Advisory Pamphlet

AP 1.3.006A

Air Transport Pilot License &
Multi-Engine Airplane (Land) Type Rating

Skill Test Standards

Personnel Licensing

1. PURPOSE

1.1 The Airline Transport Pilot and Aircraft Type Rating (Airplane) Skill Test Standards (STS) document has been published by the Civil Aviation Authority Israel (CAAI) to establish the standards for airline transport pilot and aircraft type rating skill tests for airplanes. CAAI inspectors, designated pilot examiners, and check airmen (referred to as examiners throughout the remaining skill test standard) shall conduct skill tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in skill test preparation.

1.2 The Civil Aviation Authority (CAAI) has developed this skill test standard as the standard that shall be used by CAAI inspectors and designated pilot examiners when conducting ATPL - 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.

1.3 Information considered directive in nature is described in this skill test standard 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.

2. REFERENCE MATERIAL

2.1 Regulatory Requirements

2.1.1 ANR.PEL – Air Navigation Regulations , Personnel Licensing

2.2 Forms

2.2.1 F 1.3.006-1 – ATPL Skill Test Form

3. SKILL TEST STANDARDS CONCEPT

3.1 ANR.PEL specifies the areas in which knowledge and skills must be demonstrated by the applicant before the issuance of an airline transport pilot license and/ or a type rating in airplanes. The ANR.PEL provide the flexibility to permit the CAAI to publish skill test standards (STS) containing specific TASKS in which pilot competency must be demonstrated. The CAAI will revise this document whenever it is determined that changes are needed in the interest of safety. Adherence to provisions of the regulations and the STS is mandatory for the evaluation of pilot applicants. For some aircraft types, provisions of CAAI documents may specify details as to how ANR.PEL and this STS apply to certain maneuver s, TASKS, procedures or knowledge areas.

3.2 Flight proficiency for certification of airmen is demonstrated when the maneuver s and procedures required for the issuance of a type rating for a specific airplane are accomplished satisfactorily. Type rating requirements may be determined through this document and Flight Manual. Unless the

Director General requires certain or all TASKS to be performed, the examiner who conducts the skill test for an airline transport pilot license or added rating may waive any of the TASKS for which the Director General approves waiver authority.

3.3 For those crewmembers employed by air carriers, and those CAAI personnel assigned to air carriers, the Director General provides waiver discretion to the check airman (also a qualified examiner), or the CAA inspector conducting the check, for the following maneuver s/procedures:

1 Taxiing for R/H Seat only when applicable.

2 Area arrival or area departure, but not both.

3 A minimum of **1** approach to stall in landing configuration with15-30° bank shall be performed.

4 Execution of the holding way be waived at the discretion of the examiner when holding can programmed to Flight Management Systems or equivalent.

5 Second nonprecision approach.

6 For SIC type ratings:

- Approach and Landing with (Simulated) power plant failure – On airplanes with more than two engines, only one must be (simulated) failed.

Waiver authority requires that the applicant is trained to proficiency in all maneuver s/procedures in the operator's CAAI-approved training program.

4. SKILL TEST DESCRIPTION.

4.1 This skill test contains the Airline Transport Pilot and Aircraft Type Rating Skill test standards—Airplane.

4.2 The Airline Transport Pilot and Aircraft Type Rating Skill test standards—Airplane includes AREAS OF OPERATION and TASKS for the initial issuance of an airline transport pilot license and for the addition of category, class, and aircraft type ratings to that license.

4.3 The AREAS OF OPERATION are divided into two sections. The first AREA OF OPERATION in each section is conducted on the ground to determine the applicant's knowledge of the aircraft, equipment, performance, and limitations. The eight AREAS OF OPERATION in the second section are considered to be in flight. All eight AREAS OF OPERATION in the second section test the applicant's skill and knowledge. If all TASKS, of the skill test, are not completed on one date, all remaining TASKS of the test must be

satisfactorily completed not more than 60 calendar days after the date on which the applicant began the test.

4.4 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 examiner may combine TASKS with similar objectives and conduct the skill test in any sequence that will result in a complete and efficient test.

4.5 TASKS are titles of knowledge areas, flight procedures, or maneuvers appropriate to an AREA OF OPERATION.

4.6 **NOTE** is used to emphasize special considerations required in the AREA OF OPERATION.

4.7 The Objective lists the important ELEMENTS that must be satisfactorily performed to demonstrate competency in a TASK. The Objective includes:

- specifically what the applicant should be able to do;
- the conditions under which the TASK is to be performed; and
- the acceptable standards of performance.

5. USE OF THE SKILL TEST STANDARDS.

5.1 The TASKS, in this STS, are for airplanes. These TASKS apply to the applicant who seeks an airline transport pilot license; the addition of a category, class, or aircraft type rating on that license. The applicant that holds a private or commercial pilot license and is seeking the addition of an aircraft type rating on that license, must have the proper category/class rating or accomplish the appropriate TASKS in the private/commercial pilot STS, which are not in this STS.

5.2 With certain exceptions, some described by NOTES, all TASKS are required. However, when a particular ELEMENT is not appropriate to the aircraft or its equipment, that ELEMENT, at the discretion of the examiner, may be omitted. Examples of ELEMENT exceptions are integrated flight systems for aircraft not so equipped, operation of landing gear in fixed gear aircraft, multiengine tasks in single-engine aircraft, or other situations where the aircraft operation is not compatible with the requirement of the ELEMENT.

5.3 Examiners must develop a written plan of action that includes the order and combination of TASKS to be demonstrated by the applicant in a manner that results in an efficient and valid test. Although TASKS with similar Objectives may be combined to conserve time, the Objectives of all TASKS must be demonstrated and evaluated at some time during the skill test. It is of utmost importance that the examiner accurately evaluate the applicant's ability to perform safely as a pilot in international air transport. The examiner may simulate/act as air traffic control (ATC) while conducting the skill test.

6. SPECIAL EMPHASIS AREAS.

6.1 Examiners shall place special emphasis upon areas of aircraft operations considered critical to flight safety. Among these are:

1 positive aircraft control,

2 positive exchange of the flight controls procedure (who is flying the aircraft),

3 stall / spin awareness

4 collision avoidance,

5 wake turbulence and low-level windshear avoidance,

6 automation management and CRM,

7 land and hold short operations (LAHSO),

8 communication management,

9 runway incursion avoidance,

10 controlled flight into terrain (CFIT),

11 crew resource management (CRM),

12 aeronautical decision making (ADM) and risk management,

13 icing and wing contamination,

14 other areas deemed appropriate to any phase of the skill test.

Although these areas may not be specifically addressed under each TASK, they are essential to flight safety and will be critically evaluated during the skill test. In all instances, the applicant's actions will relate to the complete situation. The examiner's role regarding ATC, crew resource management, and the duties and responsibilities of the examiner through all phases of the skill test must be explained to and understood by the applicant, prior to the test.

7. SKILL TEST PREREQUISITES: AIRLINE TRANSPORT PILOT.

7.1 An applicant for the original issuance of an airline transport pilot license is required (prior to the skill test) by ANR.PEL to:

7.1.1 have passed the appropriate airline transport pilot knowledge test within 24 months before the date of the skill test;

7.1.2 have the aeronautical experience prescribed in ANR.PEL, that apply to the aircraft category and class rating;

7.1.3 have a minimum of a first-class medical license, if a medical license is required;

7.1.4 be at least 21 years of age; and

7.1.5 be able to read, speak, write, and understand the English language. If there is a doubt, use the English Language Skill Standards document.

8. SKILL TEST PREREQUISITES: AIRCRAFT TYPE RATING.

8.1 An applicant for a type rating in an airplane is required by ANR.PEL to have:

8.1.1 the applicable experience;

8.1.2 a minimum of a first-class medical license, if a medical license is required;

8.1.3 the appropriate category and class rating, or accomplish the appropriate TASKS in the private/commercial pilot STS, which are not in this STS;

8.1.4 received and logged ground training from an authorised ground or flight instructor and flight training from an authorised flight instructor, on the AREAS OF OPERATION in this skill test standard that apply to the aircraft type rating sought; and

8.1.5 received a log document endorsement from the instructor who conducted the training, certifying that the applicant completed all the training on the AREAS OF OPERATION in this skill test standard that apply to the aircraft type rating sought.

8.2 If the applicant is an employee of a AOC holder, the applicant may present a training record that shows the satisfactory completion of that license holder's approved training program for the aircraft type rating sought, instead of the requirements of 8.1.4 and 8.1.5 above.

8.3 An applicant who holds the private pilot or commercial pilot license is required to have passed the appropriate instrument rating knowledge test since the

beginning of the 24th month before the skill test is taken if the test is for the concurrent issuance of an instrument rating and an aircraft type rating.

8.4 If an applicant is taking a skill test for the issuance of a private or commercial pilot license with an airplane rating, in an aircraft that requires a type rating, private pilot skill test standards or commercial pilot skill test standards, as appropriate to the license, should be used in conjunction with this STS. Also, the current instrument rating skill test standard should be used in conjunction with this STS if the applicant is concurrently taking a skill test for the issuance of an instrument rating and a type rating. The TASKS that are in the private pilot, commercial pilot, or instrument rating STS (and not in this STS) must be accomplished.

Aircraft Type-Ratings Limited to "VFR Only"

Section One: PREFLIGHT PREPARATION

I. AREA OF OPERATION: PREFLIGHT PREPARATION.

A. Equipment examination.
B. Performance and limitations.

Section Two: PREFLIGHT PROCEDURES, INFLIGHT MANEUVERS, AND POSTFLIGHT PROCEDURES

II. AREA OF OPERATION: PREFLIGHT PROCEDURES.

A. Preflight inspection.
B. Powerplant start.
C. Taxiing.
D. Pre-takeoff checks.

III. AREA OF OPERATION: TAKEOFF AND DEPARTURE PHASE.

A. Normal and crosswind takeoff.
B. Powerplant failure during takeoff. (TASK C)
C. Rejected takeoff. (TASK D)

IV. AREA OF OPERATION: INFLIGHT MANEUVERS.

A. Steep turns.
B. Approaches to stalls.
C. Powerplant failure—multiengine airplane.
D. Powerplant failure—single-engine airplane.
E. Specific flight characteristics.

V. AREA OF OPERATION: INSTRUMENT PROCEDURES.

(Not applicable)

VI. AREAS OF OPERATION: LANDINGS AND APPROACHES TO LANDINGS.

A. Normal and crosswind landings.
B. Landing with simulated powerplant failure—multiengine airplanes. (TASK C)
C. Rejected landing. (TASK E)

D. Landing from a no flap or a non-standard flap approach. (TASK F)

VII. AREA OF OPERATION: NORMAL AND ABNORMAL PROCEDURES.

VIII. AREA OF OPERATION: EMERGENCY PROCEDURES.

IX. AREA OF OPERATION: POSTFLIGHT PROCEDURES.

A. After-landing procedures.
B. Parking and securing.

9. AIRCRAFT AND EQUIPMENT REQUIREMENTS FOR THE SKILL TEST.

9.1 The applicant is required to provide an appropriate and airworthy aircraft for the skill test. Its operating limitations must not prohibit the TASKS required on the skill test. Flight instruments are those required for controlling the aircraft without outside references. The aircraft must have radio equipment for communications with air traffic control and the performance of instrument approach procedures. If the aircraft/flight training device/flight simulator has a GPS properly installed, the applicant must demonstrate GPS approach proficiency.

9.2 The applicant is expected to demonstrate automation management skills in utilizing the autopilot, avionics and systems displays, and/or flight management system (FMS), as applicable to installed equipment, during the practical test to assist in the management of the aircraft. The 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 practical test.

***NOTE**: The skill test must be performed in actual or simulated instrument conditions; unless the skill test cannot be accomplished under instrument flight rules because the aircraft's type license makes the aircraft incapable of operating under instrument flight rules.*

10. USE OF CAA-APPROVED FLIGHT SIMULATOR OR FLIGHT TRAINING DEVICE.

10.1 In the AREA OF OPERATION labeled "PREFLIGHT PREPARATION," the TASKS are knowledge only. These TASKS do not require the use of a flight training device (FTD), flight simulator, or an aircraft to accomplish, but they may be used.

10.2 Each in-flight maneuver or procedure must be performed by the applicant in an FTD, flight simulator, or an aircraft. The CAA shall approve the maneuvers or procedures that may be accomplished in an FTD or flight simulator required by this skill test standard. The level of FTD or flight simulator required for each maneuver or procedure will be determined by the CAA.

10.3 When accomplished in an aircraft, certain TASK elements may be accomplished through “simulated” actions in the interest of safety and practicality, but when accomplished in an FTD or flight simulator, 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, and simulating the disconnection of associated electrics, hydraulics, pneumatics, etc.

10.4 However, when the same emergency condition is addressed in an FTD or a flight simulator, all TASK elements must be accomplished as would be expected under actual circumstances. 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, setting maximum airspeed for a rejected takeoff) need not be taken when an FTD or a flight simulator is used.

10.5 It is important to understand that whether accomplished in an FTD, a flight simulator, or the aircraft, all TASKS and TASK elements for each maneuver or procedure will have the same performance criteria applied for determination of overall satisfactory performance.

11. EXAMINER RESPONSIBILITY.

11.1 The examiner who conducts the skill test is responsible for determining that the applicant meets the standards outlined in the Objective of each TASK within the AREAS OF OPERATION, in the skill test standard. The examiner shall meet this responsibility by determining that the applicant's knowledge and skill meet the Objective in all required TASKS.

11.2 The equipment examination must be closely coordinated and related to the flight portion of the skill test, but must not be given during the flight portion of the skill test. The equipment examination should be administered prior (it may be the same day) to the flight portion of the skill test. The examiner shall use whatever means deemed suitable to determine that the applicant's equipment knowledge meets the standard.

11.3 The AREAS OF OPERATION in Section 2 contain TASKS which include both “knowledge” and “skill” ELEMENTS. The examiner shall ask the applicant to perform the skill ELEMENTS. Knowledge ELEMENTS not evident in the demonstrated skills may be tested by questioning, at any time, during the flight event. This specifically should include meanings and limitations of airport, taxiway, and runway signs, lights, and markings. Questioning in flight should be used judiciously so that safety is not jeopardized. Questions may be deferred until after the flight portion of the test is completed. For aircraft requiring only one pilot, the examiner may not assist the applicant in the management of the aircraft, radio communications, tuning and identifying navigational equipment, and using navigation charts. If the examiner, other than an CAA Inspector, is qualified and current in the specific make and model aircraft that is certified for two or more crewmembers, he or she may occupy a duty position. If the examiner occupies a duty position on an aircraft that requires two or more crewmembers, the examiner must fulfill the duties

of that position. Moreover, when occupying a required duty position, the examiner shall perform crew resource management functions as briefed and requested by the applicant.

11.4 SAFETY OF FLIGHT shall be the prime consideration at all times. The examiner, applicant, and crew shall be constantly alert for other traffic.

12. SATISFACTORY PERFORMANCE.

The ability of an applicant to safely perform the required TASKS is based on:

12.1 performing the TASKS specified in the AREAS OF OPERATION for the license or rating sought within the approved standards;

12.2 demonstrating mastery of the aircraft with the successful outcome of each TASK performed never seriously in doubt;

12.3 demonstrating satisfactory proficiency and competency within the approved standards and single-pilot competence if the aircraft is type licensed for single-pilot operations.

12.4 demonstrating sound judgment and crew resource management.

12.5 With regards to knowledge related tasks:

- “Knowledge” means the applicant can describe in general or specific terms a response to the examiner’s question.

- “Satisfactory knowledge” means the applicant’s answer contains at least 70 percent of the reference answer to the examiner’s question (“textbook answer”) and if the applicant’s actions followed his/her response, the safety of the airplane would never be seriously in doubt.

13. UNSATISFACTORY PERFORMANCE.

13.1 Consistently exceeding tolerances stated in the TASK Objective, or failure to take prompt, corrective action when tolerances are exceeded is indicative of unsatisfactory performance.

13.2 Any action, or lack thereof, by the applicant who requires corrective intervention by the examiner to maintain safe flight shall be disqualifying.

13.3 If the applicant fails the skill test because of a emphasis area, the Notice of Denial shall indicate the associated TASK. i.e.: AREA OF OPERATION IV, Approach to Stalls, failure to clear the area.

NOTE: *It is vitally important that the applicant, safety pilot, and examiner use proper and effective scanning techniques to observe all other traffic in the area to ensure the area is clear before performing any maneuvers.*

13.4 If, in the judgment of the examiner, the applicant's performance of any TASK is unsatisfactory, the associated AREA OF OPERATION is failed and therefore the skill test is failed. Examiners shall not repeat TASKS that have been attempted and failed. The examiner or applicant may discontinue the test at any time after the failure of a TASK, which makes the applicant ineligible for the license or rating sought. The skill test will be continued only with the consent of the applicant. In such cases, it is usually better for the examiner to continue with the skill test to complete the other TASKS. If the examiner determines that the entire skill test must be repeated, the skill test should not be continued but should be terminated immediately. If the skill test is either continued or discontinued, the applicant is entitled to credit for those AREAS OF OPERATION satisfactorily performed, if the remainder of the skill test is completed within 60 days of when the skill test was discontinued. However, during the retest and at the discretion of the examiner, any AREA OF OPERATION may be re-evaluated including those previously passed. Whether the remaining parts of the skill test are continued or not after a failure, a notice of denial must be issued.

13.5 When the examiner determines that a TASK is incomplete, or the outcome uncertain, the 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 or practice is permitted during the certification process. When practical, the remaining TASKS of the skill test phase should be completed before repeating the questionable TASK. If the second attempt to perform a questionable TASK is not clearly satisfactory, the examiner shall consider it unsatisfactory.

13.6 If the skill test must be terminated for unsatisfactory performance and there are other AREAS OF OPERATION which have not been tested or still need to be repeated, a notice of denial shall be issued listing the specific AREAS OF OPERATION which have not been successfully completed or tested.

13.7 When a skill test is discontinued for reasons other than unsatisfactory performance (i.e., equipment failure, weather, illness), CAAI Form F 1.3.030-1 "Practical Test Form", should be returned to the applicant with an indication of discontinuance. The note should identify the portions of the skill test that were successfully completed. The applicant shall be advised that the Letter of Discontinuance must be presented to the examiner, to receive credit for the items successfully completed, when the skill test is resumed and made part of the certification file.

14. RECORDING UNSATISFACTORY PERFORMANCE.

14.1 This skill test standard uses the terms “AREA OF OPERATION” and “TASK” to denote areas in which competency must be demonstrated. When a disapproval notice is issued, the examiner must record the applicant's unsatisfactory performance in terms of “AREA OF OPERATION” appropriate to the skill test conducted.

15. AERONAUTICAL DECISION MAKING (ADM) AND RISK MANAGEMENT

15.1 The examiner must evaluate the applicant’s ability throughout the practical test to use good aeronautical decision making procedures in order to evaluate risks. The examiner must accomplish this requirement by developing scenarios that incorporate as many Tasks as possible to evaluate the applicant’s risk management in making safe aeronautical decisions. For example, the examiner may develop a scenario that incorporates weather decisions and performance planning. Information may be found in FAA AC 60-22, Aeronautical Decision Making, and many other resources as well.

16. CREW RESOURCE MANAGEMENT (CRM).

CRM “...refers to the effective use of all available resources; human resources, hardware, and information.” Human resources “...includes all other groups routinely working with the cockpit crew (or pilot) who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers.” CRM is not a single TASK. CRM is a set of competencies that must be evident in all TASKS in this skill test standard as applied to the single pilot or the multicrew operation. CRM competencies, grouped into three clusters of observable behaviour, are:

16.1 COMMUNICATIONS PROCESSES AND DECISIONS

a) Briefing
b) Inquiry/Advocacy/Assertiveness
c) Self-Critique
d) Communication with available personnel resources
e) Decision making

16.2 BUILDING AND MAINTENANCE OF A FLIGHT TEAM

a) Leadership/Followership
b) Interpersonal Relationships

16.3 WORKLOAD MANAGEMENT AND SITUATIONAL AWARENESS

a) Preparation/Planning
b) Vigilance
c) Workload Distribution

d) Distraction Avoidance
e) Wake Turbulence Avoidance

CRM deficiencies almost always contribute to the unsatisfactory performance of a TASK. CRM evaluations are still largely subjective. Certain CRM competencies are well suited to objective evaluation. These are the CRM-related practices set forth in the aircraft manufacturer's or the operator's CAA-approved operating or training manuals as explicit, required procedures. Those procedures may be associated with one or more TASKS in these skill test standards. Examples include required briefings, radio calls, and instrument approach callouts. The evaluator simply observes that the individual complies (or fails to comply) with requirements.

17. HOW THE EXAMINER APPLIES CRM.

17.1 Examiners are required to exercise proper CRM competencies in conducting tests, as well as expecting the same from applicants.

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

NOTE: *The majority of aviation accidents and incidents are due to resource management failures by the pilot/crew; fewer are due to technical failures. Each applicant shall give a crew briefing before each takeoff/departure and approach/landing. If the operator or aircraft manufacturer has not specified a briefing, the briefing shall cover the appropriate items, such as runway, SID/DP/STAR/FMSP/IAP, power settings, speeds, abnormals or emergency prior to or after reaching decision speed (i.e., V_1 or V_{MC}), emergency return intentions, missed approach procedures, FAF, altitude at FAF, initial rate of descent, DA/DH/MDA, time to missed approach, and what is expected of the other crewmembers during the takeoff/DP and approach/landing. If the first takeoff/departure and approach/landing briefings are satisfactory, the examiner may allow the applicant to brief only the changes, during the remainder of the flight.*

18. APPLICANT'S USE OF CHECKLISTS.

18.1 Throughout the practical test, the applicant is evaluated on the use of an appropriate checklist. In crew served airplanes, the applicant as PIC (acting) should coordinate all checklists with the crew to ensure all items are accomplished in a timely manner. The applicant as acting PIC should manage the flight to include crew checklist performance, requiring standard callouts, announcing intentions, and initiating checklist procedures. 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. Use of a checklist should also consider visual scanning and division of attention at all times.

19. USE OF DISTRACTIONS DURING SKILL TESTS.

19.1 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 outside the cockpit, the 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.

20. POSITIVE EXCHANGE OF FLIGHT CONTROLS

20.1 During the flight, there must always be a clear understanding between the 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. Some operators have established a two-step procedure for exchange of flight controls. A popular three-step process in the exchange of flight controls between the pilots is explained below. Any safe procedure agreed to by the applicant and the examiner is acceptable.

20.2 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.

21. SECOND-IN-COMMAND (SIC) RATING

21.1 An applicant may apply for a type rating with a limitation to serve only as Second-In-Command (SIC) on that type. This is common with applicants employed as first officers by an AOC holder, holders of a CPL or applicants requesting a limited type rating for other reasons. Whatever the reason may be, the requested type rating must be in accordance with the approved training the applicant has completed.

21.2 By definition, ATPL skill test requires the applicant to demonstrate proficiency in operating the airplane as a pilot in command. Therefore, an applicant for an ATPL must apply to a non-limited (i.e. PIC privileges) type rating on that type of airplane.

21.3 An applicant must apply for a SIC limited rating. A failure to pass a skill test as PIC does not entitle the applicant to a SIC limited rating. The reverse option is not possible either: an applicant for a SIC rating who demonstrated above required proficiency may not be entitled to a non-limited rating, even if he is eligible.

21.4 Apart from the extended waiver authority for SIC specified under section 3.3, the differences between a skill test for a PIC or for a SIC are not specified explicitly, and may be more subjective. While the task objectives specified for each task are identical for both SIC and PIC, the examiner exercises different judgment in regards to SIC when determining whether a specific task was satisfactory or not. The differences are primarily in the emphasis areas described in sections 15-20 above, and in the application of Areas of Operation VI-VII. The examiner may construct the skill test in a different manner for a SIC in order not to present the applicant with challenges that are only applicable to PIC. Examples of such differences might include:

- Aeronautical decision making

  The examiner may limit the scenarios to simple decision making events.

- CRM

  Certain aspects of CRM may not be fully observed, such as leadership, assertiveness etc.

- Use of Checklists

  The events created by the examiner and their timing should allow a SIC enough time for proper use of checklists. Events should be limited to one failure per task.

- Use of distractions

  The examiner should cause less distractions for a SIC applicant.

APPENDIX 1 SECTION 1: PREFLIGHT PREPARATION

I. AREA OF OPERATION: PREFLIGHT PREPARATION

A. TASK: EQUIPMENT EXAMINATION

Objective. To determine that the applicant:

1. Exhibits adequate knowledge appropriate to the airplane; its systems and components; its normal, abnormal, and emergency procedures; and uses the correct terminology with regard to the following items—

a. landing gear—indicators, float devices, brakes, antiskid, tires, nose-wheel steering, and shock absorbers.

b. powerplant—controls and indications, induction system, carburetor and fuel injection, turbocharging, cooling, fire detection/protection, mounting points, turbine wheels, compressors, deicing, anti-icing, and other related components.

c. propellers—type, controls, feathering/unfeathering, autofeather, negative torque sensing, synchronizing, and synchrophasing.

d. fuel system—capacity; drains; pumps; controls; indicators; crossfeeding; transferring; jettison; fuel grade, color and additives; fueling and de-fueling procedures; and substitutions, if applicable.

e. oil system—capacity, grade, quantities, and indicators.

f. hydraulic system—capacity, pumps, pressure, reservoirs, grade, and regulators.

g. electrical system—alternators, generators, battery, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.

h. environmental systems—heating, cooling, ventilation, oxygen and pressurization, controls, indicators, and regulating devices.

i. avionics and communications—autopilot; flight director; Electronic Flight Indicating Systems (EFIS); Flight Management System(s) (FMS); Long Range Navigation (LORAN) systems; Doppler Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS/DGPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter.

j. ice protection—anti-ice, deice, pitot-static system protection, propeller, windshield, wing and tail surfaces. crewmember and passenger equipment—

oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers and passengers.

k. flight controls—ailerons, elevator(s), rudder(s), winglets, canards, control tabs, balance tabs, stabilizer, flaps, spoilers, leading edge flaps/slats and trim systems.

l. pitot-static system with associated instruments and the power source for the flight instruments.

2. Exhibits adequate knowledge of the contents of the POH or AFM with regard to the systems and components listed in paragraph 1 (above); the Minimum Equipment List (MEL), if appropriate; and the Operations Specifications, if applicable.

B. TASK: PERFORMANCE AND LIMITATIONS

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of performance and limitations, including a thorough knowledge of the adverse effects of exceeding any limitation.

2. Demonstrates proficient use of (as appropriate to the airplane) performance charts, tables, graphs, or other data relating to items, such as—
   a. Departure airport, taxiway, and runway NOTAMs, runway usable lengths, HOT Spots, taxi restrictions, specific taxi procedures, as applicable, and signage/markings
   b. accelerate-stop distance.
   c. accelerate-go distance.
   d. takeoff performance—all engines, engine(s) inoperative.
   e. climb performance including segmented climb performance; with all engines operating—with one or more engine(s) inoperative, and with other engine malfunctions as may be appropriate.
   f. service ceiling—all engines, engines(s) inoperative, including drift down, if appropriate.
   g. cruise performance.
   h. fuel consumption, range, and endurance.
   i. descent performance.
   j. Arrival airport, taxiway, and runway NOTAMs, runway usable lengths, HOT Spots, tax restrictions, specific tax procedures as applicable, and signage/markings.
   k. Landing distance.
   l. land and hold short operations (LAHSO).
   m. go-around from rejected landings.
   n. other performance data (appropriate to the airplane).

3. Describes (as appropriate to the airplane) the airspeeds used during specific phases of flight.

4. Describes the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph, or other performance data.

5. Computes the center-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight.

6. Determines if the computed center-of-gravity is within the forward and aft centerof-gravity limits, and that lateral fuel balance is within limits for takeoff and landing.

7. Demonstrates adequate knowledge of the adverse effects of airframe icing during pre-takeoff, takeoff, cruise and landing phases of flight and corrective actions.

8. Demonstrates adequate knowledge of procedures for wing contamination recognition and adverse effects of airframe icing during pre-takeoff, takeoff, cruise, and landing phases of flight. (Pilots applying for an aircraft type rating should have adequate knowledge of icing procedures and/or available information published by the

manufacturer that is specific to that type of aircraft.)

9. Demonstrates good planning and knowledge of procedures in applying operational factors affecting airplane performance.

10. Demonstrates knowledge of the stabilized approach procedures and the decision criteria for go-around or rejected landings.

SECTION 2: PREFLIGHT PROCEDURES, INFLIGHT MANOEUVERS, AND POSTFLIGHT PROCEDURES

I. AREA OF OPERATION: PREFLIGHT PROCEDURES

A. TASK: PREFLIGHT INSPECTION

NOTE: If a flight engineer (FE) is a required crewmember for a particular type airplane, the actual visual inspection may be waived. The actual visual inspection may be replaced by using an approved pictorial means that realistically portrays the location and detail of inspection items. On airplanes requiring an FE, an applicant must demonstrate adequate knowledge of the FE functions for the safe completion of the flight if the FE becomes ill or incapacitated during a flight.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the preflight inspection procedures, while explaining briefly—
   a. the purpose of inspecting the items, which must be checked.
   b. how to detect possible defects.
   c. the corrective action to take.

2. Exhibits adequate knowledge of the operational status of the airplane by locating and explaining the significance and importance of related documents, such as—
   a. airworthiness and registration certificates.
   b. operating limitations, handbooks, and manuals.
   c. minimum equipment list (MEL) (if appropriate).
   d. weight and balance data.
   e. maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot or other designated crewmember.

3. Uses the approved checklist to inspect the airplane externally and internally.

4. Uses the challenge-and-response (or other approved) method with the other crewmember(s), where applicable, to accomplish the checklist procedures.

5. Verifies the airplane is safe for flight by emphasizing (as appropriate) the need to look at and explain the purpose of inspecting items, such as—

   a. powerplant, including controls and indicators.
   b. fuel quantity, grade, type, contamination safeguards, and servicing procedures.
   c. oil quantity, grade, and type.
   d. hydraulic fluid quantity, grade, type, and servicing procedures.
   e. oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers.
   f. hull, landing gear, float devices, brakes, and steering system.
   g. tires for condition, inflation, and correct mounting, where applicable.
   h. fire protection/detection systems for proper operation, servicing, pressures, and discharge indications.

i. pneumatic system pressures and servicing.
j. ground environmental systems for proper servicing and operation.
k. auxiliary power unit (APU) for servicing and operation.
l. flight control systems including trim, spoilers, and leading/trailing edge.
m. anti-ice, deice systems, servicing, and operation.

6. Coordinates with ground crew and ensures adequate clearance prior to moving any devices, such as door, hatches, and flight control surfaces.

7. Complies with the provisions of the appropriate Operations Specifications, if applicable, as they pertain to the particular airplane and operation.

8. Demonstrates proper operation of all applicable airplane systems.

9. Notes any discrepancies, determines if the airplane is airworthy and safe for flight, or takes the proper corrective action.

10. Checks the general area around the airplane for hazards to the safety of the airplane and personnel.

B. TASK: POWERPLANT START

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the correct powerplant start procedures including the use of an auxiliary power unit (APU) or external power source, starting under various atmospheric conditions, normal and abnormal starting limitations, and the proper action required in the event of a malfunction.

2. Ensures the ground safety procedures are followed during the before-start, start, and after-start phases.

3. Ensures the use of appropriate ground crew personnel during the start procedures.

4. Performs all items of the start procedures by systematically following the approved checklist items for the before-start, start, and after-start phases.

5. Demonstrates sound judgment and operating practices in those instances where specific instructions or checklist items are not published.

C. TASK: TAXIING

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of safe taxi procedures (as appropriate to the airplane including push-back or power-back, as may be applicable).
2. Demonstrates and explains procedures for holding the pilot's workload to a minimum during taxi operations.
3. Exhibits taxi operation planning procedures, such as recording taxi instructions, reading back taxi clearances, and reviewing taxi routes on the airport diagram.
4. Demonstrates procedures to insure that clearance or instructions that are actually received are adhered to rather than the ones expected to be received.
5. Knows, explains and discusses the hazards of low visibility operations.
6. Demonstrates proficiency by maintaining correct and positive airplane control. In airplanes equipped with float devices, this includes water taxiing, sailing, step taxi, approaching a buoy, and docking.
7. Maintains proper spacing on other aircraft, obstructions, and persons.
8. Accomplishes the applicable checklist items and performs recommended procedures.
9. Maintains desired track and speed.
10. Complies with instructions issued by ATC (or the examiner simulating ATC).
11. Observes runway hold lines, localizer and glide slope critical areas, buoys, beacons, and other surface control markings and lighting.
12. Maintains constant vigilance and airplane control during taxi operation to prevent runway incursion.
13. Demonstrates and/or explaines procedural differences for night operations.
14. Demonstrates and explaining the use(s) of aircraft exterior lighting and differences for day and night operations.

D. TASK: PRE-TAKEOFF CHECKS

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the pre-takeoff checks by stating the reason for checking the items outlined on the approved checklist and explaining how to detect possible malfunctions.

2. Divides attention properly inside and outside cockpit.
3. Ensures that all systems are within their normal operating range prior to beginning, during the performance of, and at the completion of those checks required by the approved checklist.
4. Explains, as may be requested by the examiner, any normal or abnormal system-operating characteristic or limitation; and the corrective action for a specific malfunction.
5. Determines if the airplane is safe for the proposed flight or requires maintenance.
6. Determines the airplane's takeoff performance, considering such factors as wind, density altitude, weight, temperature, pressure altitude, and runway condition and length.
7. Determines airspeeds/V-speeds and properly sets all instrument references, flight director and autopilot controls, and navigation and communications equipment.
8. Reviews procedures for emergency and abnormal situations, which may be encountered during takeoff, and states the corrective action required of the pilot in command and other concerned crewmembers.
9. Obtains and correctly interprets the takeoff and departure clearance as issued by ATC.

II. AREA OF OPERATION: TAKEOFF AND DEPARTURE PHASE

A. TASK: NORMAL AND CROSSWIND TAKEOFF

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of normal and crosswind takeoffs and climbs including (as appropriate to the airplane) airspeeds, configurations, and emergency/ abnormal procedures.
2. Notes any surface conditions, obstructions, aircraft cleared for LAHSO, or other hazards that might hinder a safe takeoff.
3. Verifies and correctly applies correction for the existing wind component to the takeoff performance.
4. Completes required checks prior to starting takeoff to verify the expected powerplant performance. Performs all required pre-takeoff checks as required by the appropriate checklist items.
5. Aligns the airplane on the runway centerline.
6. Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.
7. Adjusts the powerplant controls as recommended by the CAA-approved guidance for the existing conditions.
8. Monitors powerplant controls, settings, and instruments during takeoff to ensure all predetermined parameters are maintained.
9. Adjusts the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular takeoff segment.
10. Performs the required pitch changes and, as appropriate, performs or calls for and verifies the accomplishment of, gear and flap retractions, power adjustments, and other required pilot-related activities at the required airspeed/V-speeds within the tolerances established in the POH or AFM.
11. Uses the applicable noise abatement and wake turbulence avoidance procedures, as required.
12. Accomplishes or calls for and verifies the accomplishment of the appropriate checklist items.
13. Maintains the appropriate climb segment airspeed/V-speeds.
14. Maintains the desired heading within ±5° and the desired airspeed/V-speed within ±5 knots or the appropriate V-speed range, but not less than V2 is so defined.

B. TASK: INSTRUMENT TAKEOFF

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of an instrument takeoff with instrument meteorological conditions simulated at or before reaching an altitude of 100 feet (30 meters) AGL. If accomplished in a flight simulator, visibility should be no greater than one-quarter (1/4) mile, or as specified by operator specifications.

2. Takes into account, prior to beginning the takeoff, operational factors which could affect the maneuver, such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.

3. Accomplishes the appropriate checklist items to ensure that the airplane systems applicable to the instrument takeoff are operating properly.

4. Sets the applicable radios/flight instruments to the desired setting prior to initiating the takeoff.

5. Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.

6. Transitions smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions.

7. Maintains the appropriate climb attitude.

8. Complies with the appropriate airspeeds/V-speeds and climb segment airspeeds.

9. Maintains desired heading within ±5° and desired airspeeds within ±5 knots.

10. Complies with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).

C. TASK: POWERPLANT FAILURE DURING TAKEOFF

NOTE: In a multiengine airplane with published V_1, V_R, and/or V_2 speeds, the failure of the most critical powerplant should be simulated at a point:

1. after V1 and prior to V2, if in the opinion of the examiner, it is appropriate under the prevailing conditions; or
2. as close as possible after V1 when V1 and V2 or V1 and VR are identical.

In a multiengine airplane for which no V_1, V_R, or V_2 speeds are published, the failure of the most critical powerplant should be simulated at a point after reaching a minimum of V_{SSE} and, if accomplished in the aircraft, at an altitude not lower than 500 feet AGL.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the procedures used during powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.

2. Takes into account, prior to beginning the takeoff, operational factors which could affect the maneuver such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.

3. Completes required checks prior to starting takeoff to verify the expected powerplant performance. Performs all required pre-takeoff checks as required by the appropriate checklist items.

4. Aligns the airplane on the runway.

5. Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.

6. Adjusts the powerplant controls as recommended by the CAA-approved guidance for the existing conditions.

7. Single-Engine Airplanes: Establishes a power-off descent approximately straight-ahead, if the powerplant failure occurs after becoming airborne.

8. Continues the takeoff (in a multiengine airplane) if the (simulated) powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations.

9. Maintains (in a multiengine airplane), after a simulated powerplant failure and after a climb has been established, the desired heading within ±5°, desired airspeed within ±5 knots (but not less than V2 is so defined) and, if appropriate for the airplane, establishes a bank of approximately 5°, or as recommended by the manufacturer, toward the operating powerplant.

10. Maintains the airplane alignment with the heading appropriate for climb performance and terrain clearance when powerplant failure occurs.

D. TASK: REJECTED TAKEOFF

Objective. To determine that the applicant understands when to reject or continue the takeoff and:

1. Exhibits adequate knowledge of the technique and procedure for accomplishing a rejected takeoff after powerplant/system(s) failure/warnings, including related safety factors.

2. Takes into account, prior to beginning the takeoff, operational factors that could affect the maneuver, such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, obstructions, and aircraft cleared for LAHSO that could affect takeoff performance and could adversely affect safety.

3. Aligns the airplane on the runway centerline.

4. Performs all required pre-takeoff checks as required by the appropriate checklist items.

5. Adjusts the powerplant controls as recommended by the CAA-approved guidance for the existing conditions.

6. Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway.

7. Aborts the takeoff if, in a single-engine airplane the powerplant failure occurs prior to becoming airborne, or in a multiengine airplane, the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be safely stopped on the remaining runway/stopway. If a flight simulator is not used, the powerplant failure should be simulated before reaching 50 percent of VMC.

8. Reduces the power smoothly and promptly, if appropriate to the airplane, when powerplant failure is recognized.

9. Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, maintaining positive control in such a manner as to bring the airplane to a safe stop. Accomplishes the appropriate powerplant failure or other procedures and/or checklists as set forth in the POH or AFM.

E. TASK: DEPARTURE PROCEDURES

Objective. To determine that the applicant:

1. In actual or simulated instrument conditions, exhibits adequate knowledge of DP's, En Route Low and High Altitude Charts, STARs, FMSP, and related pilot/controller responsibilities.

2. Uses the current and appropriate navigation publications for the proposed flight.

3. Selects and uses the appropriate communications frequencies, and selects and identifies the navigation aids associated with the proposed flight.

4. Performs the appropriate checklist items.

5. Establishes communications with ATC, using proper phraseology.

6. Complies, in a timely manner, with all instructions and airspace restrictions.

7. Exhibits adequate knowledge of two-way radio communications failure procedures.

8. Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, clearance, or as directed by the examiner.

9. Maintains the appropriate airspeed within ±10 knots, headings within ±10°, altitude within ±100 feet (30 meters); and accurately tracks a course, radial, or bearing.

10. Conducts the departure phase to a point where, in the opinion of the examiner, the transition to the en route environment is complete.

III. AREA OF OPERATION: INFLIGHT MANEUVERS

A. TASK: STEEP TURNS

Objective. To determine that the applicant:

1. In actual or simulated instrument conditions, exhibits adequate knowledge of steep turns (if applicable to the airplane) and the factors associated with performance; and, if applicable, wing loading, angle of bank, stall speed, pitch, power requirements, and over-banking tendencies.

2. Selects an altitude recommended by the manufacturer, training syllabus, or other training directive, but in no case lower than 3,000 feet (900 meters) AGL.

3. Establishes the recommended entry airspeed.

4. Rolls into a coordinated turn of 180° or 360° with a bank of at least 45°. Maintains the bank angle within ±5° while in smooth, stabilized flight.

5. Applies smooth coordinated pitch, bank, and power to maintain the specified altitude within ±100 feet (30 meters) and the desired airspeed within ±10 knots.

6. Rolls out of the turn (at approximately the same rate as used to roll into the turn) within ±10° of the entry or specified heading, stabilizes the airplane in a straight-and-level attitude or, at the discretion of the examiner, reverses the direction of turn and repeats the maneuver in the opposite direction.

7. Avoids any indication of an approaching stall, abnormal flight attitude, or exceeding any structural or operating limitation during any part of the maneuver .

B. TASK: APPROACHES TO STALLS

THREE approaches to stall are required, as follows (unless otherwise specified by the FSB Report):

1. One in the takeoff configuration (except where the airplane uses only zero-flap takeoff configuration) or approach configuration.
2. One in a clean configuration.
3. One in a landing configuration.

One of these approaches to a stall must be accomplished while in a turn using a bank angle of 15 to 30°.

Objective. To determine that the applicant:

1. In actual or simulated instrument conditions exhibits adequate knowledge of the factors, which influence stall characteristics, including the use of various drag configurations, power settings, pitch attitudes, weights, and bank angles. Also, exhibits adequate knowledge of the proper procedure for resuming normal flight.

2. Selects an entry altitude that is in accordance with the AFM or POH, but in no case lower than an altitude that will allow recovery to be safely completed at a minimum of 3,000 feet AGL for non-transport certificated airplanes and 5,000 feet for transport certificated airplanes. When accomplished in an FTD or flight simulator, the entry altitude may be at low, intermediate, or high altitude as appropriate for the airplane and the configuration, at the discretion of the examiner.

3. Observes the area is clear of other aircraft prior to accomplishing an approach to a stall.

4. While maintaining altitude, slowly establishes the pitch attitude (using trim or elevator/stabilizer), bank angle, and power setting that will induce stall at the desired target airspeed.

5. Announces the first indication of an impending stall (such as buffeting, stick shaker, decay of control effectiveness, and any other cues related to the specific airplane design characteristics) and promptly initiates recovery by disconnecting autopilot, reducing the angle of attack, leveling the wings, increasing power as necessary, and retracting any speedbrakes/spoilers to effect a safe and timely recovery.

6. Regains control of the airplane and recovers to maneuver ing speed and flight path appropriate for the airplane's configuration without exceeding the airplane's limitations or losing excessive altitude consistent with the airplane's performance capabilities. This should include reducing pitch attitude as necessary, reducing bank angle and adding power (no particular order implied!) to recover to missed approach or cruise configuration, airspeed and altitude. Some altitude loss is expected during the recovery, but re-establishment of controlled flight is paramount.

NOTE: Evaluation criteria for a recovery from an approach to stall

should not mandate a predetermined value for altitude loss and should not mandate maintaining altitude during recovery. Valid evaluation criteria must take into account the multitude of external (such as density altitude) and internal variables (ie. airplane mass, drag configuration and powerplant response time) which affect the recovery altitude.

7. Demonstrates smooth, positive control during entry, approach to a stall, and recovery.

C. TASK: POWERPLANT FAILURE—MULTIENGINE AIRPLANE

NOTE: When not in an FTD or a flight simulator, the feathering of one propeller must be demonstrated in any multiengine airplane equipped with propellers (includes turboprop), which can be safely feathered and unfeathered while airborne. In a multiengine jet airplane, one engine must be shut down and a restart must be demonstrated while airborne. Feathering or shutdown should be performed only under conditions, and at such altitudes (no lower than 3,000 feet [900 meters] AGL) and in a position where a safe landing can be made on an established airport in the event difficulty is encountered in unfeathering the propeller or restarting the engine. At an altitude lower than 3,000 feet (900 meters) AGL, simulated engine failure will be performed by setting the powerplant controls to simulate zero-thrust. In the event propeller cannot be unfeathered or engine air started during the test, it should be treated as an emergency. When authorised and conducted in a flight simulator, feathering or shutdown may be performed in conjunction with any procedure or maneuver and at locations and altitudes at the discretion of the examiner. However, when conducted in an FTD, authorisations shall be limited to shutdown, feathering,

restart, and/or unfeathering procedures only. See appendix 1.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the flight characteristics and controllability associated with maneuver ing with powerplant(s) inoperative (as appropriate to the airplane).
2. Maintains positive airplane control. Establishes a bank of approximately 5°, if required, or as recommended by the manufacturer, to maintain coordinated flight, and properly trims for that condition.
3. Sets powerplant controls, reduces drag as necessary, correctly identifies and verifies the inoperative powerplant(s) after the failure (or simulated failure).
4. Maintains the operating powerplant(s) within acceptable operating limits.
5. Follows the prescribed airplane checklist, and verifies the procedures for securing the inoperative powerplant(s).
6. Determines the cause for the powerplant(s) failure and if a restart is a viable option.
7. Maintains desired altitude within ±100 feet (30 meters), when a constant altitude is specified and is within the capability of the airplane.
8. Maintains the desired airspeed within ±10 knots.
9. Maintains the desired heading within ±10° of the specified heading.
10. Demonstrates proper powerplant restart procedures (if appropriate) in accordance with CAA-approved procedure/checklist or the manufacturer's recommended procedures and pertinent checklist items.

D. TASK: POWERPLANT FAILURE—SINGLE–ENGINE AIRPLANE

NOTE: No simulated powerplant failure shall be given by the examiner in an airplane when an actual touchdown could not be safely completed should it become necessary.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the flight characteristics, approach and forced (emergency) landing procedures, and related procedures to use in the event of a powerplant failure (as appropriate to the airplane).

2. Maintains positive control throughout the maneuver.

3. Establishes and maintains the recommended best glide airspeed, ±5 knots, and configuration during a simulated powerplant failure.

4. Selects a suitable airport or landing area, which is within the performance capability of the airplane.

5. Establishes a proper flight pattern to the selected airport or landing area, taking into account altitude, wind, terrain, obstructions, and other pertinent operational factors.

6. Follows the emergency checklist items appropriate to the airplane.

7. Determines the cause for the simulated powerplant failure (if altitude permits) and if a restart is a viable option.

8. Uses configuration devices, such as landing gear and flaps in a manner recommended by the manufacturer and/or approved by the CAA.

E. TASK: SPECIFIC FLIGHT CHARACTERISTICS

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of specific flight characteristics appropriate to the specific airplane, as identified by the FSB Report, such as Dutch Rolls in a Boeing 727 or Lear Jet.

2. Uses proper technique to enter into, operate within, and recover from specific flight situations.

F. TASK: RECOVERY FROM UNUSUAL ATTITUDES

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of recovery from unusual attitudes.

2. Recovers from nose-high unusual attitudes, using proper pitch, bank, and power techniques.

3. Recovers from nose-low unusual attitudes, using proper pitch, bank, and power techniques.

IV. AREA OF OPERATION: INSTRUMENT PROCEDURES

NOTE: TASKS B through F are not required if the applicant holds a private pilot or commercial pilot certificate and is seeking a type rating limited to VFR.

A. TASK: STANDARD TERMINAL ARRIVAL/FLIGHT MANAGEMENT SYSTEM PROCEDURES

Objective. To determine that the applicant:

1. In actual or simulated instrument conditions, exhibits adequate knowledge of En Route Low and High Altitude Charts, STAR's/FMSP's, Instrument Approach Procedure Charts, and related pilot and controller responsibilities.

2. Uses the current and appropriate navigation publications for the proposed flight.

3. Selects and correctly identifies all instrument references, flight director and autopilot controls, and navigation and communications equipment associated with the arrival.

4. Performs the airplane checklist items appropriate to the arrival.

5. Establishes communications with ATC, using proper phraseology.

6. Complies, in a timely manner, with all ATC clearances, instructions, and restrictions.

7. Exhibits adequate knowledge of two-way communications failure procedures.

8. Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, ATC clearance, or as directed by the examiner.

9. Adheres to airspeed restrictions and adjustments required by regulations, ATC, the POH, the AFM, or the examiner.

10. Establishes, where appropriate, a rate of descent consistent with the airplane operating characteristics and safety.

11. Maintains the appropriate airspeed/V-speed within ±10 knots, but not less than V_{REF}, if applicable; heading ±10°; altitude within ±100 feet (30 meters); and accurately tracks radials, courses, and bearings.

12. Complies with the provisions of the Profile Descent, STAR, and other arrival procedures, as appropriate.

B. TASK: HOLDING

Objective. To determine that the applicant:

1. In actual or simulated instrument conditions, exhibits adequate knowledge of holding procedures for standard and non-standard, published and non-published holding patterns. If appropriate, demonstrates adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc.

2. Changes to the recommended holding airspeed appropriate for the airplane and holding altitude, so as to cross the holding fix at or below maximum holding airspeed.

3. Recognizes arrival at the clearance limit or holding fix.

4. Follows appropriate entry procedures for a standard, non-standard, published, or non-published holding pattern.

5. Complies with ATC reporting requirements.

6. Uses the proper timing criteria required by the holding altitude and ATC or examiner's instructions.

7. Complies with the holding pattern leg length when a DME distance is specified.

8. Uses the proper wind-drift correction techniques to accurately maintain the desired radial, track, courses, or bearing.

9. Arrives over the holding fix as close as possible to the "expect further clearance" time.

10. Maintains the appropriate airspeed/V-speed within ±10 knots, altitude within ±100 feet (30 meters), headings within ±10°; and accurately tracks radials, courses, and bearings.

C. TASK: PRECISION INSTRUMENT APPROACHES

NOTE: Two precision approaches, utilizing airplane NAVAID equipment for centreline and glideslope guidance, must be accomplished in simulated or actual instrument conditions to DA/DH. At least one approach must be flown manually. The second approach may be flown via the autopilot, if appropriate, and if the DA/DH altitude does not violate the authorised minimum altitude for autopilot operation. Manually flown precision approaches may use raw data displays or may be flight director assisted, at the discretion of the examiner.
For multiengine airplanes at least one manually controlled precision approach must be accomplished with a simulated failure of one powerplant. The simulated powerplant failure should occur before initiating the final approach segment and must continue to touchdown or throughout the missed approach procedure. As the markings on localizer/glide slope indicators vary, a one-quarter scale deflection of either the localizer, or glide slope indicator is when it is displaced one-fourth of the distance that it may be deflected from the on glide slope or on localizer position.

NOTE: A stabilized approach is characterized by a constant angle, constant rate of descent approach profile ending near the touchdown point, where the landing maneuver begins.

NOTE: If the installed equipment and data base is current and qualified for IFR flight and LPV approaches, an LPV approach can be flown to demonstrate precision approach proficiency if the LPV DA is equal to or less than 300 feet HAT."

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the precision instrument approach procedures with all engines operating, and with one engine inoperative.

2. Accomplishes the appropriate precision instrument approaches as selected by the examiner.

3. Establishes two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs copilot/safety pilot to do so, 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 the applicant is unable to comply with a clearance.

6. Establishes the appropriate airplane configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions.

7. Completes the airplane 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 (30 meters), the desired airspeed within ±10 knots, the desired

heading within ±5°; and accurately tracks radials, courses, and bearings.

9. Selects, tunes, identifies, and monitors the operational status of ground and airplane navigation equipment used for the approach.

10. Applies the necessary adjustments to the published DA/DH and visibility criteria for the airplane approach category as required, such as—

    a. Notices to Airmen, including Flight Data Center Procedural NOTAMs.
    b. Inoperative airplane and ground navigation equipment.
    c. Inoperative visual aids associated with the landing environment.

11. Weather reporting factors and criteria.

12. Establishes a predetermined rate of descent at the point where the electronic glide slope begins, which approximates that required for the airplane to follow the glide slope.

13. Maintains a stabilized final approach, from the Final Approach Fix to Decision Height allowing no more than one-quarter scale deflection of either the glide slope or localizer indications and maintains the desired airspeed within ±5 knots.

14. A missed approach or transition to a landing shall be initiated at Decision Height.

15. Initiates immediately the missed approach when at the DA/DH, and the required visual references for the runway are not unmistakably visible and identifiable.

16. Transitions to a normal landing approach (missed approach for seaplanes) only when the airplane 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 maneuver ing.

17. Maintains localizer and glide slope within one-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.

D. TASK: NONPRECISION INSTRUMENT APPROACHES

NOTE: The applicant must accomplish at least two nonprecision approaches (one of which must include a procedure turn) in simulated or actual weather conditions, using two different approach systems. At least one nonprecision approach must be flown manually without receiving radar vectors. The examiner will select nonprecision approaches that are representative of that which the applicant is likely to use. The choices must utilize two different systems; i.e., NDB and one of the following: VOR, LOC, LDA, RNP.

NOTE: One approach should be flown with reference to backup or "fail down" instrumentation or navigation display depending on the aircraft's avionics configuration.

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

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of nonprecision approach procedures representative of those the applicant is likely to use.

2. Accomplishes the nonprecision instrument approaches selected by the examiner.

3. Establishes two-way communications with ATC as appropriate to the phase of flight or approach segment and uses proper communications phraseology and techniques.

4. Complies with all clearances issued by ATC.

5. Advises ATC or the examiner any time the applicant is unable to comply with a clearance.

6. Establishes the appropriate airplane configuration and airspeed, and completes all applicable checklist items.

7. Maintains, prior to beginning the final approach segment, the desired altitude ±100 feet (30 meters), the desired airspeed ±10 knots, the desired heading ±5°; and accurately tracks radials, courses, and bearings.

8. Selects, tunes, identifies, and monitors the operational status of ground and airplane navigation equipment used for the approach.

9. Applies the necessary adjustments to the published Minimum Descent Altitude (MDA) and visibility criteria for the airplane approach category when required, such as—
    a. Notices to Airmen, including Flight Data Center Procedural NOTAMs.
    b. Inoperative airplane and ground navigation equipment.
    c. Inoperative visual aids associated with the landing environment.
    d. Weather reporting factors and criteria.

10. Establishes a rate of descent that will ensure arrival at the MDA (at, or prior to reaching, the visual descent point (VDP), if published) with the airplane in a position from which a descent from MDA to a landing on the intended runway can be made at a normal rate using normal maneuver ing.

11. Allows, while on the final approach segment, not more than quarter-scale deflection of the Course Deviation Indicator (CDI) or ±5° in the case of the RMI or bearing pointer, and maintains airspeed within ±5 knots of that desired.

12. Maintains the MDA, when reached, within -0, +50 feet (-0, +15 meters) to the missed approach point.

13. Executes the missed approach if the required visual references for the intended runway are not unmistakably visible and identifiable at the missed approach point.

14. Executes a normal landing from a straight-in or circling approach when instructed by the examiner.

NOTE: If TASK D, Nonprecision Instrument Approaches, the second approach may be waived, if the applicant demonstrates a high degree of proficiency on the first approach and the applicant's training records or instructor certification show that the applicant has satisfactorily completed the nonprecision approach training requirements. The instrument approaches are considered to begin when the airplane is over the initial approach fix for the procedure being used and end when the airplane touches down on the runway or when transition to a missed approach configuration is completed. Instrument conditions need NOT be simulated below the minimum altitude for the approach being accomplished.

E. TASK: CIRCLING APPROACH

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of circling approach categories, speeds, and procedures to a specified runway.

2. In simulated or actual instrument conditions to MDA, accomplishes the circling approach selected by the examiner.

3. Demonstrates sound judgment and knowledge of the airplane maneuver ing capabilities throughout the circling approach.

4. Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC.

5. Descends at a rate that ensures arrival at the MDA at, or prior to, a point from which a normal circle-to-land maneuver can be accomplished.

6. Avoids descent below the appropriate circling MDA or exceeding the visibility criteria until in a position from which a descent to a normal landing can be made.

7. Maneuver s the airplane, after reaching the authorised circling approach altitude, by visual references to maintain a flightpath that permits a normal landing on a runway at least 90° from the final approach course.

8. Performs the procedure without excessive maneuver ing and without exceeding the normal operating limits of the airplane (the angle of bank should not exceed 30°).

9. Maintains the desired altitude within -0, +100 feet (-0, +30 meters), heading/track within ±5°, the airspeed/V-speed within ±5 knots, but not less than the airspeed as specified in the POH or the AFM.

10. Uses the appropriate airplane configuration for normal and abnormal situations and procedures.

11. Turns in the appropriate direction, when a missed approach is dictated during the circling approach, and uses the correct procedure and airplane configuration.

12. Performs all procedures required for the circling approach and airplane control in a smooth, positive, and timely manner.

F. TASK: MISSED APPROACH

NOTE: The applicant must perform two missed approaches with one being from a precision approach (ILS, MLS, or GPS). One complete published missed approach must be accomplished. Additionally, in multiengine airplanes, a missed approach must be accomplished with one engine inoperative (or simulated inoperative). The engine failure may be experienced anytime prior to the initiation of the approach, during the approach, or during the transition to the missed approach attitude and configuration. Going below the MDA or DA/DH, as appropriate, prior to the initiation of the missed approach shall be considered unsatisfactory performance. However, satisfactory performance may be concluded if the missed approach is properly initiated at DA/DH and the airplane descends below DA/DH only because of the momentum of the airplane transitioning from a stabilized approach to a missed approach.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of missed approach procedures associated with standard instrument approaches.

2. Initiates the missed approach procedure promptly by the timely application of power, establishes the proper climb attitude, and reduces drag in accordance with the approved procedures.

3. Reports to ATC, beginning the missed approach procedure.

4. Complies with the appropriate missed approach procedure or ATC clearance.

5. Advises ATC any time the applicant is unable to maneuver the airplane to comply with a clearance.

6. Follows the recommended airplane checklist items appropriate to the go-around procedure for the airplane used.

7. Requests clearance, if appropriate, to the alternate airport, another approach, a holding fix, or as directed by the examiner.

8. Maintains the desired altitudes ±100 feet (30 meters), airspeed ±5 knots, heading ±5°; and accurately tracks courses, radials, and bearings.

V. AREA OF OPERATION: LANDINGS AND APPROACHES TO LANDINGS

NOTE: Notwithstanding the authorisations for the combining of maneuvers and for the waiver of maneuvers, the applicant must make at least three actual landings (one to a full stop). These landings must include the types listed in this AREA OF OPERATION; however, more than one type may be combined where appropriate (i.e., crosswind and landing from a precision approach or landing with simulated powerplant failure, etc.). For all landings, touchdown should be 500 to 3,000 feet (150 to 900 meters) past the runway threshold, not to exceed one-third of the runway length, with the runway centreline between the main gear. An amphibian type rating shall bear the limitation "LIMITED TO LAND" or "LIMITED TO SEA," as appropriate, unless the applicant demonstrates proficiency in both land and sea operations.

A. TASK: NORMAL AND CROSSWIND APPROACHES AND LANDINGS

NOTE: In an airplane with a single powerplant, unless the applicant holds a commercial pilot certificate, he or she must accomplish three accuracy approaches and spot landings from an altitude of 1,000 feet (300 meters) or less, with the engine power lever in idle and 180° of change in direction. The airplane must touch the ground in a normal landing attitude beyond and within 200 feet (60 meters) of a designated line or point on the runway. At least one landing must be from a forward slip. Although circular approaches are acceptable, 180° approaches using two 90° turns with a straight base leg are preferred.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of normal and crosswind approaches and landings including recommended approach angles, airspeeds, V-speeds, configurations, performance limitations, wake turbulence, LAHSO, and safety factors (as appropriate to the airplane).

2. Establishes the approach and landing configuration appropriate for the runway and meteorological conditions, and adjusts the powerplant controls as required.

3. Maintains a ground track that ensures the desired traffic pattern will be flown, taking into account any obstructions and ATC or examiner instructions.

4. Verifies existing wind conditions, makes proper correction for drift, and maintains a precise ground track.

5. Maintains a stabilized approach and the desired airspeed/V-speed within ±5 knots.

6. Accomplishes a smooth, positively controlled transition from final approach to touchdown.

7. Maintains positive directional control and crosswind correction during the after-landing roll.

8. Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

9. Completes the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

B. TASK: LANDING FROM A PRECISION APPROACH

NOTE: If circumstances beyond the control of the applicant prevent an actual landing, the examiner may accept an approach to a point where, in his or her judgment, a safe landing and a full stop could have been made, and credit given for a missed approach. Where a simulator, approved for landing from a precision approach, is used, the approach may be continued through the landing and credit given for one of the landings required by this AREA OF OPERATION.

Objective. To determine that the applicant:

1. Exhibits awareness of landing in sequence from a precision approach.

2. Considers factors to be applied to the approach and landing such as displaced thresholds, meteorological conditions, NOTAMs, and ATC or examiner instructions.

3. Uses the airplane configuration and airspeed/V-speeds, as appropriate.

4. Maintains, during the final approach segment, glide slope and localizer indications within applicable standards of deviation, and the recommended airspeed/V-speed ±5 knots.

5. Applies gust/wind factors as recommended by the manufacturer, and takes into account meteorological phenomena such as wind shear, microburst, and other related safety of flight factors.

6. Accomplishes the appropriate checklist items.

7. Transitions smoothly from simulated instrument meteorological conditions at a point designated by the examiner, maintaining positive airplane control.

8. Accomplishes a smooth, positively controlled transition from final approach to touchdown.

9. Maintains positive directional control and crosswind correction during the after-landing roll.

10. Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop after landing.

11. Completes the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

C. TASK: APPROACH AND LANDING WITH (SIMULATED) POWERPLANT FAILURE - MULTIENGINE AIRPLANE

NOTE: In airplanes with three powerplants, the applicant shall follow a procedure (if approved) that approximates the loss of two powerplants, the centre and one outboard powerplant. In other multiengine airplanes, the applicant shall follow a procedure, which simulates the loss of 50 percent of available powerplants, the loss being simulated on one side of the airplane.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the flight characteristics and controllability associated with maneuver ing to a landing with (a) powerplant(s) inoperative (or simulated inoperative) including the controllability factors associated with maneuver ing, and the applicable emergency procedures.

2. Maintains positive airplane control. Establishes a bank of approximately 5°, if required, or as recommended by the manufacturer, to maintain coordinated flight, and properly trims for that condition.

3. Sets powerplant controls, reduces drag as necessary, correctly identifies and verifies the inoperative powerplant(s) after the failure (or simulated failure).

4. Maintains the operating powerplant(s) within acceptable operating limits.

5. Follows the prescribed airplane checklist, and verifies the procedures for securing the inoperative powerplant(s).

6. Proceeds toward the nearest suitable airport.

7. Maintains, prior to beginning the final approach segment, the desired altitude ±100 feet (30 meters), the desired airspeed ±10 knots, the desired heading ±5°; and accurately tracks courses, radials, and bearings.

8. Establishes the approach and landing configuration appropriate for the runway or landing area, and meteorological conditions; and adjusts the powerplant controls as required.

9. Maintains a stabilized approach and the desired airspeed/V-speed within ±5 knots.

10. Accomplishes a smooth, positively controlled transition from final approach to touchdown.

11. Maintains positive directional control and crosswind corrections during the after-landing roll.

12. Uses spoilers, prop reverse, thrust reversers, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop after landing.

13. Completes the applicable after-landing checklist items in a timely manner,

after clearing the runway, and as recommended by the manufacturer.

D. TASK: LANDING FROM A CIRCLING APPROACH

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of a landing from a circling approach.

2. Selects, and complies with, a circling approach procedure to a specified runway.

3. Considers the environmental, operational, and meteorological factors that affect a landing from a circling approach.

4. Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC.

5. Descends at a rate that ensures arrival at the MDA at, or prior to, a point from which a normal circle-to-land maneuver can be accomplished.

6. Avoids descent below the appropriate circling MDA or exceeding the visibility criteria until in a position from which a descent to a normal landing can be made.

7. Accomplishes the appropriate checklist items.

8. Maneuver s the airplane, after reaching the authorised circling approach altitude, by visual references, to maintain a flightpath that permits a normal landing on a runway at least 90° from the final approach course.

9. Performs the maneuver without excessive maneuver ing and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.

10. Maintains the desired altitude within +100, -0 feet (+30, -0 meters), heading within ±5°, and approach airspeed/V-speed within ±5 knots.

11. Uses the appropriate airplane configuration for normal and abnormal situations and procedures.

12. Performs all procedures required for the circling approach and airplane control in a timely, smooth, and positive manner.

13. Accomplishes a smooth, positively controlled transition to final approach and touchdown or to a point where in the opinion of the examiner that a safe full stop landing could be made.

14. Maintains positive directional control and crosswind correction during the after-landing roll.

15. Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

16. Completes the appropriate after-landing checklist items, after clearing the

runway, in a timely manner and as recommended by the manufacturer.

E. TASK: REJECTED LANDING

NOTE: The maneuver may be combined with instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet (30 meters) above the runway. This maneuver should be initiated approximately 50 feet (15 meters) above the runway and approximately over the runway threshold.
For those applicants seeking a VFR only type rating in an airplane not capable of instrument flight, and where this maneuver is accomplished with a simulated engine failure, it should not be initiated at speeds or altitudes below that recommended in the POH.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of a rejected landing procedure including the conditions that dictate a rejected landing, the importance of a timely decision, LAHSO considerations, the recommended airspeed/V-speeds, and also the applicable “clean-up” procedure.

2. Makes a timely decision to reject the landing for actual or simulated circumstances and makes appropriate notification when safety-of-flight is not an issue.

3. Applies the appropriate power setting for the flight condition and establishes a pitch attitude necessary to obtain the desired performance.

4. Retracts the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, establishes a positive rate of climb and the appropriate airspeed/V-speed within ±5 knots.

5. Trims the airplane as necessary, and maintains the proper ground track during the rejected landing procedure.

6. Accomplishes the appropriate checklist items in a timely manner in accordance with approved procedures.

F. TASK: LANDING FROM A NO FLAP OR A NONSTANDARD FLAP APPROACH

NOTE: This maneuver need not be accomplished for a particular airplane type if the Administrator has determined that the probability of flap extension failure on that type airplane is extremely remote due to system design. The examiner must determine whether checking on slats only and partial-flap approaches are necessary for the practical test.

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the factors, which affect the flight characteristics of an airplane when full or partial flaps, leading edge flaps, and other similar devices become inoperative.

2. Uses the correct airspeeds/V-speeds for the approach and landing.

3. Maintains the proper airplane pitch attitude and flightpath for the configuration, gross weight, surface winds, and other applicable operational considerations.

4. Uses runway of sufficient length for the zero or nonstandard flap condition.

5. Maneuvers the airplane to a point where a touchdown at an acceptable point on the runway and a safe landing to a full stop could be made.

6. After landing, uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

VI. AREA OF OPERATION: NORMAL AND ABNORMAL PROCEDURES

Objective. To determine that the applicant:

1. Possesses adequate knowledge of the normal and abnormal procedures of the systems, subsystems, and devices relative to the airplane type (as may be determined by the examiner); knows immediate action items to accomplish, if appropriate, and proper checklist to accomplish or to call for, if appropriate.

2. Demonstrates the proper use of the airplane systems, subsystems, and devices (as may be determined by the examiner) appropriate to the airplane, such as—
    a. powerplant.
    b. fuel system.
    c. electrical system.
    d. hydraulic system.
    e. environmental and pressurization systems.
    f. fire detection and extinguishing systems.
    g. navigation and avionics systems.
    h. automatic flight control system, electronic flight instrument system, and related subsystems.
    i. flight control systems.
    j. anti-ice and deice systems.
    k. airplane and personal emergency equipment, other systems, subsystems, and devices specific to the type airplane, including make, model, and series.

VII. AREA OF OPERATION: EMERGENCY PROCEDURES

Objective. To determine that the applicant:

1. Possesses adequate knowledge of the emergency procedures (as may be determined by the examiner) relating to the particular airplane type.

2. Demonstrates the proper emergency procedures (as must be determined by the examiner) relating to the particular airplane type, including—
    a. emergency descent (maximum rate).
    b. in-flight fire and smoke removal.
    c. rapid decompression.
    d. emergency evacuation.
    e. others (as may be required by the AFM).

3. Demonstrates the proper procedure for any other emergency outlined (as must be determined by the examiner) in the appropriate approved AFM.

VIII. AREA OF OPERATION: POSTFLIGHT PROCEDURES

A. TASK: AFTER-LANDING PROCEDURES

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of safe after-landing/taxi/ramping/anchoring/docking and mooring procedures as appropriate.
2. Exhibits procedures to ensure the pilot maintains strict focus on the movement of the aircraft and ATC communications.
3. Demonstrates proficiency by maintaining correct and positive control.
4. Utilizes procedures for holding the pilot's workload to a minimum during taxi operations.
5. Maintains proper spacing on other aircraft, obstructions, and persons.
6. Utilizes taxi operation planning procedures, such as recording taxi instructions, reading back taxi clearances, and reviewing taxi routes on the airport diagram.
7. Utilizes procedures to ensure that clearance or instructions that are actually received are adhered to rather than the ones expected to be received.
8. Demonstrates procedures for briefing if a landing rollout to a taxiway exit will place the pilot in close proximity to another runway which can result in a runway incursion.
9. Accomplishes the applicable checklist items or coordinates with crew to ensure completion of checklist items in a timely manner and as recommended by the manufacturer and performs the recommended procedures.
10. Conducts appropriate after-landing/taxi procedures in the event the aircraft is on a taxiway that is between parallel runways.
11. Demonstrates specific procedures for operations at an airport with an operating air traffic control tower, with emphasis on ATC communications and runway entry/crossing authorizations.
12. Demonstrates and explains ATC communications and pilot actions before landing, and after landing at airports.
13. Maintains the desired track and speed.
14. Complies with instructions issued by ATC (or the examiner simulating ATC).
15. Observes runway hold lines, localizer and glide slope critical areas, and other surface control markings and lighting to prevent a runway incursion.
16. Maintains constant vigilance and airplane control during the taxi operation.
17. Demonstrates and/or explains procedural differences for night operations.
18. Demonstrates and explains the use(s) of aircraft exterior lighting and differences for day and night operations.
19. Explains and discusses the hazards of low visibility operations.

B. TASK: PARKING AND SECURING

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of the parking, mooring, docking, beaching, and the securing airplane procedures.

2. Demonstrates adequate knowledge of the airplane forms/logs to record the flight time/discrepancies.