



TTCAA Advisory Circular

Subject: INSTRUMENT RATING SKILL TEST STANDARDS
TTCAA Advisory Circular TAC-PEL061
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 instrument rating 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) Information considered directive in nature is described in this skill test TAC in terms such as “shall” and “must”, indicating the actions are mandatory. Guidance information is described in terms such as “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.

(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 skill test standard may be downloaded from the TTCAA website at <http://www.caa.gov.tt>. Subsequent changes to this Skill Test Standard will also be available on TTCAA web site.

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

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SKILL TEST STANDARDS
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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 Instrument Rating – aeroplane (IR) 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 Trinidad & Tobago Civil Aviation Authority (TTCAA) has developed this skill test TAC as the standard that shall be used by TTCAA inspectors and designated flight test examiners when conducting instrument rating—aeroplane 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. The Trinidad & Tobago Civil Aviation Regulations (TTCARs) No. 1, Part II and Part III specify the areas in which knowledge and skill must be demonstrated by the applicant before the issuance of an instrument rating. The TTCARs provide the flexibility to permit the TTCAA to publish Skill Test Standards (STS) containing the areas of operation and specific tasks in which pilot competency shall be demonstrated. The TTCARs will revise this STS whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the regulations and the STS is mandatory for evaluation of instrument pilot applicants.

SKILL TEST DESCRIPTION

4. (1) This TAC contains the instrument rating STS for aeroplane, helicopter, and powered lift. (It should be noted, however, that the helicopter and powered lift categories are in the development stage at this time.) It also contains TASK requirements for the addition of aeroplane, helicopter, or powered lift, if an instrument rating is possessed by the applicant in at least one other aircraft category. Refer to the commercial pilot-airship STS to determine the instrument tasks required for that skill test. Required tasks for instrument proficiency checks (PC) are also contained in these STSs.

Areas of Operation

5. Areas of operation are phases of the skill test arranged in a logical sequence within each standard. They begin with preflight preparation and end with postflight procedures. The flight test examiner may conduct the skill test in any sequence that results in a complete and efficient test; however, the ground portion of the skill test shall be accomplished before the flight portion.

Tasks

6. (1) Tasks are titles of knowledge areas, flight procedures, or manoeuvres appropriate to an area of operation.

(2) The applicant who holds an aeroplane, helicopter, or powered lift instrument rating will not have to take the entire test when applying for an added rating. The tasks required for each additional instrument rating are shown in the Rating Task Table on page 15.

(3) Applicants for an instrument proficiency check required by TTCARs No.1 must perform to the standards of the tasks listed in the guidance provided on page 15.

Note

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

Reference

8. (1) Reference identifies the publication(s) that describe(s) the task. Descriptions of tasks are not included in the standards because this information can be found in the current issue of the listed references. Publications other than those listed may be used for references if their content conveys substantially the same meaning as the referenced publications. Many of the publications listed are publications published by the Federal Aviation Administration of the United States (FAA), and adopted by TTCAA in cooperation with the FAA.

(2) The STSs are based on the following references:

TTCAR No.1:Part II	Pilots Licences, Ratings and Authorisations
TTCAR No.1:Part II	Pilot Training Personnel
TTCAR No.1:Part V	Testing and Training
TTCAR No.2	Operations
FAA-H-8083-3	Aeroplane Flying Handbook
FAA-H-8083-15	Instrument Flying Handbook
FAA-H-8083-21	Rotorcraft Flying Handbook
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8261-1	Instrument Procedures Handbook
AIM	Aeronautical Information Manual
DPs	Instrument Departure Procedures
STARs	Standard Terminal Arrivals
NOTAMs	Notices to Airmen
IAP	Instrument Approach Procedures
Others	Pertinent Pilot's Operating Handbooks, Approved Flight Manuals En Route Low Altitude Charts

Objective

9. (1) The Objective lists the important elements that must be satisfactorily performed to demonstrate competency in a task..

(2) The Objective includes:

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

Abbreviations

10. The following abbreviations have the meanings shown:

- ADF Automatic Direction Finder
- ADM Aeronautical Decision Making
- AIRMET Airman's Meteorological Information
- APV Approach with Vertical Guidance
- ATC Air Traffic Control
- ATIS Automatic Terminal Information Service
- ATS Air Traffic Service

CDI	Course Deviation Indicator
CFIT	Controlled Flight into Terrain
CRM	Cockpit Resource Management
DA/DH	Decision Altitude/Decision Height
DH	Decision Height
DME	Distance Measuring Equipment
DP	Departure Procedures
FDC	Flight Data Center
FMS	Flight Management System
GLS	GNSS Landing System
GNSS	Global Navigation Satellite System
GPO	Government Printing Office
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
LCD	Liquid Crystal Display
LDA	Localizer-type Directional Aid
LED	Light Emitting Diode
LOC	ILS Localizer
LORAN	Long Range Navigation
MAP	Missed Approach Point
MDA	Minimum Descent Attitude
MLS	Microwave Landing System
NAVAID	Navigation Aid
NDB	Nondirectional Beacon (Automatic Direction Finder)
NOTAM	Notice to Airmen
NPA	Nonprecision Approach
NWS	National Weather Service
PA	Precision Approach
PC	Proficiency Check
RAIM	Receiver Autonomous Integrity Monitoring
RMI	Radio Magnetic Indicator
RNAV	Area Navigation
SAS	Stability Augmentation System
SDF	Simplified Directional Facility
SIGMETS	Significant Meteorological Advisory
STAR	Standard Terminal Arrival
STS	Skill Test Standards
TCAS	Traffic Alert and Collision Avoidance System
TTCAA	Trinidad & Tobago Civil Aviation Authority
TTCARs	Trinidad & Tobago Civil Aviation Regulations
VDP	Visual Descent Point
VHF	Very High Frequency
VNAV	Vertical Navigation
VOR	Very High Frequency Ominidirectional Range

USE OF THE SKILL TEST STANDARDS

11. (1) The Instrument Rating Skill Test Standards (STS) are designed to evaluate competency in both knowledge and skill.

(2) The TTCAA requires that all skill tests be conducted in accordance with the appropriate STS and the policies set forth in the Introduction. Instrument Rating applicants shall be evaluated in ALL tasks included in the areas of operation of the appropriate STS (unless noted otherwise).

(3) In preparation for each skill test, the flight test examiner shall develop a written “plan of action” for each skill test. The “plan of action” is a tool for the sole use of the flight test examiner, to be used in evaluating the applicant. The plan of action need not be grammatically correct or in any formal format. The plan of action must contain all of the required areas of operation and tasks and any optional tasks selected by the flight test examiner. The “plan of action” shall incorporate one or more scenarios that will be used during the skill test. The flight test examiner should try to include as many of the tasks into the scenario portion of the test as possible, but maintain the flexibility to change due to unexpected situations as they arise and still result in an efficient and valid test. **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 TAC. 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, holding procedures may be combined with an approach or missed approach procedures if a holding entry is part of the procedure.

(5) The tasks apply to aeroplanes, helicopters, powered lift, and airships. In certain instances, NOTES describe differences in the performance of a task by an “aeroplane” applicant, “helicopter” applicant, or “powered lift” applicant. When using the STS, the flight test examiner must evaluate the applicant's knowledge and skill in sufficient depth to determine that the standards of performance listed for all tasks are met.

(6) All tasks in the STS are required for the issuance of an instrument rating in aeroplanes, helicopters, and powered lift. However, when a particular element is not appropriate to the aircraft, its equipment, or operational capability, that element may be omitted. Examples of these element exceptions would be high altitude weather phenomena for helicopters, integrated flight systems for aircraft not so equipped, or other situations where the aircraft or operation is not compatible with the requirement of the element.

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 aircraft);
- (c) Stall/spin awareness;
- (d) Collision avoidance;
- (e) Wake turbulence avoidance;
- (f) Runway incursion avoidance;
- (g) CFIT;
- (h) ADM and risk management;
- (i) Checklist usage; and
- (j) 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.

SKILL TEST PREREQUISITES: INSTRUMENT RATING

13. An applicant for an Instrument Rating (IR) skill test is required by TTCAR No. 1:Part II to:
- (a) Age: The applicant for an IR shall not be less than 18 years of age.
 - (b) Medical fitness:
 - (c) The applicant for an IR shall hold either a Class 1 or 2 medical certificate issued under this Part as appropriate to the level of licence held.
 - (d) The applicant for an IR holding a PPL shall have established his/her hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 medical certificate.
 - (c) Obtain the applicable training and aeronautical experience prescribed for the instrument rating sought;
 - (d) Be able to read, speak, write, and understand the English language; and
 - (e) Obtain a written statement from an authorized flight instructor certifying that the applicant has been given flight training in preparation for the skill test within 60 days preceding the date of application. The statement shall also state that the instructor finds the applicant competent to pass the skill test and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the Airman Knowledge Test Report.

AIRCRAFT AND EQUIPMENT REQUIRED FOR THE SKILL TEST

14. (1) The instrument rating applicant is required by TTCAR No.1 to provide an airworthy, certificated aircraft for use during the skill test. Its operating limitations must not prohibit the tasks required on the skill test. Flight instruments are those required for controlling the aircraft without outside references. The required radio equipment is that which is necessary for communications with ATC, and for the performance of two of the following nonprecision approaches: VOR, NDB, GPS, LOC, LDA, SDF, or RNAV and one precision approach: ILS, GLS, or MLS. GPS equipment must be instrument certified and contain the current database. Note: APV approaches may be substituted only for nonprecision approaches in this standard. An APV approach shall not be used in lieu of the required precision approach.

(2) Modern technology has introduced into aviation a new method of displaying flight instruments, such as Electronic Flight Instrument Systems, Integrated Flight Deck displays, and others. For the purpose of the skill test standards, any flight instrument display that utilizes LCD or picture tube like displays will be referred to as "Electronic Flight Instrument Display." Aircraft equipped with this technology may or may not have separate backup flight instruments installed. The abnormal or emergency procedure for loss of the electronic flight instrument display appropriate to the aircraft will be evaluated in the Loss of Primary Instruments task. The loss of the primary electronic flight instrument display must be tailored to failures that would normally be encountered in the aircraft. If the aircraft is capable, total failure of the electronic flight instrument display, or a supporting component, with access only to the standby flight instruments or backup display shall be evaluated.

(3) The applicant is required to provide an appropriate view limiting device that is acceptable to the flight test examiner. This device shall be used during all testing that requires testing "solely by reference to instruments." This device must prevent the applicant from having visual reference outside the aircraft, but not prevent the flight test examiner from having visual reference outside the aircraft. A procedure should be established between the applicant and the flight test examiner as to when and how this device should be donned and removed and this procedure briefed before the flight.

(4) The applicant is expected to utilize an autopilot and/or flight management system (FMS), if properly installed, during the instrument skill test to assist in the management of the aircraft. The flight test examiner is expected to test the applicant's knowledge of the systems that are installed and operative during the oral and flight portions of the skill test. The applicant will be required to demonstrate the use of the

autopilot and/or FMS during one of the nonprecision approaches. If the skill test is conducted in the aircraft, and the aircraft has an operable and properly installed GPS, the applicant must demonstrate GPS approach proficiency when asked. If the applicant has contracted for training in an approved course that includes GPS training in the system that is installed in the aeroplane/simulator/FTD and the aeroplane/simulator/FTD used for the checking/testing has the same system properly installed and operable, the applicant must demonstrate GPS approach proficiency. When a skill test is conducted for a Suriname AOC holder the operator's approved training program is the controlling authority.

(5) To obtain an instrument rating with multiengine privileges, an applicant must demonstrate competency in a multiengine aeroplane not limited to center thrust. The multiengine aeroplane that is used to obtain unlimited multiengine privileges must have a published VMC speed established by the manufacturer, and produce an asymmetrical thrust configuration with the loss of one or more engines. If an instrument flight test is conducted in a multiengine aeroplane limited to center thrust, a limitation shall be placed on the applicant's licence: INSTRUMENT RATING, AEROPLANE MULTIENGINE, LIMITED TO CENTER THRUST.

USE OF TTCAA-APPROVED FLIGHT SIMULATOR OR FLIGHT TRAINING DEVICE

15. (1) An airman applicant for instrument rating is authorized to use an TTCAA-qualified and approved flight simulator or flight training device, to complete certain flight task requirements listed in this skill test standard.

(2) When flight tasks are accomplished in an aircraft, certain task elements may be accomplished through "simulated" actions in the interest of safety and practicality, but when accomplished in a flight simulator or flight training device, these same actions would not be "simulated." For example, when in an aircraft, a simulated engine fire may be addressed by retarding the throttle to idle, simulating the shutdown of the engine, simulating the discharge of the fire suppression agent, if applicable, simulating the disconnect of associated electrical, hydraulic, and pneumatics systems. However, when the same emergency condition is addressed in a flight simulator or flight training device, all task elements must be accomplished as would be expected under actual circumstances.

(3) Similarly, safety of flight precautions taken in the aircraft for the accomplishment of a specific maneuver or procedure (such as limiting altitude in an approach to stall or setting maximum airspeed for an engine failure expected to result in a rejected takeoff) need not be taken when a flight simulator or flight training device is used.

(4) It is important to understand that whether accomplished in an aircraft, flight simulator, or flight training device, all tasks and elements for each manoeuvre or procedure shall have the same performance standards applied equally for determination of overall satisfactory performance.

(5) The applicant must demonstrate all of the instrument approach procedures required by TTCAR No.2. At least one instrument approach procedure must be demonstrated in an aeroplane, helicopter, or powered lift as appropriate.

(6) One precision and one nonprecision approach not selected for actual flight demonstration may be performed in flight simulators or flight training devices that meet the requirements of appendix 1 of this skill test standard.

FLIGHT INSTRUCTOR RESPONSIBILITY

16. (1) An appropriately rated flight instructor is responsible for training the instrument rating pilot applicant to acceptable standards in all subject matter areas, procedures, and manoeuvres included in the tasks within the appropriate instrument rating skill test standard.

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

(3) Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of effective visual scanning, collision avoidance, and runway incursion avoidance procedures. These areas are covered, in part, in AP 90-48, Pilot's Role in Collision Avoidance; FAA-H8083-3, Aeroplane Flying Handbook; FAA-H-8083-25, Pilot's Handbook of Aeronautical Knowledge; and the Aeronautical Information Manual.

FLIGHT TEST EXAMINER RESPONSIBILITY

17. (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. Since there is no formal division between the "oral" and "skill" portions of the skill test, this becomes an ongoing process throughout the test. To avoid unnecessary distractions, oral questioning 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.

(3) 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.

(4) During the flight portion of the skill test, the flight test examiner shall evaluate the applicant's use of visual scanning, and collision avoidance procedures, when appropriate. Except for takeoff and landing, all tasks shall be conducted solely by reference to instruments under actual or simulated instrument flight conditions.

(5) The flight test examiner may not assist the applicant in the management of the aircraft, radio communications, navigational equipment, and navigational charts. In the event the test is conducted in an aircraft operation requiring a crew of two, the flight test examiner may assume the duties of the second in command. Helicopters certified for IFR operations must be flown using two pilots or single pilot with an approved autopilot or a SAS. Therefore, when conducting skill tests in a helicopter (without autopilot, SAS, or copilot), flight test examiners may act as an autopilot (e.g., hold heading and altitude), when requested, to allow applicants to tune radios, select charts, etc.

(6) The words "flight test examiner" is used throughout the standard to denote either the TTCAA inspector or TTCAA designated flight test examiner who conducts an official skill test.

(7) Flight test examiners may perform the same functions as an autopilot but should not act as a copilot performing more extensive duties. The flight test examiner shall remain alert for other traffic at all times. The flight test examiner shall use proper ATC terminology when simulating ATC clearances.

SATISFACTORY PERFORMANCE

18. Satisfactory performance to meet the requirements for certification 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 ADM; and
- (e) Demonstrate single-pilot competence if the aircraft is type certificated for single-pilot operations.

UNSATISFACTORY PERFORMANCE

19. (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.

Note: The tolerances stated in this standard are intended to be used as a measurement of the applicant's ability to operate in the instrument environment. They provide guidance for flight test examiners to use in judging the applicant's qualifications. The regulations governing the tolerances for operation under Instrument Flight Rules are established in TTCAR No.2.

(2) 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 areas of operation and their associated tasks that were satisfactorily performed. However, during the retest, and at the discretion of the flight test examiner, any task may be re-evaluated, including those previously passed.

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

(4) When a notice of disapproval is issued, the flight test examiner shall record the applicant's unsatisfactory performance in terms of the area of operation and specific task(s) not meeting the standard appropriate to the skill test conducted. The area(s) of operation/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. For example, AREA OF OPERATION VI, TASK E, Landing From a Straight-in or Circling Approach, failure to avoid runway incursion.

LETTER OF DISCONTINUANCE

20. (1) When a skill test is discontinued for reasons other than unsatisfactory performance (i.e., equipment failure, weather, or illness) TTCAA Airman Licence and/or Rating Application, and, if applicable, the Airman Knowledge Test Report, shall be returned to the applicant. The flight test examiner at that time shall prepare, sign, and issue a Letter of Discontinuance to the applicant. The Letter of Discontinuance should identify the areas of operation and their associated tasks of the skill test that were successfully completed. The applicant shall be advised that the Letter of Discontinuance shall be presented to the flight test examiner when the skill test is resumed, and made part of the certification file.

AERONAUTICAL DECISION MAKING AND RISK MANAGEMENT

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

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

SINGLE-PILOT RESOURCE MANAGEMENT

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

APPLICANT'S USE OF CHECKLISTS

23. 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 impracticable, 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

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

25. (1) During flight, there must always be a clear understanding between pilots 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 one pilot wishes to give the other pilot control of the aircraft, he or she will say, "You have the flight controls." The other pilot acknowledges immediately by saying, "I have the flight controls." The first pilot again says "You have the flight controls." When control is returned to the first pilot, 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.

EMPHASIS ON ATTITUDE INSTRUMENT FLYING AND EMERGENCY INSTRUMENT PROCEDURES

26. (1) The TTCAA is concerned about numerous fatal aircraft accidents involving spatial disorientation of instrument-rated pilots who have attempted to control and manoeuvre their aircraft in clouds with inoperative primary flight instruments (gyroscopic heading and/or attitude indicators) or loss of the primary electronic flight instruments display.

(2) Area of operation IV requires the evaluation of basic instrument flight maneuvers under both full-panel and references to backup primary flight instruments/electronic flight instrument displays. These manoeuvres are described in detail in FAA-H-8083-15, Instrument Flying Handbook. Flight test examiners should determine that the applicant demonstrates competency in either the PRIMARY and SUPPORTING or the CONTROL and PERFORMACE CONCEPT method of instrument flying. Either attitude instrument flying method is described in FAA-H 8083-15 and is recommended by the FAA because it requires specific knowledge and interpretation of each individual instrument during training.

(3) The TTCAA has stressed that it is imperative for instrument pilots to acquire and maintain adequate instrument skills and that they be capable of performing instrument flight with the use of the backup systems installed in the aircraft. Many light aircraft operated in IMC are not equipped with dual, independent, gyroscopic heading and/or attitude indicators and in many cases are equipped with only a single vacuum source. Technically advanced aircraft may be equipped with backup flight instruments or an additional electronic flight display that is not located directly in front of the pilot.

(4) The instrument rating skill test standards place emphasis on and require the demonstrations of a nonprecision instrument approach without the use of the primary flight instruments or electronic flight instrument display. a nonprecision approach without the use of the primary flight instruments/electronic flight instrument display is considered one of the most demanding situations that could be encountered. If applicants can master this situation, they can successfully complete a less difficult precision approach. If an actual approach in IMC becomes necessary without the aid of the primary flight instruments/ electronic flight instrument display, a less difficult precision approach should be requested, if available. Sound judgment would normally dictate such requests. However, the instrument skill test requires that a nonprecision approach be performed without the use of the primary flight instruments/electronic flight instrument display.

(5) Applicants may have an unfair advantage during performance of the task using the backup flight instruments during an instrument approach due to the location of the magnetic compass in some aircraft. When crosschecking the magnetic compass heading, a view of the runway or other visual clue may be sighted. It is the flight test examiner's responsibility to determine if the applicant is receiving visual clues from outside the cockpit. If an flight test examiner feels that the applicant is receiving visual clues, the flight test examiner may devise other options to limit the applicant's view. By no means shall the flight test examiner limit his or her view as the safety pilot.

RATING TASK TABLE

ADDITIONAL INSTRUMENT RATING DESIRED				
AREA OF OPERATION	Required tasks are indicated by either the task letter(s) that apply(s) or an indication that all or none of the tasks must be tested.			
	IA	IH	IPL	IPC
I	NONE	NONE	NONE	NONE
II	A, C	A, C	A,C	NONE
III	NONE	NONE	NONE	C
IV	ALL	ALL	ALL	B
V	NONE	NONE	NONE	ALL
VI	ALL	ALL	ALL	ALL*
VII	ALL**	ALL**	ALL**	B, C, D
VIII	ALL	ALL	ALL	ALL

LEGEND

IA – Instrument Airplane

IH – Instrument helicopter

IPL – Instrument powered lift

IPC – Instrument Proficiency check

NOTE: Except as noted, all tasks are required for initial issuance of an instrument rating.

* TASK D, Circling Approach, is applicable only to the aeroplane category.

** TASKS B and C are applicable only to multiengine aeroplanes.

Instrument Proficiency Check. TTCAR No.1 and TTCAR No.2 set forth the requirements for an instrument proficiency check. The person giving that check shall use the standards and procedures contained in this STS when administering the check. A representative number of tasks, as determined by the flight test examiner/instructor, must be selected to assure the competence of the applicant to operate in the IFR environment. As a minimum, the applicant must demonstrate the ability to perform the tasks as listed in the above chart. The person giving the check should develop scenarios to assess the pilot's ADM and risk management skills during the IPC.

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APPLICANT'S SKILL TEST CHECKLIST

APPOINTMENT WITH FLIGHT TEST EXAMINER:

FLIGHT TEST EXAMINER'S NAME _____

APPLICANT'S NAME _____

LOCATION _____

DATE/TIME _____

I. ACCEPTABLE AIRCRAFT

- A.** View-limiting device
- B.** Aircraft Documents: Airworthiness Certificate and Registration Certificate
- C.** Rating Limitations
- D.** Aircraft Maintenance Records: Airworthiness Inspections

II. PERSONAL EQUIPMENT

- A.** Current Aeronautical
- B.** Charts
- C.** Computer and Plotter
- D.** Flight Plan Form
- E.** Flight Logs
- F.** Current AIM

III. PERSONAL RECORDS

- A.** Identification
- B.** Photo/Signature ID Pilot Licence
- C.** Medical Certificate
- D.** Completed FAA Application for an Airman Licence and/or Rating
- E.** Airman Knowledge Test Report
- F.** Logbook with Instructor's Endorsement
- G.** Notice of Disapproval (if applicable)
- H.** Approved Training Organization Graduation Certificate (if applicable)

FLIGHT TEST EXAMINER'S SKILL TEST CHECKLIST

APPLICANT'S NAME _____

LOCATION _____

DATE/TIME _____

I. PREFLIGHT PREPARATION

- A. Weather Information
- B. Cross-Country Flight Planning

II. PREFLIGHT PROCEDURES

- A. Aircraft Systems Related to IFR Operations
- B. Aircraft Flight Instruments and Navigation Equipment
- C. Instrument Cockpit Check

III. AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES

- A. Air Traffic Control Clearances
- B. Compliance with Departure, En Route, and Arrival Procedures and Clearances
- C. Holding Procedures

IV. FLIGHT BY REFERENCE TO INSTRUMENTS

- A. Basic Instrument Flight manoeuvres
- B. Recovery from Unusual Flight Attitudes

V. NAVIGATION SYSTEMS

- A. Intercepting and Tracking Navigational Systems and DME Arcs

VI. INSTRUMENT APPROACH PROCEDURES

- A. Nonprecision Approach (NPA)
- B. Precision Approach (PA)
- C. Missed Approach
- D. Circling Approach
- E. Landing from a Straight-in or Circling Approach

VII. EMERGENCY OPERATIONS

- A. Loss of Communications
- B. One Engine Inoperative During Straight-and-Level Flight and Turns (Multiengine Aeroplane)
- C. One Engine Inoperative—Instrument Approach (Multiengine Aeroplane)
- D. Loss of Primary Flight Instrument Indicators

VIII. POSTFLIGHT PROCEDURES

- A. Checking Instruments and Equipment

I. AREA OF OPERATION: PREFLIGHT PREPARATION

A. TASK: WEATHER INFORMATION

REFERENCES: TTCAR No.1

NOTE: Where current weather reports, forecasts, or other pertinent information is not available, this information will be simulated by the flight test examiner in a manner that will adequately measure the applicant's competence.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to aviation weather information by obtaining, reading, and analyzing the applicable items, such as—
 - (a) weather reports and forecasts.
 - (b) pilot and radar reports.
 - (c) surface analysis charts.
 - (d) radar summary charts.
 - (e) significant weather prognostics.
 - (f) winds and temperatures aloft.
 - (g) freezing level charts.
 - (h) stability charts.
 - (i) severe weather outlook charts.
 - (j) SIGMETs and AIRMETs.
 - (k) ATIS reports.
2. Correctly analyzes the assembled weather information pertaining to the proposed route of flight and destination aerodrome, and determines whether an alternate aerodrome is required, and, if required, whether the selected alternate aerodrome meets the regulatory requirement.

B. TASK: CROSS-COUNTRY FLIGHT PLANNING

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15, FAA-H8083-25.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements by presenting and explaining a preplanned cross-country flight, as previously assigned by the flight test examiner (preplanning is at flight test examiner's discretion). It should be planned using real time weather and conform to the regulatory requirements for instrument flight rules within the airspace in which the flight will be conducted.
2. Exhibits adequate knowledge of the aircraft's performance capabilities by calculating the estimated time en route and total fuel requirement based upon factors, such as—
 - (a) power settings.
 - (b) operating altitude or flight level.
 - (c) wind.
 - (d) fuel reserve requirements.
3. Selects and correctly interprets the current and applicable en route charts, instrument departure procedures (DPs), RNAV, STAR, and Standard Instrument Approach Procedure Charts (IAP).
4. Obtains and correctly interprets applicable NOTAM information.
5. Determines the calculated performance is within the aircraft's capability and operating limitations.
6. Completes and files a flight plan in a manner that accurately reflects the conditions of the proposed flight. (Does not have to be filed with ATC.)
7. Demonstrates adequate knowledge of GPS and RAIM capability, when aircraft is so equipped.

II. AREA OF OPERATION: PREFLIGHT PROCEDURES

A. TASK: AIRCRAFT SYSTEMS RELATED TO IFR OPERATIONS

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15.

Objective: To determine that the applicant exhibits adequate knowledge of the elements related to applicable aircraft anti-icing/deicing system(s) and their operating methods to include:

1. Airframe.
2. Propeller.

3. Intake.
4. Fuel.
5. Pitot-static.

B.TASK: AIRCRAFT FLIGHT INSTRUMENTS AND NAVIGATION EQUIPMENT

REFERENCES: TTCAR No.1 and TTCAR No.2

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to applicable aircraft flight instrument system(s) and their operating characteristics to include—
 - (a) Pitot-static.
 - (b) Altimeter.
 - (c) Airspeed indicator.
 - (d) Vertical speed indicator.
 - (e) Attitude indicator.
 - (f) Horizontal situation indicator.
 - (g) Magnetic compass.
 - (h) Turn-and-slip indicator/turn coordinator.
 - (i) Heading indicator.
 - (j) Electrical systems.
 - (k) Vacuum systems.
 - (l) Electronic flight instrument display.
2. Exhibits adequate knowledge of the applicable aircraft navigation system(s) and their operating characteristics to include—
 - (a) VOR.
 - (b) DME.
 - (c) ILS.
 - (d) Marker beacon receiver/indicators.
 - (e) Altitude encoding.
 - (f) ADF.
 - (g) GPS.
 - (h) FMS.

C. TASK: INSTRUMENT COCKPIT CHECK

REFERENCES: TTCAR No1 and TTCAR No.2; FAA-H-8083-15.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to preflighting instruments, avionics, and navigation equipment cockpit check by explaining the reasons for the check and how to detect possible defects.
2. Performs the preflight on instruments, avionics, and navigation equipment cockpit check by following the checklist appropriate to the aircraft flown.
3. Determines that the aircraft is in condition for safe instrument flight including—
 - (a) Communication equipment.
 - (b) Navigation equipment, as appropriate to the aircraft flown.
 - (c) Magnetic compass.
 - (d) Heading indicator.
 - (e) Attitude indicator.
 - (f) Altimeter.
 - (g) Turn-and-slip indicator/turn coordinator.
 - (h) Vertical speed indicator.
 - (i) Airspeed indicator.
 - (j) Clock.
 - (k) Power source for gyro-instruments.
 - (l) Pitot heat.
 - (m) Electronic flight instrument display.
 - (n) Traffic awareness/warning/avoidance system.
 - (o) Terrain awareness/warning/alert system.
 - (p) FMS.

- (q) Auto pilot.
- 4. Notes any discrepancies and determines whether the aircraft is safe for instrument flight or requires maintenance.

III. AREA OF OPERATION: AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES

NOTE: The ATC clearance may be an actual or simulated ATC clearance based upon the flight plan.

A. TASK: AIR TRAFFIC CONTROL CLEARANCES

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to ATC clearances and pilot/controller responsibilities to include tower en route control and clearance void times.
2. Copies correctly, in a timely manner, the ATC clearance as issued.
3. Determines that it is possible to comply with ATC clearance.
4. Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.
5. Reads back correctly, in a timely manner, the ATC clearance in the sequence received.
6. Uses standard phraseology when reading back clearance.
7. Sets the appropriate communication and navigation systems and transponder codes in compliance with the ATC clearance.

B. TASK: COMPLIANCE WITH DEPARTURE, EN ROUTE, AND ARRIVAL PROCEDURES AND CLEARANCES

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15; DPs; En Route Low Altitude Charts; STARs.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to ATS routes, and related pilot/controller responsibilities.
2. Uses the current and appropriate navigation publications for the proposed flight.
3. Selects and uses the appropriate communication facilities; selects and identifies the navigation aids associated with the proposed flight.
4. Performs the appropriate aircraft checklist items relative to the phase of flight.
5. Establishes two-way communications with the proper controlling agency, using proper phraseology.
6. Complies, in a timely manner, with all ATC instructions and airspace restrictions.
7. Exhibits adequate knowledge of communication failure procedures.
8. Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, or clearance.
9. Maintains the applicable airspeed within +/-10 knots; headings within +/-10°; altitude within +/-100 feet; and tracks a course, radial or bearing within ¼ scale deflection of the CDI.

C. TASK: HOLDING PROCEDURES

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15.

NOTE: Any reference to DME will be disregarded if the aircraft is not so equipped.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to holding procedures.
2. Changes to the holding airspeed appropriate for the altitude or aircraft when 3 minutes or less from, but prior to arriving at, the holding fix.
3. Explains and uses an entry procedure that ensures the aircraft remains within the holding pattern airspace for a standard, nonstandard, published, or non-published holding pattern.
4. Recognizes arrival at the holding fix and initiates prompt entry into the holding pattern.
5. Complies with ATC reporting requirements.
6. Uses the proper timing criteria, where applicable, as required by altitude or ATC instructions
7. Complies with pattern leg lengths when a DME distance is specified.

8. Uses proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.
9. Maintains the airspeed within +/-10 knots; altitude within +/-100 feet; headings within +/-10°; and tracks a selected course, radial or bearing within ¾ scale deflection of the CDI.

IV. AREA OF OPERATION: FLIGHT BY REFERENCE TO INSTRUMENTS

A. TASK: BASIC INSTRUMENT FLIGHT MANOEUVRES (IA, IH, PL, AA, HA, PLA, PC)

REFERENCES: TTCAR No.1; FAA-H-8083-15.

Objective: To determine the applicant can perform basic flight manoeuvres.

1. Exhibits adequate knowledge of the elements related to attitude instrument flying during straight-and-level, climbs, turns, and descents while conducting various instrument flight procedures.
2. Maintains altitude within +/-100 feet during level flight, headings within +/-10°, airspeed within +/-10 knots, and bank angles within +/-5° during turns.
3. Uses proper instrument crosscheck and interpretation, and apply the appropriate pitch, bank, power, and trim corrections when applicable.

B. TASK: RECOVERY FROM UNUSUAL FLIGHT ATTITUDES

REFERENCES: TTCAR No.1; FAA-H-8083-15.

NOTE: Any intervention by the flight test examiner to prevent the aircraft from exceeding any operating limitations, or entering an unsafe flight condition, shall be disqualifying.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements relating to attitude instrument flying during recovery from unusual flight attitudes (both nose-high and nose-low).
2. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, and power corrections in the correct sequence to return the aircraft to a stabilized level flight attitude.

V. AREA OF OPERATION: NAVIGATION SYSTEMS

A. TASK: INTERCEPTING AND TRACKING NAVIGATIONAL SYSTEMS AND DME ARCS

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15.

NOTE: Any reference to DME arcs, ADF, or GPS shall be disregarded if the aircraft is not equipped with these specified navigational systems.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to intercepting and tracking navigational systems and DME arcs.
2. Tunes and correctly identifies the navigation facility.
3. Sets and correctly orients the course to be intercepted into the course selector or correctly identifies the course on the RMI.
4. Intercepts the specified course at a predetermined angle, inbound or outbound from a navigational facility.
5. Maintains the airspeed within +/-10 knots, altitude within +/-100 feet, and selected headings within +/-5°.
6. Applies proper correction to maintain a course, allowing no more than three-quarter-scale deflection of the CDI or within +/-10° in case of an RMI.
7. Determines the aircraft position relative to the navigational facility or from a waypoint in the case of GPS.
8. Intercepts a DME arc and maintain that arc within +/-1 nautical mile.
9. Recognizes navigational receiver or facility failure, and when required, reports the failure to ATC.

VI. AREA OF OPERATION: INSTRUMENT APPROACH PROCEDURES

NOTE: TASK D, Circling Approach, is applicable only to the aeroplane category.

NOTE: The requirements for conducting a GPS approach for the purpose of this test are explained on page 8 of the Introduction.

A. TASK: NONPRECISION APPROACH (NPA)

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15; IAP.

NOTE: The applicant must accomplish at least two nonprecision approaches (one of which must include a procedure turn or, in the case of an RNAV approach, a Terminal Arrival Area (TAA) procedure) in simulated or actual weather conditions. At least one nonprecision approach must be flown without the use of autopilot and without the assistance of radar vectors. (The yaw damper and flight director are not considered parts of the autopilot for purpose of this part). The flight test examiner will select nonprecision approaches that are representative of the type that the applicant is likely to use. The choices must utilize two different types of navigational aids. Some examples of navigational aids for the purpose of this part are: NDB, VOR, LOC, LDA, GPS, or RNAV.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to an instrument approach procedure.
2. Selects and complies with the appropriate instrument approach procedure to be performed.
3. Establishes two-way communications with ATC, as appropriate, to the phase of flight or approach segment, and uses proper communication phraseology and technique.
4. Selects, tunes, identifies, and confirms the operational status of navigation equipment to be used for the approach procedure.
5. Complies with all clearances issued by ATC or the flight test examiner.
6. Recognizes if any flight instrumentation is inaccurate or inoperative, and takes appropriate action.
7. Advises ATC or flight test examiner anytime that the aircraft is unable to comply with a clearance.
8. Establishes the appropriate aircraft configuration and airspeed considering turbulence and wind shear, and completes the aircraft checklist items appropriate to the phase of the flight.
9. Maintains, prior to beginning the final approach segment, altitude within +/-100 feet, heading within +/-10° and allows less than ¾ scale deflection of the CDI or within +/-10° in the case of an RMI, and maintains airspeed within +/-10 knots.
10. Applies the necessary adjustments to the published MDA and visibility criteria for the aircraft approach category when required, such as—
 - (a) NOTAMs.
 - (b) inoperative aircraft and ground navigation equipment.
 - (c) inoperative visual aids associated with the landing environment.
 - (d) SWS reporting factors and criteria.
11. Establishes a rate of descent and track that will ensure arrival at the MDA prior to reaching the MAP with the aircraft continuously in a position from which descent to a landing on the intended runway can be made at a normal rate using normal manoeuvres.
12. Allows, while on the final approach segment, no more than a three-quarter-scale deflection of the CDI or within 10° in case of an RMI, and maintains airspeed within +/-10 knots of that desired.
13. Maintains the MDA, when reached, within +100 feet, -0 feet to the MAP.
14. Executes the missed approach procedure when the required visual references for the intended runway are not distinctly visible and identifiable at the MAP.
15. Executes a normal landing from a straight-in or circling approach when instructed by the flight test examiner.

B. TASK: PRECISION APPROACH (PA)

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15; IAP.

NOTE: A precision approach, utilizing aircraft NAVAID equipment for centerline and vertical guidance, must be accomplished in simulated or actual instrument conditions to DA/DH.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the precision instrument approach procedures.

2. Accomplishes the appropriate precision instrument approaches as selected by the flight test examiner.
3. Establishes two-way communications with ATC using the proper communications phraseology and techniques, as required for the phase of flight or approach segment.
4. Complies, in a timely manner, with all clearances, instructions, and procedures.
5. Advises ATC anytime that the applicant is unable to comply with a clearance.
6. Establishes the appropriate aeroplane configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions.
7. Completes the aircraft checklist items appropriate to the phase of flight or approach segment, including engine out approach and landing checklists, if appropriate.
8. Prior to beginning the final approach segment, maintains the desired altitude +/-100 feet, the desired airspeed within +/-10 knots, the desired heading within +/-10°; and accurately tracks radials, courses, and bearings.
9. Selects, tunes, identifies, and monitors the operational status of ground and aeroplane navigation equipment used for the approach.
10. Applies the necessary adjustments to the published DA/DH and visibility criteria for the aeroplane approach category as required, such as—
 - (a) NOTAMs
 - (b) inoperative aeroplane and ground navigation equipment.
 - (c) inoperative visual aids associated with the landing environment.
 - (d) NWS reporting factors and criteria.
11. Establishes a predetermined rate of descent at the point where the electronic glide slope begins, which approximates that required for the aircraft to follow the glide slope.
12. Maintains a stabilized final approach, from the Final Approach Fix to DA/DH allowing no more than three-quarter scale deflection of either the glide slope or localizer indications and maintains the desired airspeed within +/-10 knots.
13. A missed approach or transition to a landing shall be initiated at Decision Height.
14. Initiates immediately the missed approach when at the DA/DH, and the required visual references for the runway are not unmistakably visible and identifiable.
15. Transitions to a normal landing approach (missed approach for seaplanes) only when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering.
16. Maintains localizer and glide slope within three-quarter scale deflection of the indicators during the visual descent from DA/DH to a point over the runway where glide slope must be abandoned to accomplish a normal landing.

C. TASK: MISSED APPROACH

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15; IAP.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to missed approach procedures associated with standard instrument approaches.
2. Initiates the missed approach promptly by applying power, establishing a climb attitude, and reducing drag in accordance with the aircraft manufacturer's recommendations.
3. Reports to ATC beginning the missed approach procedure.
4. Complies with the published or alternate missed approach procedure.
5. Advises ATC or flight test examiner anytime that the aircraft is unable to comply with a clearance, restriction, or climb gradient.
6. Follows the recommended checklist items appropriate to the go-around procedure.
7. Requests, if appropriate, ATC clearance to the alternate aerodrome, clearance limit, or as directed by the flight test examiner.
8. Maintains the recommended airspeed within +/-10 knots heading, course, or bearing within +/-10°; and altitude(s) within +/-100 feet during the missed approach procedure.

D. TASK: CIRCLING APPROACH

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15; IAP.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to a circling approach procedure.
2. Selects and complies with the appropriate circling approach procedure considering turbulence and wind shear and considering the maneuvering capabilities of the aircraft.

3. Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC and the flight test examiner.
4. Does not exceed the visibility criteria or descend below the appropriate circling altitude until in a position from which a descent to a normal landing can be made.
5. manoeuvres the aircraft, after reaching the authorized MDA and maintains that altitude within +100 feet, -0 feet and a flight path that permits a normal landing on a runway. The runway selected must be such that it requires at least a 90° change of direction, from the final approach course, to align the aircraft for landing.

E. TASK: LANDING FROM A STRAIGHT-IN OR CIRCLING APPROACH

REFERENCES: TTCAR No.1 and TTCAR No.2; FAA-H-8083-15.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors, which affect a landing from a straight-in or a circling, approach.
2. Transitions at the DA/DH, MDA, or VDP to a visual flight condition, allowing for safe visual maneuvering and a normal landing.
3. Adheres to all ATC (or examiner) advisories, such as NOTAMs, wind shear, wake turbulence, runway surface, braking conditions, and other operational considerations.
4. Completes appropriate checklist items for the pre-landing and landing phase.
5. Maintains positive aircraft control throughout the complete landing manoeuvre.

VII. AREA OF OPERATION: EMERGENCY OPERATIONS

A. TASK: LOSS OF COMMUNICATIONS

REFERENCES: TTCAR No.1 and TTCAR No.2.

Objective: To determine that the applicant exhibits adequate knowledge of the elements related to applicable loss of communication procedures to include:

1. Recognizing loss of communication.
2. Continuing to destination according to the flight plan.
3. When to deviate from the flight plan.
4. Timing for beginning an approach at destination.

B. TASK: ONE ENGINE INOPERATIVE DURING STRAIGHT AND-LEVEL FLIGHT AND (MULTIENGINE AEROPLANE)

REFERENCES: TTCAR No.1; FAA-H-8083-3, FAA-H-8083-15.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the procedures used if engine failure occurs during straight-and-level flight and turns while on instruments.
2. Recognizes engine failure simulated by the flight test examiner during straight-and-level flight and turns.
3. Sets all engine controls, reduces drag, and identifies and verifies the inoperative engine.
4. Establishes the best engine-inoperative airspeed and trims the aircraft.
5. Verifies the accomplishment of prescribed checklist procedures for securing the inoperative engine.
6. Establishes and maintains the recommended flight attitude, as necessary, for best performance during straight-and-level and turning flight.
7. Attempts to determine the reason for the engine failure.
8. Monitors all engine control functions and makes necessary adjustments.
9. Maintains the specified altitude within +/-100 feet, (if within the aircraft's capability), airspeed within +/-10 knots, and the specified heading within +/-10°.
10. Accesses the aircraft's performance capability and decides an appropriate action to ensure a safe landing.
11. Avoids loss of aircraft control, or attempted flight contrary to the engine-inoperative operating limitations of the aircraft.

C. TASK: ONE ENGINE INOPERATIVE—INSTRUMENT APPROACH (MULTIENGINE AEROPLANE)

REFERENCES: TTCAR No.1; FAA-H-8083-3, FAA-H-8083-15; IAP.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements by explaining the procedures used during an instrument approach in a multiengine aircraft with one engine inoperative.
2. Recognizes promptly, engine failure simulated by the flight test examiner.
3. Sets all engine controls, reduces drag, and identifies and verifies the inoperative engine.
4. Establishes the best engine-inoperative airspeed and trims the aircraft.
5. Verifies the accomplishment of prescribed checklist for securing the inoperative engine.
6. Establishes and maintains the recommended flight attitude and configuration for the best performance for all maneuvering necessary for the instrument approach procedures.
7. Attempts to determine the reason for the engine failure.
8. Monitors all engine control functions and makes necessary adjustments.
9. Requests and receives an actual or a simulated ATC clearance for an instrument approach.
10. Follows the actual or a simulated ATC clearance for an instrument approach.
11. Establishes a rate of descent that will ensure arrival at the MDA/DH prior to reaching the MAP with the aircraft continuously in a position from which descent to a landing on the intended runway can be made straight-in or circling.
12. Maintains, where applicable, the specified altitude within +/- 100 feet, the airspeed within +/-10 knots if within the aircraft's capability, and the heading within +/-10°.
13. Sets the navigation and communication equipment used during the approach and uses the proper communications technique.
14. Avoids loss of aircraft control, or attempted flight contrary to the engine-inoperative operating limitations of the aircraft.
15. Complies with the published criteria for the aircraft approach category when circling.
16. Allows, while on final approach segment, no more than three-quarter-scale deflection of either the localizer or glide slope or GPS indications, or within +/-10° or ¾ scale deflection of the nonprecision final approach course.
17. Completes a safe landing.

D.TASK: APPROACH WITH LOSS OF PRIMARY FLIGHT INSTRUMENT INDICATORS

REFERENCES: TTCAR No.1; FAA-H-8083-15; IAP.

Note: This approach shall count as one of the required nonprecision approaches.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements relating to recognizing if primary flight instruments are inaccurate or inoperative, and advise ATC or the flight test examiner.
2. Advises ATC or flight test examiner anytime that the aircraft is unable to comply with a clearance.
3. Demonstrates a nonprecision instrument approach without the use of the primary flight instrument using the objectives of the nonprecision approach TASK (AREA OF OPERATION VI, TASK A).

VIII. AREA OF OPERATION: POSTFLIGHT PROCEDURES

A. TASK: CHECKING INSTRUMENTS AND EQUIPMENT

REFERENCES: TTCAR No.1 and TTCAR No.2.

Objective: To determine that the applicant:

1. Exhibits adequate knowledge of the elements relating to all instrument and navigation equipment for proper operation.
2. Notes all flight equipment for proper operation.
3. Notes all equipment and/or aircraft malfunctions and makes appropriate documentation of improper operation or failure of such equipment.

APPENDIX 1
TASK VS. SIMULATION DEVICE CREDIT

Appendix 1—Levels of Simulation Devices

TASK VS. SIMULATION DEVICE CREDIT

Flight test examiners conducting the instrument rating skill tests with flight simulation devices should consult appropriate documentation to ensure that the device has been approved for training, testing, or checking. The documentation for each device should reflect that the following activities have occurred:

1. The device must be evaluated, determined to meet the appropriate standards of the TTCAA.
2. The TTCAA must approve the device for training, testing, and checking the specific flight tasks listed in this appendix.
3. The device must continue to support the level of student or applicant performance required by this skill test standard.

NOTE: Users of the following chart are cautioned that use of the chart alone is incomplete. The description and Objective of each TASK as listed in the body of the skill test standard, including all NOTES, must also be incorporated for accurate simulation device use.

Appendix 1—Use of Chart

X Creditable.

A Creditable if appropriate systems are installed and operating.

NOTE: 1. Level 1 FTDs that have been issued a letter authorizing their use by TTCAA, may continue to be used only for those tasks originally found acceptable. Use of Level 1, 2, or 3 FTDs may not be used for aircraft requiring a type rating.

2. If a FTD or a simulator is used for the skill test, the instrument approach procedures conducted in that FTD or simulator are limited to one precision and one nonprecision approach procedure.

3. Postflight procedures means, closing flight plans, checking for discrepancies and malfunctions, and noting them on a log or maintenance form.

Appendix 1—Flight Simulation Device Level

FLIGHT TASK	FLIGHT SIMULATION DEVICE LEVEL										
Areas of Operation	1	2	3	4	5	6	7	A	B	C	D
II. Preflight Procedures											
C. Instrument Cockpit Check*	--	A	X	A	A	X	X	X	X	X	X
III. Air Traffic Control Clearances and Procedures											
A. Air Traffic Control Clearances*	--	A	X	A	A	X	X	X	X	X	X
B. Departure, En Route, and Arrival Clearances	--	--	X	--	--	X	X	X	X	X	X
C. Holding Procedures	--	--	X	--	--	X	X	X	X	X	X
IV. Flight by Reference to Instruments											
A. Basic Instrument Flight manoeuvres	--	--	X	--	--	X	X	X	X	X	X
B. Recovery From Unusual Flight Attitude	--	--	--	--	--	--	X	X	X	X	X
V. Navigation Systems											
A. Intercepting and Tracking Navigational Systems and DME ARCS	--	A	X	--	A	X	X	X	X	X	X
VI. Instrument Approach Procedures											
A. Nonprecision Approach (NPA)	--	--	X	--	--	X	X	X	X	X	X
B. Precision Approach (PA)	--	--	X	--	--	X	X	X	X	X	X
C. Missed Approach	--	--	X	--	--	X	X	X	X	X	X
D. Circling Approach	--	--	--	--	--	--	X	X	X	X	X
E. Landing from a Straight-in or Circling Approach	--	--	--	--	--	--	--	X	X	X	X
VII. Emergency Operations**											
A. Loss of Communications	--	X	X	--	--	X	X	X	X	X	X
B. One Engine Inoperative during Straight-and-Level Flight and Turns (Multiengine Aeroplane)	--	--	X	--	--	X	X	X	X	X	X
C. One Engine Inoperative—Instrument Approach (Multiengine Aeroplane)	--	--	--	--	--	--	--	X	X	X	X
D. Loss of Gyro Attitude and/or Heading Indicators	--	--	--	--	--	X	X	X	X	X	X
VIII. Postflight Procedures											
A. Checking Instruments and Equipment	--	A	X	--	A	X	X	X	X	X	X

* Aircraft required for those items that cannot be checked using a flight training device or flight simulator.

** Multiengine - Single Engine