



TTCAA Advisory Circular

Subject: COMMERCIAL PILOT LICENCE SKILL TEST
TTCAA Advisory Circular TAC-PEL066
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 commercial pilot licence 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: <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 (TTCARs) 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:

The Trinidad and Tobago Civil Aviation Authority
PO Box 2163,
National Mail Centre Golden Grove Road,
Piarco,
Republic of Trinidad and Tobago.

Ramesh Lutchmedial
Director General of Civil Aviation

This page intentionally left blank

TABLE OF CONTENTS

SUBJECT: SKILL TEST STANDARDS FOR THE COMMERCIAL PILOT LICENCE (CPL) SKILL TEST WITH AN AEROPLANE CATEGORY RATING.

Foreword	1
Purpose	5
Skill Test Standard Concept	5

SKILL TEST DESCRIPTION

General	5
Areas of Operation	5
Tasks.....	5
Note6	
Reference.....	6
Objective	6
Abbreviations	6
Use of the Skill Test Standards in this TAC.....	7
Special Emphasis Areas	7
Removal of the "Aeroplane Multiengine VFR Only" Limitation	8
Removal of the "Limited to Centre Thrust" Limitation	8
Commercial Pilot-Aeroplane Skill Test Prerequisites.....	9
Aircraft and Equipment Required for the Skill Test	9
Flight Instructor Responsibility	9
Flight Test Examiner Responsibility	9
Satisfactory Performance	10
Unsatisfactory Performance	10
Crew Resource Management (CRM)	11
Applicants use of Checklists	11
Use of Distractions during Skill Tests.....	11
Positive Exchange of Flight Controls.....	11
Metric Conversion Initiative	12

This page intentionally left blank

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 commercial pilot—airplane 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) The TTCAA has developed this document as the standard that shall be used by TTCAA inspectors and designated flight test examiners when conducting CPL (Airplane) skill tests. Flight instructors are expected to use this TAC when preparing applicants for skill tests. Applicants should be familiar with this TAC and refer to these standards during their training.

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 commercial pilot licence or rating. The TTCARs provide the flexibility to permit the TTCAA to publish skill test standards containing the Areas of Operation and specific tasks in which pilot competency shall be demonstrated. The TTCAA will revise this TAC whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the Civil Aviation Regulations and the skill test standards is mandatory for the evaluation of commercial pilot applicants.

SKILL TEST DESCRIPTION

General

4. (1) This TAC contains the following Skill Test Standards for the Commercial Pilot—Airplane skill test:

(a) Appendix 1 Airplane—Single-Engine Land

(b) Appendix 2 Airplane—Multiengine Land

(2) The Commercial Pilot—Airplane Skill Test Standards include the areas of operation and tasks for the issue of an initial commercial pilot licence and for the addition of category ratings and/or class ratings to that licence.

Areas of Operation

5. Areas of operation are phases of the skill test arranged in a logical sequence within each standard. They begin with Pre-flight Preparation and end with Post-flight Procedures. The inspector or flight test examiner, however, may conduct the skill test in any sequence that will result in a complete and efficient test; however, the ground portion of the skill test shall be accomplished before the flight portion.

Tasks

6. Tasks are titles of knowledge areas, flight procedures, or manoeuvres appropriate to an Area 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: Aeroplane-Single-Engine Land
- (b) AMEL: Aeroplane-Multi-Engine Land

Note: When administering a test based on this TAC, the tasks appropriate to the class aeroplane (ASEL or AMEL) 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

- 7. “NOTE” is used to emphasize special considerations required in the Area of Operation or task.

Reference

8. Reference identifies the publication(s) that describe(s) the task. Descriptions of tasks 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. These skill test standards are based on the requirements of TTCAR No.1:42, and No.1:Schedule 4 Parts A and B.

Objective

9. 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.

Abbreviations

10. The following abbreviations have the meanings shown:

ADM	Aeronautical Decision Making
ADF	Automatic Direction Finder
AGL	Above Ground Level
AMEL	Aeroplane-Multi-Engine Land
ASEL	Aeroplane-Single-Engine Land
ATS	Air Traffic Service
CAA	Civil Aviation Authority
CARs	Civil Aviation Regulations
CDI	Course Deviation Indicator
CFIT	Controlled Flight into Terrain
CRM	Crew Resource Management
DH/DA	Decision Height/Decision Altitude
ETA	Estimated Time of Arrival
MDA	Minimum Descent Attitude
MEL	Minimum Equipment List
METAR	Aviation Routine Weather Report
NOTAM	Notice to Airmen
RMI	Radio Magnetic Indicator
STS	Skill Test Standards
TAF	Terminal Area Forecast

TTCAA	Trinidad and Tobago Civil Aviation
TTCAR	Trinidad and Tobago Civil Aviation Regulations
VFR	Visual Flight Rules
Vmc	Minimum control speed with the critical engine inoperative
Vso	Stall speed
Vxse	Best angle of climb speed with one engine inoperative
Vsse	Safe, intentional one-engine inoperative speed (also known as safe single-engine speed)
Vyse	Best rate of climb speed with one engine inoperative.
Vx	Best angle of climb speed
Vy	Best rate of climb speed

USE OF THE SKILL TEST STANDARDS IN THIS TAC

11. (1) The TTCAA requires that all commercial pilot skill tests be conducted in accordance with the appropriate commercial pilot skill test standards and the policies set forth in this TAC. Applicants shall be evaluated in ALL tasks included in each Areas of Operation of the appropriate skill test standard, unless otherwise noted. An applicant, who holds at least a commercial pilot licence seeking an additional aeroplane category rating and/or class rating at the commercial pilot level, shall be evaluated in the areas of operation and tasks listed in the Additional Rating Task Table. At the discretion of the flight test examiner, an evaluation of the applicant's competence in the remaining Areas of Operation and tasks may be conducted.

(2) If the applicant holds two or more category or class ratings at the commercial level, and the rating table indicates differing required tasks, the "least restrictive" entry applies. For example, if "All" and "None" are indicated for one Area of Operation, the "None" entry applies. If "B" and "B, C" are indicated, the "B" entry applies.

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

(4) The flight test examiner is not required to follow the precise order in which the Areas of Operation and tasks appear in this document. The flight test examiner may change the sequence or combine tasks with similar Objectives to have an orderly and efficient flow of the skill test. For example, Radio Communications and ATC Light Signals may be combined with Traffic Patterns. The flight test examiner's "plan of action" shall include the order and combination of tasks to be demonstrated by the applicant in a manner that will result in an efficient and valid test.

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

SPECIAL EMPHASIS AREAS

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

- (a) Positive aircraft control;
- (b) Positive exchange of the flight controls procedure (who is flying the aeroplane);
- (c) Stall/spin awareness;
- (d) Runway incursion avoidance;
- (e) Collision avoidance;
- (f) Wake turbulence avoidance;
- (g) Land and Hold Short Operation (LAHSO);
- (h) Controlled flight into terrain (CFIT);
- (i) Aeronautical decision making (ADM);
- (j) Checklist usage; and
- (k) Other areas deemed appropriate to any phase of the skill test.

(2) Although these areas may not be specifically addressed under each task, they are essential to flight safety and will be evaluated during the skill test. In all instances, the applicant's actions will relate to the complete situation.

REMOVAL OF THE “AEROPLANE MULTIENGINE VFR ONLY” LIMITATION

13. The removal of the “Aeroplane Multiengine VFR Only” limitation, at the commercial pilot licence level, requires an applicant to satisfactorily perform the following Areas of Operation and tasks from the commercial AMEL STS in a multiengine aeroplane that has a manufacturer's published V_{MC} speed.

(a) AREA OF OPERATION X: MULTIENGINE OPERATIONS

- (i) TASK C: ENGINE FAILURE DURING FLIGHT (By Reference to Instruments)
- (ii) TASK D: INSTRUMENT APPROACH—ONE ENGINE INOPERATIVE (By Reference to Instruments)

REMOVAL OF THE “LIMITED TO CENTRE THRUST” LIMITATION

14. The removal of the “Limited to Centre Thrust” limitation at the commercial pilot licence level requires an applicant to satisfactorily perform the following Areas of Operation and tasks from the commercial AMEL STS in a multiengine aeroplane that has a manufacturer's published V_{MC} speed.

(a) AREA OF OPERATION I: PREFLIGHT PREPARATION

TASK H: PRINCIPLES OF FLIGHT-ENGINE INOPERATIVE

(b) AREA OF OPERATION X: EMERGENCY OPERATIONS

- (i) TASK B: ENGINE FAILURE DURING TAKEOFF BEFORE V_{MC} (simulated)
- (ii) TASK C: ENGINE FAILURE AFTER LIFT-OFF (SIMULATED)
- (iii) TASK D: APPROACH AND LANDING WITH AN INOPERATIVE ENGINE (simulated)

(c) AREA OF OPERATION XI: MULTIENGINE OPERATIONS

- (i) TASK A: MANOEUVRING WITH ONE ENGINE INOPERATIVE
- (ii) TASK B: V_{MC} (demonstration)

COMMERCIAL PILOT—AEROPLANE SKILL TEST PREREQUISITES

- 15.** An applicant for the Commercial Pilot—Aeroplane Skill test is required under TTCAR No.1:39 to:
- (a) Be at least 18 years of age;
 - (b) Be able to read, speak, write, and understand the english language;
 - (c) Hold a private pilot licence with an aeroplane rating;
 - (d) Hold an instrument rating (aeroplane);
 - (e) Have passed the appropriate commercial pilot knowledge test since the beginning of the 24th month before the month in which he takes the skill test;
 - (f) Have satisfactorily accomplished the required training and obtained the aeronautical experience prescribed;
 - (g) Holds a current Class 1 medical certificate;
 - (h) Have an endorsement from an authorized instructor certifying that the applicant has received and logged training time within 60 days preceding the date of application in preparation for the skill test, and is prepared for the skill test; and
 - (i) Also have an endorsement certifying that the applicant has demonstrated satisfactory knowledge of the subject areas in which the applicant was deficient on the airman knowledge test.

AIRCRAFT AND EQUIPMENT REQUIRED FOR THE SKILL TEST

- 16. (1)** The commercial pilot-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

17. An appropriately rated flight instructor is responsible for training the commercial pilot applicant to acceptable standards in all subject matter areas, procedures, and manoeuvres included in the tasks within each Area of Operation in the appropriate commercial pilot skill test standard. 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. Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of effective visual scanning and collision avoidance procedures.

FLIGHT TEST EXAMINER RESPONSIBILITY

18. (1) The flight test examiner conducting the skill test is responsible for determining that the applicant meets the acceptable standards of knowledge and skill of each task within the appropriate skill test standard. This is an ongoing process throughout the test. Oral questioning, to determine the applicant's

knowledge of tasks and related safety factors, should be used judiciously at all times, especially during the flight portion of the skill test.

(2) Flight test examiners shall test to the greatest extent practicable the applicant's correlative abilities rather than mere rote enumeration of facts throughout the skill test. 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 skill test process. When practical, the remaining tasks of the skill test phase should be completed before repeating the questionable task.

(3) On multiengine skill tests where the failure of the most critical engine after lift off is required, the 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 200 feet (60 metres) AGL. During simulated engine failures on multiengine skill tests the flight test examiner shall set zero thrust after the applicant has simulated feathering the propeller. The flight test examiner shall require the applicant to demonstrate at least one landing with a simulated feathered propeller with the engine set to zero thrust. Throughout the flight portion of the skill test, the flight test examiner shall evaluate the applicant's use of visual scanning and collision avoidance procedures.

SATISFACTORY PERFORMANCE

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

- (a) Perform the tasks specified in the Areas of Operation for the licence or rating sought within the approved standards;
- (b) Demonstrate mastery of the aircraft with the successful outcome of each task performed never seriously in doubt;
- (c) Demonstrate satisfactory proficiency and competency within the approved standards;
- (d) Demonstrate sound judgment; and
- (e) Demonstrate single-pilot competence if the aircraft is type licensed for single-pilot operations.

UNSATISFACTORY PERFORMANCE

20. (1) The tolerances represent the performance expected in good flying conditions. If, in the judgment of the flight test examiner, the applicant does not meet the standards of performance of any task performed, the associated Area of Operation is failed and therefore, the skill test is failed. The flight test examiner or applicant may discontinue the test at any time when the failure of an Area of Operation makes the applicant ineligible for the licence or rating sought. The test may be continued **ONLY** with the consent of the applicant. If the test is discontinued, the applicant is entitled credit for only those Area 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 passed.

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

- (a) Any action or lack of action by the applicant that requires corrective intervention by the flight test examiner to maintain safe flight.
- (b) Failure to use proper and effective visual scanning techniques to clear the area before and while performing manoeuvres.
- (c) Consistently exceeding tolerances stated in the Objectives.
- (d) Failure to take prompt corrective action when tolerances are exceeded.

(3) When a notice of disapproval is issued, the flight test examiner shall record the applicant's unsatisfactory performance in terms of the Area of Operation and specific task(s) not meeting the standard appropriate to skill test conducted. The Area(s) of Operation(s)/task(s) not tested and the number of skill test failures shall also be recorded. If the applicant fails the skill test because of a special emphasis area, the Notice of Disapproval shall indicate the associated task. i.e.: AREA OF OPERATION VIII, MANOEUVRING DURING SLOW FLIGHT, failure to use proper collision avoidance procedures.

CREW RESOURCE MANAGEMENT (CRM)

21. 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 task, but a set of competencies that must be evident in all tasks in this skill test standard as applied to either single pilot operations or crew.

APPLICANT'S USE OF CHECKLISTS

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

USE OF DISTRACTIONS DURING SKILL TESTS

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

POSITIVE EXCHANGE OF FLIGHT CONTROLS

24. 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. 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.

METRIC CONVERSION INITIATIVE

25. To assist pilots in understanding and using the metric measurement system, the skill test standards refer to the metric equivalent of various altitudes throughout. The inclusion of metre is intended to familiarize pilots with its use. The metric altimeter is arranged in 10 metre increments; therefore, when converting from feet to metres, the exact conversion, being too exact for practical purposes, is rounded to the nearest 10 metre increment or even altitude as necessary.