)
- Notice of Disapproval (if applicable)
- Approved Training Organization Training Certificate (if applicable)

**FLIGHT TEST EXAMINER'S CHECKLIST  
FLIGHT INSTRUCTOR—AEROPLANE  
(SINGLE-ENGINE)**

**APPLICANT'S NAME** \_\_\_\_\_

**FLIGHT TEST EXAMINER'S NAME** \_\_\_\_\_

**DATE** \_\_\_\_\_

**TYPE CHECK** \_\_\_\_\_

**TYPE AEROPLANE** \_\_\_\_\_

**AREA OF OPERATION** \_\_\_\_\_

**I. FUNDAMENTALS OF INSTRUCTING**

- A.** The Learning Process
- B.** Human Behavior and Effective Communication
- C.** The Teaching Process
- D.** Teaching Methods
- E.** Critique and Evaluation
- F.** Flight Instructor Characteristics and Responsibilities
- G.** Planning Instructional Activity

**II. TECHNICAL SUBJECT AREAS**

- A.** Aeromedical Factors
- B.** Visual Scanning and Collision Avoidance
- C.** Principles of Flight
- D.** Aeroplane Flight Controls
- E.** Aeroplane Weight and Balance
- F.** Navigation and Flight Planning
- G.** Night Operations
- H.** High Altitude Operations
- I.** Federal Aviation Regulations and Publications
- J.** National Airspace System
- K.** Navigation Aids and Radar Services
- L.** Logbook Entries and Certificate Endorsements
- M.** Water and Seaplane Characteristics
- N.** Seaplane Bases, Rules, and Aids to Marine Navigation

**III. PREFLIGHT PREPARATION**

- A.** Certificates and Documents
- B.** Weather Information
- C.** Operation of Systems
- D.** Performance and Limitations
- E.** Airworthiness Requirements

**IV. PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT**

- Manoeuvre Lesson

**V. PREFLIGHT PROCEDURES**

- A.** Preflight Inspection
- B.** Cockpit Management
- C.** Engine Starting
- D.** Taxiing—Landplane
- E.** Taxiing—Seaplane
- F.** Sailing
- G.** Before Takeoff Check

**VI. AIRPORT AND SEAPLANE BASE OPERATIONS**

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

**VII. TAKEOFFS, LANDINGS, AND GO-AROUNDS**

- A. Normal and Crosswind Takeoff and Climb
- B. Short-Field (Confined Area (ASES)) Takeoff and Maximum Performance Climb
- C. Soft-Field Takeoff and Climb
- D. Glassy-Water Takeoff and Climb
- E. Rough-Water Takeoff and Climb
- F. Normal and Crosswind Approach and Landing
- G. Slip to a Landing
- H. Go-Around/Rejected Landing
- I. Short-Field (Confined Area (ASES)) Approach and Landing
- J. Soft-Field Approach and Landing
- K. Power-off 180° Accuracy Approach and Landing
- L. Glassy-Water Approach and Landing
- M. Rough-Water Approach and Landing

**VIII. FUNDAMENTALS OF FLIGHT**

- A. Straight-and-Level Flight
- B. Level Turns
- C. Straight Climbs and Climbing Turns
- D. Straight Descents and Descending Turns

**IX. PERFORMANCE MANOEUVRES**

- A. Steep Turns
- B. Steep Spirals
- C. Chandelles
- D. Lazy Eights

**X. GROUND REFERENCE MANOEUVRES**

- A. Rectangular Course
- B. S-Turns Across a Road
- C. Turns Around a Point
- D. Eights on Pylons

**XI. SLOW FLIGHT, STALLS, AND SPINS**

- A. Manoeuvring During Slow Flight
- B. Power-On Stalls (Proficiency)
- C. Power-Off Stalls (Proficiency)
- D. Crossed-Control Stalls (Demonstration)
- E. Elevator Trim Stalls (Demonstration)
- F. Secondary Stalls (Demonstration)
- G. Spins

**XII. BASIC INSTRUMENT MANOEUVRES**

- A. Straight-and-Level Flight
- B. Constant Airspeed Climbs
- C. Constant Airspeed Descents
- D. Turns to Headings
- E. Recovery from Unusual Flight Attitudes

**XIII. EMERGENCY OPERATIONS**

- A. Emergency Approach and Landing (Simulated)
- B. Systems and Equipment Malfunctions
- C. Emergency Equipment and Survival Gear

#### **XIV. POSTFLIGHT PROCEDURES**

- A.** Postflight Procedures
- B.** Anchoring
- C.** Docking and Mooring
- D.** Beaching
- E.** Ramping

## I. AREA OF OPERATION: FUNDAMENTALS OF INSTRUCTING

**NOTE:** The flight test examiner shall select task F and one other task.

### A. TASK: THE LEARNING PROCESS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the learning process by describing:

1. Learning theory.
2. Characteristics of learning.
3. Principles of learning.
4. Levels of learning.
5. Learning physical skills.
6. Memory.
7. Transfer of learning.

### B. TASK: HUMAN BEHAVIOR AND EFFECTIVE COMMUNICATION

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing:

1. Human behavior—
  - (a) control of human behavior.
  - (b) human needs.
  - (c) defense mechanisms.
  - (d) the flight instructor as a practical psychologist.
2. Effective communication—
  - (a) basic elements of communication.
  - (b) barriers of effective communication.
  - (c) developing communication skills.

### C. TASK: THE TEACHING PROCESS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing:

1. Preparation of a lesson for a ground or flight instructional period.
2. Presentation methods.
3. Application, by the student, of the material or procedure presented.
4. Review and evaluation of student performance.

### D. TASK: TEACHING METHODS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of teaching methods by describing:

1. Material organization.
2. The lecture method.
3. The cooperative or group learning method.
4. The guided discussion method.
5. The demonstration-performance method.
6. Computer-based training method.

## E. TASK: CRITIQUE AND EVALUATION

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of critique and evaluation by explaining:

1. Critique—
  - (a) purpose and characteristics of an effective critique.
  - (b) methods and ground rules for a critique.
2. Evaluation—
  - (a) characteristics of effective oral questions and what types to avoid.
  - (b) responses to student questions.
  - (c) characteristics and development of effective written questions.
  - (d) characteristics and uses of performance test, specifically, the TTCAA Skill Test Standards.

## F. TASK: FLIGHT INSTRUCTOR CHARACTERISTICS AND RESPONSIBILITIES

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of flight instructor characteristics and responsibilities by describing:

1. Aviation instructor responsibilities in—
  - (a) providing adequate instruction.
  - (b) establishing standards of performance.
  - (c) emphasizing the positive.
2. Flight instructor responsibilities in—
  - (a) providing student pilot evaluation and supervision.
  - (b) preparing skill test recommendations and endorsements.
  - (c) determining requirements for conducting additional training and endorsement requirements.
3. Professionalism as an instructor by—
  - (a) explaining important personal characteristics.
  - (b) describing methods to minimize student frustration.

## G. TASK: PLANNING INSTRUCTIONAL ACTIVITY

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of planning instructional activity by describing:

1. Developing objectives and standards for a course of training.
2. Theory of building blocks of learning.
3. Requirements for developing a training syllabus.
4. Purpose and characteristics of a lesson plan.

## II. AREA OF OPERATION: TECHNICAL SUBJECT AREAS

**NOTE:** The flight test examiner shall select task L and at least one other task.

### A. TASK: AEROMEDICAL FACTORS

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to aeromedical factors by describing:

1. How to obtain an appropriate medical certificate.
2. How to obtain a medical certificate in the event of a possible medical deficiency.
3. The causes, symptoms, effects, and corrective action of the following medical factors—
  - (a) hypoxia.
  - (b) hyperventilation.
  - (c) middle ear and sinus problems.
  - (d) spatial disorientation.
  - (e) motion sickness.
  - (f) carbon monoxide poisoning.
  - (g) fatigue and stress.
  - (h) dehydration.
4. The effects of alcohol and drugs, and their relationship to flight safety.
5. The effect of nitrogen excesses incurred during scuba dives and how this affects pilots and passengers during flight.

### B. TASK: VISUAL SCANNING AND COLLISION AVOIDANCE

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of visual scanning and collision avoidance by describing:

1. Relationship between a pilot's physical condition and vision.
2. Environmental conditions that degrade vision.
3. Vestibular and visual illusions.
4. "See and avoid" concept.
5. Proper visual scanning procedure.
6. Relationship between poor visual scanning habits and increased collision risk.
7. Proper clearing procedures.
8. Importance of knowing aircraft blind spots.
9. Relationship between aircraft speed differential and collision risk.
10. Situations that involve the greatest collision risk.

### C. TASK: PRINCIPLES OF FLIGHT

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of principles of flight by describing:

1. Airfoil design characteristics.
2. Aeroplane stability and controllability.
3. Turning tendency (torque effect).
4. Load factors in aeroplane design.
5. Wingtip vortices and precautions to be taken.

### D. TASK: AEROPLANE FLIGHT CONTROLS

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to the aeroplane flight controls by describing the purpose, location, direction of movement, effect, and proper procedure for use of the:

1. Primary flight controls.
2. Trim control(s).
3. Wing flaps.

#### **E. TASK: AEROPLANE WEIGHT AND BALANCE**

*REFERENCES: FAA-H-8083-1, FAA-H-8083-3, FAA-H-8083-25.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of aeroplane weight and balance by describing:

1. Weight and balance terms.
2. Effect of weight and balance on performance.
3. Methods of weight and balance control.
4. Determination of total weight and center of gravity and the changes that occur when adding, removing, or shifting weight.

#### **F. TASK: NAVIGATION AND FLIGHT PLANNING**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of navigation and flight planning by describing:

1. Terms used in navigation.
2. Features of aeronautical charts.
3. Importance of using the proper and current aeronautical charts.
4. Method of plotting a course, selection of fuel stops and alternates, and appropriate actions in the event of unforeseen situations.
5. Fundamentals of pilotage and dead reckoning.
6. Fundamentals of radio navigation.
7. Diversion to an alternate.
8. Lost procedures.
9. Computation of fuel consumption.
10. Importance of preparing and properly using a flight log.
11. Importance of a weather check and the use of good judgment in making a "go/no-go" decisions.
12. Purpose of and procedure used in, filing a flight plan.

#### **G. TASK: NIGHT OPERATIONS**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of night operations by describing:

1. Factors related to night vision.
2. Disorientation and night optical illusions.
3. Proper adjustment of interior lights.
4. Importance of having a flashlight with a red lens.
5. Night preflight inspection.
6. Engine starting procedures, including use of position and anticollision lights prior to start.
7. Taxiing and orientation on an **airport**.
8. Takeoff and climb-out.
9. In-flight orientation.
10. Importance of verifying the aeroplane's attitude by reference to flight instruments.
11. Night emergencies procedures.
12. Traffic patterns.
13. Approaches and landings with and without landing lights.
14. Go-around.

#### **H. TASK: HIGH ALTITUDE OPERATIONS**

*REFERENCES: TTCAR No.2; FAA-H-8083-3; TAC-PEL066; POH/AFM*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of high altitude operations by describing:



1. Regulatory requirements for use of oxygen.
2. Physiological hazards associated with high altitude operations.
3. Characteristics of a pressurized aeroplane and various types of supplemental oxygen systems.
4. Importance of “aviators breathing oxygen.”
5. Care and storage of high-pressure oxygen bottles.
6. Problems associated with rapid decompression and corresponding solutions.
7. Fundamental concept of cabin pressurization.
8. Operation of a cabin pressurization system.

**I. TASK: AVIATION REGULATIONS AND PUBLICATIONS**

*REFERENCES: TTCAR No.1, No2, FAA-H-8083-25; POH/AFM*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to the Trinidad and Tobago Civil Aviation Regulations (TTTCAR):

1. Availability and method of revision of TTCAR No.1 and No.2 by describing—
  - (a).purpose.
  - (b).general content.
2. Availability of flight information publications, advisory pamphlets, skill test standards, pilot operating handbooks, and approved aeroplane flight manuals by describing—
  - (a) availability.
  - (b) purpose.
  - (c) general content.

**J. TASK: TRINIDAD AND TOBAGO NATIONAL AIRSPACE SYSTEM**

*REFERENCES: TTCAR No.2; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the Trinidad and Tobago national airspace system by describing:

1. Basic VFR Weather Minimums—for all classes of airspace.
2. Airspace classes—the operating rules, pilot certification, and aeroplane equipment requirements for the following—
  - (a) Class A.
  - (b) Class B.
  - (c) Class C.
  - (d) Class E.
  - (e) Class G.
3. Special use airspace and other airspace areas.

**K. TASK: NAVIGATION SYSTEMS**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to navigation systems and radar service by describing:

1. One ground-based navigational system (VOR/VORTAC, NDB, DME, and LORAN).
2. Satellite-based navigation system.

**L. TASK: LOGBOOK ENTRIES AND CERTIFICATE ENDORSEMENTS**

*REFERENCES: TTCAR No.1.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to logbook entries and certificate endorsements by describing:

1. Required logbook entries for instruction given.
2. Required student pilot licence endorsements, including appropriate logbook entries.
3. Preparation of a recommendation for a pilot skill test, including appropriate logbook entry for—
  - (a) initial pilot licensing.
  - (b) additional pilot ratings and authorizations.
  - (c) additional aircraft qualification.
4. Required endorsement of a pilot logbook for the satisfactory completion of the required TTCAA flight review
5. Required flight instructor records.

**M. TASK: WATER AND SEAPLANE CHARACTERISTICS (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to water and seaplane characteristics by describing:

1. The characteristics of water surface as affected by features, such as—
  - (a) Size and location of water operating area.
  - (b) Protected and unprotected operating areas.
  - (c) Surface wind.
  - (d) Direction and height of waves.
  - (e) Direction and strength of water current.
  - (f) Floating and partially submerged debris.
  - (g) Sandbars, islands, and shoals.
2. Seaplanes float or hull construction and its relationship to performance.
3. Causes of proposing and skipping and pilot action necessary to prevent or to correct those occurrences.

**N. TASK: SEAPLANE BASES, RULES, AND AIDS TO MARINE NAVIGATION (ASES)**

*REFERENCES: TTCAR No.2, FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; Trinidad and Tobago Maritime/Navigation Rules.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to seaplane bases, rules, and aids to marine navigation by describing:

1. How to locate and identify seaplane bases on charts or in directories.
2. Operating restrictions at various seaplane bases.
3. Right-of-way, steering, and sailing rules pertinent to seaplane operation.
4. Purpose and identification of marine navigation aids such as buoys, beacons, lights, and sound signals.

### III. AREA OF OPERATION: PREFLIGHT PREPARATION

**NOTE:** The flight test examiner shall select at least one task.

#### A. TASK: CERTIFICATES AND DOCUMENTS

*REFERENCES: TTCAR No.1 and No.2; FAA-H-8083-3, FAA-H-8083-25; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to certificates and documents by describing:

1. The training requirements for the issue of a recreational, private, and commercial pilot licence.
2. The privileges and limitations of pilot licences and ratings at recreational, private, and commercial levels.
3. Class and duration of medical certificates.
4. Recent pilot flight experience requirements.
5. Required entries in pilot logbook or flight record.

#### B. TASK: WEATHER INFORMATION

*REFERENCES: FAA-H-8083-25; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to weather information by describing:

1. Importance of a thorough preflight weather briefing.
2. Various means and sources of obtaining weather information.
3. Use of real time weather reports, forecasts, and charts for developing scenario based training.
4. In-flight weather advisories.
5. Recognition of aviation weather hazards to include wind shear.
6. Factors to be considered in making a "go/no-go" decision.

#### C. TASK: OPERATION OF SYSTEMS

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to the operation of systems, as applicable to the aeroplane used for the skill test, by describing the following systems:

1. Primary flights controls and trim.
2. Flaps, leading edge devices, and spoilers.
3. Water rudders (ASES).
4. Powerplant and propeller.
5. Landing gear.
6. Fuel, oil, and hydraulic.
7. Electrical.
8. Avionics.
9. Pitot static, vacuum/pressure and associated instruments.
10. Environmental.
11. Deicing and anti-icing.

#### D. TASK: PERFORMANCE AND LIMITATIONS

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25, TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to performance and limitations by describing:

1. Determination of weight and balance condition.
2. Use of performance charts, tables, and other data in determining performance in various phases of flight.
3. Effects of exceeding aeroplane limitations.
4. Effects of atmospheric conditions on performance.
5. Factors to be considered in determining that the required performance is within the aeroplane's capabilities.

## E. TASK: AIRWORTHINESS REQUIREMENTS

*REFERENCES: TTCAR No.5, TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to required airworthiness by explaining:

1. Required instruments and equipment for day/night VFR.
2. Procedures and limitations for determining airworthiness of the aeroplane with inoperative instruments and equipment with and without a minimum equipment list (MEL).
3. Requirements and procedures for obtaining a special flight permit.
4. Airworthiness directives, compliance records, maintenance/inspection requirements, and appropriate records.
5. Procedures for deferring maintenance on aircraft without an approved MEL.

#### IV. AREA OF OPERATION: PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT

**NOTE:** Flight test examiner shall select at least one manoeuvre task from areas of operation VII through XIII, and ask the applicant to present a preflight lesson on the selected manoeuvre, as the lesson would be taught to a student.

##### A. TASK: MANOEUVRE LESSON

*REFERENCES: FAA-H-8082-3, FAA-H-8083-9, FAA-H-8083-25; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the selected manoeuvre by:

1. Stating the purpose.
2. Giving an accurate, comprehensive oral description, including the elements and common errors.
3. Using instructional aids, as appropriate.
4. Describing the recognition, analysis, and correction of common errors.

## V. AREA OF OPERATION: PREFLIGHT PROCEDURES

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: PREFLIGHT INSPECTION (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a preflight inspection, as applicable to the aeroplane used for the skill test, by describing—
  - (a) reasons for the preflight inspection, items that should be inspected, and how defects are detected.
  - (b) importance of using the appropriate checklist.
  - (c) how to determine fuel and oil quantity and contamination.
  - (d) detection of fuel, oil, and hydraulic leaks.
  - (e) Inspection of the oxygen system, including supply and proper operation (if applicable).
  - (f) inspection of the flight controls and water rudder (if applicable).
  - (g) detection of visible structural damage.
  - (h) removal of tie-downs, control locks, and wheel chocks.
  - (i) removal of ice and frost.
  - (j) importance of the proper loading and securing of baggage, cargo, and equipment.
  - (k) use of sound judgment in determining whether the aeroplane is airworthy and in condition for safe flight.
2. Exhibits instructional knowledge of common errors related to a preflight inspection by describing—
  - (a) failure to use or the improper use of checklist.
  - (b) hazards which may result from allowing distractions to interrupt a visual inspection.
  - (c) inability to recognize discrepancies to determine airworthiness.
  - (d) failure to ensure servicing with the proper fuel and oil.
  - (e) failure to ensure proper loading and securing of baggage, cargo, and equipment.
3. Demonstrates and simultaneously explains a preflight inspection from an instructional standpoint.

### B. TASK: COCKPIT MANAGEMENT (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of cockpit management by describing—
  - (a) Proper arranging and securing of essential materials and equipment in the cockpit.
  - (b) Proper use and/or adjustment of cockpit items such as safety belts, shoulder harnesses, rudder pedals, and seats.
  - (c) Occupant briefing on emergency procedures and use of safety belts.
2. Exhibits instructional knowledge of common errors related to cockpit management by describing—
  - (a) Failure to place and secure essential materials and equipment for easy access during flight.
  - (b) Failure to properly adjust cockpit items, such as safety belts, shoulder harnesses, rudder pedals, and seats.
  - (c) Failure to provide proper adjustment of equipment and controls.
  - (d) Failure to provide occupant briefing on emergency procedures and use of safety belts.
3. Demonstrates and simultaneously explains cockpit management from an instructional standpoint.

### C. TASK: ENGINE STARTING (ASEL and ASES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of engine starting, as appropriate to the aeroplane used for the skill test, by describing—
  - (a) Safety precautions related to starting.
  - (b) Use of external power.
  - (c) Effect of atmospheric conditions on starting.
  - (d) Importance of following the appropriate checklist.
  - (e) Adjustment of engine controls during start.
  - (f) Prevention of aeroplane movement during and after start.
  - (g) Safety procedures for hand propping an aeroplane.
  
2. Exhibits instructional knowledge of common errors related to engine starting by describing—
  - (a) Failure to properly use the appropriate checklist.
  - (b) Failure to use safety precautions related to starting.
  - (c) Improper adjustment of engine controls during start.
  - (d) Failure to assure proper clearance of the propeller.
  
3. Demonstrates and simultaneously explains engine starting from an instructional standpoint.

**D. TASK: TAXIING—LANDPLANE (ASEL)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of landplane taxiing by describing—
  - (a) proper brake check and correct use of brakes.
  - (b) compliance with **airport**/taxiway surface marking, signals, and ATC clearances or instructions.
  - (c) how to control direction and speed.
  - (d) flight control positioning for various wind conditions.
  - (e) procedures used to avoid other aircraft and hazards.
  
2. Exhibits instructional knowledge of common errors related to landplane taxiing by describing—
  - (a) improper use of brakes.
  - (b) improper positioning of the flight controls for various wind conditions.
  - (c) hazards of taxiing too fast.
  - (d) failure to comply with **airport**/taxiway surface marking, signals, and ATC clearances or instructions.
  
3. Demonstrates and simultaneously explains landplane taxiing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to landplane taxiing.

**E. TASK: TAXIING—SEAPLANE (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM; Trinidad and Tobago Maritime Navigation Rules.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of seaplane taxiing by describing—
  - (a) wind effect.
  - (b) prevention of proposing and skipping.
  - (c) selection of the most suitable course for taxiing, following available marking aids.
  - (d) conditions where idle, plowing, and step taxiing are used.
  - (e) procedures for idle, plowing, and step taxiing.
  - (f) control positioning for various wind conditions.
  - (g) use of water rudders.
  - (h) procedures used to avoid other aircraft and hazards.
  - (i) procedures used to avoid excessive water spray into the propeller.
  - (j) 180° and 360° turns in idle, plowing, and step positions.
  - (k) application of right-of-way rules.

2. Exhibits instructional knowledge of common errors related to seaplane taxiing by describing—
  - (a) improper positioning of flight controls for various wind conditions.
  - (b) improper control of speed and direction.
  - (c) failure to prevent proposing and skipping.
  - (d) failure to use the most suitable course and available marking aids.
  - (e) failure to use proper clearing procedures to avoid hazards.
  - (f) failure to apply right-of-way rules.
3. Demonstrates and simultaneously explains seaplane taxiing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to seaplane taxiing.

#### **F. TASK: SAILING (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM; Trinidad and Tobago Maritime Navigation Rules.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of sailing by describing—
  - (a) procedures used in sailing (engine idling or shut down, as appropriate).
  - (b) conditions and situations where sailing would be used.
  - (c) selection of the most favorable course to follow.
  - (d) use of flight controls, flaps, doors, and water rudders to follow the selected course.
  - (e) procedures used to change direction from downwind to crosswind.
  - (f) control of speed.
2. Exhibits instructional knowledge of common errors related to sailing by describing—
  - (a) failure to select the most favorable course to destination.
  - (b) improper use of controls, flaps, and water rudders.
  - (c) improper procedure when changing direction.
  - (d) improper procedure for speed control.
3. Demonstrates and simultaneously explains sailing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to sailing.

#### **G. TASK: BEFORE TAKEOFF CHECK (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of the before takeoff check by describing—
  - (a) positioning the aeroplane with consideration for other aircraft, surface conditions and wind.
  - (b) division of attention inside and outside the cockpit.
  - (c) importance of following the checklist and responding to each checklist item.
  - (d) reasons for assuring suitable engine temperatures and pressures for run-up and takeoff.
  - (e) method used to determine that aeroplane is in a safe operating condition.
  - (f) importance of reviewing takeoff performance airspeeds, expected takeoff distances, and emergency procedures.
  - (g) method used for assuring that the takeoff area or path is free of hazards.
  - (h) method of avoiding runway incursions and ensures no conflict with traffic prior to taxiing into takeoff position.
2. Exhibits instructional knowledge of common errors related to the before takeoff check by describing—
  - (a) failure to properly use the appropriate checklist.
  - (b) improper positioning of the aeroplane.
  - (c) improper acceptance of marginal engine performance.



- (d) an improper check of flight controls.
  - (e) hazards of failure to review takeoff and emergency procedures.
  - (f) failure to avoid runway incursions and to ensure no conflict with traffic prior to taxiing into takeoff position.
3. Demonstrates and simultaneously explains a before takeoff check from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a before takeoff check.

## VI. AREA OF OPERATION: AIRPORT AND SEAPLANE BASE OPERATIONS

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: RADIO COMMUNICATIONS AND ATC LIGHT SIGNALS (ASEL and ASES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of radio communications and ATC light signals by describing—
  - (a) selection and use of appropriate radio frequencies.
  - (b) recommended procedure and phraseology for radio communications.
  - (c) receipt, acknowledgement of, and compliance with, ATC clearances and instructions.
  - (d) interpretation of, and compliance with, ATC light signals.
2. Exhibits instructional knowledge of common errors related to radio communications and ATC light signals by describing—
  - (a) use of improper frequencies.
  - (b) improper procedure and phraseology when using radiocommunications.
  - (c) failure to acknowledge, or properly comply with, ATC clearances and instructions.
  - (d) failure to understand, or to properly comply with, ATC light signals.
3. Demonstrates and simultaneously explains radio communication procedures from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to radio communications and ATC light signals.

### B. TASK: TRAFFIC PATTERNS (ASEL and ASES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3, TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of traffic patterns by describing—
  - (a) operations at **airports** and seaplane bases with and without operating control towers.
  - (b) adherence to traffic pattern procedures, instructions, and rules.
  - (c) how to maintain proper spacing from other traffic.
  - (d) how to maintain the desired ground track.
  - (e) wind shear and wake turbulence avoidance procedures.
  - (f) orientation with the runway or landing area in use.
  - (g) how to establish a final approach at an appropriate distance from the runway or landing area.
  - (h) use of checklist.
2. Exhibits instructional knowledge of common errors related to traffic patterns by describing—
  - (a) failure to comply with traffic pattern instructions, procedures, and rules.
  - (b) improper correction for wind drift.
  - (c) inadequate spacing from other traffic.
  - (d) poor altitude or airspeed control.
3. Demonstrates and simultaneously explains traffic patterns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to traffic patterns.

### C. TASK: AIRPORT/SEAPLANE BASE, RUNWAY AND TAXIWAY SIGNS, MARKINGS, AND LIGHTING (ASEL and ASES)

*REFERENCES:—FAA-H-8083-25 TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of **airport**/seaplane base, runway and taxiway signs, markings, and lighting by describing:

1. Exhibits instructional knowledge of the elements of **airport**/seaplane base runway and taxiway signs, markings, and lighting by describing—
  - (a) identification and proper interpretation of **airport**/seaplane base, runway and taxiway signs and markings with emphasis on runway incursion avoidance.
  - (b) identification and proper interpretation of **airport**/seaplane base, runway and taxiway lighting with emphasis on runway incursion avoidance.
2. Exhibits instructional knowledge of common errors related to **airport**/seaplane base, runway and taxiway signs, markings, and lighting by describing—
  - (a) failure to comply with **airport**/seaplane base, runway and taxiway signs and markings.
  - (b) failure to comply with **airport**/seaplane base, runway and taxiway lighting.
  - (c) failure to use proper runway incursion avoidance procedures.
3. Demonstrates and simultaneously explains **airport**/seaplane base, runway and taxiway signs, markings, and lighting from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to explains **airport**/seaplane base, runway and taxiway signs, markings, and lighting.

## VII. AREA OF OPERATION: TAKEOFFS, LANDINGS, AND GO-AROUNDS

**NOTE:** The flight test examiner shall select at least two takeoff and two landing tasks.

### A. TASK: NORMAL AND CROSSWIND TAKEOFF AND CLIMB (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and crosswind takeoff and climb by describing—
  - (a) procedures before taxiing onto the runway or takeoff area to ensure runway incursion avoidance.
  - (b) normal and crosswind takeoff and lift-off procedures.
  - (c) difference between a normal and a glassy-water takeoff (ASES).
  - (d) proper climb attitude, power setting, and airspeed ( $V_Y$ ).
  - (e) proper use of checklist.
2. Exhibits instructional knowledge of common errors related to a normal and crosswind takeoff and climb by describing—
  - (a) improper runway incursion avoidance procedures.
  - (b) improper use of controls during a normal or crosswind takeoff.
  - (c) inappropriate lift-off procedures.
  - (d) improper climb attitude, power setting and airspeed ( $V_Y$ ).
  - (e) improper use of checklist.
3. Demonstrates and simultaneously explains a normal or a crosswind takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a normal or a crosswind takeoff and climb.

### B. TASK: SHORT-FIELD (CONFINED AREA—ASES) TAKEOFF AND MAXIMUM PERFORMANCE CLIMB (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a short-field takeoff and climb by describing—
  - (a) procedures before taxiing onto the runway or takeoff area to ensure runway incursion avoidance.
  - (b) short-field takeoff and lift-off procedures.
  - (c) initial climb attitude and airspeed ( $V_X$ ) until obstacle is cleared (50 feet/16 meters AGL).
  - (d) proper use of checklist.
2. Exhibits instructional knowledge of common errors related to a short-field takeoff and climb by describing—
  - a. improper runway incursion avoidance procedures.
  - b. improper use of controls during a short-field takeoff.
  - c. improper lift-off procedures.
  - d. improper initial climb attitude, power setting, and airspeed ( $V_X$ ) to clear obstacle.
  - e. improper use of checklist.
3. Demonstrates and simultaneously explains a short-field takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a short-field takeoff and climb.

### C. TASK: SOFT-FIELD TAKEOFF AND CLIMB (ASEL)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a soft-field takeoff and climb by describing—
  - a. procedures before taxiing onto the runway or takeoff area to ensure runway incursion avoidance.
  - b. soft-field takeoff and lift-off procedures.
  - c. initial climb attitude and airspeed, depending on if an obstacle is present.
  - d. proper use of checklist.
2. Exhibits instructional knowledge of common errors related to a soft-field takeoff and climb by describing—
  - a. improper runway incursion avoidance procedures.
  - b. improper use of controls during a soft-field takeoff.
  - c. improper lift-off procedures.
  - d. improper climb attitude, power setting, and airspeed ( $V_Y$ ) or ( $V_X$ ).
  - e. improper use of checklist.
3. Demonstrates and simultaneously explains a soft-field takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a soft-field takeoff and climb.

### D. TASK: GLASSY-WATER TAKEOFF AND CLIMB (ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a glassy-water takeoff and climb by describing—
  - a. procedures before taxiing onto the takeoff area to ensure waterway is clear of objects or obstructions.
  - b. flight control, flap, and water rudder use during glassy-water takeoff procedures.
  - c. appropriate planning attitude and lift-off procedures on glassy-water.
  - d. initial climb attitude and airspeed ( $V_X$ ), if an obstacle is present (50 feet/16 meters AGL) or ( $V_Y$ ).
  - e. proper use of after takeoff checklist.
2. Exhibits instructional knowledge of common errors related to a glassy water takeoff and climb by describing—
  - a. improper takeoff water way clearance procedures.
  - b. poor judgment in the selection of a suitable takeoff area.
  - c. improper use of controls during a glassy-water takeoff.
  - d. inappropriate lift-off procedures.
  - e. hazards of inadvertent contact with the water after becoming airborne.
  - f. improper climb attitude, power setting, and airspeed ( $V_Y$ ) or ( $V_X$ ).
  - g. improper use of checklist.
3. Demonstrates and simultaneously explains a glassy-water takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a glassy-water takeoff and climb.

### E. TASK: ROUGH-WATER TAKEOFF AND CLIMB (ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rough-water takeoff and climb by describing—
  - a. procedures before taxiing onto the takeoff area to ensure waterway is clear of objects or obstructions.
  - b. flight control, flap and water rudder use during rough-water takeoff procedures.
  - c. appropriate planning attitude and lift-off procedures on rough-water.
  - d. initial climb attitude and airspeed ( $V_X$ ) if an obstacle is present (50 feet/16 meters AGL) or ( $V_Y$ ).
  - e. proper use of after takeoff checklist.

2. Exhibits instructional knowledge of common errors related to a rough-water takeoff and climb by describing—
  - a. improper takeoff water way clearance procedures.
  - b. poor judgment in the selection of a suitable takeoff area.
  - c. improper use of controls during a rough-water takeoff.
  - d. inappropriate lift-off procedures.
  - e. hazards of inadvertent contact with the water after becoming airborne.
  - f. improper climb attitude, power setting, and airspeed ( $V_Y$ ) or ( $V_X$ ).
  - g. improper use of checklist.
3. Demonstrates and simultaneously explains a rough-water takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a rough-water takeoff and climb.

**F. TASK: NORMAL AND CROSSWIND APPROACH AND LANDING (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and a crosswind approach and landing by describing—
  - a. how to determine landing performance and limitations.
  - b. configuration, power, and trim.
  - c. obstructions and other hazards, which should be considered.
  - d. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - e. coordination of flight controls.
  - f. a precise ground track.
  - g. wind shear and wake turbulence avoidance procedures.
  - h. most suitable crosswind procedure.
  - i. timing, judgment, and control procedure during roundout and touchdown.
  - j. directional control after touchdown.
  - k. use of brakes (landplane).
  - l. use of checklist.
2. Exhibits instructional knowledge of common errors related to a normal and a crosswind approach and landing by describing—
  - a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. inappropriate removal of hand from throttle.
  - e. improper procedure during roundout and touchdown.
  - f. poor directional control after touchdown.
  - g. improper use of brakes (ASEL).
3. Demonstrates and simultaneously explains a normal or a crosswind approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a normal or crosswind approach and landing.

**G. TASK: SLIP TO A LANDING (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a slip (forward and side) to a landing by describing—
  - a. configuration, power, and trim.
  - b. obstructions and other hazards, which should be considered.
  - c. a stabilized slip at the appropriate airspeed to the selected touchdown area.
  - d. possible airspeed indication errors.
  - e. proper application of flight controls.
  - f. a precise ground track.

- g. wind shear and wake turbulence avoidance procedures.
  - h. timing, judgment, and control procedure during transition from slip to touchdown.
  - i. directional control after touchdown.
  - j. use of brakes (ASEL).
  - k. use of checklist.
2. Exhibits instructional knowledge of common errors related to a slip (forward and side) to a landing by describing—
    - a. improper use of landing performance data and limitations.
    - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
    - c. failure to maintain a stabilized slip.
    - d. inappropriate removal of hand from throttle.
    - e. improper procedure during transition from the slip to the touchdown.
    - f. poor directional control after touchdown.
    - g. improper use of brakes (landplane).
  3. Demonstrates and simultaneously explains a forward or sideslip to a landing from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a forward or sideslip to a landing.

**H. TASK: GO-AROUND/REJECTED LANDING (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a go-around/rejected landing by describing—
  - a. situations where a go-around/rejected landing is necessary.
  - b. importance of making a prompt decision.
  - c. importance of applying takeoff power immediately after the go around/rejected landing decision is made.
  - d. importance of establishing proper pitch attitude.
  - e. wing flaps retraction.
  - f. use of trim.
  - g. landing gear retraction.
  - h. proper climb speed.
  - i. proper track and obstruction clearance.
  - j. use of checklist.
2. Exhibits instructional knowledge of common errors related to a go around/rejected landing by describing—
  - a. failure to recognize a situation where a go-around/rejected landing is necessary.
  - b. hazards of delaying a decision to go-around/rejected landing.
  - c. improper power application.
  - d. failure to control pitch attitude.
  - e. failure to compensate for torque effect.
  - f. improper trim procedure.
  - g. failure to maintain recommended airspeeds.
  - h. improper wing flaps or landing gear retraction procedure.
  - i. failure to maintain proper track during climb-out.
  - j. failure to remain well clear of obstructions and other traffic.
3. Demonstrates and simultaneously explains a go-around/rejected landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a go around/rejected landing.

**I. TASK: SHORT-FIELD (CONFINED AREA—ASES) APPROACH AND LANDING (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a short-field approach and landing by describing—
  - a. how to determine landing performance and limitations.

- b. configuration and trim.
  - c. proper use of pitch and power to maintain desired approach angle.
  - d. obstructions and other hazards which should be considered.
  - e. effect of wind.
  - f. selection of touchdown and go-around points.
  - g. a stabilized approach at the recommended airspeed to the selected touchdown point.
  - h. coordination of flight controls.
  - i. a precise ground track.
  - j. timing, judgment, and control procedure during roundout and touchdown.
  - k. directional control after touchdown.
  - l. use of brakes.
  - m. use of checklist.
2. Exhibits instructional knowledge of common errors related to a short-field approach and landing by describing—
- a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. improper procedure in use of power, wing flaps, and trim.
  - e. inappropriate removal of hand from throttle.
  - f. improper procedure during roundout and touchdown.
  - g. poor directional control after touchdown.
  - h. improper use of brakes.
3. Demonstrates and simultaneously explains a short-field approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a short-field approach and landing.

**J. TASK: SOFT-FIELD APPROACH AND LANDING (ASEL)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a soft- field approach and landing by describing—
- a. how to determine landing performance and limitations.
  - b. configuration and trim.
  - c. obstructions and other hazards which should be considered.
  - d. effect of wind and landing surface.
  - e. selection of a touchdown area.
  - f. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - g. coordination of flight controls.
  - h. a precise ground track.
  - i. timing, judgment, and control procedure during roundout and touchdown.
  - j. touchdown in a nose-high pitch attitude at minimum safe airspeed.
  - k. proper use of power.
  - l. directional control after touchdown.
  - m. use of checklist.
2. Exhibits instructional knowledge of common errors related to a soft-field approach and landing by describing—
- a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at proper time or in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. failure to consider the effect of wind and landing surface.
  - e. improper procedure in use of power, wing flaps, or trim.
  - f. inappropriate removal of hand from throttle.
  - g. improper procedure during roundout and touchdown.
  - h. failure to hold back elevator pressure after touchdown.
  - i. closing the throttle too soon after touchdown.
  - j. poor directional control after touchdown.
  - k. improper use of brakes.



3. Demonstrates and simultaneously explains a soft-field approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a soft-field approach and landing.

**K. TASK: POWER-OFF 180° ACCURACY APPROACH AND LANDING (ASEL)**

*REFERENCES: FAA-H-8083-3; TAC-PEL066.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a 180° power-off accuracy approach and landing by describing—
  - a. configuration and trim.
  - b. effects of wind and selection of a touchdown area.
  - c. the key points in the pattern.
  - d. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - e. coordination of flight controls.
  - f. timing, judgment, and control procedure during roundout and touchdown.
  - g. directional control after touchdown.
  - h. use of checklist.
2. Exhibits instructional knowledge of common errors related to a 180° power-off accuracy approach and landing by describing—
  - a. failure to establish approach and landing configuration at proper time or in proper sequence.
  - b. failure to identify the key points in the pattern.
  - c. failure to establish and maintain a stabilized approach.
  - d. failure to consider the effect of wind and landing surface.
  - e. improper use of power, wing flaps, or trim.
  - f. improper procedure during roundout and touchdown.
  - g. failure to hold back elevator pressure after touchdown.
  - h. poor directional control after touchdown.
  - i. improper use of brakes.
3. Demonstrates and simultaneously explains a 180° power-off accuracy approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a 180° power off accuracy approach and landing.

**L. TASK: GLASSY-WATER APPROACH AND LANDING (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a glassy-water approach and landing by describing—
  - a. how to determine landing performance and limitations.
  - b. configuration and trim.
  - c. deceptive characteristics of glassy water.
  - d. selection of a suitable landing area and go-around point.
  - e. terrain and obstructions which should be considered.
  - f. detection of hazards in the landing area such as shallow water, obstructions, or floating debris.
  - g. coordination of flight controls.
  - h. a precise ground track.
  - i. a power setting and pitch attitude that will result in the recommended airspeed and rate of descent throughout the final approach to touchdown.
  - j. how to maintain positive after-landing control.
  - k. use of checklist.
2. Exhibits instructional knowledge of common errors related to a glassy water approach and landing by describing—

- a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time and in proper sequence.
  - c. failure to establish and maintain a stabilized approach at the recommended airspeed and rate of descent.
  - d. improper procedure in use of power, wing flaps, or trim.
  - e. inappropriate removal of hand from throttle.
  - f. failure to touch down with power in the proper stabilized attitude.
  - g. failure to maintain positive after-landing control.
3. Demonstrates and simultaneously explains a glassy-water approach and landing from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a glassy-water approach and landing.

**M. TASK: ROUGH-WATER APPROACH AND LANDING (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rough-water approach and landing by describing—
  - a. how to determine landing performance and limitations.
  - b. review of wind conditions.
  - c. how landing area characteristics can be evaluated.
  - d. selection of a suitable landing area and go-around point.
  - e. terrain and obstructions which should be considered.
  - f. detection of hazards in the landing area such as shallow water, obstructions, or floating debris.
  - g. configuration and trim.
  - h. coordination of flight controls.
  - i. a precise ground track.
  - j. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - k. timing, judgment, and control procedure during roundout and touchdown.
  - l. maintenance of positive after-landing control.
  - m. use of checklist.
2. Exhibits instructional knowledge of common errors related to a rough-water approach and landing by describing—
  - a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. improper procedure in use of power, wing flaps, or trim.
  - e. inappropriate removal of hand from throttle.
  - f. Improper procedure during roundout and touchdown.
  - g. failure to maintain positive after-landing control.
3. Demonstrates and simultaneously explains a rough-water approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related a rough-water approach and landing.

## VIII. AREA OF OPERATION: FUNDAMENTALS OF FLIGHT

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: STRAIGHT-AND-LEVEL FLIGHT (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight-and-level flight by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control procedure used.
  - d. trim procedure.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight-and level flight by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty trim procedure.
3. Demonstrates and simultaneously explains straight-and-level flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and level flight.

### B. TASK: LEVEL TURNS (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of level turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control procedure used.
  - d. trim procedure.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to level turns by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty altitude and bank control.
3. Demonstrates and simultaneously explains level turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to level turns.

### C. TASK: STRAIGHT CLIMBS AND CLIMBING TURNS (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight climbs and climbing turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.

- c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control procedure used.
  - d. trim procedure.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight climbs and climbing turns by describing—
    - a. failure to crosscheck and correctly interpret outside and instrument references.
    - b. application of control movements rather than pressures.
    - c. improper correction for torque effect.
    - d. faulty trim procedure.
  3. Demonstrates and simultaneously explains straight climbs and climbing turns from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to straight climbs and climbing turns.

**D. TASK: STRAIGHT DESCENTS AND DESCENDING TURNS  
(ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight descents and descending turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control procedure used.
  - d. trim procedure.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight descents and descending turns by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty trim procedure.
  - e. failure to clear engine and use carburetor heat, as appropriate.
3. Demonstrates and simultaneously explains straight descents and descending turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight descents and descending turns.

## IX. AREA OF OPERATION: PERFORMANCE MANOEUVRES

**NOTE:** The flight test examiner shall select at least tasks A or B and C or D.

### A. TASK: STEEP TURNS (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of steep turns by describing—
  - a. relationship of bank angle, load factor, and stalling speed.
  - b. over-banking tendency.
  - c. torque effect in right and left turns.
  - d. selection of a suitable altitude.
  - e. orientation, division of attention, and planning.
  - f. entry and rollout procedure.
  - g. coordination of flight and power controls.
  - h. altitude, bank, and power control during the turn.
  - i. proper recovery to straight and level flight.
2. Exhibits instructional knowledge of common errors related to steep turns by describing—
  - a. improper pitch, bank, and power coordination during entry and rollout.
  - b. uncoordinated use of flight controls.
  - c. improper procedure in correcting altitude deviations.
  - d. loss of orientation.
3. Demonstrates and simultaneously explains steep turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to steep turns.

### B. TASK: STEEP SPIRALS (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL066.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of steep spirals by describing—
  - a. selection of entry altitude.
  - b. entry airspeed and power setting.
  - c. selection of a proper ground reference point.
  - d. division of attention and planning.
  - e. coordination of flight controls.
  - f. maintenance of constant radius around selected point.
  - g. maintenance of constant airspeed throughout manoeuvre.
2. Exhibits instructional knowledge of common errors related to steep spiral by describing—
  - a. improper pitch, bank, and power coordination during entry or completion.
  - b. uncoordinated use of flight controls.
  - c. improper planning and lack of maintenance of constant airspeed and radius.
  - d. failure to stay orientated to the number of turns and the rollout heading.
3. Demonstrates and simultaneously explains a steep spiral from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to steep spirals.

### C. TASK: CHANDELLES (ASEL and ASES)

REFERENCES: FAA-H-8083-3; TAC-PEL066.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of chandelles by describing—
  - a. selection of entry altitude.
  - b. entry airspeed and power setting.
  - c. division of attention and planning.
  - d. coordination of flight controls.
  - e. pitch and bank attitudes at various points during the manoeuvre.
  - f. proper correction for torque effect in right and left turns.
  - g. achievement of maximum performance.
  - h. completion procedure.
2. Exhibits instructional knowledge of common errors related to chandelles by describing—
  - a. improper pitch, bank, and power coordination during entry or completion.
  - b. uncoordinated use of flight controls.
  - c. improper planning and timing of pitch and bank attitude changes.
  - d. factors related to failure in achieving maximum performance.
  - e. a stall during the manoeuvre.
3. Demonstrates and simultaneously explains chandelles from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to chandelles.

### D. TASK: LAZY EIGHTS (ASEL and ASES)

REFERENCES: FAA-H-8083-3; TAC-PEL066.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of lazy eights by describing—
  - a. selection of entry altitude.
  - b. selection of suitable reference points.
  - c. entry airspeed and power setting.
  - d. entry procedure.
  - e. orientation, division of attention, and planning.
  - f. coordination of flight controls.
  - g. pitch and bank attitudes at key points during the manoeuvre.
  - h. importance of consistent airspeed and altitude control at key points during the manoeuvre.
  - i. proper correction for torque effect in right and left turns.
  - j. loop symmetry.
2. Exhibits instructional knowledge of common errors related to lazy eights by describing—
  - a. poor selection of reference points.
  - b. uncoordinated use of flight controls.
  - c. unsymmetrical loops resulting from poorly planned pitch and bank attitude changes.
  - d. inconsistent airspeed and altitude at key points.
  - e. loss of orientation.
  - f. excessive deviation from reference points.
3. Demonstrates and simultaneously explains lazy eights from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to lazy eights.

## X. AREA OF OPERATION: GROUND REFERENCE MANOEUVRES

**NOTE:** The flight test examiner shall select task D and one other task.

### A. TASK: RECTANGULAR COURSE (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rectangular course by describing—
  - a. how to select a suitable altitude.
  - b. how to select a suitable ground reference with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. relationship of a rectangular course to an **airport** traffic pattern.
  - f. wind drift correction.
  - g. how to maintain desired altitude, airspeed, and distance from ground reference boundaries.
  - h. timing of turn entries and rollouts.
  - i. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to a rectangular course by describing—
  - a. poor planning, orientation, or division of attention.
  - b. uncoordinated flight control application.
  - c. improper correction for wind drift.
  - d. failure to maintain selected altitude or airspeed.
  - e. selection of a ground reference where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains a rectangular course from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a rectangular course.

### B. TASK: S-TURNS ACROSS A ROAD (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of S-turns across a road by describing—
  - a. how to select a suitable altitude.
  - b. how to select a suitable ground reference line with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. entry procedure.
  - f. wind drift correction.
  - g. tracking of semicircles of equal radii on either side of the selected ground reference line.
  - h. how to maintain desired altitude and airspeed.
  - i. turn reversal over the ground reference line.
  - j. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to S-turns across a road by describing—
  - a. faulty entry procedure.
  - b. poor planning, orientation, or division of attention.
  - c. uncoordinated flight control application.
  - d. improper correction for wind drift.
  - e. an unsymmetrical ground track.
  - f. failure to maintain selected altitude or airspeed.
  - g. selection of a ground reference line where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains S-turns across a road from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to S-turns across a road.

### C. TASK: TURNS AROUND A POINT (ASEL and ASES)

REFERENCES: FAA-H-8083-3; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of turns around a point by describing—
  - a. how to select a suitable altitude.
  - b. how to select a suitable ground reference point with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. entry procedure.
  - f. wind drift correction.
  - g. how to maintain desired altitude, airspeed, and distance from reference point.
  - h. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to turns around a point by describing—
  - a. faulty entry procedure.
  - b. poor planning, orientation, or division of attention.
  - c. uncoordinated flight control application.
  - d. improper correction for wind drift.
  - e. failure to maintain selected altitude or airspeed.
  - f. selection of a ground reference point where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains turns around a point from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns around a point.

### D. TASK: EIGHTS ON PYLONS (ASEL and ASES)

REFERENCES: FAA-H-8083-3; TAC-PEL066.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of eights on pylons by describing—
  - a. how to determine the approximate pivotal altitude.
  - b. how to select suitable pylons with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. relationship of groundspeed change to the performance of the manoeuvre.
  - f. pilot's "line-of-sight" reference to the pylon.
  - g. entry procedure.
  - h. procedure for maintaining "line-of-sight" on the pylon.
  - i. proper planning for turn entries and rollouts.
  - j. how to correct for wind drift between pylons.
  - k. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to eights on pylons by describing—
  - a. faulty entry procedure.
  - b. poor planning, orientation, and division of attention.
  - c. uncoordinated flight control application.
  - d. use of an improper "line-of-sight" reference.
  - e. application of rudder alone to maintain "line-of-sight" on the pylon.
  - f. improper planning for turn entries and rollouts.
  - g. improper correction for wind drift between pylons.
  - h. selection of pylons where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains eights on pylons from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to eights on pylons.



## XI. AREA OF OPERATION: SLOW FLIGHT, STALLS, AND SPINS

**NOTE:** The flight test examiner shall select at least one proficiency stall (task B or C), at least one demonstration stall (task D, E, or F), and task G.

### A. TASK: MANOEUVRING DURING SLOW FLIGHT (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of manoeuvring during slow flight by describing—
  - a. relationship of configuration, weight, center of gravity, manoeuvring loads, angle of bank, and power to flight characteristics and controllability.
  - b. relationship of the manoeuvre to critical flight situations, such as go around.
  - c. performance of the manoeuvre with selected landing gear and flap configurations in straight-and-level flight and level turns.
  - d. specified airspeed for the manoeuvre.
  - e. coordination of flight controls.
  - f. trim technique.
  - g. re-establishment of cruise flight.
2. Exhibits instructional knowledge of common errors related to manoeuvring during slow flight by describing—
  - a. lure to establish specified gear and flap configuration.
  - b. improper entry technique.
  - c. failure to establish and maintain the specified airspeed.
  - d. excessive variations of altitude and heading when a constant altitude and heading are specified.
  - e. rough or uncoordinated control technique.
  - f. improper correction for torque effect.
  - g. improper trim technique.
  - h. unintentional stalls.
  - i. inappropriate removal of hand from throttles.
3. Demonstrates and simultaneously explains manoeuvring during slow flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to manoeuvring during slow flight.

### B. TASK: POWER-ON STALLS (PROFICIENCY) (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. aerodynamics of power-on stalls.
  - b. relationship of various factors such as landing gear and flap configuration, weight, center of gravity, load factor, and bank angle to stall.
  - c. specific flight situations where unintentional power-on stalls may occur.
  - d. entry technique and minimum entry altitude.
  - e. performance of power-on stalls in climbing flight (straight or turning).
  - f. coordination of flight controls.
  - g. recognition of the first indications of power-on stalls.
  - h. recovery technique and minimum recovery altitude.
2. Exhibits instructional knowledge of common errors related to power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. failure to establish the specified landing gear and flap configuration prior to entry.
  - b. improper pitch, heading, and bank control during straight ahead and turning stalls.
  - c. improper pitch and bank control during turning stalls.
  - d. rough or uncoordinated control procedure.
  - e. failure to recognize the first indications of a stall.

- f. failure to achieve a stall.
  - g. improper torque correction.
  - h. poor stall recognition and delayed recovery.
  - i. excessive altitude loss or excessive airspeed during recovery.
  - j. secondary stall during recovery.
3. Demonstrates and simultaneously explains power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations, from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations.

**C. TASK: POWER-OFF STALLS (PROFICIENCY) (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. aerodynamics of power-off stalls.
  - b. relationship of various factors, such as landing gear and flap configuration, weight, center of gravity, load factor, and bank angle to stall speed.
  - c. flight situations where unintentional power-off stalls may occur.
  - d. entry technique and minimum entry altitude.
  - e. performance of power-off stalls in descending flight (straight or turning).
  - f. coordination of flight controls.
  - g. recognition of the first indications of power-off stalls.
  - h. recovery technique and minimum recovery altitude.
2. Exhibits instructional knowledge of common errors related to power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. failure to establish the specified landing gear and flap configuration prior to entry.
  - b. improper pitch, heading, and bank control during straight-ahead stalls.
  - c. improper pitch and bank control during turning stalls.
  - d. rough or uncoordinated control technique.
  - e. failure to recognize the first indications of a stall.
  - f. failure to achieve a stall.
  - g. improper torque correction.
  - h. poor stall recognition and delayed recovery.
  - i. excessive altitude loss or excessive airspeed during recovery.
  - j. secondary stall during recovery.
3. Demonstrates and simultaneously explains power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations.

**D. TASK: CROSSED-CONTROL STALLS (DEMONSTRATION) (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of crossed-control stalls, with the landing gear extended by describing—
  - a. aerodynamics of crossed-control stalls.
  - b. effects of crossed controls in gliding or reduced airspeed descending turns.
  - c. flight situations where unintentional crossed-control stalls may occur.
  - d. entry procedure and minimum entry altitude.

- e. recognition of crossed-control stalls.
  - f. recovery procedure and minimum recovery altitude.
2. Exhibits instructional knowledge of common errors related to crossed control stalls, with the landing gear extended by describing—
    - a. failure to establish selected configuration prior to entry.
    - b. failure to establish a crossed-control turn and stall condition that will adequately demonstrate the hazards of a crossed-control stall.
    - c. improper or inadequate demonstration of the recognition and recovery from a cross-control stall.
    - d. failure to present simulated student instruction that emphasizes the hazards of a cross-control condition in a gliding or reduced airspeed condition.
  3. Demonstrates and simultaneously explains a crossed- control stall, with the landing gear extended, from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a crossed control stall with the landing gear extended.

**E. TASK: ELEVATOR TRIM STALLS (DEMONSTRATION)  
(ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of elevator trim stalls, in selected landing gear and flap configurations by describing—
  - a. aerodynamics of elevator trim stalls.
  - b. hazards of inadequate control pressures to compensate for thrust, torque, and up-elevator trim during go-around and other related manoeuvres.
  - c. entry procedure and minimum entry altitude.
  - d. recognition of elevator trim stalls.
  - e. importance of recovering from an elevator trim stall immediately upon recognition.
2. Exhibits instructional knowledge of common errors related to elevator trim stalls, in selected landing gear and flap configurations by describing—
  - a. failure to present simulated student instruction that adequately emphasizes the hazards of poor correction for torque and up-elevator trim during go-around and other manoeuvres.
  - b. failure to establish selected configuration prior to entry.
  - c. improper or inadequate demonstration of the recognition of and the recovery from an elevator trim stall.
3. Demonstrates and simultaneously explains elevator trim stalls, in selected landing gear and flap configurations, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to elevator trim stalls in selected landing gear and flap configurations.

**F. TASK: SECONDARY STALLS (DEMONSTRATION) (ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of secondary stalls, in selected landing gear and flap configurations by describing—
  - a. aerodynamics of secondary stalls.
  - b. flight situations where secondary stalls may occur.
  - c. hazards of secondary stalls during normal stall or spin recovery.
  - d. entry procedure and minimum entry altitude.
  - e. recognition of a secondary stall.
  - f. recovery procedure and minimum recovery altitude.

2. Exhibits instructional knowledge of common errors related to secondary stalls, in selected landing gear and flap configurations by describing—
  - a. failure to establish selected configuration prior to entry.
  - b. improper or inadequate demonstration of the recognition of and recovery from a secondary stall.
  - c. failure to present simulated student instruction that adequately emphasizes the hazards of poor procedure in recovering from a primary stall.
3. Demonstrates and simultaneously explains secondary stalls, in selected landing gear and flap configurations, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to secondary stalls in selected landing gear and flap configurations.

#### **G. TASK: SPINS (ASEL)**

**NOTE:** At the discretion of the flight test examiner, a logbook record attesting applicant instructional competency in spin entries, spins, and spin recoveries may be accepted in lieu of this task. The flight instructor who conducted the spin instruction shall certify the logbook record.

*REFERENCES: TTCAR Part 2; Type Certificate Data Sheet; FAA-H-8083-3; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of spins by describing—
  - a. anxiety factors associated with spin instruction.
  - b. aerodynamics of spins.
  - c. aeroplanes approved for the spin manoeuvre based on airworthiness category and type certificate.
  - d. relationship of various factors such as configuration, weight, center of gravity, and control coordination to spins.
  - e. flight situations where unintentional spins may occur.
  - f. how to recognize and recover from imminent, unintentional spins.
  - g. entry procedure and minimum entry altitude for intentional spins.
  - h. control procedure to maintain a stabilized spin.
  - i. orientation during a spin.
  - j. recovery procedure and minimum recovery altitude for intentional spins.
2. Exhibits instructional knowledge of common errors related to spins by describing—
  - a. failure to establish proper configuration prior to spin entry.
  - b. failure to achieve and maintain a full stall during spin entry.
  - c. failure to close throttle when a spin entry is achieved.
  - d. failure to recognize the indications of an imminent, unintentional spin.
  - e. improper use of flight controls during spin entry, rotation, or recovery.
  - f. disorientation during a spin.
  - g. failure to distinguish between a high-speed spiral and a spin.
  - h. excessive speed or accelerated stall during recovery.
  - i. failure to recover with minimum loss of altitude.
  - j. hazards of attempting to spin an aeroplane not approved for spins.
3. Demonstrates and simultaneously explains a spin (one turn) from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to spins.

## XII. AREA OF OPERATION: BASIC INSTRUMENT MANOEUVRES

NOTE: The flight test examiner shall select at least one task.

### A. TASK: STRAIGHT-AND-LEVEL FLIGHT (ASEL and ASES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight-and-level flight solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control, and how those instruments are used to maintain altitude, heading, and airspeed.
  - c. trim procedure.
2. Exhibits instructional knowledge of common errors related to straight-and level flight solely by reference to instruments by describing—
  - a. “fixation,” “omission,” and “emphasis” errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during altitude, heading, or airspeed corrections.
  - e. faulty trim procedure.
3. Demonstrates and simultaneously explains straight-and-level flight, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and level flight, solely by reference to instruments.

### B. TASK: CONSTANT AIRSPEED CLIMBS (ASEL and ASES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight and turning, constant airspeed climbs, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during entry, during the climb, and during level off, and how those instruments are used to maintain climb heading and airspeed.
  - c. trim procedure.
2. Exhibits instructional knowledge of common errors related to straight and turning, constant airspeed climbs, solely by reference to instruments by describing—
  - a. “fixation,” “omission,” and “emphasis” errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during heading and airspeed corrections.
  - e. improper entry or level-off procedure.
  - f. faulty trim procedure.
3. Demonstrates and simultaneously explains a straight and turning, constant airspeed climb, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight and turning, constant airspeed climbs, solely by reference to instruments.

### C. TASK: CONSTANT AIRSPEED DESCENTS (ASEL and ASES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight and turning, constant airspeed descents, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during entry, during the descent, and during level off, and how those instruments are used to maintain descent heading and airspeed.
  - c. trim procedure.
2. Exhibits instructional knowledge of common errors related to straight and turning, constant airspeed descents, solely by reference to instruments by describing—
  - a. “fixation,” “omission,” and “emphasis” errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during heading and airspeed corrections.
  - e. improper entry or level-off procedure.
  - f. faulty trim procedure.
3. Demonstrates and simultaneously explains a straight and turning, constant airspeed descent, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight and turning, constant airspeed descents, solely by reference to instruments.

### D. TASK: TURNS TO HEADINGS (ASEL and ASES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of turns to headings, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during turn entry, during the turn, and during the turn rollout, and how those instruments are used.
  - c. trim procedure.
2. Exhibits instructional knowledge of common errors related to turns to headings, solely by reference to instruments by describing—
  - a. “fixation,” “omission,” and “emphasis” errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, and power adjustments during altitude, bank, and airspeed corrections.
  - e. improper entry or rollout procedure.
  - f. faulty trim procedure.
3. Demonstrates and simultaneously explains a turn to a heading, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns to headings, solely by reference to instruments.

**E. TASK: RECOVERY FROM UNUSUAL FLIGHT ATTITUDES  
(ASEL and ASES)**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of recovery from unusual flight attitudes by describing—
  - a. conditions and situations that may result in unusual flight attitudes.
  - b. the two basic unusual flight attitudes—nose-high (climbing turn) and nose-low (diving spiral).
  - c. how unusual flight attitudes are recognized.
  - d. control sequence for recovery from a nose-high attitude and the reasons for that sequence.
  - e. control sequence for recovery from a nose-low attitude and the reasons for that sequence.
  - f. reasons why the controls should be coordinated during unusual flight attitude recoveries.
2. Exhibits instructional knowledge of common errors related to recovery from unusual flight attitudes by describing—
  - a. failure to recognize an unusual flight attitude.
  - b. consequences of attempting to recover from an unusual flight attitude by “feel” rather than by instrument indications.
  - c. inappropriate control applications during recovery.
  - d. failure to recognize from instrument indications when the aeroplane is passing through a level flight attitude.
3. Demonstrates and simultaneously explains a recovery from nose-high and a nose-low flight attitude from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to recovery from unusual flight attitudes.

### XIII. AREA OF OPERATION: EMERGENCY OPERATIONS

NOTE: The flight test examiner shall select at least tasks A and B.

#### A. TASK: EMERGENCY APPROACH AND LANDING (SIMULATED) (ASEL and ASES)

NOTE: The flight test examiner shall NOT simulate a power failure by placing the fuel selector to the “off” position or by placing the mixture control in the “idle-cutoff” position. No simulated emergency approach shall be continued below 500 feet AGL, unless over an area where a safe landing can be accomplished in compliance with TTCAR No.2.

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to an emergency approach and landing by describing—
  - a. prompt establishment of the best glide airspeed and the recommended configuration.
  - b. how to select a suitable emergency landing area.
  - c. planning and execution of approach to the selected landing area.
  - d. use of emergency checklist.
  - e. importance of attempting to determine reason for the malfunction.
  - f. importance of dividing attention between flying the approach and accomplishing emergency checklist.
  - g. procedures that can be used to compensate for undershooting or overshooting selected emergency landing area.
2. Exhibits instructional knowledge of common errors related to an emergency approach and landing by describing—
  - a. improper airspeed control.
  - b. poor judgment in the selection of an emergency landing area.
  - c. failure to estimate the approximate wind speed and direction.
  - d. failure to fly the most suitable pattern for existing situation.
  - e. failure to accomplish the emergency checklist.
  - f. undershooting or overshooting selected emergency landing area.
3. Demonstrates and simultaneously explains an emergency approach with a simulated engine failure from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to an emergency approach with a simulated engine failure.

#### B. TASK: SYSTEMS AND EQUIPMENT MALFUNCTIONS (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

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

**Objective:** Exhibits instructional knowledge of at least five (5) of the equipment malfunctions, appropriate to the aeroplane used for the skill test by describing recommended pilot action for:

1. Smoke, fire, or both, during ground or flight operations.
2. Rough running engine or partial power loss.
3. Loss of engine oil pressure.
4. Fuel starvation.
5. Engine overheat.
6. Hydraulic malfunction.
7. Electrical malfunction.
8. Carburetor or induction icing.
9. Door or window opening in flight.
10. Inoperative or “runaway” trim.
11. Landing gear or flap malfunction.
12. Pressurization malfunction.



**C. TASK: EMERGENCY EQUIPMENT AND SURVIVAL GEAR  
(ASEL and ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to emergency equipment and survival gear appropriate to the aeroplane used for the skill test by describing:

1. Equipment and gear appropriate for operation in various climates, over various types of terrain, and over water.
2. Purpose, method of operation or use, servicing and storage of appropriate equipment.

#### XIV. AREA OF OPERATION: POSTFLIGHT PROCEDURES

**NOTE:** The flight test examiner shall select task A and for ASES applicants at least one other task.

##### A. TASK: POSTFLIGHT PROCEDURES (ASEL and ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of postflight procedures by describing—
  - a. parking procedure (ASEL).
  - b. engine shutdown and securing cockpit.
  - c. deplaning passengers.
  - d. securing aeroplane.
  - e. postflight inspection.
  - f. refueling.
2. Exhibits instructional knowledge of common errors related to postflight procedures by describing—  
hazards resulting from failure to follow recommended procedures.  
poor planning, improper procedure, or faulty judgment in performance of postflight procedures.

##### B. TASK: ANCHORING (ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of anchoring by describing—
  - a. how to select a suitable area for anchoring.
  - b. recommended procedure for anchoring in a lake, river, or tidal area.
  - c. number of anchors and lines to be used to ensure seaplane security in various conditions.
  - d. hazards to be avoided during anchors.
  - e. requirements for anchoring lights.
2. Exhibits instructional knowledge of common errors related to anchoring by describing—
  - a. hazards resulting from failure to follow recommended anchoring procedures.
  - b. consequences of poor planning, improper procedure, or poor judgment when anchoring.
  - c. consequences of failure to use anchor lines of adequate length and strength to ensure seaplane security.
3. Demonstrates and simultaneously explains anchoring from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to anchoring.

##### C. TASK: DOCKING AND MOORING (ASES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of anchoring and mooring by describing—
  - a. how to select a suitable area for docking and mooring.
  - b. recommended procedure for mooring in a lake, river, or tidal area.
  - c. number of tie-downs and lines to be used to ensure seaplane security in various conditions.
  - d. hazards to be avoided during docking and mooring.
  - e. requirements for docking and mooring lights.
2. Exhibits instructional knowledge of common errors related to docking and mooring by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor planning, improper procedure, or poor judgment when docking and mooring.

- c. consequences of failure to use docking or mooring lines of adequate length and strength to ensure seaplane security.
- 3. Demonstrates and simultaneously explains docking and mooring from an instructional standpoint.
- 4. Analyzes and corrects simulated common errors related to docking and mooring.

**D. TASK: BEACHING (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

- 1. Exhibits instructional knowledge of the elements of beaching by describing—
  - a. recommended procedures for beaching.
  - b. actors to be considered, such as beach selection, water depth, current, tide, and wind.
  - c. procedures to be followed to ensure seaplane security.
  - d. hazards to be avoided.
- 2. Exhibits instructional knowledge of common errors related to beaching by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor beach selection, poor planning, improper procedure, or faulty judgment when beaching.
  - c. a consequence of failure to take appropriate precautions to avoid hazards or to ensure that seaplane is secure.
- 3. Demonstrates and simultaneously explains beaching from an instructional standpoint.
- 4. Analyzes and corrects simulated common errors related to beaching.

**E. TASK: RAMPING (ASES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM.*

**Objective:** To determine that the applicant:

- 1. Exhibits instructional knowledge of the elements of ramping by describing—
  - a. factors such as type of ramp surface, wind, current, and direction and control of approach speed.
  - b. recommended procedures for ramping.
  - c. hazards to be avoided.
- 2. Exhibits instructional knowledge of common errors related to ramping by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor planning, improper procedure, or faulty judgment when ramping.
  - c. consequences of failure to take appropriate precautions to avoid hazards or to ensure that the seaplane is secure.
- 3. Demonstrates and simultaneously explains ramping from an instructional standpoint.
- 4. Analyzes and corrects simulated common errors related to ramping.

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**SECTION 2**

**FLIGHT INSTRUCTOR**

**AEROPLANE—SINGLE-ENGINE**

**Practical Test Standards**

## CONTENTS: SECTION 2

### FLIGHT INSTRUCTOR AEROPLANE—MULTIENGINE Skill Test Standards

#### CHECKLISTS:

Applicant's Skill Test Checklist .....	65
Flight test examiner's Checklist .....	66

#### AREAS OF OPERATION:

##### I. FUNDAMENTALS OF INSTRUCTING

A. The Learning Process .....	69
B. Human Behavior and Effective Communication .....	69
C. The Teaching Process .....	69
D. Teaching Methods .....	69
E. Critique and Evaluation .....	70
F. Flight Instructor Characteristics and Responsibilities .....	70
G. Planning Instructional Activity .....	70

##### II. TECHNICAL SUBJECT AREAS

A. Aeromedical Factors .....	71
B. Visual Scanning and Collision Avoidance .....	71
C. Principles of Flight .....	71
D. Aeroplane Flight Controls .....	71
E. Aeroplane Weight and Balance .....	72
F. Navigation and Flight Planning .....	72
G. Night Operations .....	72
H. High Altitude Operations .....	72
I. Federal Aviation Regulations and Publications .....	73
J. National Airspace System .....	73
K. Navigation Aids and Radar Services .....	73
L. Logbook Entries and Certificate Endorsements .....	73
M. Water and Seaplane Characteristics .....	74
N. Seaplane Bases, Rules, and Aids to Marine Navigation .....	74

##### III. PREFLIGHT PREPARATION

A. Certificates and Documents .....	75
B. Weather Information .....	75
C. Airworthiness Requirements .....	75

##### IV. PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT

A. Manoeuvre Lesson .....	76
---------------------------	----

##### V. PREFLIGHT PROCEDURES

A. Preflight Inspection .....	77
B. Cockpit Management .....	77
C. Engine Starting .....	77
D. Taxiing—Landplane .....	78
E. Taxiing—Seaplane .....	78
F. Sailing .....	79
G. Before Takeoff Check .....	79

<b>VI.</b>	<b>AIRPORT AND SEAPLANE BASE OPERATIONS</b>	
	A. Radio Communications and ATC Light Signals .....	81
	B. Traffic Patterns.....	81
	C. <b>Airport/Seaplane Base and Runway and Taxiway Signs, Markings and Lighting</b> .....	81
<b>VII.</b>	<b>TAKEOFFS, LANDINGS, AND GO-AROUNDS</b>	
	A. Normal and Crosswind Takeoff and Climb .....	83
	B. Short-Field (Confined Area (AMES)) Takeoff and Maximum Performance and Climb .....	83
	C. Glassy-Water Takeoff and Climb .....	84
	D. Rough-Water Takeoff and Climb .....	84
	E. Normal and Crosswind Approach and Landing .....	84
	F. Go-Around/Rejected Landing .....	85
	G. Short-Field (Confined Area (AMES)) Approach and Landing .....	86
	H. Glassy-Water Approach and Landing .....	86
	I. Rough-Water Approach and Landing .....	87
<b>VIII.</b>	<b>FUNDAMENTALS OF FLIGHT</b>	
	A. Straight-and-Level Flight .....	88
	B. Level Turns .....	88
	C. Straight Climbs and Climbing Turns .....	88
	D. Straight Descents and Descending Turns .....	89
<b>IX.</b>	<b>PERFORMANCE MANOEUVRES</b>	
	A. Steep Turns .....	90
<b>X.</b>	<b>GROUND REFERENCE MANOEUVRES</b>	
	A. Rectangular Course .....	91
	B. S-Turns Across a Road.....	91
	C. Turns Around a Point .....	92
<b>XI.</b>	<b>SLOW FLIGHT AND STALLS</b>	
	A. Manoeuvring During Slow Flight .....	93
	B. Power-On Stalls .....	93
	C. Power-Off Stalls .....	94
<b>XII.</b>	<b>BASIC INSTRUMENT MANOEUVRES</b>	
	A. Straight-and-Level Flight.....	95
	B. Constant Airspeed Climbs .....	95
	C. Constant Airspeed Descents .....	96
	D. Turns to Headings.....	96
	E. Recovery from Unusual Flight Attitudes.....	97
<b>XIII.</b>	<b>EMERGENCY OPERATIONS</b>	
	A. Systems and Equipment Malfunctions.....	98
	B. Engine Failure During Takeoff Before $V_{MC}$ .....	98
	C. Engine Failure After Lift-Off .....	99
	D. Approach and Landing with an Inoperative Engine .....	99
	E. Emergency Descent.....	100
	F. Emergency Equipment and Survival Gear .....	100
<b>XIV.</b>	<b>MULTIENGINE OPERATIONS</b>	
	A. Operation of Systems .....	101
	B. Performance and Limitations .....	101

C. Flight Principles—Engine Inoperative .....	101
D. Manoeuvring with One Engine Inoperative .....	101
E. VMC Demonstration .....	102
F. Demonstrating the Effects of Various Airspeeds and Configurations during Engine Inoperative Performance .....	103

**XV. POSTFLIGHT PROCEDURES**

A. Postflight Procedures .....	104
B. Anchoring .....	104
C. Docking and Mooring .....	104
D. Beaching .....	105
E. Ramping .....	105



## APPLICANT'S SKILL TEST CHECKLIST

### APPOINTMENT WITH INSPECTOR OR FLIGHT TEST EXAMINER:

FLIGHT TEST EXAMINER'S NAME \_\_\_\_\_

LOCATION \_\_\_\_\_

DATE/TIME \_\_\_\_\_

#### ACCEPTABLE AIRCRAFT

- View-Limiting Device (if applicable)
- Aircraft Documents:
  - Airworthiness Certificate
  - Registration Certificate
  - Operating Limitations
- Aircraft Maintenance Records:
  - Airworthiness Inspections
  - Pilot's Operating Handbook, TTCAA-Approved Aeroplane Flight Manual

#### PERSONAL EQUIPMENT

- Current Trinidad and Tobago Aeronautical Charts
- Computer and Plotter
- Flight Plan Form
- Flight Logs
- Current AIM
- Current **Airport** Facility Directory

#### PERSONAL RECORDS

- Pilot licence
- Medical Certificate
- Completed TTCAA Airman Certificate and/or Rating Application
- Airman Knowledge Test Report
- Logbook with Instructor's Endorsement
- Letter of Discontinuance (if applicable)
- Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- Flight test examiner's Fee (if applicable)

**FLIGHT TEST EXAMINER'S SKILL TEST CHECKLIST  
FLIGHT INSTRUCTOR—AEROPLANE  
(MULTIENGINE)**

APPLICANT'S NAME \_\_\_\_\_

FLIGHT TEST EXAMINER'S NAME \_\_\_\_\_

DATE TYPE CHECK \_\_\_\_\_

TYPE AEROPLANE \_\_\_\_\_

AREA OF OPERATION \_\_\_\_\_

**I. FUNDAMENTALS OF INSTRUCTING**

- A. The Learning Process
- B. Human Behavior and Effective Communication
- C. The Teaching Process
- D. Teaching Methods
- E. Critique and Evaluation
- F. Flight Instructor Characteristics and Responsibilities
- G. Planning Instructional Activity

**II. TECHNICAL SUBJECT AREAS**

- A. Aeromedical Factors
- B. Visual Scanning and Collision Avoidance
- C. Principles of Flight
- D. Aeroplane Flight Controls
- E. Aeroplane Weight and Balance
- F. Navigation and Flight Planning
- G. Night Operations
- H. High Altitude Operations
- I. TTCARs and other required publications
- J. Trinidad and Tobago National Airspace System
- K. Navigation Aids
- L. Logbook Entries and Certificate Endorsements
- M. Water and Seaplane Characteristics
- N. Seaplane Bases, Rules, and Aids to Marine Navigation

**III. PREFLIGHT PREPARATION**

- A. Certificates and Documents
- B. Weather Information
- C. Airworthiness Requirements

**IV. PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT**

- A. Manoeuvre Lesson

**V. PREFLIGHT PROCEDURES**

- A. Preflight Inspection
- B. Cockpit Management
- C. Engine Starting
- D. Taxiing—Landplane
- E. Taxiing—Seaplane
- F. Sailing
- G. Before Takeoff Check

**VI. AIRPORT AND SEAPLANE BASE OPERATIONS**

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

**VII. TAKEOFFS, LANDINGS AND, GO-AROUNDS**

- A. Normal and Crosswind Takeoff and Climb
- B. Short-Field (Confined Area (AMES)) Takeoff and Maximum Performance Climb
- C. Glassy-Water Takeoff and Climb
- D. Rough-Water Takeoff and Climb
- E. Normal and Crosswind Approach and Landing
- F. Go-Around/Rejected Landing
- G. Short-Field (Confined Area (AMES)) Approach and Landing
- H. Glassy-Water Approach and Landing
- I. Rough-Water Approach and Landing

**VIII. FUNDAMENTALS OF FLIGHT**

- A. Straight-and-Level Flight
- B. Level Turns
- C. Straight Climbs and Climbing Turns
- D. Straight Descents and Descending Turns

**IX. PERFORMANCE MANOEUVRES**

- A. Steep Turns

**X. GROUND REFERENCE MANOEUVRES**

- A. Rectangular Course
- B. S-Turns Across a Road
- C. Turns Around a Point

**XI. SLOW FLIGHT AND STALLS**

- A. Manoeuvring During Slow Flight
- B. Power-On Stalls
- C. Power-Off Stalls

**XII. BASIC INSTRUMENT MANOEUVRES**

- A. Straight-and-Level Flight
- B. Constant Airspeed Climbs
- C. Constant Airspeed Descents
- D. Turns to Headings
- E. Recovery from Unusual Flight Attitudes

**XIII. EMERGENCY OPERATIONS**

- A. Systems and Equipment Malfunctions
- B. Engine Failure During Takeoff Before V<sub>MC</sub>
- C. Engine Failure After Lift-Off
- D. Approach and Landing with an Inoperative Engine
- E. Emergency Descent
- F. Emergency Equipment and Survival Gear

**XIV. MULTIENGINE OPERATIONS**

- A. Operation of Systems
- B. Performance and Limitations
- C. Flight Principles—Engine Inoperative
- D. Manoeuvring with One Engine Inoperative
- E. V<sub>MC</sub> Demonstration
- F. Demonstrating the Effects of Various Airspeeds and Configurations During Engine Inoperative Performance

**XV. POSTFLIGHT PROCEDURES**

- A. Postflight Procedures
- B. Anchoring
- C. Docking and Mooring

- D. Beaching**
- E. Ramping**

## I. AREA OF OPERATION: FUNDAMENTALS OF INSTRUCTING

**NOTE:** The flight test examiner shall select task F and one other task.

### A. TASK: THE LEARNING PROCESS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the learning process by describing:

1. Learning theory.
2. Characteristics of learning.
3. Principles of learning.
4. Levels of learning.
5. Learning physical skills.
6. Memory.
7. Transfer of learning.

### B. TASK: HUMAN BEHAVIOR AND EFFECTIVE COMMUNICATION

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing:

1. Human behavior—
  - (a) control of human behavior.
  - (b) human needs.
  - (c) defense mechanisms.
  - (d) the flight instructor as a practical psychologist.
2. Effective communication—
  - (a) basic elements of communication.
  - (b) barriers of effective communication.
  - (c) developing communication skills.

### C. TASK: THE TEACHING PROCESS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing:

1. Preparation of a lesson for a ground or flight instructional period.
2. Presentation methods.
3. Application, by the student, of the knowledge and skills presented.
4. Review and evaluation of student performance.

### D. TASK: TEACHING METHODS

*REFERENCE: FAA-H-8083-9.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of teaching methods by describing:

1. Material organization.
2. The lecture method.
3. The cooperative or group learning method.
4. The guided discussion method.
5. The demonstration-performance method.
6. Computer-based training method.

## E. TASK: CRITIQUE AND EVALUATION

REFERENCE: FAA-H-8083-9.

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of critique and evaluation by explaining:

1. Critique—
  - (a) purpose and characteristics of an effective critique.
  - (b) methods and ground rules for a critique.
2. Evaluation—
  - (a) characteristics of effective oral questions and what types to avoid.
  - (b) responses to student questions.
  - (c) characteristics and development of effective written questions.
  - (d) characteristics and uses of performance tests, specifically, the TTCAA skill test standards.

## F. TASK: FLIGHT INSTRUCTOR CHARACTERISTICS AND RESPONSIBILITIES

REFERENCE: FAA-H-8083-9.

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of flight instructor characteristics and responsibilities by describing:

1. Aviation instructor responsibilities in—
  - (a) providing adequate instruction.
  - (b) establishing standards of performance.
  - (c) emphasizing the positive.
2. Flight instructor responsibilities in—
  - (a) providing student pilot evaluation and supervision.
  - (b) preparing skill test recommendations and endorsements.
  - (c) determining requirements for conducting additional training and endorsement requirements.
3. Professionalism as an instructor by—
  - (a) explaining important personal characteristics.
  - (b) describing methods to minimize student frustration.

## G. TASK: PLANNING INSTRUCTIONAL ACTIVITY

REFERENCE: FAA-H-8083-9.

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of planning instructional activity by describing:

1. Developing objectives and standards for a course of training.
2. Theory of building blocks of learning.
3. Requirements for developing a training syllabus.
4. Purpose and characteristics of a lesson plan.

## II. AREA OF OPERATION: TECHNICAL SUBJECT AREAS

NOTE: The flight test examiner shall select task L and at least one other task.

### A. TASK: AEROMEDICAL FACTORS

REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to aeromedical factors by describing:

1. How to obtain an appropriate medical certificate.
2. How to obtain a medical certificate in the event of a possible medical deficiency.
3. The causes, symptoms, effects, and corrective action of the following medical factors—
  - (a) hypoxia.
  - (b) hyperventilation.
  - (c) middle ear and sinus problems.
  - (d) spatial disorientation.
  - (e) motion sickness.
  - (f) carbon monoxide poisoning.
  - (g) fatigue and stress.
  - (h) dehydration.
4. The effects of alcohol and drugs, and their relationship to flight safety.
5. The effect of nitrogen excesses during scuba dives and how this affects pilots and passengers during flight.

### B. TASK: VISUAL SCANNING AND COLLISION AVOIDANCE

REFERENCES: FAA-H-8083-25, FAA-H-8083-3

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of visual scanning and collision avoidance by describing:

1. Relationship between a pilot's physical condition and vision.
2. Environmental conditions that degrade vision.
3. Vestibular and visual illusions.
4. "See and avoid" concept.
5. Proper visual scanning procedure.
6. Relationship between poor visual scanning habits and increased collision risk.
7. Proper clearing procedures.
8. Importance of knowing aircraft blind spots.
9. Relationship between aircraft speed differential and collision risk.
10. Situations which involve the greatest collision risk.

### C. TASK: PRINCIPLES OF FLIGHT

REFERENCES: FAA-H-8083-3, FAA-H-8083-25.

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of principles of flight by describing:

1. Airfoil design characteristics.
2. Aeroplane stability and controllability.
3. Turning tendency (torque effect).
4. Load factors in aeroplane design.
5. Wingtip vortices and precautions to be taken.

### D. TASK: AEROPLANE FLIGHT CONTROLS

REFERENCES: FAA-H-8083-3, FAA-H-8083-25.

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to the aeroplane flight controls by describing the purpose, location, direction of movement, effect and proper procedure for use of the:

1. Primary flight controls.
2. Trim control/s.
3. Wing flaps.

#### **E. TASK: AEROPLANE WEIGHT AND BALANCE**

*REFERENCES: FAA-H-8083-1, FAA-H-8083-3, FAA-H-8083-25; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of aeroplane weight and balance by describing:

1. Weight and balance terms.
2. Effect of weight and balance on performance.
3. Methods of weight and balance control.
4. Determination of total weight and center of gravity and the changes that occur when adding, removing, or shifting weight.

#### **F. TASK: NAVIGATION AND FLIGHT PLANNING**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25; DDC NO. 13-2006-PEL, DDC NO. 12-2006-PEL.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of navigation and flight planning by describing:

1. Terms used in navigation.
2. Features of aeronautical charts.
3. Importance of using the proper and current aeronautical charts.
4. Method of plotting a course, selection of fuel stops and alternates, and appropriate actions in the event of unforeseen situations.
5. Fundamentals of pilotage and dead reckoning.
6. Fundamentals of radio navigation.
7. Diversion to an alternate.
8. Lost procedures.
9. Computation of fuel consumption.
10. Importance of preparing and properly using a flight log.
11. Importance of a weather check and the use of good judgment in making a "go/no-go" decision.
12. Purpose of, and procedure used in, filing a flight plan.

#### **G. TASK: NIGHT OPERATIONS**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-25; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of night operations by describing:

1. Factors related to night vision.
2. Disorientation and night optical illusions.
3. Proper adjustment of interior lights.
4. Importance of having a flashlight with a red lens.
5. Night preflight inspection.
6. Engine starting procedures, including use of position and anticollision lights prior to start.
7. Taxiing and orientation on an **airport**.
8. Takeoff and climb-out.
9. In-flight orientation.
10. Importance of verifying the aeroplane's attitude by reference to flight instruments.
11. Night emergencies procedures.
12. Traffic patterns.
13. Approaches and landings with and without landing lights.
14. Go-arounds.

#### **H. TASK: HIGH ALTITUDE OPERATIONS**

*REFERENCES: TTCAR No.2; FAA-H-8083-3; TAC-PEL066; POH/AFM*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of high altitude operations by describing:



1. Regulatory requirements for use of oxygen.
2. Physiological hazards associated with high altitude operations.
3. Characteristics of a pressurized aeroplane and various types of supplemental oxygen systems.
4. Importance of "aviators breathing oxygen."
5. Care and storage of high-pressure oxygen bottles.
6. Problems associated with rapid decompression and corresponding solutions.

**I. TASK: FEDERAL AVIATION REGULATIONS AND PUBLICATIONS**

*REFERENCES: TTCAR No.1 and No.2, FAAH-8083-25; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to Federal Aviation Regulations publications by describing:

1. Availability and method of revision of TTCASR No.1 and No.2—
  - (a) purpose.
  - (b) general content.
2. Availability of flight information publications, advisory pamphlet, skill test standards, pilot operating handbooks, and FAA-approved aeroplane flight manuals by describing—
  - (a) availability.
  - (b) purpose.
  - (c) general content.

**J. TASK: NATIONAL AIRSPACE SYSTEM**

*REFERENCES: TTCAR No.2; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of the national airspace system by describing:

1. Basic VFR weather minimums—for all classes of airspace.
2. Airspace classes—their operating rules, pilot certification and aeroplane equipment requirements for the following—
  - (a) Class A.
  - (b) Class B.
  - (c) Class C.
  - (d) Class G.
3. Special use airspace and other airspace areas.

**K. TASK: NAVIGATION AIDS AND RADAR SERVICES**

*REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056, TAC-PEL-066*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to navigation aids and radar service by describing:

1. One ground-based navigational aid (VOR/VORTAC, NDB, DME, LORAN).
2. Satellite-based navigation aids.
3. Radar service and procedures.

**L. TASK: LOGBOOK ENTRIES AND CERTIFICATE ENDORSEMENTS**

*REFERENCES: TTCAR No.1*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to logbook entries and certificate endorsements by describing:

1. Required logbook entries for instruction given.
2. Required student pilot licence endorsements, including appropriate logbook entries.
3. Preparation of a recommendation for a pilot skill test, including appropriate logbook entry for—

- (a) initial pilot licensing.
  - (b) additional pilot licensing and authorizations
  - (c) additional aircraft qualification.
4. Required endorsement of a pilot logbook for the satisfactory completion of the required FAA flight review.
  5. Required flight instructor records.

**M. TASK: WATER AND SEAPLANE CHARACTERISTICS (AMES)**

*REFERENCES: ~~AP-91-69~~, FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; Seaplane Manual.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to water and seaplane characteristics by describing:

1. The characteristics of water surface as affected by features, such as—
  - (a) size and location of water operating area.
  - (b) protected and unprotected operating areas.
  - (c) surface wind.
  - (d) direction and height of waves.
  - (e) direction and strength of water current.
  - (f) floating and partially submerged debris.
  - (g) sandbars, islands, and shoals.
2. Seaplane float or hull construction and its relationship to performance.
3. Causes of proposing and skipping and pilot action necessary to prevent or to correct those occurrences.

**N. TASK: SEAPLANE BASES, RULES, AND AIDS TO MARINE NAVIGATION (AMES)**

*REFERENCES: TTCAR No.2, FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; **Trinidad and Tobago** Maritime Navigation Rules.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to seaplane bases, rules, and aids to marine navigation by describing:

1. How to locate and identify seaplane bases on charts or in directories.
2. Operating restrictions at various seaplane bases.
3. Right-of-way, steering, and sailing rules pertinent to seaplane operation.
4. Purpose and identification of marine navigation aids such as buoys, beacons, lights, and sound signals.

### III. AREA OF OPERATION: PREFLIGHT PREPARATION

NOTE: The flight test examiner shall select at least one task.

#### A. TASK: CERTIFICATES AND DOCUMENTS

*REFERENCES: TTCAR No.1 and No.2, FAA-H-8083-3, FAA-H-808325; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to certificates and documents by describing:

1. The training requirements for the issue of a recreational, private, and commercial pilot licence.
2. The privileges and limitations of pilot licences and ratings at recreational, private, and commercial levels.
3. Class and duration of medical certificates.
4. Recent pilot flight experience requirements.
5. Required entries in pilot logbook or flight record.

#### B. TASK: WEATHER INFORMATION

*REFERENCES: FAA-H-8083-25; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to weather information by describing:

1. Importance of a thorough preflight weather briefing.
2. Means and sources of obtaining weather information.
3. Use of real time weather reports, forecasts, and charts for developing scenario based training.
4. Inflight weather advisories.
5. Recognition of aviation weather hazards to include wind shear.
6. Factors to be considered in making a "go/no-go" decision.

#### C. TASK: AIRWORTHINESS REQUIREMENTS

*REFERENCES: TTCAR No.5 ; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to required airworthiness by explaining:

1. Required instruments and equipment for day/night VFR.
2. Procedures and limitations for determining airworthiness of the aeroplane with inoperative instruments and equipment without minimum equipment list (MEL).
3. Requirements and procedures for obtaining a special flight permit.
4. Airworthiness directives, compliance records, maintenance/inspection requirements, and appropriate records.
5. Procedures for deferring maintenance on aircraft without an approved MEL.

#### IV. AREA OF OPERATION: PREFLIGHT LESSON ON A MANOEUVRE TO BE PERFORMED IN FLIGHT

NOTE: Flight test examiner shall select at least one manoeuvre task from areas of operation VII through XIV, and ask the applicant to present a preflight lesson on the selected manoeuvre as the lesson would be taught to a student.

##### A. TASK: MANOEUVRE LESSON

*REFERENCES: FAA-H-8083-3, FAA-H-8083-9, FAA-H-8083-25; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the selected manoeuvre by:

1. Stating the purpose.
2. Giving an accurate, comprehensive oral description, including the elements and common errors.
3. Using instructional aids, as appropriate.
4. Describing the recognition, analysis, and correction of common errors.

## V. AREA OF OPERATION: PREFLIGHT PROCEDURES

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: PREFLIGHT INSPECTION (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a preflight inspection, as applicable to the aeroplane used for the skill test, by describing—
  - (a) Reasons for the preflight inspection, items that should be inspected, and how defects are detected.
  - (b) Importance of using the appropriate checklist.
  - (c) How to determine fuel and oil quantity and contamination.
  - (d) Detection of fuel, oil, and hydraulic leaks.
  - (e) Inspection of the oxygen system, including supply and proper operation (if applicable).
  - (f) Inspection of the flight controls and water rudder (if applicable).
  - (g) Detection of visible structural damage.
  - (h) Removal of tie-downs, control locks, and wheel chocks.
  - (i) Removal of ice and frost.
  - (j) Importance of the proper loading and securing of baggage, cargo, and equipment.
  - (k) use of sound judgment in determining whether the aeroplane is in an airworthy condition for safe flight.
2. Exhibits instructional knowledge of common errors related to a preflight inspection by describing—
  - (a) Failure to use or the improper use of checklist.
  - (b) Hazards which may result from allowing distractions to interrupt a visual inspection.
  - (c) Inability to recognize discrepancies to determine airworthiness.
  - (d) Failure to assure servicing with the proper fuel and oil.
  - (e) Failure to ensure proper loading and securing of baggage, cargo, and equipment.
3. Demonstrates and simultaneously explains a preflight inspection from an instructional standpoint.

### B. TASK: COCKPIT MANAGEMENT (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of cockpit management by describing—
  - (a) Proper arranging and securing of essential materials and equipment in the cockpit.
  - (b) Proper use and/or adjustment of cockpit items such as safety belts, shoulder harnesses, rudder pedals, and seats.
  - (c) Occupant briefing on emergency procedures and use of safety belts.
2. Exhibits instructional knowledge of common errors related to cockpit management by describing—
  - (a) Failure to place and secure essential materials and equipment for easy access during flight.
  - (b) Failure proper use and/or adjustment of cockpit items, such as safety belts, shoulder harnesses, rudder pedals, and seats.
  - (c) Failure to provide improper adjustment of equipment and controls occupant briefing on emergency procedures and use of safety belts.
  - (d) Failure to provide occupant briefing on emergency procedures and use of safety belts.
3. Demonstrates and simultaneously explains cockpit management from an instructional standpoint.

### C. TASK: ENGINE STARTING (AMEL and AMES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of engine starting, as appropriate to the aeroplane used for the skill test by describing—
  - (a) Safety precautions related to starting.
  - (b) Use of external power.
  - (c) Effect of atmospheric conditions on starting.
  - (d) Importance of following the appropriate checklist.
  - (e) Adjustment of engine controls during start.
  - (f) Prevention of aeroplane movement during and after start.
2. Exhibits instructional knowledge of common errors related to engine starting by describing—
  - (a) Failure to properly use the appropriate checklist.
  - (b) Failure to use safety precautions related to starting.
  - (c) Improper adjustment of engine controls during start.
  - (d) Failure to assure proper clearance of the propeller.
3. Demonstrates and simultaneously explains engine starting from an instructional standpoint.

**D. TASK: TAXIING—LANDPLANE (AMEL)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of landplane taxiing by describing—
  - (a) Proper brake check and correct use of brakes.
  - (b) Compliance with **airport**/taxiway surface marking, signals, and ATC clearances or instructions.
  - (c) How to control direction and speed.
  - (d) Flight control positioning for various wind conditions.
  - (e) Procedures used to avoid other aircraft and hazards.
2. Exhibits instructional knowledge of common errors related to landplane taxiing by describing—
  - (a) Improper use of brakes.
  - (b) Improper positioning of the flight controls for various wind conditions.
  - (c) Hazards of taxiing too fast.
  - (d) Failure to comply with **airport**/taxiway surface marking, signals, and ATC clearances or instructions.
3. Demonstrates and simultaneously explains landplane taxiing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to landplane taxiing.

**E. TASK: TAXIING—SEAPLANE (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL-066; POH/AFM; Trinidad and Tobago Maritime Navigation Rules.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of seaplane taxiing by describing—
  - (a) Wind effect.
  - (b) Prevention of proposing and skipping.
  - (c) Selection of the most suitable course for taxiing, following available marking aids.
  - (d) Conditions where idle, plowing, and step taxiing are used.
  - (e) Procedures for idle, plowing, and step taxiing.
  - (f) Control positioning for various wind conditions.
  - (g) Use of water rudders.
  - (h) Procedures used to avoid other aircraft and hazards.
  - (i) Procedures used to avoid excessive water spray into the propeller.
  - (j) 180° and 360° turns in idle, plowing, and step positions.
  - (k) Application of right-of-way rules.
2. Exhibits instructional knowledge of common errors related to seaplane taxiing by describing—

- (a) Improper positioning of flight controls for various wind conditions.
  - (b) Improper control of speed and direction.
  - (c) Failure to prevent proposing and skipping.
  - (d) Failure to use the most suitable course and available marking aids.
  - (e) Failure to use proper clearing procedures to avoid hazards.
  - (f) Failure to apply right-of-way rules.
3. Demonstrates and simultaneously explains seaplane taxiing from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to seaplane taxiing.

**F. TASK: SAILING (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM; Trinidad and Tobago Maritime Navigation Rules.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of sailing by describing—
  - (a) Procedures used in sailing (engine idling or shut down, as appropriate).
  - (b) Conditions and situations where sailing would be used.
  - (c) Selection of the most favorable course to follow.
  - (d) Use of flight controls, flaps, doors, and water rudders to follow the selected course.
  - (e) Procedures used to change direction from downwind to crosswind.
  - (f) Control of speed.
2. Exhibits instructional knowledge of common errors related to sailing by describing—
  - (a) Failure to select the most favorable course to destination.
  - (b) Improper use of controls, flaps, and water rudders.
  - (c) Improper procedure when changing direction.
  - (d) Improper procedure for speed control.
3. Demonstrates and simultaneously explains sailing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to sailing.

**G. TASK: BEFORE TAKEOFF CHECK (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of the before takeoff check by describing—
  - (a) Positioning the aeroplane with consideration for other aircraft, surface conditions and wind.
  - (b) Division of attention inside and outside the cockpit.
  - (c) Importance of following the checklist and responding to each checklist item.
  - (d) Reasons for assuring suitable engine temperatures and pressures for run-up and takeoff.
  - (e) Method used to determine that aeroplane is in a safe operating condition.
  - (f) Importance of reviewing takeoff performance airspeeds, expected takeoff distances, and emergency procedures.
  - (g) Method used for assuring that the takeoff area or path is free of hazards.
  - (h) Method of avoiding runway incursions and ensures no conflict with traffic prior to taxiing into takeoff position.
2. Exhibits instructional knowledge of common errors related to the before takeoff check by describing—
  - (a) Failure to properly use the appropriate checklist.
  - (b) Improper positioning of the aeroplane.
  - (c) Improper acceptance of marginal engine performance.
  - (d) An improper check of flight controls.
  - (e) Hazards of failure to review takeoff and emergency procedures.
  - (f) Failure to avoid runway incursions and to ensure no conflict with traffic prior to taxiing into takeoff position.

3. Demonstrates and simultaneously explains a before takeoff check from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a before takeoff check.



## VI. AREA OF OPERATION: AIRPORT AND SEAPLANE BASE OPERATIONS

NOTE: The flight test examiner shall select at least one task.

### A. TASK: RADIO COMMUNICATIONS AND ATC LIGHT SIGNALS (AMEL and AMES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of radio communications and ATC light signals by describing—
  - (a) Selection and use of appropriate radio frequencies.
  - (b) Recommended procedure and phraseology for radio communications.
  - (c) Receipt, acknowledgement of, and compliance with, ATC clearances and instructions.
  - (d) Interpretation of, and compliance with, ATC light signals.
2. Exhibits instructional knowledge of common errors related to radio communications and ATC light signals by describing—
  - (a) Use of improper frequencies.
  - (b) Improper procedure and phraseology when using radio communications.
  - (c) Failure to acknowledge, or properly comply with, ATC clearances and instructions.
  - (d) Failure to understand, or to properly comply with, ATC light signals.
3. Demonstrates and simultaneously explains radio communication procedures from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to radio communications and ATC light signals.

### B. TASK: TRAFFIC PATTERNS (AMEL and AMES)

*REFERENCES: FAA-H-8083-25, FAA-H-8083-3, TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of traffic patterns by describing—
  - (a) Operations at **airports** and seaplane bases with and without operating control towers.
  - (b) Adherence to traffic pattern procedures, instructions, and rules.
  - (c) How to maintain proper spacing from other traffic.
  - (d) How to maintain the desired ground track.
  - (e) Wind shear and wake turbulence avoidance procedures.
  - (f) Orientation with the runway or landing area in use.
  - (g) How to establish a final approach at an appropriate distance from the runway or landing area.
  - (h) Use of checklist.
2. Exhibits instructional knowledge of common errors related to traffic patterns by describing—
  - a. failure to comply with traffic pattern instructions, procedures, and rules.
  - b. improper correction for wind drift.
  - c. inadequate spacing from other traffic.
  - d. poor altitude or airspeed control.
3. Demonstrates and simultaneously explains traffic patterns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to traffic patterns.

### C. TASK: AIRPORT/SEAPLANE BASE, RUNWAY AND TAXIWAY SIGNS, MARKINGS, AND LIGHTING (AMEL and AMES)

*REFERENCES: FAA-H-8083-25; TAC-PEL056, TAC-PEL-066.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements of **airport**/seaplane base, runway and taxiway signs, markings, and lighting by describing:

1. Exhibits instructional knowledge of the elements of **airport**/seaplane base, runway and taxiway signs, markings, and lighting by describing—

- (a) Identification and proper interpretation of **airport**/seaplane base, runway and taxiway signs and markings with emphasis on runway incursion avoidance.
  - (b) Identification and proper interpretation of **airport**/seaplane base, runway and taxiway lighting with emphasis on runway incursion avoidance.
2. Exhibits instructional knowledge of common errors related to **airport**/seaplane base, runway and taxiway signs, markings, and lighting by describing—
- (a) Failure to comply with **airport**/seaplane base, runway and taxiway signs and markings.
  - (b) Failure to comply with **airport**/seaplane base, runway and taxiway lighting.
  - (c) Failure to use proper runway incursion avoidance procedures.
3. Demonstrates and simultaneously explains **airport**/seaplane base, runway and taxiway signs, markings, and lighting from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to explains **airport**/seaplane base, runway and taxiway signs, markings, and lighting.

## VII. AREA OF OPERATION: TAKEOFFS, LANDINGS, AND GO-AROUNDS

NOTE: The flight test examiner shall select at least two takeoffs and two landings tasks.

### A. TASK: NORMAL AND CROSSWIND TAKEOFF AND CLIMB (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and crosswind takeoff and climb by describing—
  - (a) Procedures before taxiing onto the runway or takeoff area to ensure runway incursion avoidance.
  - (b) Normal and crosswind takeoff procedures.
  - (c) Difference between a normal and a glassy-water takeoff (seaplane).
  - (d) Normal and crosswind lift-off procedures.
  - (e) Proper climb attitude, power setting, and airspeed ( $v_y$ ).
  - (f) Proper use of checklist.
2. Exhibits instructional knowledge of common errors related to a normal and crosswind takeoff and climb by describing—
  - (a) Improper runway incursion avoidance procedures.
  - (b) Improper use of controls during a normal or crosswind takeoff.
  - (c) Inappropriate lift-off procedures.
  - (d) Improper climb attitude, power setting and airspeed ( $v_y$ ).
  - (e) Improper use of checklist.
3. Demonstrates and simultaneously explains a normal or a crosswind takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a normal or a crosswind takeoff and climb.

### B. TASK: SHORT-FIELD (CONFINED AREA (AMES)) TAKEOFF AND MAXIMUM PERFORMANCE AND CLIMB (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a short-field takeoff and climb by describing—
  - (a) Procedures before taxiing onto the runway or takeoff area to ensure runway incursion avoidance.
  - (b) Short-field takeoff procedures.
  - (c) Short-field lift-off procedures.
  - (d) Initial climb attitude and airspeed ( $v_x$ ) until obstacle is cleared (50 feet/16 meters agl).
  - (e) Proper use of checklist.
2. Exhibits instructional knowledge of common errors related to a short-field takeoff and climb by describing—
  - (a) Improper runway incursion avoidance procedures.
  - (b) Improper use of controls during a short-field takeoff.
  - (c) Improper lift-off procedures.
  - (d) Improper initial climb attitude, power setting and airspeed ( $v_x$ ) to clear obstacle.
  - (e) Improper use of checklist.
3. Demonstrates and simultaneously explains a short-field takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a short-field takeoff and climb.

### C. TASK: GLASSY-WATER TAKEOFF AND CLIMB (ASES)

REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a glassy-water takeoff and climb by describing—
  - (a) Procedures before taxiing onto the takeoff area to ensure waterway is clear of objects or obstructions.
  - (b) Flight control, flap and water rudder use during glassy-water takeoff procedures.
  - (c) Appropriate planning attitude and lift-off procedures on glassy-water.
  - (d) Initial climb attitude and airspeed ( $v_x$ ), if an obstacle is present (50 feet/16 meters agl) or ( $v_y$ ).
  - (e) Proper use of after takeoff checklist.
2. Exhibits instructional knowledge of common errors related to a glassy water takeoff and climb by describing—
  - (a) Improper takeoff water way clearance procedures.
  - (b) Poor judgment in the selection of a suitable takeoff area.
  - (c) Improper use of controls during a glassy-water takeoff.
  - (d) Inappropriate lift-off procedures.
  - (e) Hazards of inadvertent contact with the water after becoming airborne.
  - (f) Improper climb attitude, power setting, and airspeed ( $v_y$ ) or ( $v_x$ ).
  - (g) Improper use of checklist.
3. Demonstrates and simultaneously explains a glassy-water takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a glassy-water takeoff and climb.

### D. TASK: ROUGH-WATER TAKEOFF AND CLIMB (AMES)

REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rough-water takeoff and climb by describing—
  - (a) Procedures before taxiing onto the takeoff area to ensure waterway is clear of objects or obstructions.
  - (b) Flight control, flap and water rudder use during rough-water takeoff procedures.
  - (c) Appropriate planning attitude and lift-off procedures on rough-water.
  - (d) D. Initial climb attitude and airspeed ( $v_x$ ), if an obstacle is present (50 feet/16 meters agl) or ( $v_y$ ).
  - (e) Proper use of after takeoff checklist.
2. Exhibits instructional knowledge of common errors related to a rough water takeoff and climb by describing—
  - (a) Improper takeoff water way clearance procedures.
  - (b) B. Poor judgment in the selection of a suitable takeoff area.
  - (c) Improper use of controls during a rough-water takeoff.
  - (d) Inappropriate lift-off procedures.
  - (e) Hazards of inadvertent contact with the water after becoming airborne.
  - (f) Improper climb attitude, power setting, and airspeed ( $v_y$ ) or ( $v_x$ ).
  - (g) Improper use of checklist.
3. Demonstrates and simultaneously explains a rough-water takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a rough-water takeoff and climb.

### E. TASK: NORMAL AND CROSSWIND APPROACH AND LANDING (AMEL and AMES)

REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and a crosswind approach and landing by describing—
  - a. how to determine landing performance and limitations.

- b. configuration, power, and trim.
  - c. obstructions and other hazards, which should be considered.
  - d. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - e. coordination of flight controls.
  - f. a precise ground track.
  - g. wind shear and wake turbulence.
  - h. crosswind procedure.
  - i. timing, judgment, and control procedure during roundout and touchdown.
  - j. directional control after touchdown.
  - k. use of brakes (landplane).
  - l. use of checklist.
2. Exhibits instructional knowledge of common errors related to a normal and a crosswind approach and landing by describing—
    - a. improper use of landing performance data and limitations.
    - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
    - c. failure to establish and maintain a stabilized approach.
    - d. inappropriate removal of hand from throttles.
    - e. improper procedure during roundout and touchdown.
    - f. poor directional control after touchdown.
    - g. improper use of brakes (landplane).
  3. Demonstrates and simultaneously explains a normal or a crosswind approach and landing from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a normal or crosswind approach and landing.

**F. TASK: GO-AROUND/REJECTED LANDING (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a go around/rejected by describing—
  - a. situations where a go-around is necessary.
  - b. importance of making a prompt decision.
  - c. importance of applying takeoff power immediately after the go around decision is made.
  - d. importance of establishing proper pitch attitude.
  - e. wing flaps retraction.
  - f. use of trim.
  - g. landing gear retraction.
  - h. proper climb speed.
  - i. proper track and obstruction clearance.
  - j. use of checklist.
2. Exhibits instructional knowledge of common errors related to a go around/rejected landing by describing—
  - a. failure to recognize a situation where a go-around/rejected landing is necessary.
  - b. hazards of delaying a decision to go around.
  - c. improper power application.
  - d. failure to control pitch attitude.
  - e. failure to compensate for torque effect.
  - f. improper trim technique.
  - g. failure to maintain recommended airspeeds.
  - h. improper wing flaps or landing gear retraction procedure.
  - i. failure to maintain proper track during climb-out.
  - j. failure to remain well clear of obstructions and other traffic.
3. Demonstrates and simultaneously explains a go-around/rejected landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a go around/rejected landing.

**G. TASK: SHORT-FIELD (CONFINED AREA—AMES) APPROACH AND LANDING (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a short-field approach and landing by describing—
  - a. how to determine landing performance and limitations.
  - b. configuration and trim.
  - c. proper use of pitch and power to maintain desired approach angle.
  - d. barriers and other hazards which should be considered.
  - e. effect of wind.
  - f. selection of touchdown and go-around points.
  - g. a stabilized approach at the recommended airspeed to the selected touchdown point.
  - h. coordination of flight controls.
  - i. a precise ground track.
  - j. timing, judgment, and control procedure during roundout and touchdown.
  - k. directional control after touchdown.
  - l. use of brakes.
  - m. use of checklist.
2. Exhibits instructional knowledge of common errors related to a short-field approach and landing by describing—
  - a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time or in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. improper technique in use of power, wing flaps, and trim.
  - e. inappropriate removal of hand from throttles.
  - f. improper procedure during roundout and touchdown.
  - g. poor directional control after touchdown.
  - h. improper use of brakes.
3. Demonstrates and simultaneously explains a short-field approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a short-field approach and landing.

**H. TASK: GLASSY-WATER APPROACH AND LANDING (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a glassy-water approach and landing by describing—
  - a. how to determine landing performance and limitations.
  - b. configuration and trim.
  - c. deceptive characteristics of glassy water.
  - d. selection of a suitable landing area and go-around point.
  - e. terrain and obstructions which should be considered.
  - f. detection of hazards in the landing area such as shallow water, obstructions, or floating debris.
  - g. coordination of flight controls.
  - h. a precise ground track.
  - i. a power setting and pitch attitude that will result in the recommended airspeed and rate of descent throughout the final approach to touchdown.
  - j. how to maintain positive after-landing control.
  - k. use of checklist.
2. Exhibits instructional knowledge of common errors related to a glassy water approach and landing by describing—
  - a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time and in proper sequence.
  - c. failure to establish and maintain a stabilized approach at the recommended airspeed and rate of descent.
  - d. improper technique in use of power, wing flaps, or trim.

- e. inappropriate removal of hand from throttles.
  - f. failure to touch down with power in the proper stabilized attitude.
  - g. failure to maintain positive after-landing control.
3. Demonstrates and simultaneously explains a glassy-water approach and landing from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to a glassy water approach and landing.

**I. TASK: ROUGH-WATER APPROACH AND LANDING (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rough-water approach and landing by describing—
  - a. how to determine of landing performance and limitations.
  - b. review of wind conditions.
  - c. how landing area characteristics can be evaluated.
  - d. selection of a suitable landing area and go-around point.
  - e. terrain and obstructions which should be considered.
  - f. detection of hazards in the landing area such as shallow water, obstructions, or floating debris.
  - g. configuration and trim.
  - h. coordination of flight controls.
  - i. a precise ground track.
  - j. a stabilized approach at the recommended airspeed to the selected touchdown area.
  - k. timing, judgment, and control procedure during roundout and touchdown.
  - l. maintenance of positive after-landing control.
  - m. use of checklist.
2. Exhibits instructional knowledge of common errors related to a roughwater approach and landing by describing—
  - a. improper use of landing performance data and limitations.
  - b. failure to establish approach and landing configuration at appropriate time and in proper sequence.
  - c. failure to establish and maintain a stabilized approach.
  - d. improper procedure in use of power, wing flaps, or trim.
  - e. inappropriate removal of hand from throttles.
  - f. improper procedure during roundout and touchdown.
  - g. failure to maintain positive after-landing control.
3. Demonstrates and simultaneously explains a rough-water approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related a rough-water approach and landing.

## VIII. AREA OF OPERATION: FUNDAMENTALS OF FLIGHT

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: STRAIGHT-AND-LEVEL FLIGHT (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight-and-level flight by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control technique used.
  - d. trim technique.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight and-level flight by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty trim technique.
3. Demonstrates and simultaneously explains straight-and-level flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and level flight.

### B. TASK: LEVEL TURNS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of level turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control technique used.
  - d. trim technique.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to level turns by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty altitude and bank control.
3. Demonstrates and simultaneously explains a level turn from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to level turns.

### C. TASK: STRAIGHT CLIMBS AND CLIMBING TURNS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight climbs and climbing turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control technique used.



- d. trim technique.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight climbs and climbing turns by describing—
    - a. failure to crosscheck and correctly interpret outside and instrument references.
    - b. application of control movements rather than pressures.
    - c. improper correction for torque effect.
    - d. faulty trim technique.
  3. Demonstrates and simultaneously explains straight climbs and a climbing turns from an instructional standpoint.
  4. Analyzes and corrects simulated common errors related to straight climbs and climbing turns.

**D. TASK: STRAIGHT DESCENTS AND DESCENDING TURNS  
(AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight descents and descending turns by describing—
  - a. effect and use of flight controls.
  - b. the Integrated Flight Instruction method.
  - c. outside and instrument references used for pitch, bank, and power control; the crosscheck and interpretation of those references; and the control technique used.
  - d. trim technique.
  - e. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight descents and descending turns by describing—
  - a. failure to crosscheck and correctly interpret outside and instrument references.
  - b. application of control movements rather than pressures.
  - c. uncoordinated use of flight controls.
  - d. faulty trim technique.
  - e. failure to clear engine and use carburetor heat, as appropriate.
3. Demonstrates and simultaneously explains straight descents and descending turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight descents and descending turns.

## IX. AREA OF OPERATION: PERFORMANCE MANOEUVRES

### A. TASK: STEEP TURNS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of steep turns by describing—
  - a. relationship of bank angle, load factor, and stalling speed.
  - b. over-banking tendency.
  - c. torque effect in right and left turns.
  - d. selection of a suitable altitude.
  - e. orientation, division of attention, and planning.
  - f. entry and rollout procedure.
  - g. coordination of flight and power controls.
  - h. altitude, bank, and power control during the turn.
  - i. proper recovery to straight and level flight.
2. Exhibits instructional knowledge of common errors related to steep turns by describing—
  - a. improper pitch, bank, and power coordination during entry and rollout.
  - b. uncoordinated use of flight controls.
  - c. improper procedure in correcting altitude deviations.
  - d. loss of orientation.
3. Demonstrates and simultaneously explains steep turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to steep turns.

## X. AREA OF OPERATION: GROUND REFERENCE MANOEUVRES

**NOTE:** The flight test examiner shall select at least one task.

### A. TASK: RECTANGULAR COURSE (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; FAA-S- 8081-14.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rectangular course by describing—
  - a. how to select a safe altitude.
  - b. how to select a suitable ground reference with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. relationship of a rectangular course to an **airport** traffic pattern.
  - f. wind drift correction.
  - g. how to maintain desired altitude, airspeed, and distance from ground reference boundaries.
  - h. timing of turn entries and rollouts.
  - i. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to a rectangular course by describing—
  - a. poor planning, orientation, or division of attention.
  - b. uncoordinated flight control application.
  - c. improper correction for wind drift.
  - d. failure to maintain selected altitude or airspeed.
  - e. selection of a ground reference where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains a rectangular course from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a rectangular course.

### B. TASK: S-TURNS ACROSS A ROAD (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of S-turns across a road by describing—
  - a. how to select a safe altitude.
  - b. how to select a suitable ground reference line with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. entry procedure.
  - f. wind drift correction.
  - g. tracking of semicircles of equal radii on either side of the selected ground reference line.
  - h. how to maintain desired altitude and airspeed.
  - i. turn reversal over the ground reference line.
  - j. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to S-turns across a road by describing—
  - a. faulty entry technique.
  - b. poor planning, orientation, or division of attention.
  - c. uncoordinated flight control application.
  - d. improper correction for wind drift.
  - e. an unsymmetrical ground track.
  - f. failure to maintain selected altitude or airspeed.
  - g. selection of a ground reference line where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains S-turns across a road from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to S-turns across a road.

### C. TASK: TURNS AROUND A POINT (AMEL and AMES)

REFERENCES: FAA-H-8083-3; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of turns around a point by describing—
  - a. how to select a safe altitude.
  - b. how to select a suitable ground reference point with consideration given to emergency landing areas.
  - c. orientation, division of attention, and planning.
  - d. configuration and airspeed prior to entry.
  - e. entry procedure.
  - f. wind drift correction.
  - g. how to maintain desired altitude, airspeed, and distance from reference point.
  - h. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to turns around a point by describing—
  - a. faulty entry procedure.
  - b. poor planning, orientation, or division of attention.
  - c. uncoordinated flight control application.
  - d. improper correction for wind drift.
  - e. failure to maintain selected altitude or airspeed.
  - f. selection of a ground reference point where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains turns around a point from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns around a point.

## XI. AREA OF OPERATION: SLOW FLIGHT AND STALLS

NOTE: The flight test examiner shall select at least one task. Stalls shall not be performed with one engine at reduced power or inoperative and the other engine(s) developing effective power.

Stalls using high power settings should not be performed. The high pitch angles necessary to induce these stalls could possibly result in uncontrollable flight.

Flight test examiners and instructors should be alert to the possible development of high sink rates when performing stalls in multiengine aeroplanes with high wing loading.

### A. TASK: MANOEUVRING DURING SLOW FLIGHT (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of manoeuvring during slow flight by describing—
  - a. relationship of configuration, weight, center of gravity, manoeuvring loads, angle of bank, and power to flight characteristics and controllability.
  - b. relationship of the manoeuvre to critical flight situations, such as go arounds.
  - c. performance of the manoeuvre with selected landing gear and flap configurations in straight-and-level flight and level turns.
  - d. specified airspeed for the manoeuvre.
  - e. coordination of flight controls.
  - f. trim technique.
  - g. re-establishment of cruise flight.
2. Exhibits instructional knowledge of common errors related to manoeuvring during slow flight by describing—
  - a. failure to establish specified gear and flap configuration.
  - b. improper entry technique.
  - c. failure to establish and maintain the specified airspeed.
  - d. excessive variations of altitude and heading when a constant altitude and heading are specified.
  - e. rough or uncoordinated control technique.
  - f. improper correction for torque effect.
  - g. improper trim technique.
  - h. unintentional stalls.
  - i. inappropriate removal of hand from throttles.
3. Demonstrates and simultaneously explains manoeuvring during slow flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to manoeuvring during slow flight.

### B. TASK: POWER-ON STALLS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. aerodynamics of power-on stalls.
  - b. relationship of various factors, such as landing gear and flap configuration, weight, center of gravity, load factor, and bank angle to stall speed.
  - c. flight situations where unintentional power-on stalls may occur.
  - d. entry technique and minimum entry altitude.
  - e. performance of power-on stalls in climbing flight (straight or turning).
  - f. coordination of flight controls.
  - g. recognition of the first indications of power-on stalls.
  - h. recovery technique and minimum recovery altitude.

2. Exhibits instructional knowledge of common errors related to power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. failure to establish the specified landing gear and flap configuration prior to entry.
  - b. improper pitch, heading, and bank control during straight-ahead stalls.
  - c. improper pitch and bank control during turning stalls.
  - d. rough or uncoordinated control technique.
  - e. failure to recognize the first indications of a stall.
  - f. failure to achieve a stall.
  - g. improper torque correction.
  - h. poor stall recognition and delayed recovery.
  - i. excessive altitude loss or excessive airspeed during recovery.
  - j. secondary stall during recovery.
3. Demonstrates and simultaneously explains power-on stalls, in climbing flight (straight or turning), with selected landing gear and flap configurations, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to power-on stalls, in climbing flight (straight and turning), with selected landing gear and flap configurations.

**C. TASK: POWER-OFF STALLS (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. aerodynamics of power-off stalls.
  - b. relationship of various factors, such as landing gear and flap configuration, weight, center of gravity, load factor, and bank angle to stall speed.
  - c. flight situations where unintentional power-off stalls may occur.
  - d. entry technique and minimum entry altitude.
  - e. performance of power-off stalls in descending flight (straight or turning).
  - f. coordination of flight controls.
  - g. recognition of the first indications of power-off stalls.
  - h. recovery technique and minimum recovery altitude.
2. Exhibits instructional knowledge of common errors related to power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations by describing—
  - a. failure to establish the specified landing gear and flap configuration prior to entry.
  - b. improper pitch, heading, and bank control during straight-ahead stalls.
  - c. improper pitch and bank control during turning stalls.
  - d. rough or uncoordinated control technique.
  - e. failure to recognize the first indications of a stall.
  - f. failure to achieve a stall.
  - g. improper torque correction.
  - h. poor stall recognition and delayed recovery.
  - i. excessive altitude loss or excessive airspeed during recovery.
  - j. secondary stall during recovery.
4. Demonstrates and simultaneously explains power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations, from an instructional standpoint.
5. Analyzes and corrects simulated common errors related to power-off stalls, in descending flight (straight or turning), with selected landing gear and flap configurations.

## XII. AREA OF OPERATION: BASIC INSTRUMENT MANOEUVRES

NOTE: The flight test examiner shall select at least one task.

### A. TASK: STRAIGHT-AND-LEVEL FLIGHT (AMEL and AMES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL-056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight-and-level flight, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control, and how those instruments are used to maintain altitude, heading, and airspeed.
  - c. trim technique.
2. Exhibits instructional knowledge of common errors related to straight and-level flight solely by reference to instruments by describing—
  - a. "fixation," "omission," and "emphasis" errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during altitude, heading, or airspeed corrections.
  - e. faulty trim technique.
3. Demonstrates and simultaneously explains straight-and-level flight, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and level flight, solely by reference to instruments.

### B. TASK: CONSTANT AIRSPEED CLIMBS (AMEL and AMES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight and turning, constant airspeed climbs, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during entry, during the climb, and during level off, and how those instruments are used to maintain climb heading and airspeed.
  - c. trim technique.
2. Exhibits instructional knowledge of common errors related to straight and turning, constant airspeed climbs, solely by reference to instruments by describing—
  - a. "fixation," "omission," and "emphasis" errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during heading and airspeed corrections.
  - e. improper entry or level-off technique.
  - f. faulty trim technique.
3. Demonstrates and simultaneously explains a straight, constant airspeed climb, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight, constant airspeed climbs, solely by reference to instruments.

### C. TASK: CONSTANT AIRSPEED DESCENTS (AMEL and AMES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight and turning, constant airspeed descents, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during entry, during the descent, and during level off, and how those instruments are used to maintain descent heading and airspeed.
  - c. trim technique.
2. Exhibits instructional knowledge of common errors related to straight and turning, constant airspeed descents, solely by reference to instruments by describing—
  - a. "fixation," "omission," and "emphasis" errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, or power adjustments during heading and airspeed corrections.
  - e. improper entry or level-off technique.
  - f. faulty trim technique.
3. Demonstrates and simultaneously explains a straight, constant airspeed descent, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight, constant airspeed descents, solely by reference to instruments.

### D. TASK: TURNS TO HEADINGS (AMEL and AMES)

REFERENCES FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of turns to headings, solely by reference to instruments by describing—
  - a. instrument crosscheck, instrument interpretation, and aircraft control.
  - b. instruments used for pitch, bank, and power control during turn entry, during the turn, and during the turn rollout, and how those instruments are used.
  - c. trim technique.
2. Exhibits instructional knowledge of common errors related to turns to headings, solely by reference to instruments by describing—
  - a. "fixation," "omission," and "emphasis" errors during instrument crosscheck.
  - b. improper instrument interpretation.
  - c. improper control applications.
  - d. failure to establish proper pitch, bank, and power adjustments during altitude, bank, and airspeed corrections.
  - e. improper entry or rollout technique.
  - f. faulty trim technique.
3. Demonstrates and simultaneously explains a turn to a heading, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns to headings, solely by reference to instruments.



## E. TASK: RECOVERY FROM UNUSUAL FLIGHT ATTITUDES (AMEL and AMES)

REFERENCES: FAA-H-8083-3, FAA-H-8083-15; TAC-PEL056L.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of recovery from unusual flight attitudes by describing—
  - a. conditions and situations that may result in unusual flight attitudes.
  - b. the two basic unusual flight attitudes—nose-high (climbing turn) and nose-low (diving spiral).
  - c. how unusual flight attitudes are recognized.
  - d. control sequence for recovery from a nose-high attitude and the reasons for that sequence.
  - e. control sequence for recovery from a nose-low attitude and the reasons for that sequence.
  - f. reasons why the controls should be coordinated during unusual flight attitude recoveries.
2. Exhibits instructional knowledge of common errors related to recovery from unusual flight attitudes by describing—
  - a. failure to recognize an unusual flight attitude.
  - b. consequences of attempting to recover from an unusual flight attitude by "feel" rather than by instrument indications.
  - c. inappropriate control applications during recovery.
  - d. failure to recognize from instrument indications when the aeroplane is passing through a level flight attitude.
3. Demonstrates and simultaneously explains recovery from a nose-high and a nose-low unusual flight attitude from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to recovery from unusual flight attitudes.

### XIII. AREA OF OPERATION: EMERGENCY OPERATIONS

NOTE: The flight test examiner shall select tasks B or C, D, and one other task.

#### A. TASK: SYSTEMS AND EQUIPMENT MALFUNCTIONS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

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

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to systems and equipment malfunctions, appropriate to the aeroplane used for the skill test, by describing recommended pilot action for at least of five (5) of the following:

1. Smoke, fire, or both, during ground or flight operations.
2. Rough running engine, partial power loss, or sudden engine stoppage.
3. Propeller malfunction.
4. Loss of engine oil pressure.
5. Fuel starvation.
6. Engine overheat.
7. Hydraulic system malfunction.
8. Electrical system malfunction.
9. Carburetor or induction icing.
10. Door or window opening in flight.
11. Inoperative or "runaway" trim.
12. Landing gear or flap malfunction.
13. Pressurization malfunction.

#### B. TASK: ENGINE FAILURE DURING TAKEOFF BEFORE $V_{MC}$ (AMEL and AMES)

**NOTE:** Engine failure shall not be simulated at a speed greater than 50 percent  $V_{MC}$ .

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to engine failure during takeoff before  $V_{MC}$  by describing—
  - a. use of prescribed emergency procedure.
  - b. prompt closing of throttles.
  - c. how to maintain directional control.
  - d. proper use of brakes (landplane).
2. Exhibits instructional knowledge of common errors related to engine failure during takeoff before  $V_{MC}$  by describing—
  - a. failure to follow prescribed emergency procedure.
  - b. failure to promptly recognize engine failure.
  - c. failure to promptly close throttles following engine failure.
  - d. faulty directional control and use of brakes.
3. Demonstrates and simultaneously explains a simulated engine failure during takeoff before  $V_{MC}$  from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to engine failure during takeoff before  $V_{MC}$ .

### C. TASK: ENGINE FAILURE AFTER LIFT-OFF (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to engine failure after lift-off by describing—
  - a. use of prescribed emergency checklist to verify accomplishment of procedures for securing the inoperative engine.
  - b. proper adjustment of engine controls, reduction of drag, and identification and verification of the inoperative engine.
  - c. how to establish and maintain a pitch attitude that will result in the best engine inoperative airspeed, considering the height of obstructions.
  - d. how to establish and maintain a bank as required for best performance.
  - e. how to maintain directional control.
  - f. methods to be used for determining reason for malfunction.
  - g. monitoring and proper use of the operating engine.
  - h. an emergency approach and landing, if a climb or level flight is not within the aeroplane's performance capability.
  - i. positive aeroplane control.
  - j. how to obtain assistance from the appropriate facility.
2. Exhibits instructional knowledge of common errors related to engine failure after lift-off by describing—
  - a. failure to follow prescribed emergency checklist.
  - b. failure to properly identify and verify the inoperative engine.
  - c. failure to properly adjust engine controls and reduce drag.
  - d. failure to maintain directional control.
  - e. failure to establish and maintain a pitch attitude that will result in best engine inoperative airspeed, considering the height of obstructions.
  - f. failure to establish and maintain proper bank for best performance.
3. Demonstrates and simultaneously explains a simulated engine failure after lift-off from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to engine failure after lift-off.

### D. TASK: APPROACH AND LANDING WITH AN INOPERATIVE ENGINE (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to an approach and landing with an inoperative engine by describing—
  - a. use of the prescribed emergency checklist to verify accomplishment of procedures for securing the inoperative engine.
  - b. proper adjustment of engine controls, reduction of drag, and identification and verification of the inoperative engine.
  - c. how to establish and maintain best engine inoperative airspeed.
  - d. trim procedure.
  - e. how to establish and maintain a bank as required for best performance.
  - f. the monitoring and adjusting of the operating engine.
  - g. proper approach to selected touchdown area, at the recommended airspeed.
  - h. proper application of flight controls.
  - i. how to maintain a precise ground track.
  - j. wind shear and turbulence.
  - k. proper timing, judgment, and control procedure during roundout and touchdown.
  - l. directional control after touchdown.
  - m. use of brakes (landplane).

2. Exhibits instructional knowledge of common errors related to an approach and landing with an inoperative engine by describing—
  - a. failure to follow prescribed emergency checklist.
  - b. failure to properly identify and verify the inoperative engine.
  - c. failure to properly adjust engine controls and reduce drag.
  - d. failure to establish and maintain best engine inoperative airspeed.
  - e. improper trim procedure.
  - f. failure to establish proper approach and landing configuration at appropriate time and in proper sequence.
  - g. failure to use proper procedure for wind shear or turbulence.
  - h. faulty technique during roundout and touchdown.
  - i. improper directional control after touchdown.
  - j. improper use of brakes (landplane).
3. Demonstrates and simultaneously explains an approach and landing with a simulated inoperative engine from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to an approach and landing with an inoperative engine.

#### **E. TASK: EMERGENCY DESCENT (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to emergency descents appropriate to the aeroplane flown by describing:

1. Exhibits instructional knowledge of the elements related to an emergency descent by describing—
  - a. situations that require an emergency descent.
  - b. proper use of the prescribed emergency checklist to verify accomplishment of procedures for initiating the emergency descent.
  - c. proper use of clearing procedures before initiating and during the emergency descent.
  - d. procedures for recovering from an emergency descent.
2. Exhibits instructional knowledge of common errors related to an emergency descent by describing—
  - a. the consequences of failing to identify reason for executing an emergency descent.
  - b. improper use of the prescribed emergency checklist to verify accomplishment of procedures for initiating the emergency descent.
  - c. improper use of clearing procedures before initiating and during the emergency descent.
  - d. improper procedures for recovering from an emergency descent.
3. Demonstrates and simultaneously explains an approach and landing with a simulated inoperative engine from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to an approach and landing with an inoperative engine.

#### **F. TASK: EMERGENCY EQUIPMENT AND SURVIVAL GEAR (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to emergency equipment and survival gear appropriate to the aeroplane flown by describing:

1. Equipment and gear appropriate for operation in various climates, over various types of terrain, and over water.
2. Purpose, method of operation or use, servicing and storage of appropriate equipment.

#### XIV. AREA OF OPERATION: MULTIENGINE OPERATIONS

**NOTE:** The flight test examiner shall select task D, E, and one other task.

##### A. TASK: OPERATIONS OF SYSTEMS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to the operation of systems, as applicable to the multiengine aeroplane used for the skill test, by describing at least five (5) of the following systems:

1. Primary flight controls and trim.
2. Flaps, leading edge devices, and spoilers.
3. Water rudders.
4. Powerplant and propellers.
5. Landing gear.
6. Fuel, oil, and hydraulic system.
7. Electrical.
8. Avionics.
9. Pitot static/vacuum system and associated instruments.
10. Environmental.
11. Deicing and anti-icing.

##### B. TASK: PERFORMANCE AND LIMITATIONS (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to multiengine performance and limitations by describing:

1. Determination of weight and balance condition.
2. Use of performance charts, tables, and other data in determining performance in various phases of flight.
3. Effects of exceeding limitations.
4. Effects of atmospheric conditions on performance.
5. Factors to be considered in determining that the required performance is within the aeroplane's single and multiengine capabilities.

##### C. TASK: FLIGHT PRINCIPLES—ENGINE INOPERATIVE (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant exhibits instructional knowledge of the elements related to flight principles—engine inoperative by describing:

1. Meaning of the term “critical engine.”
2. Effects of density altitude on the VMC demonstration.
3. Effects of aeroplane weight and center of gravity on control.
4. Effects of bank angle on VMC.
5. Relationship of V<sub>MC</sub> to stall speed.
6. Reasons for loss of directional control.
7. Indications of loss of directional control.
8. Importance of maintaining the proper pitch and bank attitude, and the proper coordination of controls.
9. Loss of directional control recovery procedures.
10. Engine failure during takeoff including planning, decisions, and single engine operations.

##### D. TASK: MANOEUVRING WITH ONE ENGINE INOPERATIVE (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**NOTE:** The feathering of one propeller shall be demonstrated in any multiengine aeroplane equipped with propellers, which can be safely feathered and unfeathered in flight. Feathering for pilot flight test purposes should be

performed only under such conditions and at such altitudes (no lower than 3,000 feet/1,000 meters above the surface) and positions where safe landings on established **airports** can be readily accomplished, in the event difficulty is encountered in unfeathering. At altitudes lower than 3,000 feet above the surface, simulated engine failure will be performed by throttling the engine and then establishing zero thrust.

In the event a propeller cannot be unfeathered during the skill test, it should be treated as an emergency.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to manoeuvring with one engine inoperative by describing—
  - a. flight characteristics and controllability associated with manoeuvring with one engine inoperative.
  - b. use of prescribed emergency checklist to verify accomplishment of procedures for securing inoperative engine.
  - c. proper adjustment of engine controls, reduction of drag, and identification and verification of the inoperative engine.
  - d. how to establish and maintain the best engine inoperative airspeed.
  - e. proper trim procedure.
  - f. how to establish and maintain a bank, as required, for best performance.
  - g. appropriate methods to be used for determining the reason for the malfunction.
  - h. importance of establishing a heading toward the nearest suitable **airport** or seaplane base.
  - i. importance of monitoring and adjusting the operating engine.
  - j. performance of straight-and-level flight, turns, descents, and climbs, if the aeroplane is capable of those manoeuvres under existing conditions.
2. Exhibits instructional knowledge of common errors related to manoeuvring with one engine inoperative by describing—
  - a. failure to follow prescribed emergency checklist.
  - b. failure to recognize an inoperative engine.
  - c. hazards of improperly identifying and verifying the inoperative engine.
  - d. failure to properly adjust engine controls and reduce drag.
  - e. failure to establish and maintain the best engine inoperative airspeed.
  - f. improper trim procedure.
  - g. failure to establish and maintain proper bank for best performance.
  - h. failure to maintain positive control while manoeuvring.
  - i. hazards of attempting flight contrary to the aeroplane's operating limitations.
3. Demonstrates and simultaneously explains manoeuvring with one engine inoperative from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to manoeuvring with one engine inoperative.

#### **E. TASK: VMC DEMONSTRATION (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**NOTE:** Performing this manoeuvre by increasing pitch attitude to a high angle with both engines operating and then reducing power on the critical engine should be avoided. This technique is hazardous and may result in loss of aircraft control.

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to VMC demonstration by describing—
  - a. causes of loss of directional control at airspeeds less than V<sub>MC</sub>, the factors affecting V<sub>MC</sub>, and the safe recovery procedures.
  - b. establishment of aeroplane configuration, adjustment of power controls, and trim prior to the demonstration.
  - c. establishment of engine inoperative pitch attitude and airspeed.
  - d. establishment of a bank attitude as required for best performance.
  - e. entry procedure to demonstrate loss of directional control.
  - f. indications that enable a pilot to recognize loss of directional control.
  - g. proper recovery procedure.

2. Exhibits instructional knowledge of common errors related to VMC demonstration by describing—
  - a. inadequate knowledge of the causes of loss of directional control at airspeeds less than  $V_{MC}$ , factors affecting VMC, and safe recovery procedures.
  - b. improper entry procedures, including pitch attitude, bank attitude, and airspeed.
  - c. failure to recognize imminent loss of directional control.
  - d. failure to use proper recovery procedure.
3. Demonstrates and simultaneously explains engine inoperative loss of directional control from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to engine inoperative loss of directional control.

**F. TASK: DEMONSTRATING THE EFFECTS OF VARIOUS AIRSPEEDS AND CONFIGURATIONS DURING ENGINE INOPERATIVE PERFORMANCE (AMEL and AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to the effects of various airspeeds and configurations during engine inoperative performance by describing—
  - a. selection of proper altitude for the demonstration.
  - b. proper entry procedure to include pitch attitude, bank attitude, and airspeed.
  - c. effects on performance of airspeed changes at, above, and below  $V_{YSE}$ .
  - d. effects on performance of various configurations—
    - (1) extension of landing gear.
    - (2) extension of wing flaps.
    - (3) extension of both landing gear and wing flaps.
    - (4) windmilling of propeller on inoperative engine.
  - e. airspeed control throughout the demonstration.
  - f. proper control technique and procedures throughout the demonstration.
2. Exhibits instructional knowledge of common errors related to the effects of various airspeeds and configurations during engine inoperative performance by describing—
  - a. inadequate knowledge of the effects of airspeeds above or below  $V_{YSE}$  and of various configurations on performance.
  - b. improper entry procedures, including pitch attitude, bank attitude, and airspeed.
  - c. improper airspeed control throughout the demonstration.
  - d. rough and/or uncoordinated control technique.
  - e. improper procedures during resumption of cruise flight.
3. Demonstrates and simultaneously explains the effects of various airspeeds and configurations during engine inoperative performance from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to the effects of various airspeeds and configurations during engine inoperative performance.

## XV. AREA OF OPERATION: POSTFLIGHT PROCEDURES

NOTE: The flight test examiner shall select task A and for ASES applicants at least one other task.

### A. TASK: POSTFLIGHT PROCEDURES (AMEL and AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of postflight procedures by describing—
  - a. parking procedure (landplane).
  - b. engine shutdown and securing cockpit.
  - c. deplaning passengers.
  - d. securing aeroplane.
  - e. postflight inspection.
  - f. refueling.
2. Exhibits instructional knowledge of common errors related to postflight procedures by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. poor planning, improper procedure, or faulty judgment in performance of postflight procedures.
3. Demonstrates and simultaneously explains postflight procedures from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to postflight procedures.

### B. TASK: ANCHORING (AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of anchoring by describing—
  - a. how to select a suitable area for anchoring.
  - b. recommended procedure for anchoring in a lake, river, or tidal area.
  - c. number of anchors and lines to be used to ensure seaplane security in various conditions.
  - d. hazards to be avoided during anchors.
  - e. requirements for anchoring lights.
2. Exhibits instructional knowledge of common errors related to anchoring by describing—
  - a. hazards resulting from failure to follow recommended anchoring procedures.
  - b. consequences of poor planning, improper procedure, or poor judgment when anchoring.
  - c. consequences of failure to use anchor lines of adequate length and strength to ensure seaplane security.
3. Demonstrates and simultaneously explains anchoring from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to anchoring.

### C. TASK: DOCKING AND MOORING (AMES)

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of anchoring and mooring by describing—
  - a. how to select a suitable area for docking and mooring.
  - b. recommended procedure for mooring in a lake, river, or tidal area.
  - c. number of tie-downs and lines to be used to ensure seaplane security in various conditions.
  - d. hazards to be avoided during docking and mooring.
  - e. requirements for docking and mooring lights.



2. Exhibits instructional knowledge of common errors related to docking and mooring by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor planning, improper procedure, or poor judgment when docking and mooring.
  - c. consequences of failure to use docking or mooring lines of adequate length and strength to ensure seaplane security.
3. Demonstrates and simultaneously explains docking and mooring from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to docking and mooring.

#### **D. TASK: BEACHING (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of beaching by describing—
  - a. recommended procedures for beaching.
  - b. factors to be considered such as beach selection, water depth, current, tide, and wind.
  - c. procedures to be followed to ensure seaplane security.
  - d. hazards to be avoided.
2. Exhibits instructional knowledge of common errors related to beaching by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor beach selection, poor planning, improper procedure, or faulty judgment when beaching.
  - c. a consequence of failure to take appropriate precautions to avoid hazards or to ensure that seaplane is secure.
3. Demonstrates and simultaneously explains beaching from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to beaching.

#### **E. TASK: RAMPING (AMES)**

*REFERENCES: FAA-H-8083-3; TAC-PEL056, TAC-PEL066; POH/AFM.*

**Objective:** To determine that the applicant:

1. Exhibits instructional knowledge of the elements of ramping by describing—
  - a. Factors, such as type of ramp surface, wind, current, and direction and control of approach speed.
  - b. recommended procedures for ramping.
  - c. hazards to be avoided.
2. Exhibits instructional knowledge of common errors related to ramping by describing—
  - a. hazards resulting from failure to follow recommended procedures.
  - b. consequences of poor planning, improper procedure, or faulty judgment when ramping.
  - c. consequences of failure to take appropriate precautions to avoid hazards or to ensure that the seaplane is secure.
3. Demonstrates and simultaneously explains ramping from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to ramping.