



Glider

For Private and
Commercial Pilots
and Flight Instructors

Practical Test Standards

FAA-S-8081-GLI



U.S. Department
of Transportation
**Federal Aviation
Administration**

FAA-S-8081-GLI

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- **Private Pilot** Airplane Multi-Engine Land
- **Single-Engine Sea** Private & Commercial
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- **Flight Instructor** Rotorcraft/Helicopter
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Washington, DC 20591

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FOREWORD

This Private, Commercial, and Flight Instructor-Glider Practical Test Standards book has been published by the Federal Aviation Administration to establish the standards for the private, commercial, and flight instructor certification practical tests for the glider category. FAA inspectors and designated pilot examiners will conduct practical tests in compliance with these standards. Flight instructors and applicants will find these standards helpful in practical test preparation.

INTRODUCTION

The Aviation Standards National Field Office of the FAA (Federal Aviation Administration) has developed this practical test book as a standard to be used by FAA inspectors and designated pilot examiners when conducting private, commercial, and flight instructor glider practical tests. Flight instructors are expected to use this book when preparing applicants for practical tests.

This publication may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

The FAA gratefully acknowledges the valuable assistance provided by organizations and individuals who have contributed their time and talent in redesigning the practical test standards.

Comments regarding this publication should be directed to:

U.S. Department of Transportation
Federal Aviation Administration
Aviation Standards National Field Office
Examinations Standards Branch, AVN-130
P.O. Box 25082
Oklahoma City, Oklahoma 73125

PRACTICAL TEST STANDARD CONCEPT

FARs (Federal Aviation Regulations) specify the areas in which knowledge and skill must be demonstrated by the applicant before the issuance of a private, commercial, and flight instructor certificate with the associated class ratings. The FARs provide the flexibility that permits the FAA to publish practical test standards containing specific TASKS in which competency must be demonstrated by the applicant before the issuance of a pilot certificate or rating. The FAA will add, delete, or revise TASKS whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the FARs and the practical test standards is mandatory for the evaluation of flight instructor applicants.

FLIGHT INSTRUCTOR RESPONSIBILITY

Because of the impact of their teaching activities in developing safe, proficient pilots, flight instructors should exhibit a high level of knowledge, skill, and the ability to impart that knowledge and skill to students.

An appropriately rated flight instructor is responsible for training the private, commercial, and flight instructor applicant to acceptable standards in ALL of the subject matter areas, procedures, and maneuvers included in the TASKS of this test book.

The flight instructor must certify that the flight instructor applicant:

1. is able to make a practical application of the fundamentals of instruction;
2. is competent to teach the subject matter, procedures, and maneuvers included in the standard to students with varying backgrounds and levels of experience and ability;

3. is able to perform the procedures and maneuvers included in the standard to at least the COMMERCIAL PILOT SKILL LEVEL while giving effective flight instruction; and
4. is competent to pass the required practical test for the issuance of the flight instructor certificate with the associated category and class ratings or for the addition of a category and/or class rating to a flight instructor certificate.

Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of, and ability to teach, effective visual scanning and collision avoidance procedures. These areas are covered in AC 90-48, Pilots' Role in Collision Avoidance; AC 61-21, Flight Training Handbook; AC 61-23, Pilot's Handbook of Aeronautical Knowledge; and the Aeronautical Information Manual.

EXAMINER¹ RESPONSIBILITY

The examiner who conducts the practical test is responsible for determining that the applicant meets acceptable standards of knowledge, skill, and teaching ability in the selected TASKS. This determination requires evaluation of both knowledge and skill, since there is no formal division between the "oral" and "skill" portions of the practical test. It is intended that oral questioning be used at any time during the practical test to determine that the applicant shows adequate knowledge of the TASKS and their related safety factors.

This determination requires the evaluation of the flight instructor applicant's:

1. ability to apply the fundamentals of instruction;
2. knowledge of, and ability to teach, the subject matter, procedures, and maneuvers covered in the TASKS; and
3. ability to perform the procedures and maneuvers covered in the TASKS to at least the COMMERCIAL PILOT SKILL LEVEL while giving effective flight instruction.

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

Throughout the flight portion of the test, the examiner will evaluate the applicant's use of visual scanning and collision avoidance procedures, and the applicant's ability to teach those procedures.

INITIAL FLIGHT INSTRUCTOR CERTIFICATION

An applicant who seeks initial flight instructor certification will be evaluated in all AREAS OF OPERATION of the standard appropriate to the rating(s) sought. This evaluation will include at least one TASK in each AREA OF OPERATION and will always include the required TASKS.

¹ The word "examiner" is used to denote either the FAA inspector or FAA designated pilot examiner who conducts an official flight test.

INITIAL CERTIFICATION

Initial category and/or class rating(s) sought	Applicable book and section
ASE	FAA-S-8081-6, Section 1
AME	FAA-S-8081-6, Section 2
RH	FAA-S-8081-7, Section 1
RG	FAA-S-8081-7, Section 2
G	FAA-S-8081-8
IA	FAA-S-8081-9
IH	FAA-S-8081-9

ADDITION OF AIRCRAFT CATEGORY AND/OR CLASS RATINGS TO A FLIGHT INSTRUCTOR CERTIFICATE

An applicant who holds a flight instructor certificate and seeks an additional aircraft category and/or class rating will be evaluated in at least the AREAS OF OPERATION and TASKS that are unique and appropriate to the rating(s) sought (see table at the beginning of each standard). At the discretion of the examiner, the evaluation of the applicant's competence in AREAS OF OPERATION and TASKS which are "common" to ALL aircraft categories and classes MAY be repeated. An example of this is Fundamentals of Instruction.

ADDITION OF RATING(S)

Flight instructor certificate and rating(s) held	Additional category and/or class rating(s) sought	Applicable book and section
AME, RH, RG, G, IA, or IH	ASE	FAA-S-8081-6, Section 1
ASE, RH, RG, G, IA, or IH	AME	FAA-S-8081-6, Section 2
ASE, AME, RG, G, IA, or IH	RH	FAA-S-8081-7, Section 1
ASE, AME, RH, G, IA, or IH	RG	FAA-S-8081-7, Section 2
ASE, AME, RH, RG, IA, or IH	G	FAA-S-8081-8
ASE, AME, RH, RG, G, or IH	IA	FAA-S-8081-9
ASE, AME, RH, RG, G, or IA	IH	FAA-S-8081-9

LEGEND

ASE Airplane Single-Engine
AME Airplane Multiengine
RH Rotorcraft Helicopter
RG Rotorcraft Gyroplane

G Glider
IA Instrument Airplane
IH Instrument Helicopter

NOTE: When administering tests based on FAA-S-8081-6, Sections 1 and 2, the TASKS appropriate to the class airplane (land or sea) used for the practical test should be included.

FLIGHT INSTRUCTOR PRACTICAL TEST STANDARD DESCRIPTION

The AREAS OF OPERATION are phases of flight arranged in a logical sequence within this standard. They begin with the preparation of the flight and end with the conclusion of the flight. The examiner, however, may conduct the practical test in any sequence that results in a complete and efficient test.

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

The abbreviation(s) within parentheses immediately following a TASK title refer to the CATEGORY and/or CLASS aircraft appropriate to that TASK. The meaning of each abbreviation follows:

ASEL	Airplane, Single Engine Land
AMEL	Airplane, Multiengine Land
ASES	Airplane, Single-Engine Sea
AMES	Airplane, Multiengine Sea
RH	Rotorcraft Helicopter
RG	Rotorcraft Gyroplane
G	Glider
IA	Instrument Airplane
IH	Instrument Helicopter

The REFERENCE identifies the publication(s) that describe the TASK. Descriptions of TASKS and maneuver tolerances are not included because this information can be found in references listed for each TASK. Publications other than those listed may be used as references if their content conveys substantially the same meaning as the referenced publications. References listed in this test book include the current revisions of the following publications:

FAR Part 61	Certification: Pilots and Flight Instructors
FAR Part 91	General Operating and Flight Rules
AC 00-6	Aviation Weather
AC 00-45	Aviation Weather Services
AC 60-14	Aviation Instructor's Handbook
AC 61-13	Basic Helicopter Handbook
AC 61-21	Flight Training Handbook
AC 61-23	Pilot's Handbook of Aeronautical Knowledge
AC 61-27	Instrument Flying Handbook
AC 61-65	Certification: Pilots and Flight Instructors
AC 61-84	Role of Preflight Preparation
AC 61-92	Use of Distractions During Pilot Certification Flight Tests
AC 61-94	Pilot Transition Course for Self-Launching or Powered Sailplanes (motor gliders)
AC 67-2	Medical Handbook for Pilots
AC 90-48	Pilots' Role in Collision Avoidance
AC 91-13	Cold Weather Operation of Aircraft
AC 91-55	Reduction of Electrical Systems Failure Following Engine Starting
FAA-S-8081-1	Private Pilot Practical Test Standards
FAA-S-8081-2	Commercial Pilot Practical Test Standards
FAA-S-8081-4	Instrument Rating Practical Test Standards
AIM	Aeronautical Information Manual

Pertinent Pilot Operating Handbooks and FAA Approved Flight Manuals

IAPs	Instrument Approach Procedures
SIDs	Standard Instrument Departures
STARs	Standard Terminal Arrivals
AFD	Airport Facility Directory
NOTAMs	Notices to Airmen

Each TASK has an OBJECTIVE. The examiner determines that the applicant meets the TASK OBJECTIVE through the demonstration of competency in various elements of knowledge and/or skill. The OBJECTIVES of TASKS in certain AREAS OF OPERATION, such as Fundamentals of Instruction and Technical Subject Areas, include ONLY knowledge elements. The OBJECTIVES of TASKS in the AREAS OF OPERATION that include elements of skill as well as knowledge also include common errors which the applicant should be able to describe, recognize, analyze, and correct.

The OBJECTIVE of a TASK that involves flight instructor pilot skill consists of four parts. Those four parts include the determination that the applicant exhibits:

1. instructional knowledge of the elements of a TASK. This is accomplished through descriptions, explanations, and simulated instruction;
2. instructional knowledge of common errors related to a TASK, including their recognition, analysis, and correction;
3. the ability to demonstrate and simultaneously explain the key elements of a TASK. The TASK demonstration must be to the commercial pilot standards and the teaching techniques and procedures should conform to those set forth in AC 60-14, Aviation Instructor's Handbook, and AC 61-21, Flight Training Handbook; and
4. the ability to analyze and correct common errors related to a TASK.

The ACTION assists the examiner in ensuring that the OBJECTIVE is met.

USE OF THE PRACTICAL TEST BOOK

The commercial pilot practical test standards have been designed to evaluate the competency of commercial pilots in both knowledge and skill. Commercial pilots are professionals engaged in various flight activities for compensation or hire. Because of their professional status, they should exhibit a significantly higher level of knowledge and skill than the private pilot. Although some TASKS listed in the commercial pilot standards are similar to those in the private pilot standards, the wording used in the commercial pilot standards is intended to reflect the higher level of competency expected of a commercial pilot applicant in performing these similar TASKS. The advanced maneuvers listed in the commercial standards, in themselves, require a high degree of pilot proficiency.

All the procedures and maneuvers in the Private Pilot, Commercial Pilot, and Instrument Rating Practical Test Standards have been included in the Flight Instructor Practical Test Standards; however, to permit the completion of the practical test for initial certification within a reasonable timeframe, the examiner will select one or more TASKS in each AREA OF OPERATION. In certain AREAS OF OPERATION, there are "required TASKS" which the

examiner must select. The term “instructional knowledge” means the “what,” “why,” and “how” of a subject matter topic, procedure, or maneuver. It also means that the flight instructor applicant’s discussions, explanations, and descriptions should follow the recommended teaching procedures and techniques explained in AC 60-14, Aviation Instructor’s Handbook.

The FAA requires that each practical test be conducted in accordance with the appropriate Practical Test Standard and the policies set forth in the INTRODUCTION. It is emphasized that the flight instructor applicant must be prepared to demonstrate the ability to instruct effectively in ALL TASKS included in the AREAS OF OPERATION of the appropriate practical test standard.

In preparation for the practical test, the examiner will develop a “plan of action.” The “plan of action” for an initial certification test will include one or more TASKS in each AREA OF OPERATION and will ALWAYS include the “required TASKS.” The examiner should ALWAYS require the performance of additional TASKS if there is any doubt regarding the applicant’s competence in a particular AREA OF OPERATION.

The “plan of action” for a test administered for the addition of an aircraft category and/or class rating to a flight instructor certificate will include the required AREAS OF OPERATION, as indicated in the table at the beginning of each standard. The “required TASKS” appropriate to the rating(s) sought must also be included. Notes following the titles of most AREAS OF OPERATION direct the examiner to “select at least one TASK.” In a few instances, the notes identify “required TASKS.”

With the exception of the “required TASKS,” the examiner will not tell the applicant in advance which TASKS will be included in the “plan of action.” The applicant should be well prepared in ALL knowledge and skill areas included in the standard. Throughout the flight portion of the practical test, the examiner will evaluate the applicant’s ability to simultaneously demonstrate and explain procedures and maneuvers, and to give flight instruction to students at various stages of flight training and levels of experience.

The purpose for including common errors in certain TASKS is to assist the examiner in determining that the flight instructor applicant has the ability to recognize, analyze, and correct such errors. THE EXAMINER WILL NOT SIMULATE AN ERROR THAT MAY JEOPARDIZE SAFE FLIGHT OR RESULT IN POSSIBLE DAMAGE TO THE AIRCRAFT. The common errors listed in the TASK OBJECTIVES may or may not be found in the TASK references; however, the FAA considers their frequency of occurrence justification for their inclusion in the TASK OBJECTIVES.

The examiner will place special emphasis on the applicant’s demonstrated ability to teach precise aircraft control and sound judgment in decision making. The evaluation of the applicant’s ability to teach judgment will be accomplished by asking the applicant to describe the oral discussions and the presentation of practical problems that would be used in instructing students in the exercise of sound judgment. The examiner will also emphasize the evaluation of the applicant’s demonstrated ability to teach stall/spin awareness, spatial disorientation, collision avoidance, wake turbulence avoidance, low-level wind shear avoidance, checklist usage, the use of distractions, and other areas directed by future revisions of the standard.

USE OF DISTRACTIONS DURING PRACTICAL TESTS

Numerous studies indicate that many accidents have occurred when the pilot's attention has been distracted during various phases of flight. Many accidents have resulted from engine failure during takeoffs and landings where safe flight was possible if the pilot had used correct control technique and divided attention properly.

Distractions that have been found to cause problems are:

1. preoccupation with situations inside or outside the cockpit;
2. maneuvering to avoid other traffic; or
3. maneuvering to clear obstacles during takeoffs, climbs, approaches, or landings.

To strengthen this area of pilot training and evaluation, the examiner will provide realistic distractions throughout the flight portion of the practical test. Many distractions may be used to evaluate the applicant's ability to divide attention while maintaining safe flight. Some examples of distractions are:

1. simulating engine failure;
2. simulating radio tuning and communication;
3. identifying a field suitable for emergency landings;
4. identifying features or objects on the ground;
5. reading the outside air temperature gauge;
6. removing objects from the glove compartment or map case; and
7. questioning by the examiner.

PRACTICAL TEST PREREQUISITES: Private

An applicant for a private pilot practical test is required by FARs to:

1. pass the appropriate pilot written test since the beginning of the 24th month before the month in which the flight test is taken;
2. obtain the applicable instruction and aeronautical experience prescribed for the pilot certificate or rating sought;
3. possess a current medical certificate appropriate to the certificate or rating sought;
4. meet the age requirement for the issuance of the certificate or rating sought; and
5. obtain a written statement from an appropriately certificated flight instructor certifying that the applicant has been given flight instruction in preparation for the practical test within 60 days preceding the date of application. The statement shall also state that the instructor finds the applicant competent to pass the practical test, and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the airman written test report.

NOTE: AC 61-65, Certification: Pilots and Flight Instructors, states that the instructor may sign the instructor's recommendation on the reverse side of FAA Form 8710-1, Airman Certificate and/or Rating Application, in lieu of the previous statement provided, all appropriate FAR Part 61 requirements are substantiated by reliable records.

PRACTICAL TEST PREREQUISITES: Commercial

An applicant for the commercial practical test is required by Federal Aviation Regulations to:

1. possess a private pilot certificate with an airplane rating, if a commercial pilot certificate with an airplane rating is sought, or meet the flight experience required for a private pilot certificate (airplane rating) and pass the private airplane written and practical test.
2. possess an instrument rating (airplane) or the following limitation will be placed on the commercial pilot certificate "Carrying passengers in airplanes for hire is prohibited at night or cross-country flights of more than 50 nautical miles."
3. pass the appropriate pilot written test since the beginning of the 24th month before the month in which the practical test is taken;
4. obtain the applicable instruction and aeronautical experience prescribed for the pilot certificate or rating sought;
5. possess a current medical certificate appropriate to the certificate or rating sought;
6. meet the age requirement for the issuance of the certificate or rating sought; and
7. obtain a written statement from an appropriately certificated flight instructor certifying that the applicant has been given flight instruction in preparation for the practical test within 60 days preceding the date of application. The statement shall also state that the instructor finds the applicant competent to pass the practical test and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the airman written test report.

NOTE: The previously listed items (1 and 2) apply to the airplane category only.

PRACTICAL TEST PREREQUISITES: Flight Instructor

An applicant for a flight instructor initial certification practical test is required by FARs to:

1. have passed the appropriate flight instructor written test(s) within 24 months before the date of the application for the practical test;
2. hold a commercial pilot or airline transport pilot certificate with an aircraft rating appropriate to the flight instructor rating sought;
3. hold an instrument rating, if applying for an airplane or an instrument instructor rating;
4. have the prescribed aeronautical experience and instruction for a flight instructor certificate with the rating sought;
5. have reached the age of 18 years; and
6. have a logbook endorsement from a qualified instructor certifying that the applicant has been given flight instruction in the items required by FAR Section 61.187(a) and has been found competent to pass a practical test on those items.

An applicant for a practical test for the addition of a rating on a flight instructor certificate is required by FARs to:

1. hold an effective pilot certificate with ratings appropriate to the flight instructor rating sought;

2. have at least 15 hours as pilot in command in the category and class aircraft appropriate to the rating sought; and
3. have passed the written and practical test prescribed for the issuance of a flight instructor certificate with the rating sought.

AIRCRAFT AND EQUIPMENT REQUIRED FOR THE PRACTICAL TEST

The instructor applicant is required by FAR Section 61.45 to provide an airworthy, certificated aircraft for use during the practical test. This section further requires that the aircraft:

1. have fully functioning dual controls, except as provided for in FAR Section 61.45(c) and (e); and
2. be capable of performing all the TASKS appropriate for the instructor rating sought and have no operating limitations which prohibit the performance of those operations.

For the Commercial test, certain TASKS in the airplane and seaplane standards must be accomplished in a complex aircraft.² These TASKS will be Takeoff and Landing Maneuvers, and Appropriate Emergency Procedures. The applicant may provide a complex airplane for the entire test or may elect to provide another airplane for those TASKS that do not require a complex airplane. Regardless of the airplane used the applicant is required to meet the Commercial Pilot knowledge and skill standards throughout the entire test.

SATISFACTORY PERFORMANCE

For Private Pilot Candidates:

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

1. executing TASKS within the aircraft's performance capabilities and limitations, including use of the aircraft's systems;
2. executing emergency procedures and maneuvers appropriate to the aircraft;
3. piloting the aircraft with smoothness and accuracy;
4. exercising good judgment;
5. applying aeronautical knowledge; and
6. showing mastery of the aircraft within the standards outlined in this book, with the successful outcome of a TASK never seriously in doubt.

For Commercial Pilot Candidates:

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

1. executing TASKS within the aircraft's performance capabilities and limitations, including use of the aircraft systems.
2. executing emergency procedures and maneuvers appropriate to the aircraft;
3. piloting the aircraft with smoothness and accuracy;
4. exercising good judgment;
5. applying aeronautical knowledge; and
6. showing mastery of the aircraft within the standards outlined in this book, with the successful outcome of a TASK never seriously in doubt.

² A complex airplane is equipped with retractable gear, adjustable flaps and controllable propeller. A complex seaplane is equipped with adjustable flaps and controllable propeller.

For Flight Instructor Candidates:

The practical test is passed if, in the judgment of the examiner, the applicant demonstrates satisfactory performance with regard to:

1. knowledge of the fundamentals of instruction;
2. knowledge of the technical subject areas;
3. knowledge of the flight instructor's responsibilities concerning the pilot certification process;
4. knowledge of the flight instructor's responsibilities concerning logbook entries and pilot certificate endorsements;
5. ability to demonstrate the procedures and maneuvers selected by the examiner to at least the COMMERCIAL PILOT SKILL LEVEL, while giving effective instruction;
6. competence in teaching the procedures and maneuvers selected by the examiner;
7. competence in describing, recognizing, analyzing, and correcting common errors simulated by the examiner; and
8. knowledge of the development and effective use of a course of training, a syllabus, and a lesson plan.

UNSATISFACTORY PERFORMANCE

If, in the judgment of the examiner, the applicant does not meet the standards of performance of any TASK performed, the associated AREA OF OPERATION is failed and therefore, the practical test is failed. The examiner or applicant may discontinue the test at any time after the failure of an AREA OF OPERATION makes the applicant ineligible for the certificate or rating sought. The test will be continued ONLY with the consent of the applicant. If the test is discontinued, the applicant is entitled to credit for only those AREAS OF OPERATION satisfactorily performed. However, during the retest, and at the discretion of the examiner, any TASK may be re-evaluated, including those previously passed.

Failure to perform a procedure or maneuver at the COMMERCIAL PILOT SKILL LEVEL, while giving effective flight instruction, is unsatisfactory performance. Any action, or lack thereof, by the flight instructor applicant which requires corrective intervention by the examiner to maintain safe flight shall be disqualifying. IT IS VITALLY IMPORTANT that the applicant use proper and effective visual scanning techniques to clear the area before performing maneuvers. Ineffective performance in these areas will be disqualifying. Failure to provide an effective instructional explanation, while demonstrating a procedure or maneuver, is unsatisfactory performance. The applicant's explanation during the demonstration must be clear, concise, technically accurate, and complete. No prompting from the examiner should be necessary.

RECORDING UNSATISFACTORY PERFORMANCE

The term PILOT OPERATION is used in regulations to denote areas (procedures and maneuvers) in which the applicant must demonstrate competency prior to being issued a pilot certificate. This practical test book 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 will record the applicant's unsatisfactory performance in terms of PILOT OPERATIONS appropriate to the practical test conducted.

Addition of a Glider Class Rating to a Flight Instructor Certificate

Required Areas of Operation	Flight Instructor Certificate and Rating Held					
	ASE	AME	RH	RG	IA	IH
I	NO	NO	NO	NO	NO	NO
II	YES	YES	YES	YES	YES	YES
III	YES	YES	YES	YES	YES	YES
IV	NO	NO	NO	NO	NO	NO
V	YES	YES	YES	YES	YES	YES
VI	YES*	YES*	YES*	YES*	YES*	YES*
VII	YES*	YES*	YES*	YES*	YES*	YES*
VIII	YES*	YES*	YES*	YES*	YES*	YES*
IX	YES	YES	YES	YES	YES	YES
X	YES	YES	YES	YES	YES	YES
XI	YES	YES	YES	YES	YES	YES
XII	YES	YES	YES	YES	YES	YES

***NOTE:** The applicant whose commercial pilot certificate is NOT LIMITED with regard to type launch (aero tow, ground tow, or powered glider self-launch) will be evaluated in ONLY one type launch. The applicant's instructing privileges will include all three type launches.

The applicant whose commercial pilot certificate is LIMITED to one or two of the three types of launches (aero tow, ground tow, or powered glider self-launch) will be evaluated in ONLY one of those launches. The applicant's instructing privileges will include ONLY the type(s) launch(es) that appear as limitation(s) on the applicant's commercial pilot certificate.

PRIVATE PILOT

GLIDER (G)

Practical Test Standards

OFFICE OF FLIGHT STANDARDS

Washington, DC 20591

CONTENTS

I. PREFLIGHT PREPARATION

A. Certificates and Documents	P – 4
B. Obtaining Weather Information	P – 4
C. Flight Instruments and Associated Systems	P – 5
D. Determining Performance and Limitations	P – 5
E. Flight Preparation and Planning	P – 6
F. Equipment	P – 6
G. Aeromedical Factors	P – 6

II. GROUND OPERATIONS

A. Assembly	P – 7
B. Ground Handling	P – 7
C. Visual Inspection	P – 7
D. Pretakeoff Check	P – 8
E. Postflight Procedures	P – 8

III. AEROTOW LAUNCH

A. Visual Signals	P – 9
B. Normal and Crosswind Takeoffs	P – 9
C. Maintaining Tow Positions	P – 9
D. Slack Line	P – 10
E. Boxing the Wake	P – 10
F. Tow Release	P – 10
G. Aerotow Abnormal Occurrences	P – 11

IV. GROUND TOW LAUNCHES (AUTO OR WINCH)

A. Visual Signals	P – 11
B. Normal and Crosswind Takeoffs	P – 11
C. Ground Launch Abnormal Occurrences	P – 12

V. POWERED GLIDER SELF-LAUNCH

A. Determining Performance and Limitations	P – 12
B. Visual Inspection	P – 13
C. Starting Engine	P – 13
D. Taxiing	P – 14
E. Pretakeoff Check	P – 14
F. Takeoff and Climb	P – 14
G. Engine Shut-Down in Flight	P – 15
H. Engine Restart in Flight	P – 15
I. Abnormal Occurrences	P – 16
J. Approach and Landing with Power Operating	P – 16
K. Postflight Procedures	P – 17

VI. IN-FLIGHT MANEUVERS

A. Straight Glides	P – 17
B. Turns to Headings	P – 17
C. Steep Turns	P – 18
D. Maneuvering at Critically Slow Airspeed	P – 18
E. Stall Recognition and Recovery	P – 18

VII. PERFORMANCE AIRSPEEDS

A. Minimum Sink Airspeed	P – 19
B. Speed-To-Fly	P – 19

VIII. SOARING TECHNIQUES

A. Thermal Soaring	P – 20
B. Ridge and Slope Soaring	P – 20
C. Wave Soaring	P – 21

IX. APPROACHES AND LANDINGS

A. Traffic Pattern	P – 21
B. Normal and Crosswind Landings	P – 22
C. Slips to Landing	P – 22
D. Downwind Landing	P – 23
E. Simulated Off-Airport Landing	P – 23

PRACTICAL TEST CHECKLIST	P – 24
--------------------------------	--------

APPLICANT'S PRACTICAL TEST CHECKLIST	P – 26
--	--------

I. AREA OF OPERATION: PREFLIGHT PREPARATION

A. TASK: CERTIFICATES AND DOCUMENTS (G)

PILOT OPERATION – 1

REFERENCES: FAR Parts 61 and 91; Soaring Flight Manual;
American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the appropriate –
 - (a) private pilot certificate, privileges and limitations.
 - (b) medical statement.
 - (c) personal pilot logbook or flight record.
 - (d) FCC station license and operator's permit, as appropriate.
2. Exhibits knowledge by locating and explaining the significance and importance of glider –
 - (a) airworthiness and registration certificates.
 - (b) operating limitations, handbooks, or manuals.
 - (c) equipment list.
 - (d) weight and balance data.
 - (e) maintenance requirements and appropriate records.

B. TASK: OBTAINING WEATHER INFORMATION (G)

PILOT OPERATION – 1

REFERENCES: AC 00-6, AC 00-45; Soaring Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of weather by explaining the factors that affect soaring operations, and obtaining, reading, and analyzing –
 - (a) weather reports and forecasts.
 - (b) weather charts.
 - (c) pilot weather reports.
 - (d) SIGMETs and AIRMETs.
 - (e) Notices to Airmen.
 - (f) wind-shear reports.
2. Explains the relationship of the following factors to the lifting process –
 - (a) pressure and temperature lapse rates.
 - (b) atmospheric instability.
 - (c) thermal index.
 - (d) thermal production.
 - (e) cloud formation and identification.
 - (f) frontal weather.
 - (g) other lift sources.
3. Explains hazards associated with flight in the vicinity of thunderstorms.
4. Makes a competent go/no-go decision based on the available weather information.

C. TASK: FLIGHT INSTRUMENTS AND ASSOCIATED SYSTEMS (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the operation of the instruments and systems, including, as appropriate –
 - (a) magnetic compass.
 - (b) inclinometer.
 - (c) yaw string.
 - (d) airspeed indicator.
 - (e) altimeter.
 - (f) variometer.
 - (g) total energy compensator.
 - (h) gyroscopic instruments.
 - (i) electrical system.
 - (j) landing gear.
 - (k) avionics.
2. Correctly interprets information displayed on the instruments.

D. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining glider weight and balance, performance, and limitations, including adverse effects of exceeding the limits.
2. Uses appropriate performance charts, tables, and data.
3. Computes weight and balance, and determines if the weight and center of gravity are within limits.
4. Explains the management of ballast and effect on performance.
5. Explains the effect of density altitude and wind on performance.
6. Explains the applicable performance speeds and their uses.
7. Makes a competent decision on whether the required performance is within the operating limitations of the glider.

E. TASK: FLIGHT PREPARATION AND PLANNING (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge of flight preparation and planning.
2. Selects and uses current and appropriate aeronautical charts.
3. Explains pertinent aspects of the national airspace system and identifies controlled and special-use airspace.
4. Selects prominent en route checkpoints.
5. Constructs a flight profile to determine minimum flight altitude at go-ahead points.
6. Explains method of using lift sources and speed effectively within and between lift sources.
7. Selects appropriate available landing areas.
8. Describes coordination procedures with air traffic control, as appropriate.

F. TASK: EQUIPMENT (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that, based on the glider flown, the applicant:

1. Exhibits knowledge by explaining equipment essential for flight at high altitudes, over long distances, varying terrain, and in changing climatic conditions.
2. Describes oxygen system and use.
3. Describes parachute and use.

G. TASK: AEROMEDICAL FACTORS (G)

PILOT OPERATION – 1

REFERENCES: AC 61-21, AC 67-2; AIM; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to aeromedical factors, including the symptoms, effects, and corrective action of –
 - (a) hypoxia.
 - (b) hyperventilation.
 - (c) middle ear and sinus problems.
 - (d) spatial disorientation.
 - (e) motion sickness.
 - (f) dehydration.
 - (g) carbon monoxide poisoning.
2. Exhibits knowledge of the effects of alcohol and drugs, and the relationship to flight safety.
3. Exhibits knowledge of nitrogen excesses during scuba dives, and how this affects a pilot or passenger during flight.

II. AREA OF OPERATION: GROUND OPERATIONS

A. TASK: ASSEMBLY (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining assembly procedures.
2. Selects a suitable area and provides sufficient crewmembers for assembly.
3. Follows an appropriate checklist.
4. Uses proper tools.
5. Handles components properly.
6. Cleans and lubricates parts, as appropriate.
7. Accounts for all tools and parts at the completion of assembly.
8. Performs postassembly inspection, including a positive control check.

B. TASK: GROUND HANDLING (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining appropriate ground handling procedures.
2. Selects the appropriate ground handling procedure to use for existing conditions.
3. Handles the glider in a manner that will not result in structural damage during movement.
4. Determines the number of crewmembers needed for existing conditions.
5. Secures the controls, as necessary, in proper position for existing conditions.

C. TASK: VISUAL INSPECTION (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of glider visual inspection by explaining the reasons for checking all items.
2. Inspects glider and equipment by following the appropriate checklist.

Continued

3. Ensures that the glider is in condition for safe flight emphasizing –
 - (a) flight controls.
 - (b) detection of visible structural damage.
 - (c) proper assembly of all components and security of attachments.
 - (d) tiedown, control lock, and wheel chock removal.
 - (e) ice and frost removal.
4. Inspects the launch equipment used, including tow hitches and releases, tow rope or cable, and weak links.

D. TASK: PRETAKEOFF CHECK (G)

PILOT OPERATION – 1

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of pretakeoff check by explaining the reasons for checking the items.
2. Establishes a course of action with crewmembers, including signals, speeds, and emergency procedures.
3. Sets the altimeter.
4. Adjusts the seat or rudder pedals and ensures that safety belts and shoulder harnesses are fastened.
5. Checks and adjusts the controls.
6. Closes and secures the canopy.
7. Completes the towline hookup using the appropriate hook for the type of launch conducted.
8. Checks the wind direction.
9. Explains takeoff emergency procedures.
10. Ensures that the area is clear of conflicting traffic.

E. TASK: POSTFLIGHT PROCEDURES (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the postflight procedures, including handling, parking, securing, and postflight inspection.
2. Selects designated or suitable parking area, considering wind conditions and obstructions.
3. Secures the glider properly.
4. Performs a satisfactory postflight inspection.

III. AREA OF OPERATION: AEROTOW LAUNCH

NOTE: The applicant's certificate will be limited to the type of launch (aerotow, ground tow, or powered glider self-launch) selected and demonstrated by the applicant.

A. TASK: VISUAL SIGNALS (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining aerotow launch visual signals.
2. Uses, interprets, and reacts to prelaunch, launch, airborne, and emergency signals.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs, including configurations and tow positions.
2. Uses the proper signals for takeoff.
3. Maintains directional control behind the towplane.
4. Raises nose skid as soon as possible, if equipped.
5. Lifts off when a safe speed is attained and maintains proper alignment with the towplane.
6. Maintains appropriate altitude until the towplane lifts off.
7. Maintains proper crosswind correction during the takeoff roll and after liftoff.
8. Maintains alignment with the towplane.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

C. TASK: MAINTAINING TOW POSITIONS (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the features of high-tow (slightly above the wake) and low-tow (slightly below the wake) positions during various phases of aerotow.
2. Makes smooth and correct control applications to maintain vertical and lateral position during high tow.

Continued

3. Transitions from high-tow to low-tow position through the wake while maintaining positive control.
4. Makes smooth and correct control applications to maintain vertical and lateral position during low tow.
5. Maintains properly aligned tow position during turns.

D. TASK: SLACK LINE (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the causes, hazards, and corrections related to slack line.
2. Recognizes slack line and applies immediate, positive, and smooth corrective action to eliminate slack line in various situations.

E. TASK: BOXING THE WAKE (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the technique used in maneuvering around the wake (boxing).
2. Maneuvers the glider, while on tow, slightly outside the towplane wake in a rectangular, box-like pattern.
3. Maintains proper control technique and coordination.
4. Avoids overshooting the desired positions.

F. TASK: TOW RELEASE (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining tow release, including related safety factors.
2. Maintains tow position with normal towline tension.
3. Releases the towrope, and confirms the release by observing the tow rope, and clears the area before turning.
4. Makes level or climbing turn.
5. Checks the towplane position to ensure adequate clearance.

G. TASK: AEROTOW ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining aerotow abnormal occurrences used in various situations such as –
 - (a) towplane power loss during takeoff.
 - (b) towline break.
 - (c) towplane power failure at altitude.
 - (d) glider release failure.
 - (e) glider and towplane release failure.
2. Responds to simulated aerotow abnormal occurrences, as required by the examiner.

IV. AREA OF OPERATION:

GROUND TOW LAUNCHES (AUTO OR WINCH)

NOTE: The applicant's certificate will be limited to the type of launch (aerotow, ground tow, or powered glider self-launch) selected and demonstrated by the applicant.

A. TASK: VISUAL SIGNALS (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining prelaunch, launch, airborne, and emergency visual signals.
2. Uses, interprets, and reacts to prelaunch, launch, airborne, and emergency signals.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs, including related safety factors.
2. Maintains directional control during launch.
3. Lifts off when appropriate flying speed is attained.
4. Establishes proper initial climb pitch attitude.
5. Takes prompt action to correct high speed, low speed, or porpoising.
6. Maintains proper track during launch.
7. Releases in a proper manner.
8. Confirms release.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

C. TASK: GROUND LAUNCH ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining ground launch abnormal occurrences used in various situations such as –
 - (a) overrunning the towline.
 - (b) towline break.
 - (c) inability to release towline.
 - (d) over or under speeding.
 - (e) porpoising
2. Responds to simulated ground launch abnormal occurrences, as required by the examiner.

V. AREA OF OPERATION: POWERED GLIDER SELF-LAUNCH

NOTE: The applicant's certificate will be limited to the type of launch (aerotow, ground tow, or powered glider self-launch) selected and demonstrated by the applicant.

The TASKS in the AREA OF OPERATION includes those that are unique to powered glider operation, and must be satisfactorily demonstrated. All other TASKS which are applicable to gliders without power, except those in AREA OF OPERATION III and IV which pertain to aerotow and ground launch, must also be satisfactorily demonstrated.

A. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the powered glider weight and balance, performance, and limitations, including adverse aerodynamic effects of exceeding the limits.
2. Uses the available and appropriate performance charts, tables, and data.
3. Computes the fuel requirements, weight and balance, and determines if the weight and center of gravity will be within limits.
4. Calculates powered glider performance, considering density altitude, wind, terrain, and other conditions.
5. Describes the effects of atmospheric conditions on powered glider performance.
6. Explains the applicable performance speeds and their uses.
7. Makes a competent decision on whether the required performance is within the capability and operating limitations of the powered glider.

B. TASK: VISUAL INSPECTION (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of powered glider visual inspection by explaining the reasons for checking all items.
2. Inspects the powered glider by following the appropriate checklist.
3. Determines that the powered glider is in condition for safe flight, emphasizing –
 - (a) fuel quantity, grade, and type.
 - (b) fuel contamination.
 - (c) oil quantity, grade, and type.
 - (d) fuel and oil leaks.
 - (e) proper assembly of all components and security of attachments.
 - (f) flight controls, including a positive control check.
 - (g) structural damage.
 - (h) tiedown, control lock, and wheel chock removal.
 - (i) ice and frost removal.

C. TASK: STARTING ENGINE (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining engine starting procedures, including starting under various conditions.
2. Performs all the items on the checklist.
3. Accomplishes correct starting procedures with emphasis on –
 - (a) positioning the powered glider to avoid creating hazards.
 - (b) determining that the area is clear.
 - (c) adjusting the engine controls.
 - (d) setting the brakes.
 - (e) preventing undesirable powered glider movement during and after the engine start.
 - (f) avoiding excessive RPM and engine temperatures.
 - (g) checking the engine instruments after engine start.

D. TASK: TAXIING (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining safe taxi procedures.
2. Adheres to signals and clearances and follows proper taxi route.
3. Performs a brake check.
4. Controls taxi speed without excessive use of brakes.
5. Recognizes and avoids hazards, considering wing span and maneuvering space required.
6. Positions the controls for the existing wind conditions.
7. Avoids careless and reckless operations.
8. Uses proper radio communication techniques, as required.

E. TASK: PRETAKEOFF CHECK (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the pretakeoff check by explaining the reasons for checking all items.
2. Positions the powered glider to avoid creating hazards.
3. Divides attention inside and outside of the cockpit.
4. Accomplishes the checklist items.
5. Ensures that the powered glider is in a safe operating condition.
6. Reviews the critical takeoff performance airspeeds and takeoff distances.
7. Describes takeoff emergency procedures.
8. Obtains and interprets takeoff and departure clearances, if appropriate.

F. TASK: TAKEOFF AND CLIMB (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a takeoff and climb, including airspeeds, configurations, and emergency procedures.
2. Aligns the powered glider with the desired takeoff path.
3. Advances the throttle smoothly to maximum allowable power.
4. Check engine instruments.
5. Maintains directional control.
6. Rotates at the recommended¹ airspeed.

¹The term “recommended” refers to the manufacturer’s recommendation.

7. Establishes the pitch attitude that will allow acceleration to the best rate or angle of climb airspeed, whichever is desired.
8. Maintains takeoff power to a safe maneuvering altitude.
9. Maintains a track over the desired takeoff path.
10. Completes checklist, as appropriate.

G. TASK: ENGINE SHUT-DOWN IN FLIGHT (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining engine shut-down procedures in flight.
2. Sets power for proper engine cooling.
3. Establishes appropriate airspeed.
4. Adjusts electrical equipment.
5. Shuts down engine.
6. Feathers propeller or positions propeller and stows, whichever is applicable.
7. Selects proper static source.

H. TASK: ENGINE RESTART IN FLIGHT (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining engine in-flight restart procedures.
2. Establishes proper airspeed.
3. Unfeathers propeller.
4. Adjusts throttle, fuel pump, and primes, as necessary.
5. Sets ignition.
6. Starts engine with starter or by windmilling.
7. Checks oil pressure.
8. Follows warmup procedures.
9. Selects proper static source.
10. Adjusts electrical equipment.
11. Adjusts propeller for proper pitch.
12. Completes checklist, as appropriate.

I. TASK: ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining powered glider procedures used for various abnormal occurrences such as –
 - (a) partial and complete power failure and failure to gain restart.
 - (b) fire or smoke.
 - (c) electrical system malfunction.
 - (d) low fuel pressure.
 - (e) low oil pressure.
 - (f) engine overheat.
 - (g) canopy opening in flight.
 - (h) emergency descent.
 - (i) off-field landings.
2. Reacts to simulated powered glider abnormal occurrences, as required by the examiner.

J. TASK: APPROACH AND LANDING WITH POWER OPERATING (G)

PILOT OPERATION – 6

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of an approach and landing procedure, including airspeeds and configuration.
2. Maintains the proper track on final approach.
3. Establishes the approach and landing configuration and power.
4. Maintains the recommended approach airspeed, ± 5 knots, including proper use of spoilers, dive brakes, or flaps.
5. Makes smooth and correct control application during the final approach and transition from approach to landing attitude.
6. Touches down smoothly at or beyond a specified point with no appreciable drift, with the longitudinal axis aligned with the desired landing path, and stopping short of, and within 200 feet of a line or mark.
7. Maintains directional control during landing roll.
8. Corrects for crosswind, if necessary.
9. Executes a go-around, if necessary.
10. Completes checklist, as appropriate.

K. TASK: POSTFLIGHT PROCEDURES (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the postflight procedures, including taxiing, parking, shutdown, securing, and postflight inspection.
2. Selects and taxis to the designated or suitable parking area, considering wind conditions and obstructions.
3. Parks the glider properly.
4. Follows the recommended procedure for engine shutdown, cockpit securing, and deplaning passengers.
5. Secures the airplane properly.
6. Performs a satisfactory postflight inspection.

VI. AREA OF OPERATION:

IN-FLIGHT MANEUVERS

A. TASK: STRAIGHT GLIDES (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the factors involved in straight glides, including the relationship of pitch attitude and airspeed.
2. Tracks toward a prominent landmark at a specified airspeed.
3. Demonstrates the effect of dive brakes, spoilers, and flaps, if so equipped, on pitch attitude and airspeed.
4. Makes smooth and coordinated control application.
5. Maintains the desired heading, $\pm 10^\circ$, and the desired airspeed, ± 10 knots.

B. TASK: TURNS TO HEADINGS (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the factors involved in gliding turns, including the relationship of pitch attitude, bank, and airspeed.
2. Enters and maintains shallow gliding turns with smooth, proper, and coordinated control applications.
3. Maintains the desired airspeed, ± 10 knots.
4. Rolls out on the desired heading, $\pm 10^\circ$.

C. TASK: STEEP TURNS (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the performance and aerodynamic factors associated with steep turns, such as circling within small diameter thermals.
2. Enters a turn maintaining a bank angle of 45° to 60° with smooth and coordinated control applications.
3. Maintains the appropriate minimum sink airspeed.
4. Recovers from steep turns with smooth and coordinated control application within 10° of the desired track.

D. TASK: MANEUVERING AT CRITICALLY SLOW AIRSPEED (G)

PILOT OPERATION – 5

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the flight characteristics and controllability associated with maneuvering at critically slow airspeed.
2. Establishes and maintains the airspeed at which any further increase in angle of attack or change in configurations would result in an immediate stall in straight or turning flight in various configurations and bank angles.
3. Adjusts the airspeed to avoid stalls in turbulent air or as bank is increased.
4. Applies control inputs in a smooth and coordinated manner.
5. Uses the proper technique to avoid stalls when raising a lowered wing.
6. Maintains heading, $\pm 10^\circ$, during straight flight, and the desired bank angle, $\pm 10^\circ$, during turns.

E. TASK: STALL RECOGNITION AND RECOVERY (G)

PILOT OPERATION – 5

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the aerodynamic factors and flight situations that may result in stalls, including proper recovery procedures and the hazards of stalling during uncoordinated flight.
2. Selects an entry altitude that will allow the maneuver to be completed no lower than 1,500 feet AGL.

3. Establishes and maintains a pitch attitude that will result in an imminent or full stall during both straight and turning flight with and without spoilers, dive brakes, or flaps.
4. Maintains a specified bank angle of up to 45° of bank, $\pm 10^\circ$, during turns.
5. Recovers from stalls at the first indication.
6. Uses smooth, coordinated control application throughout the maneuver.

VII. AREA OF OPERATION: PERFORMANCE AIRSPEEDS

A. TASK: MINIMUM SINK AIRSPEED (G)

PILOT OPERATION – 4

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the aerodynamic factors and use of minimum sink airspeed.
2. Determines the minimum sink airspeed for a given situation and maintains the speed, ± 5 knots.

B. TASK: SPEED-TO-FLY (G)

PILOT OPERATION – 4

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining factors related to speed-to-fly and its uses.
2. Determines the speed-to-fly for a given air mass situation and maintains the speed, ± 5 knots.

VIII. AREA OF OPERATION: SOARING TECHNIQUES

NOTE: If conditions do not permit a demonstration of soaring skill, applicants will be expected to demonstrate knowledge of the various types of soaring techniques through oral questioning.

Due to varying geographic locations and atmospheric conditions, the applicant may be asked to demonstrate at least one of the soaring techniques most appropriate for the particular location and existing conditions.

A. TASK: THERMAL SOARING (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the techniques used in thermal soaring.
2. Recognizes the indications of and the presence of a thermal.
3. Analyzes the thermal structure and determines the direction to turn to remain within the thermal.
4. Exhibits smooth, coordinated control and planning to remain within the thermal.
5. Applies correct techniques to re-enter the thermal, if lift is lost.
6. Remains oriented to ground references, wind, and other aircraft.
7. Maintains proper airspeeds in and between thermals.

B. TASK: RIDGE AND SLOPE SOARING (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the techniques used in ridge and slope soaring.
2. Recognizes terrain features and wind conditions which create orographic lift.
3. Enters the lift area properly.
4. Estimates height and maintains a safe distance from the terrain.
5. Exhibits smooth, coordinated control and planning to remain within the area of lift.
6. Applies correct techniques to re-enter the area of lift, if lift is lost.
7. Remains oriented to ground references, wind, and other aircraft.
8. Maintains proper airspeeds.
9. Uses proper procedures and techniques when crossing ridges.

C. TASK: WAVE SOARING (G)

PILOT OPERATION – 3

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the techniques used in wave soaring.
2. Locates and enters the lift area properly.
3. Exhibits smooth, coordinated control and planning to remain within the area of lift.
4. Applies correct techniques to re-enter the area of lift, if lift is lost.
5. Remains oriented to ground references, wind, and other aircraft.
6. Recognizes and avoids areas of possible extreme turbulence.
7. Maintains proper airspeeds.
8. Coordinates with air traffic control, as appropriate.

IX. AREA OF OPERATION: APPROACHES AND LANDINGS

A. TASK: TRAFFIC PATTERN (G)

PILOT OPERATION – 6

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a traffic pattern used for gliders.
2. Displays awareness of co-existing traffic patterns.
3. Follows procedures applicable with normal traffic pattern procedures.
4. Corrects for wind drift.
5. Crosses designated points at appropriate altitudes unless conditions make such course of action impracticable.
6. Adjusts glide path and track promptly to compensate for unexpected lift, sink, or changes in wind velocity.
7. Completes the prelanding cockpit check, and selects touchdown and stop points.
8. Maintains the proper track on base leg and final approach.
9. Makes smooth, coordinated turns with a bank angle not to exceed 45° when turning to final approach.
10. Adjusts dive brakes, spoilers, and flaps, as necessary, if so equipped.
11. Recognizes and makes appropriate corrections for the effect of wind gradient.

B. TASK: NORMAL AND CROSSWIND LANDINGS (G)

PILOT OPERATION – 6

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a normal and crosswind landing procedure, including related safety factors.
2. Adjusts dive brakes, spoilers, or flaps, as necessary, if so equipped.
3. Maintains the recommended approach airspeed with appropriate corrections for wind gradient.
4. Observes the wind direction and speed.
5. Uses crosswind correction on final approach.
6. Makes smooth and positive control application during transition from approach to landing attitude.
7. Touches down smoothly at or beyond a specified point with no appreciable drift, with the longitudinal axis aligned with the desired landing path, and stopping short of and within 200 feet of a line or mark.
8. Maintains control during the after-landing roll keeping the glider balanced as long as possible.
9. Completes checklist, as appropriate.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK may be evaluated through oral testing.

C. TASK: SLIPS TO LANDING (G)

PILOT OPERATION – 6

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of forward, side, and turning slips to a landing, including related safety factors.
2. Recognizes the situation where a slip should be used to land in a desired area.
3. Establishes an appropriate slip using the recommended configuration and smooth control technique.
4. Maintains the desired track.
5. Maintains recommended approach airspeed with appropriate corrections for wind gradient.
6. Makes smooth, proper, and positive control application during recovery.

D. TASK: DOWNWIND LANDING (G)

NOTE: This TASK will be evaluated by oral testing ONLY.

PILOT OPERATION – 6

REFERENCES: Soaring Flight Manual; American Soaring Handbook; Glider Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements involved in accomplishing downwind landings, including related safety factors.
2. Explains the recommended approach airspeed with appropriate corrections for wind gradient.
3. Understands proper downwind landing techniques, considering wind speed.
4. Explains the effect of higher groundspeeds.

E. TASK: SIMULATED OFF-AIRPORT LANDING (G)

NOTE: This TASK will be evaluated by oral testing ONLY.

PILOT OPERATION – 6

REFERENCES: Soaring Flight Manual; American Soaring Handbook.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the selection of a suitable landing area and the procedures used to accomplish an off-airport landing.
2. Demonstrates preventive flight techniques during all phases of flight.

PRACTICAL TEST CHECKLIST

(G)

(SUGGESTED)

APPLICANT'S NAME _____

EXAMINER'S NAME _____

DATE _____

TYPE CHECK _____

I. PREFLIGHT PREPARATION

- A. Certificates And Documents
- B. Obtaining Weather Information
- C. Flight Instruments And Associated Systems
- D. Determining Performance And Limitations
- E. Flight Preparation And Planning
- F. Equipment
- G. Aeromedical Factors

II. GROUND OPERATIONS

- A. Assembly
- B. Ground Handling
- C. Visual Inspection
- D. Pretakeoff Check
- E. Postflight Procedures

III. AEROTOW LAUNCH

- A. Visual Signals
- B. Normal And Crosswind Takeoffs
- C. Maintaining Tow Positions
- D. Slack Line
- E. Boxing The Wake
- F. Tow Release
- G. Aerotow Abnormal Occurrences

IV. GROUND LAUNCHES (AUTO OR WINCH)

- A. Visual Signals
- B. Normal And Crosswind Takeoffs
- C. Ground Launch Abnormal Occurrences

V. POWERED GLIDER SELF-LAUNCH

- A. Determining Performance And Limitations
- B. Visual Inspection
- C. Starting Engine
- D. Taxiing
- E. Pretakeoff Check
- F. Takeoff And Climb
- G. Engine Shut-Down In Flight
- H. Engine Restart In Flight
- I. Abnormal Occurrences
- J. Approach And Landing With Power Operating
- K. Postflight Procedures

VI. IN-FLIGHT MANEUVERS

- A. Straight Glides
- B. Turns To Headings
- C. Steep Turns
- D. Maneuvering At Critically Slow Airspeed
- E. Stall Recognition And Recovery

VII. PERFORMANCE AIRSPEEDS

- A. Minimum Sink Airspeed
- B. Speed-To-Fly

VIII. SOARING TECHNIQUES

- A. Thermal Soaring
- B. Ridge And Slope Soaring
- C. Wave Soaring

IX. APPROACHES AND LANDINGS

- A. Traffic Pattern
- B. Normal And Crosswind Landings
- C. Slips To Landing
- D. Downwind Landing
- E. Simulated Off-Airport Landing

APPLICANT'S PRACTICAL TEST CHECKLIST

(SUGGESTED)

APPOINTMENT WITH INSPECTOR OR EXAMINER: _____

NAME _____

TIME/DATE _____

ACCEPTABLE AIRCRAFT

- Aircraft Documents:
 - Airworthiness Certificate
 - Registration Certificate
 - Operating Limitations
- Aircraft Maintenance Records:
 - Airworthiness Inspections
- FCC Station License

PERSONAL EQUIPMENT

- Current Aeronautical Charts
- Computer and Plotter
- Flight Logs
- Current AIM

PERSONAL RECORDS

- Pilot Certificate
- Medical Statement
- Completed FAA Form 8710-1, Airman Certificate and/or Rating Application
- AC Form 8080-2, Airman Written Test Report
- Logbook with Instructor's Endorsement
- Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- FCC Radiotelephone Operator Permit (if applicable)
- Examiner's Fee (if applicable)

COMMERCIAL PILOT

GLIDER (G)

Practical Test Standards

OFFICE OF FLIGHT OPERATIONS

Washington, DC 20402

CONTENTS

I. PREFLIGHT PREPARATION

A. Certificates and Documents	C – 4
B. Obtaining Weather Information	C – 5
C. Operation of Glider Systems	C – 6
D. Determining Performance and Limitations	C – 6
E. Flight Preparation and Planning	C – 7
F. Equipment	C – 8
G. Aeromedical Factors	C – 8

II. GROUND OPERATIONS

A. Assembly	C – 9
B. Ground Handling	C – 9
C. Visual Inspection	C – 10
D. Pre-Takeoff Check	C – 11

III. AEROTOW LAUNCH

A. Visual Signals	C – 11
B. Normal and Crosswind Takeoffs	C – 12
C. Maintaining Tow Positions	C – 12
D. Slack Line	C – 13
E. Boxing the Wake	C – 13
F. Tow Release	C – 14
G. Aerotow Abnormal Occurrences	C – 14

IV. GROUND LAUNCHES (AUTO OR WINCH)

A. Visual Signals	C – 15
B. Normal and Crosswind Takeoffs	C – 15
C. Ground Launch Abnormal Occurrences	C – 16

V. POWERED GLIDER LAUNCH

A. Determining Performance and Limitations	C – 17
B. Visual Inspection	C – 18
C. Starting Engine	C – 18
D. Taxiing	C – 19
E. Pre-Takeoff Check	C – 20
F. Takeoff and Climb	C – 20
G. Engine Shutdown in Flight	C – 21
H. Engine Restart in Flight	C – 21
I. Abnormal Occurrences	C – 22
J. Approaches and Landings with Power Operating	C – 23

VI. IN-FLIGHT MANEUVERS

A. Straight Glides	C – 23
B. Turns to Headings	C – 24
C. Maneuvering at Critically Slow Airspeed	C – 24
D. Stall Recognition and Recovery	C – 25
E. Recovery from Unusual Attitudes	C – 26
F. Steep Turns	C – 26
G. Steep Spirals	C – 27

VII. PERFORMANCE AIRSPEEDS

A. Minimum Sink Airspeed	C – 28
B. Speed-To-Fly	C – 28

VIII. SOARING TECHNIQUES

A. Thermal Soaring	C – 29
B. Ridge and Slope Soaring	C – 30
C. Wave Soaring	C – 30

IX. APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES

A. Traffic Pattern	C – 31
B. Normal and Crosswind Landings	C – 32
C. Slips to Landing	C – 32
D. Downwind Landing	C – 33
E. Simulated Off-Airport Landing	C – 34
F. Post-Flight Procedures	C – 34

PRACTICAL TEST CHECKLIST	C – 35
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APPLICANT'S PRACTICAL TEST CHECKLIST	C – 37
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I. AREA OF OPERATION: PREFLIGHT PREPARATION

NOTE: At the discretion of the examiner, TASKS “A,” “B,” and “H” need not be evaluated for additional class rating applicants.

A. TASK: CERTIFICATES AND DOCUMENTS (G)

PILOT OPERATION – 1

REFERENCES: FAR Parts 43, 61, 91; AC 61-21, AC 61-23; Glider Flight Manual.

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

- a. Exhibits knowledge by explaining the appropriate –
 - (1) pilot certificate privileges and limitations applicable to flights for compensation or hire.
 - (2) medical requirements.
 - (3) personal pilot logbook or flight record.
- b. Exhibits knowledge by locating and explaining the significance and importance of the –
 - (1) airworthiness and registration certificates.
 - (2) operating limitations, handbooks, and manuals.
 - (3) equipment list.
 - (4) weight and balance data.
 - (5) maintenance requirements, tests, and appropriate records applicable to flights for hire, including preventive maintenance and maintenance that may be performed by the pilot.

2. **Action.** The examiner will:

- a. Ask the applicant to present and explain the appropriate pilot certificate, medical requirements, and personal flight records applicable to flights for compensation or hire, and determine that the applicant’s performance and knowledge meet the objective.
- b. Ask the applicant to locate and explain the glider documents, lists, and other required data, including maintenance records, and determine that the applicant’s performance and knowledge meet the objective.

B. TASK: OBTAINING WEATHER INFORMATION (G)

PILOT OPERATION – 1

REFERENCES: AC 00-6, AC 00-45, AC 61-21, AC 61-23; Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge of aviation weather information, including high altitude weather and weather activity over wide geographical areas, by promptly and systematically obtaining, reading, and analyzing –
 - (1) weather reports and forecasts.
 - (2) weather charts including stability charts.
 - (3) significant weather prognostics.
 - (4) pilot weather reports.
 - (5) SIGMETs and AIRMETs.
 - (6) Notices to Airmen.
 - (7) wind-shear reports.
 - b. Exhibits knowledge by explaining thoroughly the relationship of the following factors to the lifting process –
 - (1) pressure and temperature lapse rates.
 - (2) atmospheric instability.
 - (3) thermal index.
 - (4) thermal production.
 - (5) cloud formation and identification.
 - (6) frontal weather.
 - (7) land and sea breezes.
 - (8) valley breezes.
 - (9) orographic lift.
 - (10) mountain waves.
 - c. Exhibits knowledge and awareness by explaining aviation weather hazards.
 - d. Exhibits knowledge by describing the expected lifting action based on available weather information.
2. **Action.** The examiner will:
 - a. Determine that the applicant has promptly and systematically obtained all pertinent weather information. (If current weather materials are not available, the examiner will furnish samples for use.)
 - b. Ask the applicant to analyze and explain the weather data, aviation weather hazards, and describe the expected lifting action, and determine that the applicant's performance and knowledge meet the objective.

C. TASK: OPERATION OF GLIDER SYSTEMS (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant exhibits knowledge by accurately explaining the applicable normal operating procedures and limitations of the glider systems using correct terminology in identifying components, including:

- a. Primary flight controls and trim.
- b. High lift devices.
- c. High drag devices.
- d. Flight instruments including –
 - (1) magnetic compass and its characteristics.
 - (2) inclinometer and yaw string.
 - (3) pitot-static system including –
 - (a) airspeed indicator.
 - (b) altimeter and errors.
 - (c) variometer.
 - (d) total energy compensators.
 - (4) gyroscopic instruments, if applicable, including –
 - (a) turn coordinator.
 - (b) attitude indicator.
 - (5) barograph.
- e. Electrical system, if installed.
- f. Landing gear –
 - (1) retraction system and indicators, if applicable.
 - (2) wheels, brakes, and tires.
- g. Oxygen.
- h. Avionics.

2. Action. The examiner will ask the applicant to explain the normal operating procedures and limitations of the glider systems using correct terminology in identifying components, and determine that the applicant's knowledge meets the objective.

D. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining performance and limitations, including a thorough knowledge of the adverse effects of exceeding the limits.
- b. Demonstrates proficient use of the appropriate performance charts, tables, and data.
- c. Computes weight and balance accurately, and determines if the weight and center of gravity will remain within limits during all phases of flight.

- d. Explains, in detail, the management of ballast and effect of ballast on performance.
- e. Describes the effect of density altitude and wind on performance.
- f. Explains the applicable performance speeds, and their uses.
- g. Describes the relationship between airspeeds and load factors.

2. Action. The examiner will:

- a. Ask the applicant to explain the glider's performance and limitations, including adverse effects of exceeding the limits, management of ballast, effect of density altitude on performance, and the relationship of airspeeds to load factors, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to determine the glider's performance including weight and balance and speeds, and determine that the applicant's performance meets the objective.

E. TASK: FLIGHT PREPARATION AND PLANNING (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge of flight preparation and planning.
- b. Selects and uses current and appropriate aeronautical charts.
- c. Explains pertinent aspects of the National Airspace System, identifies controlled and special-use airspace, and symbols used on aeronautical charts.
- d. Plots a course and selects prominent en route checkpoints.
- e. Explains the use of pilotage and dead reckoning.
- f. Constructs a flight profile to determine minimum flight altitude required at "go-ahead points."
- g. Explains method of using lift sources and speed effectively within and between lift sources.
- h. Selects available landing areas.
- i. Lists personal equipment and other items essential for the flight.
- j. Describes coordination procedures with air traffic control, as appropriate.

2. Action. The examiner will:

- a. Ask the applicant to explain flight preparation and planning procedures, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to prepare and plan a flight, and determine that the applicant's performance meets the objective.

F. TASK: EQUIPMENT (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining equipment essential for flight at high altitudes, over long distances, varying terrain, and in changing climatic conditions.
 - b. Describes oxygen systems including –
 - (1) use.
 - (2) storage tank supply and duration.
 - (3) pressure reducing.
 - (4) mask assembly.
 - (5) type of oxygen.
 - (6) safety factors.
 - c. Describes use of the parachute including –
 - (1) packing requirements.
 - (2) preflight.
 - (3) fitting.
 - (4) bailout procedures.
 - d. Describes survival equipment recommended for various situations.

2. **Action.** The examiner will ask the applicant to describe equipment essential for various glider flights, and determine that the applicant's performance meets the objective.

G. TASK: AEROMEDICAL FACTORS (G)

PILOT OPERATION – 1

REFERENCES: AC 61-21, AC 67-2; AIM.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge of the elements related to aeromedical factors including –
 - (1) hypoxia.
 - (2) hyperventilation.
 - (3) middle ear and sinus problems.
 - (4) spatial disorientation.
 - (5) motion sickness.
 - (6) the effects of alcohol and drugs.
 - (7) carbon monoxide poisoning (powered gliders).
 - (8) stress and fatigue.
 - (9) dehydration and heatstroke.
 - b. Exhibits knowledge of nitrogen excesses during scuba dives, and explains how this affects a pilot and passenger during flight.

2. **Action.** The examiner will ask the applicant to explain aeromedical factors as related to safety of flight, and determine that the applicant's knowledge meets the objective.

II. AREA OF OPERATION: GROUND OPERATIONS

A. TASK: ASSEMBLY (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the proper procedure for glider assembly.
 - b. Selects a suitable area and sufficient crewmembers for assembly.
 - c. Assembles the glider by systematically following a checklist.
 - d. Uses the proper tools.
 - e. Uses care in handling major components keeping them streamlined in the wind.
 - f. Cleans and lubricates pertinent parts.
 - g. Accounts for all tools and parts at assembly completion.
 - h. Performs a post assembly check.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the proper procedure for glider assembly, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a glider assembly, and determine that the applicant's performance meets the objective.

NOTE: If, in the judgment of the examiner, the demonstration of glider assembly is impracticable, competency may be determined by oral testing.

B. TASK: GROUND HANDLING (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the proper ground handling procedures for various conditions.
 - b. Selects the appropriate ground handling procedure and equipment to use for existing conditions.
 - c. Secures the controls in proper position.
 - d. Positions a sufficient number of crewmembers properly.
 - e. Ensures that placards or cautions are observed when handling the glider structure.
 - f. Demonstrates awareness of obstructions or other hazards.
 - g. Follows a suitable route at the proper speed.

Continued

2. Action. The examiner will:

- a. Ask the applicant to explain the proper ground handling procedures for various conditions, and determine that the applicant's knowledge meets the objective.
- b. Observe the applicant's ground handling procedures, and determine that the applicant's performance meets the objective.

C. TASK: VISUAL INSPECTION (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge of glider visual inspection by explaining the reasons for the inspection, the items to be inspected, and how to detect possible defects.
- b. Performs the inspection by systematically following a checklist.
- c. Inspects the personal equipment, if applicable.
- d. Ensures that the glider and equipment are in condition for safe flight emphasizing –
 - (1) operation of flight controls.
 - (2) detection of structural damage.
 - (3) proper assembly of all components and security of attachments.
 - (4) tiedown, control lock, and wheel chock removal.
 - (5) ice and frost removal.
 - (6) ballast management.
- e. Inspects the launch equipment including tow hitches and releases, towline, and weak links.
- f. Notes any discrepancy and accurately judges whether the glider is safe for flight or requires maintenance.

2. Action. The examiner will:

- a. Ask the applicant to explain the reasons for the inspection, what items should be inspected, and how to detect possible defects, and determine that the applicant's knowledge meets the objective.
- b. Observe the applicant's visual inspection procedure, and determine that the applicant's performance meets the objective.

D. TASK: PRE-TAKEOFF CHECK (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge of pre-takeoff check by explaining the reasons for checking the items.
 - b. Establishes a course of action with crewmembers, including signals, speeds, and emergency procedures.
 - c. Sets the altimeter.
 - d. Adjusts the seat or rudder pedals and ensures that safety belts and shoulder harnesses are fastened.
 - e. Checks and adjusts the controls.
 - f. Closes and secures the canopy.
 - g. Completes the towline hookup using the appropriate hook for the type of launch conducted.
 - h. Checks the wind direction.
 - i. Explains the takeoff emergency procedures.
 - j. Ensures that the area is clear of conflicting traffic.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the reasons for checking the items on pre-takeoff check, including using the appropriate hook for the type of launch conducted, and determine that the applicant's knowledge meets the objective.
 - b. Observe the pre-takeoff check, and determine that the applicant's performance meets the objective.

III. AREA OF OPERATION: AEROTOW LAUNCH

NOTE: The applicant's certificate will be limited to the type of launch selected and demonstrated by the applicant.

A. TASK: VISUAL SIGNALS (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by correctly explaining aerotow launch visual signals, including the purpose of each.
 - b. Interprets correctly and promptly reacts to prelaunch, launch, airborne, and emergency signals.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain aerotow launch visual signals, including the purpose of each, and determine that the applicant's knowledge meets the objective.
 - b. Observe the applicant's use of visual signals, and determine that the applicant's performance meets the objective.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs, including configurations and tow positions.
 - b. Ensures proper positioning and towline hookup.
 - c. Notes any obstruction or other hazards in the takeoff path and reviews abnormal takeoff procedures.
 - d. Verifies wind condition.
 - e. Uses correct prelaunch and launch signals.
 - f. Maintains smooth and positive directional control, including any required crosswind correction during takeoff roll.
 - g. Lifts off at the proper airspeed and maintains proper alignment with the towplane correcting for crosswind as necessary.
 - h. Maintains appropriate altitude until the towplane lifts off.
 - i. Maintains precise alignment in relation to the towplane during climbout.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the elements of normal and crosswind takeoffs, including configurations and tow positions, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a normal or crosswind takeoff, as appropriate, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

C. TASK: MAINTAINING TOW POSITIONS (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining high-tow and low-tow procedures, including the purposes of each tow position and the effects of towplane wake on glider control.
 - b. Makes smooth and positive control applications to maintain precise vertical and lateral position during high tow with minimum self-induced slack in the towline.
 - c. Transitions from high-tow to low-tow position through the wake while maintaining smooth and positive control.
 - d. Makes smooth and positive control applications to maintain precise vertical and lateral position during low tow with minimum self-induced slack in the towline.
 - e. Maintains proper and precise tow position during turns with minimum self-induced slack in the towline.

- 2. Action.** The examiner will:
- Ask the applicant to explain high-tow and low-tow procedures, including the purpose and the effect of towplane wake on glider control, and determine that the applicant's knowledge meets the objective.
 - Ask the applicant to establish and maintain high-tow and low-tow positions by transitioning through the wake, and determine that the applicant's performance meets the objective.

D. TASK: SLACK LINE (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

- 1. Objective.** To determine that the applicant:
- Exhibits knowledge by thoroughly explaining the causes, hazards, and corrections related to slack line.
 - Recognizes slack line immediately and applies prompt, positive, and smooth corrective action to eliminate slack line in various situations.
- 2. Action.** The examiner will:
- Ask the applicant to explain the causes, hazards, and corrections related to slack line, and determine that the applicant's knowledge meets the objective.
 - Maneuver the glider into various situations causing slack line and observe that the applicant takes prompt and smooth action to correct for slack line, and determine that the applicant's performance meets the objective.

E. TASK: BOXING THE WAKE (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

- 1. Objective.** To determine that the applicant:
- Exhibits knowledge by explaining the methods used in maneuvering around the wake (boxing).
 - Maneuvers the glider smoothly, while on tow, to a correct position in relation to the towplane's wake with minimum self-induced slack in the towline.
 - Maintains proper control technique and coordination while boxing the wake.
 - Uses spoilers or dive brakes, as necessary, to avoid speed increase.
 - Avoids overshooting the desired positions.

Continued

2. Action. The examiner will:

- a. Ask the applicant to explain the methods used in boxing the wake, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to box the wake, and determine that the applicant's performance meets the objective.

F. TASK: TOW RELEASE (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining tow release, including related safety factors.
- b. Maintains high-tow position with normal towline tension.
- c. Actuates the release handle, confirms the release by feel and observing the tow rope, and clears the area before turning and climbing after release.

2. Action. The examiner will:

- a. Ask the applicant to explain tow release, including related safety factors, and determine that the applicant's knowledge meets the objective.
- b. Observe the applicant's release procedures, and determine that the applicant's performance meets the objective.

G. TASK: AEROTOW ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining procedures used for aerotow abnormal occurrences such as towplane power loss during takeoff and at altitude, glider release failure, and glider and towplane release failure.
- b. Formulates and reviews an agreed upon plan of action with the tow pilot for possible abnormal occurrences.
- c. Remains alert to release during takeoff should an abnormality occur during the takeoff run.
- d. Announces the altitude below which a landing straight ahead or with a slight turn would be necessary; or an altitude above which returning to the takeoff area would be most suitable.
- e. Considers wind velocity when selecting alternatives.
- f. Reacts promptly to simulated aerotow abnormalities.

2. **Action.** The examiner will:
 - a. Ask the applicant to explain procedures for aerotow abnormalities, and determine that the applicant's knowledge meets the objective.
 - b. Simulate aerotow abnormal procedures after considering all safety factors, and determine that the applicant's performance meets the objective.

IV. AREA OF OPERATION: GROUND LAUNCHES (AUTO OR WINCH)

NOTE: The applicant's certificate will be limited to the type of launch selected and demonstrated by the applicant.

A. TASK: VISUAL SIGNALS (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by correctly explaining ground launch visual signals, including the purpose of each.
 - b. Uses, interprets, and promptly reacts correctly to prelaunch, launch, airborne, and emergency signals.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain ground launch visual signals, including the purpose of each, and determine that the applicant's knowledge meets the objective.
 - b. Observe the applicant's use of visual signals, and determine that the applicant's performance meets the objective.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs, including related safety factors.
 - b. Ensures proper positioning of the glider and correct towline hookup.
 - c. Notes any obstruction or other hazard in the takeoff pattern and reviews abnormal takeoff procedures.
 - d. Verifies wind condition.
 - e. Uses correct prelaunch and launch signals.
 - f. Maintains smooth and positive directional control, correcting for crosswind, if necessary.
 - g. Lifts off when sufficient flying speed is attained.

Continued

- h. Establishes initial climb by smoothly increasing pitch attitude to approximately 45° at 200 feet.
- i. Takes prompt action to correct high speed, low speed, or porpoising.
- j. Maintains proper track during launch.
- k. Releases in a timely manner.
- l. Confirms release by feel and sight.

2. Action. The examiner will:

- a. Ask the applicant to explain the elements of normal and crosswind takeoffs, including related safety factors, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to perform a normal or crosswind takeoff as appropriate to the wind condition, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

C. TASK: GROUND LAUNCH ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining procedures used for ground launch abnormal occurrences such as overrunning the towline, towline break, inability to release, over and under speeding, and porpoising.
- b. Formulates and reviews a plan of action for possible abnormal occurrences.
- c. Considers wind velocity when selecting alternatives.
- d. Reacts promptly to simulated ground launch abnormalities.

2. Action. The examiner will:

- a. Ask the applicant to explain procedures used in ground launch abnormalities, and determine that the applicant's knowledge meets the objective.
- b. Simulate ground launch abnormal occurrences after considering all safety factors, and determine that the applicant's performance meets the objective.

V. AREA OF OPERATION: POWERED GLIDER LAUNCH

NOTE: The applicant's certificate will be limited to the type of launch selected and demonstrated by the applicant.

The TASKS in this AREA OF OPERATION include those that are unique to powered glider operation and must be satisfactorily demonstrated. All other TASKS which are applicable to gliders without power, except those in AREAS OF OPERATION III and IV which pertain to aerotow and ground launch, must also be satisfactorily demonstrated.

A. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining performance and limitations, including a thorough knowledge of the adverse effects of exceeding the limits.
 - b. Demonstrates proficient use of appropriate performance charts, tables, and data.
 - c. Computes the fuel requirements, weight and balance, and determines if the weight and center of gravity will be within limits during all phases of flight.
 - d. Calculates the powered glider's performance considering density altitude, wind, terrain, and other conditions.
 - e. Describes the effects of seasonal and atmospheric conditions on the powered glider's performance.
 - f. Explains the applicable performance speeds and their uses.
 - g. Makes a sound decision on whether the required performance is within the powered glider's capability and operating limitations.

2. **Action.** The examiner will:
 - a. Ask the applicant to explain the powered glider's performance and limitations, including adverse effects of exceeding the limits, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to determine the powered glider's performance and limitations and describe the effects of seasonal and atmospheric conditions on the glider's operation, and determine that the applicant's performance meets the objective.

B. TASK: VISUAL INSPECTION (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge of powered glider visual inspection by explaining the reasons for the inspection, what items should be inspected, and how to detect possible defects.
 - b. Inspects the powered glider critically by systematically following the checklist.
 - c. Verifies that the powered glider is in condition for safe flight emphasizing –
 - (1) fuel quantity, grade, and type.
 - (2) fuel contamination.
 - (3) fuel tank venting.
 - (4) oil quantity, grade, and type.
 - (5) fuel and oil leaks.
 - (6) proper assembly of all components and security of attachments.
 - (7) flight controls.
 - (8) structural damage including exhaust system.
 - (9) tiedown, control lock, and wheel chock removal.
 - (10) ice and frost removal.
 - d. Notes any discrepancy and accurately determines whether the powered glider is safe for flight or requires maintenance.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the reasons for checking items during a visual inspection, the items to be inspected, and how to detect possible defects, and determine that the applicant's knowledge meets the objective.
 - b. Observe the applicant's visual inspection procedure, and determine that the applicant's performance meets the objective.

C. TASK: STARTING ENGINE (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining correct engine starting procedures, including hand propping procedures, starting under various atmospheric conditions, and the effects of using incorrect starting procedures.
 - b. Performs all the items by systematically following the before-starting and starting checklists.
 - c. Demonstrates proper use of all equipment installed.

- d. Accomplishes correct starting procedures with emphasis on –
 - (1) positioning the powered glider to avoid creating hazards.
 - (2) determining that the area is clear.
 - (3) adjusting the engine controls.
 - (4) setting the brakes.
 - (5) preventing powered glider movement after the engine start.
 - (6) avoiding excessive RPM and temperatures.
 - (7) checking engine instruments after engine start.

2. Action. The examiner will:

- a. Ask the applicant to explain correct starting procedures, including starting and the effects of using incorrect procedures, and determine that the applicant's knowledge meets the objective.
- b. Observe the applicant's engine starting procedures, and determine that the applicant's performance meets the objective.

D. TASK: TAXIING (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining all aspects of safe taxi procedures, including the effect of wind on the powered glider during taxiing operations.
- b. Adheres to signals and clearances and follows proper taxi route.
- c. Performs a brake check immediately after the powered glider begins movement, and thereafter uses proper braking technique.
- d. Demonstrates proficiency in maintaining correct and positive control of powered glider direction and speed considering existing conditions.
- e. Recognizes and avoids hazards considering wingspan and maneuvering space required.
- f. Positions the controls properly for the existing wind conditions.
- g. Uses proper radio communication techniques, as required.

2. Action. The examiner will:

- a. Ask the applicant to explain safe taxi procedures and the effect of wind on the powered glider, and determine that the applicant's knowledge meets the objective.
- b. Observe the applicant's taxi procedures, and determine that the applicant's performance meets the objective.

E. TASK: PRE-TAKEOFF CHECK (G)

PILOT OPERATION – 1

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge of the pre-takeoff check by thoroughly explaining the reasons for checking the items and how to detect possible malfunctions.
 - b. Positions the powered glider properly considering the surface, possible hazards, and wind.
 - c. Divides attention inside and outside of the cockpit.
 - d. Accomplishes the checklist items.
 - e. Ensures that the powered glider is in safe operating condition.
 - f. Reviews the critical takeoff performance airspeeds and takeoff distances.
 - g. Describes takeoff emergency procedures.
 - h. Obtains and interprets takeoff and departure clearances, if appropriate.

2. **Action.** The examiner will:
 - a. Ask the applicant to explain reasons for checking items on the pre-takeoff check and how to detect possible defects, and determine that the applicant's knowledge meets the objective.
 - b. Observe the pre-takeoff check, and determine that the applicant's performance meets the objective.

F. TASK: TAKEOFF AND CLIMB (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of a takeoff and climb, including airspeeds, configurations, wind correction, and emergency procedures.
 - b. Notes any obstruction or other hazards in the takeoff path and reviews takeoff performance.
 - c. Verifies wind condition.
 - d. Aligns the powered glider with the desired takeoff path.
 - e. Advances the throttle smoothly and positively to maximum allowable power.
 - f. Checks engine instruments.
 - g. Maintains positive directional control.
 - h. Rotates at the recommended airspeed.
 - i. Establishes the pitch attitude that will allow acceleration to the best rate or angle of climb airspeed, whichever is desired.
 - j. Maintains takeoff power to a safe maneuvering altitude.
 - k. Maintains a straight track over the desired takeoff path.
 - l. Completes the after-takeoff checklist.

2. Action. The examiner will:

- a. Ask the applicant to explain the elements of a takeoff and climb, including airspeeds, configurations, wind correction, and emergency procedures, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to perform a takeoff and climb, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

G. TASK: ENGINE SHUTDOWN IN FLIGHT (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining engine shutdown procedures in flight.
- b. Sets power to ensure proper engine cooling prior to shutdown.
- c. Establishes appropriate airspeed.
- d. Adjusts electrical equipment.
- e. Shuts down engine.
- f. Feathers propeller or positions propeller and stows, whichever is applicable.
- g. Selects proper static source.

2. Action. The examiner will:

- a. Ask the applicant to explain engine shutdown procedures, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to shut down the engine, and determine that the applicant's performance meets the objective.

H. TASK: ENGINE RESTART IN FLIGHT (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining engine in-flight restart procedures.
- b. Establishes proper airspeed.
- c. Unfeathers propeller or repositions propeller control as necessary.
- d. Adjusts throttle, fuel pump, and primes as necessary.
- e. Sets ignition.
- f. Starts engine with starter or by windmilling.

Continued

- g. Checks oil pressure.
- h. Follows proper engine warmup procedures.
- i. Selects proper static source.
- j. Adjusts electrical equipment.
- k. Adjusts propeller for proper pitch.
- l. Completes checklist, as appropriate.

2. Action. The examiner will:

- a. Ask the applicant to explain in-flight engine restart procedures, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to restart the engine, and determine that the applicant's performance meets the objective.

I. TASK: ABNORMAL OCCURRENCES (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining powered glider procedures used for various abnormal occurrences such as –
 - (1) partial and complete power failure and failure to gain restart.
 - (2) fire or smoke.
 - (3) electrical system malfunction.
 - (4) low fuel pressure.
 - (5) low oil pressure.
 - (6) engine overheat.
 - (7) canopy opening in flight.
 - (8) emergency descent.
 - (9) off-field landings.
- b. Reacts to simulated powered glider abnormal occurrences.

2. Action. The examiner will:

- a. Ask the applicant to explain procedures to be used in powered glider abnormalities, and determine that the applicant's knowledge meets the objective.
- b. Simulate powered glider abnormalities after considering all safety factors, and determine that the applicant's performance meets the objective.

J. TASK: APPROACHES AND LANDINGS WITH POWER OPERATING (G)

PILOT OPERATION – 2

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of an approach and landing procedure, including airspeeds, configuration, performance, and related safety factors.
 - b. Maintains the proper track on final approach.
 - c. Establishes the appropriate approach and landing configuration and power.
 - d. Maintains the recommended approach airspeed, ± 5 knots, including proper use of spoilers, dive brakes, or flaps.
 - e. Makes smooth and correct control application during the final approach and transition from approach to landing attitude.
 - f. Touches down smoothly, on or beyond a specified point, with no drift and with the longitudinal axis aligned with the desired landing path, stopping short of, and within 100 feet of a second specified point.
 - g. Maintains directional control during landing roll.
 - h. Corrects for crosswind, as necessary.
 - i. Executes a go-around, if necessary.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain approach and landing procedures, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform approaches and landings, and determine that the applicant's performance meets the objective.

VI. AREA OF OPERATION: IN-FLIGHT MANEUVERS

A. TASK: STRAIGHT GLIDES (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the factors involved in straight precision glides, including the relationship of pitch attitude and airspeed.
 - b. Tracks precisely toward a prominent landmark at a specified airspeed.
 - c. Demonstrates the effect of dive brakes, spoilers, and flaps, if so equipped, in relation to pitch attitude and airspeed.
 - d. Makes smooth and coordinated control application.
 - e. Maintains the specified heading, $\pm 5^\circ$, and the specified airspeed, ± 5 knots.

Continued

2. Action. The examiner will:

- a. Ask the applicant to explain the factors involved in straight precision glides and the relationship of pitch attitude and airspeed, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to perform straight glides and demonstrate the effects of dive brakes, spoilers, and flaps, and determine that the applicant's performance meets the objective.

B. TASK: TURNS TO HEADINGS (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining the factors involved in turns to headings, including the relationship of pitch attitude, bank, and airspeed.
- b. Enters and maintains an appropriate rate of turn with smooth and coordinated control applications.
- c. Maintains specified airspeed, ± 5 knots.
- d. Rolls out on the specified heading, $\pm 5^\circ$.

2. Action. The examiner will:

- a. Ask the applicant to explain the factors involved in turns to headings and the relationship of pitch attitude, bank, and airspeed, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to perform gliding turns, and determine that the applicant's performance meets the objective.

C. TASK: MANEUVERING AT CRITICALLY SLOW AIRSPEED (G)

PILOT OPERATION – 4

REFERENCE: Glider Flight Manual.

1. Objective. To determine that the applicant:

- a. Exhibits knowledge by explaining the flight characteristics and controllability associated with maneuvering at critically slow airspeed.
- b. Establishes and maintains the airspeed at which any further increase in angle of attack or change in configurations would result in an immediate stall in straight or turning flight in various configurations and bank angles.
- c. Adjusts the airspeed to avoid stalls in turbulent air or as bank is increased.

- d. Applies control applications in a smooth and coordinated manner.
 - e. Uses the proper technique to avoid stalls when raising a lowered wing.
 - f. Maintains heading, $\pm 10^\circ$, during straight flight, and the specified bank angle, $\pm 5^\circ$, during turns.
2. **Action.** The examiner will:
- a. Ask the applicant to explain the flight characteristics and controllability involved in flight at critically slow airspeed, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform flight at critically slow airspeed specifying the configuration and maneuver, and determine that the applicant's performance meets the objective.

D. TASK: STALL RECOGNITION AND RECOVERY (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
- a. Exhibits knowledge by explaining the aerodynamic factors and flight situations that may result in stalls, including proper recovery procedures and the hazards of stalling during uncoordinated flight.
 - b. Selects an entry altitude that will allow the maneuver to be completed no lower than 1,500 feet AGL.
 - c. Establishes and maintains a pitch attitude that will result in a stall during both straight and turning flight with and without spoilers, dive brakes, or flaps.
 - d. Maintains a bank angle of 20° , $\pm 5^\circ$, during turns.
 - e. Recovers promptly from a stall when the first indication of buffeting or rapid decay of control effectiveness is recognized.
 - f. Uses smooth, coordinated control application throughout the maneuver.
2. **Action.** The examiner will:
- a. Ask the applicant to explain the aerodynamic factors and flight situations that may result in stalls, including proper recovery procedures and hazards of stalling during uncoordinated flight, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform stalls in straight or turning flight in various configurations, and determine that the applicant's performance meets the objective.

E. TASK: RECOVERY FROM UNUSUAL ATTITUDES (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by thoroughly explaining the conditions that cause high-speed spirals, excessive bank and pitch attitudes, and high sink rates, and the procedures used to recover from these attitudes.
 - b. Recognize promptly when high-speed spirals, excessive bank angles or pitch attitudes, and high sink rates are imminent.
 - c. Uses prompt and smooth procedures to recover from unusual attitudes.
 - d. Avoids any tendency to overstress the glider.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the conditions that cause unusual attitudes and the procedures used to recover, and determine that the applicant's knowledge meets the objective.
 - b. Maneuver the glider into an attitude in which a high-speed spiral, an excessive bank angle or pitch attitude, or high sink rate is imminent, and determine that the applicant's performance meets the objective.

F. TASK: STEEP TURNS (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the performance factors associated with steep turns, including load factor, effect on stall speed, and overbanking tendency.
 - b. Establishes the recommended entry airspeed.
 - c. Enters a 360° turn maintaining a bank angle of at least 50°, $\pm 5^\circ$, in smooth, stabilized, coordinated flight.
 - d. Recognizes the need to apply smooth, coordinated control to maintain the specified airspeed, ± 10 knots.
 - e. Divides attention between glider control and orientation.
 - f. Reverses direction of turn at the entry heading, $\pm 10^\circ$, and continues a 360° turn, then rolls out on the entry heading, $\pm 10^\circ$.
 - g. Avoids any indication of an approaching stall.

2. **Action.** The examiner will:
 - a. Ask the applicant to explain the performance factors associated with steep turns, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform steep turns specifying the entry heading and amount of turn, and determine that the applicant's performance meets the objective.

G. TASK: STEEP SPIRALS (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the performance factors associated with steep spirals.
 - b. Establishes the spiral maintaining an angle of bank between 50° and 55° , at an airspeed not to exceed maneuvering speed, with smooth and coordinated control applications.
 - c. Divides attention between glider control and scanning for other traffic.
 - d. Maintains the specified airspeed, ± 10 knots.
 - e. After completing a 360° turn, rolls out at the entry heading, $\pm 10^{\circ}$.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the performance factors associated with steep spirals, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a steep spiral, and determine that the applicant's performance meets the objective.

VII. AREA OF OPERATION: PERFORMANCE AIRSPEEDS

A. TASK: MINIMUM SINK AIRSPEED (G)

PILOT OPERATION – 4

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the aerodynamic factors and use of minimum sink airspeed.
 - b. Determines the minimum sink airspeed for a given situation and maintains the selected speed, ± 5 knots.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the aerodynamic factors and use of minimum sink airspeed, and determine that the applicant's knowledge meets the objective.
 - b. Require the applicant to determine the minimum sink airspeed for a given situation, and determine that the applicant's performance meets the objective.

B. TASK: SPEED-TO-FLY (G)

PILOT OPERATION – 4

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining factors related to speed-to-fly and its uses.
 - b. Determines the speed-to-fly for a given airmass situation and maintains the selected speed, ± 5 knots.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain factors relating to speed-to-fly and its uses, and determine that the applicant's knowledge meets the objective.
 - b. Require the applicant to determine the speed-to-fly for a given situation, and determine that the applicant's performance meets the objective.

VIII. AREA OF OPERATION: SOARING TECHNIQUES

NOTE: Because soaring techniques vary with geographical locations and atmospheric conditions, applicants may be asked to demonstrate at least one of the soaring techniques most appropriate for the particular location and existing conditions. If conditions do not permit a demonstration of soaring skill, applicants will still be expected to demonstrate knowledge of the various types of soaring techniques through oral testing.

A. TASK: THERMAL SOARING (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by thoroughly explaining the technique and procedures used in thermal soaring.
 - b. Recognizes the indications of, and the presence of a thermal.
 - c. Makes a proper initial entry into the thermal.
 - d. Analyzes the thermal structure and determines the direction to turn to remain within the thermal.
 - e. Exhibits smooth and precise coordinated control and planning to remain within the thermal.
 - f. Applies correct techniques to re-enter the thermal, if lift is lost.
 - g. Remains oriented to ground references, wind, and other aircraft.
 - h. Maintains proper airspeeds in and between thermals.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain techniques used in thermal soaring, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to locate and identify a thermal and to soar using a thermal as a lift source, and determine that the applicant's performance meets the objective.

B. TASK: RIDGE AND SLOPE SOARING (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by thoroughly explaining the techniques and procedures used in ridge and slope soaring.
 - b. Recognizes terrain features and wind conditions which create orographic lift.
 - c. Enters the lift area properly.
 - d. Estimates height and maintains a safe distance from the terrain.
 - e. Exhibits smooth and precise coordinated control and planning to remain within the area of lift.
 - f. Applies correct techniques to re-enter the area of lift, if lift is lost.
 - g. Remains oriented to ground references, wind, and other aircraft.
 - h. Maintains proper airspeeds.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain techniques used in ridge and slope soaring, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to soar using a ridge or slope as a lift source, and determine that the applicant's performance meets the objective.

C. TASK: WAVE SOARING (G)

PILOT OPERATION – 3

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by thoroughly explaining the technique and procedures used in wave soaring.
 - b. Locates and enters the lift area properly.
 - c. Exhibits smooth and precise coordinated control and planning to remain within the area of lift.
 - d. Applies correct techniques to re-enter the area of flight, if lift is lost.
 - e. Remains oriented to ground references, wind, and other aircraft.
 - f. Avoids areas of possible extreme turbulence.
 - g. Maintains proper airspeeds.

2. **Action.** The examiner will:
 - a. Ask the applicant to explain the techniques used in wave soaring, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to soar using waves as a lift source, and determine that the applicant's performance meets the objective.

IX. AREA OF OPERATION: APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES

A. TASK: TRAFFIC PATTERN (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of a traffic pattern used for gliders.
 - b. Displays awareness of co-existing traffic patterns.
 - c. Follows procedures consistent with established traffic pattern rules.
 - d. Corrects precisely for wind drift.
 - e. Crosses designated points precisely at appropriate altitudes, unless conditions make such course of action impracticable.
 - f. Adjusts glidepath and track promptly to compensate for unexpected lift, sink, or changes in wind velocity.
 - g. Completes the pre-landing cockpit check at the proper position in the traffic pattern and selects touchdown and stop points.
 - h. Maintains a precise track on downwind, base leg, and final approach.
 - i. Makes smooth, coordinated turns with a bank angle not to exceed 45°, when turning to final approach.
 - j. Adjusts dive brakes, spoilers, and flaps, as necessary (if so equipped).
 - k. Recognizes the presence and/or effect of wind gradient.
 - l. Avoids thermalling in the traffic pattern.
2. **Action.** The examiner will:
 - a. Ask the applicant to explain the principles and techniques used in flying a traffic pattern, and determine that the applicant's knowledge meets the objective.
 - b. Observe the applicant's traffic pattern operation, and determine that the applicant's performance meets the objective.

B. TASK: NORMAL AND CROSSWIND LANDINGS (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

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

- a. Exhibits knowledge by explaining the elements of normal and crosswind landing procedures, including related safety factors.
- b. Adjusts dive brakes, spoilers, or flaps, as necessary (if so equipped).
- c. Maintains a stabilized descent angle and the recommended approach airspeed with appropriate corrections for existing wind gradient.
- d. Notes any obstructions or other hazards in the approach and landing area.
- e. Observes the wind direction and speed.
- f. Uses crosswind correction on final approach, if necessary.
- g. Makes smooth and positive control application during transition from approach to landing attitude.
- h. Touches down smoothly, on or beyond a specified point, with no drift and with the longitudinal axis aligned with the landing path, stopping short of, and within 100 feet of a second specified point.
- i. Maintains control during the after-landing roll keeping the glider balanced on the wheel, as long as possible.

2. **Action.** The examiner will:

- a. Ask the applicant to explain the elements of a normal and crosswind landing procedure, including related safety factors, and determine that the applicant's knowledge meets the objective.
- b. Ask the applicant to perform a normal or a crosswind landing, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK will be evaluated through oral testing.

C. TASK: SLIPS TO LANDING (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

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

- a. Exhibits knowledge by explaining the elements of forward, side, and turning slips to landing, including related safety factors.
- b. Recognizes the situation where a slip should be used to land in a desired area.
- c. Establishes an appropriate slip using the recommended configuration, and smooth, precise control technique.

- d. Maintains a precise track.
 - e. Maintains recommended approach airspeed with appropriate corrections for existing wind gradient.
 - f. Notes any obstructions or other hazards in the approach and landing area.
 - g. Makes smooth, timely, and positive control application during recovery.
 - h. Touches down smoothly, on or beyond a specified point, with no drift and with the longitudinal axis aligned with the landing path, stopping short of, and within 100 feet of a second specified point.
- 2. Action.** The examiner will:
- a. Ask the applicant to explain the elements of forward, side, and turning slips, including related safety factors, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a slip to a landing, and determine that the applicant's performance meets the objective.

D. TASK: DOWNWIND LANDING (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

- 1. Objective.** To determine that the applicant:
- a. Exhibits knowledge by explaining the elements involved in accomplishing downwind landings, including related safety factors.
 - b. Adjusts dive brakes, spoilers, or flaps, as necessary.
 - c. Maintains a stabilized descent rate and the recommended approach airspeed with appropriate corrections for wind gradient.
 - d. Notes any obstructions or other hazards in the approach and landing area.
 - e. Uses proper downwind landing techniques, considering windspeed.
 - f. Recognizes the effect of higher groundspeeds and makes a smooth and positive transition from approach to landing attitude.
 - g. Maintains precise directional control during touchdown and rollout.
 - h. Applies brake smoothly to bring the glider to a stop.
- 2. Action.** The examiner will:
- a. Ask the applicant to explain the elements involved in downwind landings, including related safety factors, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a downwind landing after considering all safety factors, and determine that the applicant's performance meets the objective.

E. TASK: SIMULATED OFF-AIRPORT LANDING (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

- 1. Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the selection of a suitable landing area and the procedures used to accomplish an off-airport landing.
 - b. Performs a simulated off-airport landing without the use of an altimeter.

- 2. Action.** The examiner will:
 - a. Ask the applicant to explain the selection of a suitable landing area and the procedures used to accomplish an off-airport landing, and determine that the applicant's knowledge meets the objective.
 - b. Ask the applicant to perform a simulated off-airport landing without the use of the altimeter, and determine that the applicant's performance meets the objective.

F. TASK: POST-FLIGHT PROCEDURES (G)

PILOT OPERATION – 5

REFERENCE: Glider Flight Manual.

- 1. Objective.** To determine that the applicant:
 - a. Exhibits knowledge by explaining the elements of post-flight procedures, including parking and securing.
 - b. Parks glider properly in a suitable area, considering wind conditions and obstructions.
 - c. Secures the glider properly.
 - d. Performs a satisfactory post-flight inspection.

- 2. Action.** The examiner will:
 - a. Ask the applicant to explain the elements of post-flight procedures, including parking and securing, and determine that the applicant's knowledge meets the objective.
 - b. Observe the applicant's post-flight procedures, and determine that the applicant's performance meets the objective.

PRACTICAL TEST CHECKLIST

(G)

(SUGGESTED)

APPLICANT'S NAME _____

EXAMINER'S NAME _____

DATE _____

TYPE CHECK _____

I. PREFLIGHT PREPARATION

- A. Certificates and Documents
- B. Obtaining Weather Information
- C. Operation of Glider Systems
- D. Determining Performance and Limitations
- E. Flight Preparation and Planning
- F. Equipment
- G. Aeromedical Factors

II. GROUND OPERATIONS

- A. Assembly
- B. Ground Handling
- C. Visual Inspection
- D. Pre-Takeoff Check

III. AEROTOW LAUNCH

- A. Visual Signals
- B. Normal and Crosswind Takeoffs
- C. Maintaining Tow Positions
- D. Slack Line
- E. Boxing the Wake
- F. Tow Release
- G. Aerotow Abnormal Occurrences

IV. GROUND LAUNCHES (AUTO OR WINCH)

- A. Visual Signals
- B. Normal and Crosswind Takeoffs
- C. Ground Launch Abnormal Occurrences

Continued

V. POWERED GLIDER LAUNCH

- A. Determining Performance and Limitations
- B. Visual Inspection
- C. Starting Engine
- D. Taxiing
- E. Pre-Takeoff Check
- F. Takeoff and Climb
- G. Engine Shutdown In Flight
- H. Engine Restart In Flight
- I. Abnormal Occurrences
- J. Approaches and Landings with Power Operating

VI. IN-FLIGHT MANEUVERS

- A. Straight Glides
- B. Turns to Headings
- C. Maneuvering at Critically Slow Airspeed
- D. Stall Recognition and Recovery
- E. Recovery from Unusual Attitudes
- F. Steep Turns
- G. Steep Spirals

VII. PERFORMANCE AIRSPEEDS

- A. Minimum Sink Airspeed
- B. Speed-To-Fly

VIII. SOARING TECHNIQUES

- A. Thermal Soaring
- B. Ridge and Slope Soaring
- C. Wave Soaring

IX. APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES

- A. Traffic Pattern
- B. Normal and Crosswind Landings
- C. Slips to Landing
- D. Downwind Landing
- E. Simulated Off-Airport Landing
- F. Post-Flight Procedures

APPLICANT'S PRACTICAL TEST CHECKLIST

(SUGGESTED)

APPOINTMENT WITH INSPECTOR OR EXAMINER: _____

NAME _____

TIME/DATE _____

ACCEPTABLE AIRCRAFT

- Aircraft Documents:
 - Airworthiness Certificate
 - Registration Certificate
 - Operating Limitations
- Aircraft Maintenance Records:
 - Airworthiness Inspections
- FCC Station License (if applicable)

PERSONAL EQUIPMENT

- Current Aeronautical Charts
- Computer and Plotter
- Flight Plan Form
- Flight Logs
- Current AIM

PERSONAL RECORDS

- Pilot Certificate
- Medical Certificate
- Completed Application for an Airman Certificate and/or Rating (FAA Form 8710-1)
- Airman Written Test Report (AC Form 8080-2)
- Logbook with Instructor's Endorsement
- Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- FCC Radiotelephone Operator Permit (if applicable)
- Examiner's Fee (if applicable)

FLIGHT INSTRUCTOR

GLIDER (G)

Practical Test Standards

FLIGHT STANDARDS SERVICE

Washington, DC 20591

CONTENTS

I. FUNDAMENTALS OF INSTRUCTION

A. The Learning Process	F – 4
B. The Teaching Process	F – 4
C. Teaching Methods	F – 5
D. Evaluation	F – 5
E. Flight Instructor Characteristics and Responsibilities	F – 5
F. Human Factors	F – 6
G. Planning Instructional Activity	F – 6

II. TECHNICAL SUBJECT AREAS

A. Aeromedical Factors	F – 7
B. Visual Scanning and Collision Avoidance	F – 7
C. Glider Aerodynamics	F – 8
D. Elevators, Ailerons, and Rudders	F – 8
E. Trim Devices	F – 9
F. High-Lift Devices	F – 9
G. High-Drag Devices	F – 9
H. Glider Weight and Balance	F – 10
I. Flight Preparation and Planning	F – 10
J. Federal Aviation Regulations	F – 11
K. Publications	F – 11
L. Logbook Entries and Certificate Endorsements	F – 11

III. PREFLIGHT PREPARATION

A. Certificates and Documents	F – 12
B. Obtaining Weather Information	F – 12
C. Operation of Systems	F – 13
D. Determining Performance and Limitations	F – 14
E. Equipment	F – 14

IV. PREFLIGHT LESSON ON A MANEUVER TO BE PERFORMED IN FLIGHT

A. Maneuver Lesson	F – 15
--------------------------	--------

V. GROUND OPERATIONS

A. Assembly	F – 15
B. Ground Handling	F – 16
C. Visual Inspection	F – 17
D. Pre-Takeoff Check	F – 18

VI. AERO TOW LAUNCH

A. Visual Signals	F – 20
B. Normal and Crosswind Takeoffs	F – 21
C. Establishment and Maintenance of Tow Positions	F – 22
D. Slack Line	F – 23
E. Boxing the Wake	F – 23
F. Tow Release	F – 24
G. Aero Tow Abnormal Occurrences	F – 25

VII. GROUND TOW LAUNCH (AUTO OR WINCH)	
A. Visual Signals	F – 26
B. Normal and Crosswind Takeoffs	F – 27
C. Ground Tow Launch Abnormal Occurrences	F – 28
VIII. POWERED GLIDER SELF-LAUNCH	
A. Determining Performance and Limitations	F – 28
B. Visual Inspection	F – 29
C. Engine Starting	F – 30
D. Taxiing	F – 31
E. Pre-Takeoff Check	F – 32
F. Takeoff and Climb	F – 33
G. Engine Shutdown in Flight	F – 34
H. Engine Restart in Flight	F – 35
I. Abnormal Occurrences	F – 36
J. Approach and Landing with Power	F – 36
IX. IN-FLIGHT MANEUVERS	
A. Straight Glides	F – 37
B. Turns to Headings	F – 38
C. Maneuvering at Critically Slow Airspeed	F – 39
D. Stall Recognition and Recovery	F – 40
E. Spins	F – 41
F. Recovery From Unusual Attitudes	F – 42
G. Steep Turns	F – 43
H. Steep Spirals	F – 44
X. PERFORMANCE AIRSPEEDS	
A. Minimum Sink Airspeed	F – 45
B. Speed-To-Fly	F – 45
XI. SOARING TECHNIQUES	
A. Thermal Soaring	F – 46
B. Ridge and Slope Soaring	F – 47
C. Wave Soaring	F – 48
XII. APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES	
A. Traffic Pattern	F – 50
B. Normal and Crosswind Landings	F – 51
C. Forward Slip to a Landing	F – 52
D. Downwind Landing	F – 53
E. Simulated Off-Airport Landing	F – 54
F. After-Landing Procedures	F – 55
PRACTICAL TEST CHECKLIST	F – 56
APPLICANT'S PRACTICAL TEST CHECKLIST	F – 59

I. AREA OF OPERATION: FUNDAMENTALS OF INSTRUCTION

NOTE: The examiner will select at least one TASK.

A. TASK: THE LEARNING PROCESS (G)

REFERENCE: AC 60-14.

1. **Objective.** To determine that the applicant exhibits instructional knowledge of the elements of the learning process by describing –
 - a. The definition of learning.
 - b. Characteristics of learning.
 - c. The practical application of the laws of learning.
 - d. Factors involved in how people learn.
 - e. Recognition and proper use of the various levels of learning.
 - f. Principles that are applied in learning a skill.
 - g. Factors related to forgetting and retention.
 - h. How transfer of learning affects the learning process.
 - i. How the formation of habit patterns affects the learning process.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the elements of the learning process.

B. TASK: THE TEACHING PROCESS (G)

REFERENCE: AC 60-14.

1. **Objective.** To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing the:
 - a. Preparation for a lesson or an instructional period.
 - b. Presentation of knowledge and skills, including the methods which are suitable in particular situations.
 - c. Application, by the student, of the knowledge and skills presented by the instructor.
 - d. Review of the material presented and the evaluation of student performance and accomplishment.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the elements of the teaching process.

C. TASK: TEACHING METHODS (G)

REFERENCE: AC 60-14.

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

- a. The organization of a lesson — introduction, development, and conclusion.
- b. The lecture method.
- c. The guided discussion method.
- d. The demonstration-performance method.
- e. Programmed instruction.
- f. Audio-visual instruction.

2. **Action.** The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the elements of teaching methods.

D. TASK: EVALUATION (G)

REFERENCE: AC 60-14.

1. **Objective.** To determine that the applicant exhibits instructional knowledge of the elements of evaluation by describing:

- a. The purpose of evaluation.
- b. The characteristics of effective oral questions.
- c. Types of oral questions to avoid.
- d. Responses to student questions.
- e. Characteristics and development of effective written tests.
- f. Characteristics and uses of performance tests, specifically, the FAA practical test standards.

2. **Action.** The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the instructor's role as an evaluator.

E. TASK: FLIGHT INSTRUCTOR CHARACTERISTICS AND RESPONSIBILITIES (G)

REFERENCE: AC 60-14.

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

- a. Major considerations and qualifications which must be included in flight instructor professionalism.
- b. Role of the flight instructor as a practical psychologist, including the understanding of anxiety, stress, and psychological abnormalities.
- c. Flight instructor's responsibility with regard to student pilot supervision and surveillance.

Continued

- d. Flight instructor's authority and responsibility for endorsements and recommendations.
- e. Flight instructor's responsibility in the conduct of the biennial flight review.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe flight instructor characteristics and responsibilities.

F. TASK: HUMAN FACTORS (G)

REFERENCE: AC 60-14.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to human factors by describing the:

- a. Control of human behavior.
- b. Development of student potential.
- c. Relationship of human needs to behavior and learning.
- d. Relationship of defense mechanisms to student learning.
- e. Relationship of defense mechanisms to pilot decision making.
- f. General rules which a flight instructor should follow during student training to ensure good human relations.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe human factors.

G. TASK: PLANNING INSTRUCTIONAL ACTIVITY (G)

REFERENCE: AC 60-14.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to the planning of instructional activity by describing the:

- a. Development of a course of training.
- b. Content and use of a training syllabus.
- c. Purpose, characteristics, proper use, and items of a lesson plan.
- d. Flexibility features of a course of training, syllabus, and lesson plan required to accommodate students with varying backgrounds, levels of experience, and ability.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the planning of instructional activity.

II. AREA OF OPERATION: TECHNICAL SUBJECT AREAS

NOTE: The examiner will select at least one TASK.

A. TASK: AEROMEDICAL FACTORS (G)

REFERENCES: AC 61-21, AC 67-2.

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

- a. Hypoxia, its symptoms, effects, and corrective action.
- b. Hyperventilation, its symptoms, effects, and corrective action.
- c. Middle ear and sinus problems, their causes, effects, and corrective action.
- d. Spatial disorientation, its causes, effects, and corrective action.
- e. Motion sickness, its causes, effects, and corrective action.
- f. The effects of dehydration, and their relationship to safety.
- g. The effects of alcohol and drugs, and their relationship to safety.
- h. Carbon monoxide poisoning, its symptoms, effects and corrective action.
- i. The effect of nitrogen excesses during scuba dives and how this affects a pilot during flight.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe aeromedical factors as this area of knowledge would be taught to a student.

B. TASK: VISUAL SCANNING AND COLLISION AVOIDANCE (G)

REFERENCES: AC 61-21, AC 61-23, AC 67-2, AC 90-48; AIM; Glider Handbook or Manual.

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

- a. Relationship between a pilot's physical or mental condition and vision.
- b. Various environmental conditions that degrade vision.
- c. Various optical illusions.
- d. "See and avoid" concept.
- e. Practice of "time sharing" of attention inside and outside the cockpit.
- f. Relationship between poor visual scanning habits and increased collision risk.

Continued

- g. Proper clearing procedures.
- h. Importance of knowing aircraft blind spots.
- i. Relationship between aircraft speed differential and collision risk.
- j. Situations which involve the greatest collision risk.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe visual scanning and collision avoidance as this procedure would be taught to a student.

C. TASK: GLIDER AERODYNAMICS (G)

REFERENCES: AC 61-21, AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of glider aerodynamics by describing:

- a. Glider and airfoil design characteristics.
- b. The three axes of rotation and stability about those axes.
- c. Lift/drag relationship.
- d. The forces acting on a glider in a straight flight.
- e. The forces acting on a glider in a turn.
- f. Stalls and spins.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to explain glider aerodynamics as this area of knowledge would be taught to a student.

D. TASK: ELEVATORS, AILERONS, AND RUDDERS (G)

REFERENCES: AC 61-21, AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to elevators, ailerons, and rudders by describing the:

- a. Purpose of each primary control.
- b. Location, attachments, and system of control.
- c. Direction of movement relative to airflow.
- d. Effect on glider control.
- e. Proper technique for use.
- f. Adverse yaw.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the elevators, ailerons, and rudders as this area of knowledge would be taught to a student.

E. TASK: TRIM DEVICES (G)

REFERENCES: AC 61-21, AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to trim devices by describing the:

- a. Purpose.
- b. Location, attachments, and system of control.
- c. Direction of movement relative to airflow and the primary control surface.
- d. Effect on glider control.
- e. Proper technique for use.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the trim devices as this area of knowledge would be taught to a student.

F. TASK: HIGH-LIFT DEVICES (G)

REFERENCES: AC 61-21, AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to high-lift devices by describing the:

- a. Purpose.
- b. Various types.
- c. Location, attachments, and system of control.
- d. Effect on glider control.
- e. Effect on trim.
- f. Proper technique for use.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the high-lift devices as this area of knowledge would be taught to a student.

G. TASK: HIGH-DRAG DEVICES (G)

REFERENCE: Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to high-drag devices by describing the:

- a. Purpose.
- b. Various types.
- c. Location, attachments, and system of control.
- d. Effect on glider control.
- e. Effect on trim.
- f. Proper technique for use.

Continued

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the high-drag devices as this area of knowledge would be taught to a student.

H. TASK: GLIDER WEIGHT AND BALANCE (G)

REFERENCES: AC 61-21, AC 91-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements of glider weight and balance by describing the:

- a. Weight and balance terms.
- b. The determination of total weight and center of gravity and the changes that occur when adding, removing, or shifting weight.
- c. The effect of weight and balance on performance.
- d. The purpose of ballast and the effect of ballast on performance.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe glider weight and balance as this area of knowledge would be taught to a student.

I. TASK: FLIGHT PREPARATION AND PLANNING (G)

REFERENCES: AC 61-21, AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to flight preparation and planning by describing:

- a. The selection and use of current and appropriate aeronautical charts.
- b. The pertinent aspects of the National Airspace System, controlled and special-use airspace, the symbols used on aeronautical charts.
- c. How to plot a course and select prominent en route checkpoints.
- d. The use of pilotage and dead reckoning.
- e. The construction of a flight profile to determine minimum flight altitude required at "go-ahead points."
- f. Factors that should be considered in the selection of a suitable landing area in the event an off-field landing must be accomplished.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe flight preparation and planning as this area of knowledge would be taught to a student.

J. TASK: FEDERAL AVIATION REGULATIONS (G)

REFERENCES: FAR Parts 61 and 91; NTSB Part 830.

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

- a. Availability and method of revision.
- b. FAR Part 61, including –
 - (1) purpose.
 - (2) general content.
- c. FAR Part 91, including –
 - (1) purpose.
 - (2) general content.
- d. NTSB Part 830, including –
 - (1) purpose.
 - (2) general content.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to discuss Federal Aviation Regulations.

K. TASK: PUBLICATIONS (G)

REFERENCES: AC 00-2, AC 61-21, AC 61-23; Glider Handbook and Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to publications, advisory circulars, practical test standards, and glider handbooks and manuals by describing:

- a. Availability.
- b. Purpose.
- c. General content.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe publications as this area of knowledge would be taught to a student.

L. TASK: LOGBOOK ENTRIES AND CERTIFICATE ENDORSEMENTS (G)

REFERENCES: FAR Part 61; AC 61-21, AC 61-65.

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

- a. Required logbook entries for instruction given.
- b. Required student pilot certificate endorsements, including the appropriate logbook entries.
- c. Preparation of a recommendation for a pilot practical test, including the appropriate logbook entry.

Continued

- d. Required endorsement of a pilot logbook for the satisfactory completion of a biennial flight review.
- e. Required flight instructor records.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to discuss logbook entries and certificate endorsements.

III. AREA OF OPERATION: PREFLIGHT PREPARATION

NOTE: The examiner will select at least one TASK.

A. TASK: CERTIFICATES AND DOCUMENTS (G)

REFERENCES: FAR Parts 43, 61, and 91; AC 61-21, AC 61-23; FAA-S-8081-1; Glider Handbook or Manual.

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

- a. Requirements for the issuance of pilot and flight instructor certificates and ratings, and the privileges and limitations of those certificates and ratings.
- b. Medical requirements for glider pilots.
- c. Airworthiness and registration certificates.
- d. Glider handbooks and manuals.
- e. Glider maintenance requirements and records.
- f. Equipment list.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe certificates and documents as this area of knowledge would be taught to a student.

B. TASK: OBTAINING WEATHER INFORMATION (G)

REFERENCES: AC 00-6, AC 00-45, AC 61-21, AC 61-23; FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. A thorough weather check.
- b. Various means of obtaining weather information.
- c. Weather reports, forecasts, and charts. including stability charts.
- d. Use of PIREPs, SIGMETs, AIRMETs, and Notices to Airmen.
- e. Recognition of aviation weather hazards.

- f. Factors to be considered in making a “go/no-go” decision.
- g. The relationship of the following factors to the lifting process –
 - (1) pressure and temperature lapse rates.
 - (2) atmospheric instability.
 - (3) thermal index.
 - (4) thermal production.
 - (5) cloud formation and identification.
 - (6) frontal weather.
 - (7) land and sea breezes.
 - (8) valley breezes.
 - (9) orographic lift.
 - (10) mountain waves.

2. Action. The examiner will determine that the applicant’s performance meets the objective by asking the applicant to describe the procedure for obtaining weather information as this area of knowledge would be taught to a student.

C. TASK: OPERATION OF SYSTEMS (G)

REFERENCES: AC 61-23; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to the operation of systems of the glider used for the practical test, by describing the:

- a. Flight instruments, including –
 - (1) magnetic compass and its characteristics.
 - (2) inclinometer and yaw string.
 - (3) pitot-static system, including –
 - (a) airspeed indicator.
 - (b) altimeter and errors.
 - (c) variometer.
 - (d) total energy compensator.
 - (4) gyroscopic instruments, if applicable, including –
 - (a) turn coordinator.
 - (b) attitude indicator.
 - (5) electrical system, if installed.
 - (6) landing gear, including –
 - (a) retraction system and indicators, if applicable.
 - (b) wheels, brakes, and tires.
 - (7) oxygen, including –
 - (a) use.
 - (b) storage tank-supply and duration.
 - (c) pressure-reducing regulator.
 - (d) mask.
 - (e) type of oxygen.
 - (f) safety factors.
 - (8) avionics.

2. Action. The examiner will determine that the applicant’s performance meets the objective by asking the applicant to explain the operation of systems as this area of knowledge would be taught to a student.

D. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

REFERENCE: Glider Handbook or Manual.

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

- a. Proficient use of the appropriate performance charts, tables, and data.
- b. Effect of density altitude and wind on performance.
- c. Applicable performance speeds, and their uses.
- d. Relationship between airspeeds and load factors.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the procedure for determining performance and limitations as this area of knowledge would be taught to a student.

E. TASK: EQUIPMENT (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of equipment by describing items used for:

- a. Flight at high altitudes.
- b. Flight over long distances and varying terrain.
- c. Flight in various climatic conditions.
- d. Parachutes –
 - (1) preflight inspection.
 - (2) fitting.
 - (3) bailout procedures.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to explain the use of equipment, essential for flights in various conditions, as this area of knowledge would be taught to a student.

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

NOTE: The examiner will select a maneuver from Areas of Operation VI through XII. The examiner will ask the applicant to present a preflight lesson on the selected maneuver as the lesson would be taught to a student.

A. TASK: MANEUVER LESSON (G)

REFERENCES: AC 60-14, AC 61-23; FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the selected maneuver by:

- a. Stating the purpose.
- b. Giving an accurate, comprehensive oral description, including the elements and common errors.
- c. Using instructional aids, as appropriate.
- d. Describing the recognition, analysis, and correction of common errors.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to present the selected maneuver as it would be taught to a student.

V. AREA OF OPERATION: GROUND OPERATIONS

NOTE: The examiner will select at least one TASK.

A. TASK: ASSEMBLY (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to assembly by describing the –
 - (1) selection of a suitable area and sufficient crewmembers for assembly.
 - (2) importance of following a checklist.
 - (3) use of proper tools.
 - (4) proper handling of components.
 - (5) cleaning and lubricating of parts, as appropriate.
 - (6) importance of accounting for all tools and parts at the completion of assembly.
 - (7) post-assembly inspection, including a positive control check.

Continued

- b. Exhibits instructional knowledge of common errors related to assembly by describing –
 - (1) poor planning with regard to the selection of a suitable area or the procurement of a sufficient number of crewmembers.
 - (2) failure to use the checklist.
 - (3) hazards of allowing distractions to interrupt assembly.
 - (4) the careless handling of glider components.
 - (5) the omission, or careless performance of, a post-assembly inspection, including a positive control check.
 - (6) hazards of attempting assembly in an area exposed to wind.
- c. Demonstrates and simultaneously explains assembly from an instructional standpoint.
- d. Analyzes and corrects common errors related to assembly.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe assembly as this area of skill would be taught to a student.
- b. Selecting common errors related to assembly, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain assembly.
- d. Simulating common errors related to assembly, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: GROUND HANDLING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to ground handling by describing the –
 - (1) selection and use of the proper ground handling equipment for the existing conditions.
 - (2) proper positioning and securing of controls.
 - (3) precautions to be taken with regard to the canopy.
 - (4) proper positioning and the use of a sufficient number of crewmembers.
 - (5) importance of assuring that placards or cautions are observed when handling glider structure.
 - (6) importance of being constantly aware of obstructions or other hazards.
 - (7) importance of following a suitable route at an appropriate (slow) speed.

- b. Exhibits instructional knowledge of common errors related to ground handling by describing –
 - (1) failure to select and use proper ground handling equipment.
 - (2) failure to secure, or the improper securing, of controls.
 - (3) failure to secure canopy(ies).
 - (4) hazards of attempting to move the glider with an insufficient number of crewmembers.
 - (5) failure to follow directions stated in placards.
 - (6) careless movement of the glider near obstructions.
 - (7) poor choice of route for ground movement.
 - (8) movement of the glider at too fast a speed.
- c. Demonstrates and simultaneously explains ground handling from an instructional standpoint.
- d. Analyzes and corrects common errors related to ground handling.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe ground handling as this operation would be taught to a student.
- b. Selecting common errors related to ground handling, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain ground handling.
- d. Simulating common errors related to ground handling, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: VISUAL INSPECTION (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to a visual inspection as appropriate to the glider used for the practical test, by describing –
 - (1) reasons for the visual inspection.
 - (2) the importance of following the appropriate checklist.
 - (3) inspection of personal equipment.
 - (4) inspection of the oxygen system, including supply and proper operation.
 - (5) the check of the condition and operation of flight controls.
 - (6) the detection of visible structural damage.
 - (7) the determination that glider components are properly assembled and attachments are secure.
 - (8) removal of tie-downs, control locks, and wheel chocks.
 - (9) ice and frost removal.

Continued

- (10) ballast management including c.g. weights and water ballast.
 - (11) inspection of launch equipment, including tow hitches and releases, towline, and weak links.
 - (12) the importance of properly loading and securing baggage and equipment.
 - (13) the use of sound judgment in determining whether the glider is in condition for safe flight.
- b. Exhibits instructional knowledge of common errors related to a visual inspection by describing –
 - (1) improper use of the checklist.
 - (2) hazards of attempting to perform a visual inspection from memory.
 - (3) hazards which may result from allowing distractions to interrupt a visual inspection.
 - (4) inability to recognize discrepancies.
 - c. Demonstrates and simultaneously explains a visual inspection from an instructional standpoint.
 - d. Analyzes and corrects common errors related to a visual inspection.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe a visual inspection as this procedure would be taught to a student.
- b. Selecting common errors related to a visual inspection, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a visual inspection.
- d. Simulating common errors related to a visual inspection, and evaluating the applicant's ability to analyze and correct those errors.

D. TASK: PRE-TAKEOFF CHECK (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to pre-takeoff check by describing the –
 - (1) reason for performing each checklist item.
 - (2) establishment, with crewmembers, of a proper course of action, including signals, speeds, and emergency procedures.
 - (3) proper altimeter setting procedure.
 - (4) proper security of cockpit items.
 - (5) proper adjustment of the seat or rudder pedals, and the fastening and adjustment of safety belts and shoulder harnesses.

- (6) proper procedure for checking and adjusting controls.
 - (7) proper procedure for closing and securing the canopy.
 - (8) proper procedure for towline hookup.
 - (9) proper check of the towline release mechanism.
 - (10) use of the appropriate hitch for the type of launch to be conducted.
 - (11) how to estimate wind speed and direction.
 - (12) importance of reviewing takeoff emergency procedures.
 - (13) importance of assuring that the takeoff area is free of conflicting traffic.
- b. Exhibits instructional knowledge of common errors related to the pre-takeoff check by describing –
 - (1) omission or improper accomplishment of essential items.
 - (2) failure to use proper visual signals.
 - (3) failure to check or properly adjust controls.
 - (4) failure to follow the proper procedure for towline hookup.
 - (5) failure to test the towline release mechanism.
 - (6) faulty estimate of wind speed and direction.
 - (7) hazards of failure to review takeoff emergency procedures.
 - c. Demonstrates and simultaneously explains the pre-takeoff check from an instructional standpoint.
 - d. Analyzes and corrects common errors related to the pre-takeoff check.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe the pre-takeoff check as this procedure would be taught to a student.
- b. Selecting common errors related to the pre-takeoff check, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain the pre-takeoff check.
- d. Simulating common errors related to the pre-takeoff check, and evaluating the applicant's ability to analyze and correct those errors.

VI. AREA OF OPERATION: AERO TOW LAUNCH

NOTE: The examiner will select at least one TASK.

A. TASK: VISUAL SIGNALS (G)

NOTE: The applicant's competence with regard to emergency signals may be evaluated through oral questioning.

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to visual signals by describing the –
 - (1) pre-launch signals, including the purpose of and proper response to each.
 - (2) launch signals, including the purpose of and proper response to each.
 - (3) airborne signals, including the purpose of and proper response to each.
 - (4) emergency signals, including the purpose of and proper response to each.
- b. Exhibits instructional knowledge of common errors related to visual signals by describing the –
 - (1) improper transmission of pre-launch signals to ground crewmembers.
 - (2) improper transmission of launch signals to ground crewmembers.
 - (3) improper response to launch signals.
 - (4) improper transmission of airborne signals to the tow pilot.
 - (5) improper response to airborne signals from the tow pilot.
 - (6) improper transmission of, or response to, airborne emergency signals.
- c. Demonstrates and simultaneously explains visual signals from an instructional standpoint.
- d. Analyzes and corrects common errors related to visual signals.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe visual signals as this area of knowledge would be taught to a student.
- b. Selecting common errors related to visual signals, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain visual signals.
- d. Simulating common errors related to visual signals, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

REFERENCES: FAA-S-8081-1, FAA-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to normal and crosswind takeoffs by describing –
 - (1) how to determine or estimate wind speed and direction.
 - (2) glider configuration.
 - (3) proper glider positioning and towline hookup.
 - (4) initial positioning of controls.
 - (5) takeoff hazards, particularly those related to obstructions.
 - (6) use of proper pre-launch and launch visual signals.
 - (7) directional control during the takeoff roll.
 - (8) proper technique in a crosswind.
 - (9) lift-off attitude.
 - (10) maintenance of alignment with the towplane.
 - (11) proper climbout technique.
 - b. Exhibits instructional knowledge of common errors related to normal and crosswind takeoffs by describing –
 - (1) improper glider configuration.
 - (2) improper initial positioning of flight controls.
 - (3) the use of improper visual signals.
 - (4) failure to maintain alignment behind the towplane, before towplane becomes airborne.
 - (5) improper position relative to the towplane during liftoff.
 - (6) improper glider position, in crosswind, after towplane becomes airborne.
 - c. Demonstrates and simultaneously explains a normal or a crosswind takeoff from an instructional standpoint.
 - d. Analyzes and corrects common errors related to a normal or a crosswind takeoff.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe normal and crosswind takeoffs as this area of skill would be taught to a student.
 - b. Selecting common errors related to normal and crosswind takeoffs, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain a normal or crosswind takeoff.
 - d. Simulating common errors related to a normal or crosswind takeoff, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: ESTABLISHMENT AND MAINTENANCE OF TOW POSITIONS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. Exhibits instructional knowledge of the elements related to the establishment and maintenance of tow positions by describing –
 - (1) high tow, including purpose, recognition, and control technique.
 - (2) low tow, including purpose, recognition, and control technique.
 - (3) wake turbulence associated with the towplane.
 - (4) proper technique for transitioning between high-tow and low-tow positions.
 - (5) proper technique for performing turns on tow.
 - (6) over-control and under-control while on tow.
- b. Exhibits instructional knowledge of common errors related to the establishment and maintenance of tow positions by describing –
 - (1) faulty technique with regard to proper vertical and lateral positions during high tow.
 - (2) faulty technique with regard to proper vertical and lateral positions during low tow.
 - (3) faulty technique during transition between high and low tow.
 - (4) inadvertent entry into towplane wake turbulence.
 - (5) the initiation of a turn too early or at an angle of bank greater than the towplane's.
 - (6) the initiation of a turn too late or at an angle of bank less than the towplane's.
- c. Demonstrates and simultaneously explains the establishment and maintenance of tow positions from an instructional standpoint.
- d. Analyzes and corrects common errors related to the establishment and maintenance of tow positions.

2. **Action.** The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe the establishment and maintenance of tow positions as this area of skill would be taught to a student.
- b. Selecting common errors related to the establishment and maintenance of tow positions, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain the establishment and maintenance of tow positions.
- d. Simulating common errors related to the establishment and maintenance of tow positions, and evaluating the applicant's ability to analyze and correct those errors.

D. TASK: SLACK LINE (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to slack line by describing –
 - (1) situations that lead to the development of slack line.
 - (2) the hazards of slack line.
 - (3) techniques which can be used to correct slack line in various situations.
 - b. Exhibits instructional knowledge of common errors related to slack line by describing –
 - (1) failure to take corrective action at the first indication of slack line development.
 - (2) the use of an improper technique to correct slack line.
 - (3) a faulty corrective technique which can result in excessive stress on the towline, weak link, and glider structure.
 - c. Demonstrates and simultaneously explains slack line from an instructional standpoint.
 - d. Analyzes and corrects common errors related to slack line.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe slack line as this area of skill would be taught to a student.
 - b. Selecting common errors related to slack line, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain slack line.
 - d. Simulating common errors related to slack line, and evaluating the applicant's ability to analyze and correct those errors.

E. TASK: BOXING THE WAKE (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to boxing the wake by describing the –
 - (1) performance of a rectangular pattern that keeps the glider slightly outside the wake.
 - (2) proper control technique and coordination.
 - (3) importance of maintaining a taut towline.

Continued

- b. Exhibits instructional knowledge of common errors related to boxing the wake by describing –
 - (1) flight into the wake turbulence.
 - (2) faulty control technique and coordination.
 - (3) abrupt or rapid changes of position.
 - (4) the performance of an excessively large rectangle (moving too far from the wake).
 - (5) the hazards of allowing a slack line to develop.
- c. Demonstrates and simultaneously explains boxing the wake from an instructional standpoint.
- d. Analyzes and corrects common errors related to boxing the wake.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe normal boxing the wake as this area of skill would be taught to a student.
- b. Selecting common errors related to boxing the wake, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain boxing the wake.
- d. Simulating common errors related to boxing the wake, and evaluating the applicant's ability to analyze and correct those errors.

F. TASK: TOW RELEASE (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to tow release by describing –
 - (1) why release should be accomplished when towline tension is normal.
 - (2) the advisability of assuring that the area is clear of other aircraft prior to release.
 - (3) the clearing turn which should be made by the glider and the towplane immediately after release.
 - (4) when an immediate release should be accomplished if the glider pilot loses sight of the towplane.
- b. Exhibits instructional knowledge of common errors related to tow release by describing –
 - (1) failure to clear area prior to release.
 - (2) release when in close proximity to aircraft other than the towplane.
 - (3) failure to make proper turn after release.
- c. Demonstrates and simultaneously explains tow release from an instructional standpoint.
- d. Analyzes and corrects common errors related to tow release.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe tow release as this area of skill would be taught to a student.
- b. Selecting common errors related to tow release, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain tow release.
- d. Simulating common errors related to tow release, and evaluating the applicant's ability to analyze and correct those errors.

G. TASK: AERO TOW ABNORMAL OCCURRENCES (G)

NOTE: The applicant's competence with regard to aero tow abnormal occurrences will be evaluated through oral questioning.

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of elements related to aero tow abnormal occurrences by describing:

- a. Why the glider pilot and towplane pilot should agree on a course of action prior to flight.
- b. Proper glider pilot response in the event of –
 - (1) towplane power loss during takeoff.
 - (2) towline break.
 - (3) towplane power failure at altitude.
 - (4) glider release failure.
 - (5) towplane release failure.
 - (6) glider and towplane release failure.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to explain aero tow abnormal occurrences as this area of knowledge would be taught to a student.

VII. AREA OF OPERATION: GROUND TOW LAUNCH (AUTO OR WINCH)

NOTE: The examiner will select at least one TASK.

A. TASK: VISUAL SIGNALS (G)

NOTE: The applicant's competence with regard to emergency signals may be evaluated through oral questioning.

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to visual signals by describing the –
 - (1) pre-launch signals, including the purpose of and proper response to each.
 - (2) launch signals, including the purpose of and proper response to each.
 - (3) airborne signals, including the purpose of and proper response to each.
 - (4) emergency signals, including the purpose of and proper response to each.
- b. Exhibits instructional knowledge of common errors related to visual signals by describing the –
 - (1) improper transmission of pre-launch signals to ground crewmembers.
 - (2) improper transmission of launch signals to ground crewmembers.
 - (3) improper response to launch signals.
 - (4) improper transmission of airborne signals to the ground crewmembers.
 - (5) improper response to signals from the ground crewmembers while airborne.
 - (6) improper transmission of, or response to, emergency signals while airborne.
- c. Demonstrates and simultaneously explains visual signals from an instructional standpoint.
- d. Analyzes and corrects common errors related to visual signals.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe visual signals as this area of knowledge would be taught to a student.
- b. Selecting common errors related to visual signals, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain visual signals.
- d. Simulating common errors related to visual signals and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: NORMAL AND CROSSWIND TAKEOFFS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to normal and crosswind takeoffs by describing –
 - (1) how to determine or estimate wind speed and direction.
 - (2) proper calculation of launch airspeed.
 - (3) glider configuration.
 - (4) proper glider positioning and towline hookup.
 - (5) initial positioning of the controls.
 - (6) takeoff hazards including those related to obstructions and exceeding maximum launch airspeed.
 - (7) use of proper pre-launch and launch visual signals.
 - (8) directional control during the takeoff roll.
 - (9) proper technique in a crosswind.
 - (10) the attainment of appropriate pitch attitude during the ground roll.
 - (11) lift-off technique.
 - (12) climb pitch attitude and track during the climb.
 - (13) proper technique for making airspeed adjustments.
 - (14) proper towline release technique.
 - b. Exhibits instructional knowledge of common errors related to normal and crosswind takeoffs by describing –
 - (1) improper glider configuration.
 - (2) improper initial positioning of flight controls.
 - (3) the use of improper visual signals.
 - (4) improper crosswind correction.
 - (5) improper lift-off technique.
 - (6) improper climb profile.
 - (7) faulty corrective action for the adjustment of airspeed.
 - (8) exceeding maximum launch airspeed.
 - (9) faulty corrective action for porpoising.
 - (10) improper towline release technique and timing.
 - c. Demonstrates and simultaneously explains a normal or a crosswind takeoff from an instructional standpoint.
 - d. Analyzes and corrects common errors related to a normal or a crosswind takeoff.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe normal and crosswind takeoffs as this area of skill would be taught to a student.
 - b. Selecting common errors related to normal and crosswind takeoffs, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain a normal or crosswind takeoff.
 - d. Simulating common errors related to a normal or crosswind takeoff, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: GROUND TOW LAUNCH ABNORMAL OCCURRENCES (G)

NOTE: The applicant's competence with regard to ground launch abnormal occurrences will be evaluated through oral questioning.

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of elements related to ground launch abnormal occurrences by describing:

- a. Why the glider pilot and ground crew should agree on a course of action prior to launch.
- b. Proper glider pilot response in the event of –
 - (1) overrunning the towline.
 - (2) launch power failure or towline break when the glider is –
 - (a) below 200 feet.
 - (b) above 200 feet.
 - (3) inability to release towline.
 - (4) porpoising.
- c. Methods for the emergency release or severance of towline.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe ground launch abnormal occurrences as this area of knowledge would be taught to the student.

VIII. AREA OF OPERATION: POWERED GLIDER SELF-LAUNCH

NOTE: The examiner will select at least one TASK.

A. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (G)

REFERENCES: AC 61-94; FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. Use of appropriate charts, tables, and data.
- b. Computation of fuel requirements.
- c. Determination that weight and center of gravity will be within limits during all phases of flight.
- d. Effect of density altitude, wind, terrain, and other conditions.
- e. Effect of seasonal and atmospheric conditions on the powered glider's performance.
- f. Applicable performance speeds and their uses.
- g. Determination that required performance is within the powered glider's capability and operating limitations.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe the procedure for determining performance and limitations as this area of knowledge would be taught to a student.

B. TASK: VISUAL INSPECTION (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements of a visual inspection (as appropriate to the powered glider used for the practical test) by describing –
 - (1) reasons for the visual inspection, items that should be inspected, and how defects are detected.
 - (2) importance of following the appropriate checklist.
 - (3) how to determine fuel and oil quantity.
 - (4) importance of proper grade fuel.
 - (5) fuel contamination.
 - (6) detection of fuel, oil, and hydraulic leaks.
 - (7) inspection of the oxygen system, including supply and proper operation.
 - (8) the determination that all components are properly assembled and the attachments are secure.
 - (9) inspection of the flight controls, including a positive control check.
 - (10) detection of visible structural damage, including exhaust system.
 - (11) removal of the tie-downs, control locks, and wheel chocks.
 - (12) removal of ice and frost.
 - (13) importance of the proper loading and securing of baggage and equipment.
 - (14) the determination that the powered glider is in condition for safe flight.
 - b. Exhibits instructional knowledge of common errors related to a visual inspection by describing –
 - (1) improper use of the checklist.
 - (2) hazards which may result from allowing distractions to interrupt a visual inspection.
 - (3) inability to recognize discrepancies.
 - (4) hazards of attempting to perform a visual inspection from memory.
 - (5) failure to assure servicing with the proper fuel.
 - c. Demonstrates and simultaneously explains a visual inspection from an instructional standpoint.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe a visual inspection as this procedure would be taught to a student.
 - b. Selecting common errors related to a visual inspection, and asking the applicant to explain those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain a visual inspection.

C. TASK: ENGINE STARTING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. Exhibits instructional knowledge of the elements of engine starting by describing –
 - (1) safety precautions related to engine starting.
 - (2) hand-propping technique.
 - (3) the effect of atmospheric conditions on engine starting.
 - (4) the importance of following the appropriate checklist.
 - (5) the proper adjustment of engine controls.
 - (6) the prevention of powered glider movement during and after engine start.
 - (7) the avoidance of excessive RPM and temperatures.
 - (8) the importance of checking engine instruments after engine start.
- b. Exhibits instructional knowledge of common errors related to engine starting by describing –
 - (1) faulty hand-propping procedure and technique.
 - (2) attempting to perform the starting procedure from memory.
 - (3) excessively high RPM after starting.
 - (4) failure to assure proper clearance of the propeller.
- c. Demonstrates and simultaneously explains engine starting from an instructional standpoint.
- d. Analyzes and corrects common errors related to engine starting.

2. **Action.** The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe engine starting as this procedure would be taught to a student.
- b. Selecting common errors related to engine starting, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain engine starting.
- d. Simulating common errors related to engine starting, and evaluating the applicant's ability to analyze and correct those errors.

D. TASK: TAXIING (G)

REFERENCE: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to powered glider taxiing by describing –
 - (1) proper brake check and correct use of brakes.
 - (2) the compliance with airport surface markings, signals, and clearances.
 - (3) how to control direction and speed.
 - (4) control positioning for various wind conditions.
 - (5) techniques to avoid other aircraft and hazards, considering wingspan and maneuvering space required.
 - (6) the application of right-of-way rules.
 - b. Exhibits instructional knowledge of the common errors related to powered glider taxiing by describing –
 - (1) improper use of brakes.
 - (2) improper positioning of flight controls for various wind conditions.
 - (3) the hazards of taxiing too fast.
 - (4) failure to comply with markings, signals, or clearances.
 - (5) improper positioning for runup.
 - c. Demonstrates and simultaneously explains powered glider taxiing from an instructional standpoint.
 - d. Analyzes and corrects common errors related to powered glider taxiing.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe powered glider taxiing as this area of skill would be taught to a student.
 - b. Selecting common errors related to powered glider taxiing, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain powered glider taxiing.
 - d. Simulating common errors related to powered glider taxiing, and evaluating the applicant's ability to analyze and correct those errors.

E. TASK: PRE-TAKEOFF CHECK (G)

REFERENCES: FAA-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. Exhibits instructional knowledge of pre-takeoff check by describing –
 - (1) powered glider positioning to avoid creating hazards.
 - (2) division of attention inside and outside the cockpit.
 - (3) the importance of following the checklist and responding to each checklist item.
 - (4) the reasons for ensuring proper engine temperatures and pressures for runup and takeoff.
 - (5) the method used to determine that the powered glider is in a safe operating condition.
 - (6) the method used to determine takeoff performance airspeeds and takeoff distances.
 - (7) emergency procedures.
 - (8) methods for assuring that the takeoff area is free of hazards.
 - (9) methods of assuring adequate clearance from other traffic.
- b. Exhibits instructional knowledge of common errors related to the pre-takeoff check by describing –
 - (1) failure to use or the improper use of the checklist.
 - (2) improper positioning of the powered glider.
 - (3) acceptance of “out-of-limits” or questionable engine performance.
 - (4) an improper check of flight controls.
 - (5) the hazards of failure to review takeoff and emergency procedures.
 - (6) failure to check for hazards and other traffic.
- c. Demonstrates and simultaneously explains a pre-takeoff check from an instructional standpoint.
- d. Analyzes and corrects common errors related to a pre-takeoff check.

2. **Action.** The examiner will determine that the applicant’s performance meets the objective by:

- a. Asking the applicant to describe a pre-takeoff check as this procedure would be taught to a student.
- b. Selecting common errors related to a pre-takeoff check, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a pre-takeoff check.
- d. Simulating common errors related to a pre-takeoff check, and evaluating the applicant’s ability to analyze and correct those errors.

F. TASK: TAKEOFF AND CLIMB (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to a takeoff and climb by describing –
 - (1) how to determine or estimate wind speed and direction.
 - (2) how to determine takeoff and climb performance.
 - (3) the importance of noting obstructions or other hazards in the takeoff path.
 - (4) alignment with takeoff path.
 - (5) initial positioning of flight controls.
 - (6) power application.
 - (7) directional control.
 - (8) crosswind technique during ground run.
 - (9) lift-off attitude and airspeed.
 - (10) climb attitude, power setting, and airspeed.
 - (11) crosswind correction and track during climb.
 - (12) use of the checklist.
 - b. Exhibits instructional knowledge of common errors related to a takeoff and climb by describing –
 - (1) improper use of takeoff and climb performance data.
 - (2) improper configuration.
 - (3) improper power application.
 - (4) inappropriate removal of the hand from the throttle.
 - (5) poor directional control.
 - (6) improper use of aileron.
 - (7) improper pitch attitude during lift-off.
 - (8) failure to establish and maintain proper climb attitude and airspeed.
 - (9) drift during climb.
 - c. Demonstrates and simultaneously explains a takeoff and climb from an instructional standpoint.
 - d. Analyzes and corrects common errors related to a takeoff and climb.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe a takeoff and climb as this area of skill would be taught to a student.
 - b. Selecting common errors related to a takeoff and climb, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain a takeoff and climb.
 - d. Simulating common errors related to a takeoff and climb, and evaluating the applicant's ability to analyze and correct those errors.

G. TASK: ENGINE SHUTDOWN IN FLIGHT (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to engine shutdown in flight by describing the –
 - (1) establishment of the manufacturer's recommended power setting to ensure engine cooling prior to shutdown.
 - (2) establishment of the appropriate airspeed.
 - (3) the shutdown of unnecessary electrical equipment, if appropriate.
 - (4) manufacturer's recommended propeller feathering procedure, and/or propeller positioning and stowing procedure.
 - (5) selection of proper static source, if appropriate.
 - b. Exhibits instructional knowledge of common errors related to engine shutdown in flight by describing the –
 - (1) failure to set engine at idle for the specified period of time.
 - (2) initiation of feathering procedure at an inappropriate airspeed.
 - (3) failure to follow the manufacturer's recommended propeller feathering, positioning, and/or stowing procedure.
 - (4) improper setting of electrical equipment.
 - (5) failure to maintain positive aircraft control while performing engine shutdown procedures.
 - c. Demonstrates and simultaneously explains engine shutdown in flight from an instructional standpoint.
 - d. Analyzes and corrects common errors related to engine shutdown in flight.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe engine shutdown in flight as this procedure would be taught to a student.
 - b. Selecting common errors related to engine shutdown in flight, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain engine shutdown in flight.
 - d. Simulating common errors related to engine shutdown in flight, and evaluating the applicant's ability to analyze and correct those errors.

H. TASK: ENGINE RESTART IN FLIGHT (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. **Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to engine restart in flight by describing the –
 - (1) establishment of the proper airspeed.
 - (2) manufacturer's propeller repositioning procedure.
 - (3) manufacturer's propeller unfeathering procedure.
 - (4) operation of engine controls.
 - (5) procedure for starting engine by starter or by windmilling.
 - (6) proper engine warmup procedure.
 - (7) selection of proper static source, if appropriate.
 - (8) proper setting of electrical equipment.
 - (9) proper adjustment of propeller pitch.
 - b. Exhibits instructional knowledge of common errors related to engine restart in flight by describing the –
 - (1) failure to establish recommended airspeed.
 - (2) performance of a faulty propeller unfeathering or repositioning procedure.
 - (3) failure to properly operate engine controls.
 - (4) failure to follow the prescribed procedure for starting engine by starter.
 - (5) failure to follow the prescribed procedure for starting by windmilling.
 - (6) improper procedure for warmup.
 - (7) inappropriate setting of electrical equipment.
 - (8) failure to maintain positive aircraft control while performing engine restart procedures.
 - c. Demonstrates and simultaneously explains engine restart in flight from an instructional standpoint.
 - d. Analyzes and corrects common errors related to engine restart in flight.
2. **Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe engine restart in flight as this procedure would be taught to a student.
 - b. Selecting common errors related to engine restart in flight, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain engine restart in flight.
 - d. Simulating common errors related to engine restart in flight, and evaluating the applicant's ability to analyze and correct those errors.

I. TASK: ABNORMAL OCCURRENCES (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant exhibits instructional knowledge of the elements related to abnormal occurrences by describing recommended pilot action for:

- a. Partial or complete power failure or failure to gain restart.
- b. Smoke or fire during ground or flight operations.
- c. Loss of engine oil pressure.
- d. Low fuel pressure.
- e. Engine overheat.
- f. Electrical system malfunction.
- g. Canopy opening in flight.
- h. Emergency descent.
- i. Off-field landing.

2. Action. The examiner will determine that the applicant's performance meets the objective by asking the applicant to describe abnormal occurrences as this area of knowledge would be taught to a student.

J. TASK: APPROACH AND LANDING WITH POWER (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to an approach and landing with power by describing –
 - (1) landing performance and limitations.
 - (2) configuration and power.
 - (3) obstruction and other hazards which should be considered.
 - (4) a stabilized approach to the selected touch-down area, at the recommended airspeed.
 - (5) coordination of flight controls.
 - (6) a precise ground track.
 - (7) wind shear and turbulence.
 - (8) proper use of spoilers, dive brakes, or flaps.
 - (9) crosswind technique.
 - (10) timing, judgment, and control touch during roundout and touchdown.
 - (11) directional control after touchdown.
 - (12) use of the checklist.
- b. Exhibits instructional knowledge of common errors related to approaches and landings with power by describing –
 - (1) improper use of landing performance data and limitations.
 - (2) failure to establish approach and landing configuration at proper time or in proper sequence.
 - (3) rough or erratic use of power.

- (4) failure to establish and maintain a stabilized approach.
 - (5) failure to use proper technique for wind shear or turbulence.
 - (6) poor judgment or technique in the use of spoilers, dive brakes, or flaps.
 - (7) improper crosswind technique.
 - (8) faulty technique during roundout and touchdown.
 - (9) poor directional control after touchdown.
 - (10) improper use of brakes.
- c. Demonstrates and simultaneously explains an approach and landing with power from an instructional standpoint.
 - d. Analyzes and corrects common errors related to approaches and landings with power.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe an approach and landing with power as this area of skill would be taught to a student.
- b. Selecting common errors related to approaches and landings with power, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain an approach and landing with power.
- d. Simulating common errors related to approaches and landings with power, and evaluating the applicant's ability to analyze and correct those errors.

IX. AREA OF OPERATION: IN-FLIGHT MANEUVERS

NOTE: The examiner will select TASK E and one other TASK.

A. TASK: STRAIGHT GLIDES (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to straight glides by describing the –
 - (1) pitch attitude and airspeed.
 - (2) establishment and maintenance of a precise ground track.
 - (3) effect of dive brakes, spoilers, and flaps, if the glider is so equipped.
 - (4) use of smooth and coordinated control applications.
 - (5) use of trim.

Continued

- b. Exhibits instructional knowledge of common errors related to straight glides by describing the –
 - (1) rough or erratic pitch attitude and airspeed control.
 - (2) failure to establish and maintain proper wind drift correction.
 - (3) effect of improper control technique when using dive brakes, spoilers, or flaps.
 - (4) rough, uncoordinated, or inappropriate control applications.
 - (5) failure to trim or the improper use of trim.
- c. Demonstrates and simultaneously explains straight glides from an instructional standpoint.
- d. Analyzes and corrects common errors related to straight glides.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe straight glides as this maneuver would be taught to a student.
- b. Selecting common errors related to straight glides, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain straight glides.
- d. Simulating common errors related to straight glides, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: TURNS TO HEADINGS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to turns to headings by describing the –
 - (1) proper pitch attitude, bank attitude, and airspeed.
 - (2) roll-in and roll-out technique.
 - (3) changes in lift, drag, and load factor.
 - (4) adverse yaw.
 - (5) maintenance of a specified airspeed.
 - (6) use of smooth and coordinated control applications.
- b. Exhibits instructional knowledge of common errors related to turns to headings by describing –
 - (1) failure to properly clear area prior to turn entry.
 - (2) rough or uncoordinated control technique during roll-in and roll-out.
 - (3) failure to establish desired degree of bank.
 - (4) lack of precision in the completion of a turn to a heading.
- c. Demonstrates and simultaneously explains turns to headings from an instructional standpoint.
- d. Analyzes and corrects common errors related to turns to headings.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe turns to headings as this area of skill would be taught to a student.
- b. Selecting common errors related to turns to headings, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain turns to headings.
- d. Simulating common errors related to turns to headings, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: MANEUVERING AT CRITICALLY SLOW AIRSPEED (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to maneuvering at critically slow airspeed by describing –
 - (1) establishment and maintenance.
 - (2) flight characteristics.
 - (3) controllability.
 - (4) the importance of maintaining an appropriate airspeed in turbulent air or as bank is increased.
 - (5) the importance of smooth, coordinated control applications.
 - (6) the proper technique for avoiding a stall when raising a lowered wing.
 - (7) recovery to desired airspeed.
- b. Exhibits instructional knowledge of common errors related to maneuvering at critically slow airspeed by describing –
 - (1) failure to establish or to maintain critically slow airspeed.
 - (2) improper trim technique.
 - (3) rough or uncoordinated control technique.
 - (4) lack of pilot recognition of the first indications of a stall.
 - (5) failure to use proper technique to avoid a stall in turbulent air or during a turn.
 - (6) faulty technique when raising a lowered wing.
- c. Demonstrates and simultaneously explains maneuvering at critically slow airspeed from an instructional standpoint.
- d. Analyzes and corrects common errors related to maneuvering at critically slow airspeed.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe maneuvering at critically slow airspeed as this area of skill would be taught to a student.

Continued

- b. Selecting common errors related to maneuvering at critically slow airspeed, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain maneuvering at critically slow airspeed.
- d. Simulating common errors related to maneuvering at critically slow airspeed, and evaluating the applicant's ability to analyze and correct those errors.

D. TASK: STALL RECOGNITION AND RECOVERY (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to imminent and full stall recognition and recovery by describing –
 - (1) aerodynamics of a stall.
 - (2) how to recognize imminent and full stalls.
 - (3) the effect of such factors as weight, center of gravity, load factor, spoilers, dive brakes, flaps, bank angle, and poor coordination.
 - (4) flight situations where unintentional imminent or full stalls may occur.
 - (5) the performance of intentional imminent and full stalls in various configurations.
 - (6) entry technique and minimum entry altitude for intentional stalls.
 - (7) proper coordination of flight controls.
 - (8) proper recovery technique and minimum recovery altitude.
- b. Exhibits instructional knowledge of common errors related to imminent and full stalls by describing –
 - (1) failure to properly establish the specified configuration.
 - (2) improper pitch, heading, and/or bank control during straight-ahead stalls.
 - (3) improper pitch and or bank control during turning stalls.
 - (4) rough and/or uncoordinated control technique.
 - (5) failure to achieve a full stall when a full stall is specified.
 - (6) poor stall recognition and delayed recovery.
 - (7) excessive altitude loss and/or excessive speed during recovery.
 - (8) secondary stall during recovery.
- c. Demonstrates and simultaneously explains stall recognition and recovery from an instructional standpoint.
- d. Analyzes and corrects common errors related to stall recognition and recovery.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe stall recognition and recovery as this maneuver would be taught to a student.
- b. Selecting common errors related to stall recognition and recovery, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain stall recognition and recovery.
- d. Simulating common errors related to stall recognition and recovery, and evaluating the applicant's ability to analyze and correct those errors.

E. TASK: SPINS (G)

NOTE: INTENTIONAL SPINNING OF A GLIDER FOR WHICH THE SPIN MANEUVER IS NOT SPECIFICALLY APPROVED IS NOT AUTHORIZED. At the discretion of the examiner conducting the test, a logbook record attesting to the spin competency of the applicant may be accepted in lieu of the demonstration. A logbook record shall be certified by the flight instructor who conducted the spin instruction.

REFERENCE: Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to spins by describing –
 - (1) the aerodynamics of spins.
 - (2) the effect of various factors such as configuration, weight, center of gravity, and control coordination.
 - (3) flight situations where unintentional spins may occur.
 - (4) how to recognize indications leading to spins.
 - (5) control technique to maintain a stabilized spin.
 - (6) orientation during a spin.
 - (7) the manufacturer's recommended recovery technique.
 - (8) minimum recovery altitude for intentional spins.
 - (9) anxiety factors associated with spin instruction.
- b. Exhibits instructional knowledge of common errors related to spins by describing –
 - (1) failure to properly establish proper configuration prior to spin entry.
 - (2) failure to achieve and maintain a full stall during spin entry.
 - (3) failure to recognize the indications leading to a spin.
 - (4) improper use of flight controls during spin entry, rotation, or recovery.
 - (5) disorientation during a spin.
 - (6) failure to distinguish between a spiral and a spin.

Continued

- (7) excessive speed or accelerated stall during recovery.
- (8) failure to recover with minimum loss of altitude.
- (9) hazards of attempting to spin a glider not approved for spins.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe a spin as this area of skill would be taught to a student.
- b. Selecting common errors related to spins, and asking the applicant to explain how to recognize and correct those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a spin.
- d. Simulating selected common errors related to spins, and evaluating the applicant's ability to analyze and correct those errors.

F. TASK: RECOVERY FROM UNUSUAL ATTITUDES (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to recovery from unusual attitudes by describing –
 - (1) conditions and situations that may result in unintentional high-speed spirals.
 - (2) the recognition of the imminent development of an unintentional high-speed spiral.
 - (3) the control technique for recovery from an unintentional high-speed spiral.
 - (4) conditions and situations that may result in excessive bank and pitch attitudes and the proper control technique for recovery from those attitudes.
 - (5) conditions and situations that may result in high-sink rates and the proper control technique for recovery.
- b. Exhibits instructional knowledge of common errors related to recovery from unusual attitudes by describing –
 - (1) failure to recognize when an unusual attitude is imminent.
 - (2) rough, abrupt, and/or uncoordinated control applications.
 - (3) the improper sequence of control applications.
- c. Demonstrates and simultaneously explains recovery from unusual attitudes from an instructional standpoint.
- d. Analyzes and corrects common errors related to recovery from unusual attitudes.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe recovery from unusual attitudes as this area of skill would be taught to a student.
- b. Selecting common errors related to recovery from unusual attitudes, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain recovery from unusual attitudes.
- d. Simulating common errors related to recovery from unusual attitudes, and evaluating the applicant's ability to analyze and correct those errors.

G. TASK: STEEP TURNS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to steep turns by describing –
 - (1) the relationship of bank angle, load factor, and stalling speed.
 - (2) overbanking tendency.
 - (3) the establishment of the recommended entry airspeed.
 - (4) orientation, division of attention, and planning.
 - (5) coordination of flight controls.
 - (6) entry and rollout technique.
- b. Exhibits instructional knowledge of common errors related to steep turns by describing –
 - (1) uncoordinated use of flight controls.
 - (2) loss of orientation.
 - (3) unintentional stall or spin.
 - (4) excessive deviation from desired heading during rollout.
- c. Demonstrates and simultaneously explains steep turns from an instructional standpoint.
- d. Analyzes and corrects common errors related to steep turns.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe steep turns as this area of skill would be taught to a student.
- b. Selecting common errors related to steep turns, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a steep turn.
- d. Simulating common errors related to steep turns, and evaluating the applicant's ability to analyze and correct those errors.

H. TASK: STEEP SPIRALS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

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

- a. Exhibits instructional knowledge of the elements related to steep spirals by describing –
 - (1) the relationship of bank angle, load factor, and stalling speed.
 - (2) overbanking tendency.
 - (3) orientation, division of attention, and planning.
 - (4) coordination of flight controls.
 - (5) entry technique.
 - (6) wind drift correction to maintain a constant distance from the ground reference point.
 - (7) how to maintain desired airspeed.
 - (8) relationship of steep spirals and off-field landings.
- b. Exhibits instructional knowledge of common errors related to steep spirals by describing –
 - (1) uncoordinated use of flight controls.
 - (2) excessive airspeed variations.
 - (3) improper bank variations to correct for wind drift.
 - (4) loss of orientation.
 - (5) an unintentional stall.
 - (6) improper rollout technique.
- c. Demonstrates and simultaneously explains steep spirals from an instructional standpoint.
- d. Analyzes and corrects common errors related to steep spirals.

2. **Action.** The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe steep spirals as this area of skill would be taught to a student.
- b. Selecting common errors related to steep spirals, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a steep spiral.
- d. Simulating common errors related to steep spirals, and evaluating the applicant's ability to analyze and correct those errors.

X. AREA OF OPERATION: PERFORMANCE AIRSPEEDS

NOTE: The examiner will select at least one TASK.

A. TASK: MINIMUM SINK AIRSPEED (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

- 1. Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to minimum sink airspeed by describing the –
 - (1) related aerodynamic factors.
 - (2) use of this speed.
 - (3) establishment and maintenance of this speed.
 - b. Exhibits instructional knowledge of common errors related to minimum sink airspeed by describing the –
 - (1) improper determination of this speed.
 - (2) rough or erratic pitch attitude and airspeed control.
 - c. Demonstrates and simultaneously explains minimum sink airspeed from an instructional standpoint.
 - d. Analyzes and corrects common errors related to minimum sink airspeed.
- 2. Action.** The examiner will determine that the applicant's performance meets the objective by:
 - a. Asking the applicant to describe minimum sink airspeed as this area of skill would be taught to a student.
 - b. Selecting common errors related to minimum sink airspeed, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain minimum sink airspeed.
 - d. Simulating common errors related to minimum sink airspeed, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: SPEED-TO-FLY (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

- 1. Objective.** To determine that the applicant:
 - a. Exhibits instructional knowledge of the elements related to speed-to-fly by describing the –
 - (1) factors related to the determination of speed-to-fly.
 - (2) use of this speed.
 - (3) establishment and maintenance of this speed for a given situation.

Continued

- b. Exhibits instructional knowledge of common errors related to speed-to-fly by describing the –
 - (1) improper determination of this speed.
 - (2) rough or erratic pitch attitude and airspeed control.
- c. Demonstrates and simultaneously explains speed-to-fly from an instructional standpoint.
- d. Analyzes and corrects common errors related to speed-to-fly.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe speed-to-fly as this area of skill would be taught to a student.
- b. Selecting common errors related to speed-to-fly, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain speed-to-fly.
- d. Simulating common errors related to speed-to-fly, and evaluating the applicant's ability to analyze and correct those errors.

XI. AREA OF OPERATION: SOARING TECHNIQUES

NOTE: The examiner will select at least one TASK. The TASK selected will be appropriate to the geographical location and existing atmospheric conditions. If conditions do not permit a demonstration of soaring skill, the applicant will still be expected to demonstrate satisfactory instructional knowledge of the selected TASK through oral questioning.

A. TASK: THERMAL SOARING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to thermal soaring by describing the –
 - (1) process by which thermals are produced.
 - (2) recognition of the presence of a thermal.
 - (3) initial entry into a thermal.
 - (4) analysis of a thermal's structure and the determination of the proper direction of turn to remain within a thermal.
 - (5) coordinated control technique and proper planning to remain within a thermal.
 - (6) importance of maintaining orientation with ground references, wind, and other aircraft.
 - (7) importance of maintaining proper airspeeds in and between thermals.
 - (8) use of proper techniques to re-enter a thermal.

- b. Exhibits instructional knowledge of common errors related to thermal soaring by describing –
 - (1) failure to maintain proper airspeeds in and between thermals.
 - (2) rough control technique.
 - (3) poor division of attention resulting in failure to recognize when entering or flying out of a thermal.
 - (4) improper technique during initial entry into a thermal.
 - (5) faulty control touch, coordination, and planning to remain within a thermal.
 - (6) faulty division of attention in maintaining orientation with ground references and wind.
 - (7) failure to properly scan for other aircraft.
 - (8) poor planning and technique when attempting to re-enter a thermal.
- c. Demonstrates and simultaneously explains thermal soaring from an instructional standpoint.
- d. Analyzes and corrects common errors related to thermal soaring.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe thermal soaring as this area of skill would be taught to a student.
- b. Selecting common errors related to thermal soaring, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain thermal soaring.
- d. Simulating common errors related to thermal soaring, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: RIDGE AND SLOPE SOARING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to ridge and slope soaring by describing the –
 - (1) terrain features and wind conditions that create orographic lift.
 - (2) importance of an accurate estimate of terrain height.
 - (3) initial entry into an area of lift.
 - (4) importance of smooth, precise, and coordinated control technique.
 - (5) maintenance of a safe lateral distance from the terrain.
 - (6) use of proper techniques to re-enter an area of lift.
 - (7) procedures for approaching and crossing ridges.

Continued

- (8) importance of planning to fly within a safe gliding distance of an acceptable landing area.
 - (9) maintenance of orientation with ground references and other aircraft.
 - (10) importance of being constantly aware of the possibility of deteriorating weather.
 - (11) importance of proper coordination between the glider pilot and the tow pilot.
- b. Exhibits instructional knowledge of common errors related to ridge and slope soaring by describing –
 - (1) hazards of approaching the ridge or slope lift area at approximately a 90° angle or from the downwind side.
 - (2) failure to maintain proper airspeed while in lift areas.
 - (3) poor division of attention resulting in failure to promptly recognize when leaving lift areas or entering high sink areas.
 - (4) poor control touch and coordination.
 - (5) poor division of attention in maintaining orientation with ground references and wind.
 - (6) failure to properly scan for other aircraft.
 - (7) failure to plan the flight so an acceptable landing area is within gliding distance.
 - c. Demonstrates and simultaneously explains ridge and slope soaring from an instructional standpoint.
 - d. Analyzes and corrects common errors related to ridge and slope soaring.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe ridge and slope soaring as this area of skill would be taught to a student.
- b. Selecting common errors related to ridge and slope soaring, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain ridge and slope soaring.
- d. Simulating common errors related to ridge and slope soaring, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: WAVE SOARING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to wave soaring by describing the –
 - (1) terrain and weather conditions that create standing waves.
 - (2) location of a lift area.

- (3) technique for entering a lift area.
 - (4) importance of smooth, precise, and coordinated control technique.
 - (5) use of proper techniques to re-enter an area of lift.
 - (6) maintenance of orientation with ground references and other aircraft.
 - (7) recognition of rotor and wave turbulence and proper pilot technique.
 - (8) importance of proper coordination between the glider pilot and the tow pilot.
 - (9) coordination with air traffic control, as appropriate.
 - (10) maintenance of proper airspeeds.
 - (11) importance of being constantly aware of the possibility of deteriorating weather.
 - (12) importance of having proper equipment and training for high altitude flight.
- b. Exhibits instructional knowledge of common errors related to wave soaring by describing –
 - (1) erratic airspeed control while in the turbulence of a rotor.
 - (2) failure to maintain proper airspeed while in lift area.
 - (3) rough control technique.
 - (4) poor division of attention resulting in failure to promptly recognize when leaving lift areas or entering high sink areas.
 - (5) faulty control touch, coordination, and planning to remain within the lift area.
 - (6) poor division of attention in maintaining orientation with ground references and wind.
 - (7) failure to properly scan for other aircraft.
 - (8) failure to have proper equipment and training for high altitude flight.
 - c. Demonstrates and simultaneously explains wave soaring from an instructional standpoint.
 - d. Analyzes and corrects common errors related to wave soaring.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe wave soaring as this area of skill would be taught to a student.
- b. Selecting common errors related to wave soaring, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain wave soaring.
- d. Simulating common errors related to wave soaring, and evaluating the applicant's ability to analyze and correct those errors.

XII. AREA OF OPERATION: APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES

NOTE: The examiner will select at least one TASK.

A. TASK: TRAFFIC PATTERN (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to a traffic pattern by describing the –
 - (1) segments (or legs) of a normal glider traffic pattern.
 - (2) importance of pilot awareness of co-existing traffic patterns/runways, the use of proper visual scanning technique, and the maintenance of spacing on other aircraft.
 - (3) procedures applicable to flying a normal traffic pattern.
 - (4) completion of the pre-landing checklist.
 - (5) proper technique for wind drift correction.
 - (6) the appropriate airspeed.
 - (7) factors (including approximate altitudes at various points) that are associated with pilot judgment and precision in the pattern.
 - (8) selection of touchdown and stop points.
 - (9) appropriate corrections and compensations for lift areas, sink areas, and changes in wind speed and direction.
 - (10) appropriate corrections for wind gradient.
 - (11) proper planning and coordination of turns.
 - (12) proper planning and use of dive brakes, spoilers, and flaps.
- b. Exhibits instructional knowledge of common errors related to traffic patterns by describing –
 - (1) failure to scan properly and have proper spacing.
 - (2) poorly planned entry leg.
 - (3) improper correction for wind drift.
 - (4) rough or uncoordinated control technique.
 - (5) poor judgment in the selection of the touchdown and stop points.
 - (6) failure to maintain the appropriate airspeed.
 - (7) failure to apply needed corrections at various points in the pattern.
 - (8) the hazards of a low base leg and a low uncoordinated turn to final.
- c. Demonstrates and simultaneously explains a traffic pattern from an instructional standpoint.
- d. Analyzes and corrects common errors related to traffic patterns.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe a traffic pattern as this area of skill would be taught to a student.
- b. Selecting common errors related to traffic patterns, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a traffic pattern.
- d. Simulating common errors related to traffic patterns, and evaluating the applicant's ability to analyze and correct those errors.

B. TASK: NORMAL AND CROSSWIND LANDINGS (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to normal and crosswind landings by describing –
 - (1) obstructions and other hazards which should be considered.
 - (2) how to determine or estimate wind speed and direction.
 - (3) the proper glidepath to the selected touchdown area, at the recommended airspeed.
 - (4) the proper use of dive brakes, spoilers, or flaps to achieve accuracy of touchdown.
 - (5) coordination of flight controls.
 - (6) trim technique.
 - (7) appropriate correction for wind gradient.
 - (8) the most suitable crosswind technique.
 - (9) timing, judgment, and control touch during the round-out and touchdown.
 - (10) directional control after touchdown.
 - (11) the appropriate wing attitude and the proper use of brakes after touchdown.
- b. Exhibits instructional knowledge of common errors related to normal and crosswind landings by describing –
 - (1) poor judgment of glidepath and the improper use of dive brakes, spoilers, or flaps.
 - (2) rough, hesitant, or uncoordinated control technique.
 - (3) improper airspeed control.
 - (4) improper correction for crosswind.
 - (5) failure to correct for wind gradient.
 - (6) improper technique during round-out and touchdown.
 - (7) poor directional control after touchdown.
 - (8) improper use of brakes.

Continued

- c. Demonstrates and simultaneously explains a normal or a crosswind landing from an instructional standpoint.
- d. Analyzes and corrects common errors related to a normal or a crosswind landing.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe normal and crosswind landings as this area of skill would be taught to a student.
- b. Selecting common errors related to normal and crosswind landings, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a normal or a crosswind landing.
- d. Simulating common errors related to a normal or a crosswind landing, and evaluating the applicant's ability to analyze and correct those errors.

C. TASK: FORWARD SLIP TO A LANDING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to a forward slip to a landing by describing –
 - (1) obstructions and other hazards which should be considered.
 - (2) proper glider configuration.
 - (3) a stabilized slip to the selected touchdown area.
 - (4) possible airspeed indication errors.
 - (5) proper application of flight controls.
 - (6) proper crosswind technique.
 - (7) trim technique.
 - (8) appropriate correction for wind gradient.
 - (9) timing, judgment, and control touch during transition from slip to touchdown.
 - (10) directional control after touchdown.
 - (11) the appropriate wing attitude and the proper use of brakes after touchdown.
- b. Exhibits instructional knowledge of common errors related to forward slips to landings by describing –
 - (1) failure to establish proper glider configuration.
 - (2) failure to maintain a stabilized slip.
 - (3) failure to use proper technique to achieve touchdown accuracy.
 - (4) rough, hesitant, or uncoordinated control technique.
 - (5) improper correction for crosswind.
 - (6) failure to correct for wind gradient.
 - (7) improper technique during round-out and touchdown.
 - (8) poor directional control after touchdown.
 - (9) improper use of brakes.

- c. Demonstrates and simultaneously explains a forward slip to a landing from an instructional standpoint.
 - d. Analyzes and corrects common errors related to forward slips to landings.
- 2. Action.** The examiner will determine that the applicant's performance meets the objective by:
- a. Asking the applicant to describe a forward slip to a landing as this maneuver would be taught to a student.
 - b. Selecting common errors related to forward slips to landings, and asking the applicant to explain the recognition and correction of those errors.
 - c. Asking the applicant to demonstrate and simultaneously explain a forward slip to a landing.
 - d. Simulating common errors related to forward slips to landings, and evaluating the applicant's ability to analyze and correct those errors.

D. TASK: DOWNWIND LANDING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

- 1. Objective.** To determine that the applicant:
- a. Exhibits instructional knowledge of the elements related to a downwind landing by describing –
 - (1) obstructions and other hazards which should be considered.
 - (2) the windspeed above which a downwind landing should not be attempted.
 - (3) how to determine or estimate wind speed and direction.
 - (4) the length of the final approach of a downwind landing compared with that of a normal landing.
 - (5) the proper glidepath to the selected touchdown area, at the recommended airspeed.
 - (6) the proper use of dive brakes, spoilers, or flaps to achieve accuracy of touchdown.
 - (7) coordination of flight controls.
 - (8) trim technique.
 - (9) appropriate correction for wind gradient.
 - (10) timing, judgment, and control touch during the round-out and touchdown.
 - (11) directional control after touchdown.
 - (12) the appropriate wing attitude and the proper use of brakes after touchdown.
 - b. Exhibits instructional knowledge of common errors related to downwind landings by describing –
 - (1) poor judgment of glidepath and the improper use of dive brakes, spoilers, or flaps.
 - (2) rough, hesitant, or uncoordinated control technique.

Continued

- (3) the unintentional slowing of airspeed due to higher groundspeed.
- (4) improper correction for wind gradient.
- (5) improper technique during roundout and touchdown.
- (6) poor directional control after touchdown.
- (7) improper use of brakes.
- c. Demonstrates and simultaneously explains a downwind landing from an instructional standpoint.
- d. Analyzes and corrects common errors related to downwind landings.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe a downwind landing as this maneuver would be taught to a student.
- b. Selecting common errors related to downwind landings, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a downwind landing.
- d. Simulating common errors related to downwind landings, and evaluating the applicant's ability to analyze and correct those errors.

E. TASK: SIMULATED OFF-AIRPORT LANDING (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

NOTE: This landing will be performed at an established airport.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to a simulated off-airport landing by describing –
 - (1) how to select a suitable landing area.
 - (2) how to estimate wind speed and direction.
 - (3) the planning and execution of the approach to the selected landing area without the use of the altimeter.
 - (4) techniques that can be used to compensate for undershooting or overshooting the selected landing area.
- b. Exhibits instructional knowledge of common errors related to a simulated off-airport landing by describing –
 - (1) improper airspeed control.
 - (2) poor judgment in the selection of a landing area.
 - (3) failure to properly estimate wind speed and direction
 - (4) failure to fly most suitable pattern for existing situation.
 - (5) undershooting or overshooting selected landing area.
- c. Demonstrates and simultaneously explains a simulated off-airport landing from an instructional standpoint.
- d. Analyzes and corrects common errors related to simulated off-airport landing.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe a simulated off-airport landing as this maneuver would be taught to a student.
- b. Selecting common errors related to simulated off-airport landings, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain a simulated off-airport landing.
- d. Simulating common errors related to a simulated off-airport landing, and evaluating the applicant's ability to analyze and correct those errors.

F. TASK: AFTER-LANDING PROCEDURES (G)

REFERENCES: FAA-S-8081-1, FAA-S-8081-2; Glider Handbook or Manual.

1. Objective. To determine that the applicant:

- a. Exhibits instructional knowledge of the elements related to after-landing procedures by describing –
 - (1) taxi technique and procedures (powered glider).
 - (2) parking procedure and technique.
 - (3) engine shutdown (powered glider).
 - (4) the proper method of securing the glider.
 - (5) post-flight inspection.
 - (6) refueling (powered glider).
- b. Exhibits instructional knowledge of common errors related to after-landing procedures by describing –
 - (1) hazards of failure to follow recommended procedures.
 - (2) poor planning, improper technique, or poor judgment in the performance of after-landing procedures.
- c. Demonstrates and simultaneously explains after-landing procedures from an instructional standpoint.
- d. Analyzes and corrects common errors related to after-landing procedures.

2. Action. The examiner will determine that the applicant's performance meets the objective by:

- a. Asking the applicant to describe after-landing procedures as this area of skill would be taught to a student.
- b. Selecting common errors related to after-landing procedures, and asking the applicant to explain the recognition and correction of those errors.
- c. Asking the applicant to demonstrate and simultaneously explain after-landing procedures.
- d. Simulating common errors related to after-landing procedures, and evaluating the applicant's ability to analyze and correct those errors.

PRACTICAL TEST CHECKLIST

FLIGHT INSTRUCTOR GLIDER

(SUGGESTED)

APPLICANT'S NAME _____

EXAMINER'S NAME _____

DATE _____

TYPE CHECK _____

I. FUNDAMENTALS OF INSTRUCTION

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

II. TECHNICAL SUBJECT AREAS

- A. Aeromedical Factors
- B. Visual Scanning and Collision Avoidance
- C. Glider Aerodynamics
- D. Elevators, Ailerons, and Rudders
- E. Trim Devices
- F. High-Lift Devices
- G. High-Drag Devices
- H. Glider Weight and Balance
- I. Flight Preparation and Planning
- J. Federal Aviation Regulations
- K. Publications
- L. Logbook Entries and Certificate Endorsements

III. PREFLIGHT PREPARATION

- A. Certificates and Documents
- B. Obtaining Weather Information
- C. Operation of Systems
- D. Determining Performance and Limitations
- E. Equipment

IV. PREFLIGHT LESSON ON MANEUVER TO BE PERFORMED IN FLIGHT

- A. Maneuver Lesson

V. GROUND OPERATIONS

- A. Assembly
- B. Ground Handling
- C. Visual Inspection
- D. Pre-Takeoff Check

VI. AERO TOW LAUNCH

- A. Visual Signals
- B. Normal and Crosswind Takeoffs
- C. Establishment and Maintenance of Tow Positions
- D. Slack Line
- E. Boxing the Wake
- F. Tow Release
- G. Aero Tow Abnormal Occurrences

VII. GROUND TOW LAUNCH (AUTO or WINCH)

- A. Visual Signals
- B. Normal and Crosswind Takeoffs
- C. Ground Launch Abnormal Occurrences

VIII. POWERED GLIDER SELF-LAUNCH

- A. Determining Performance and Limitations
- B. Visual Inspection
- C. Engine Starting
- D. Taxiing
- E. Pre-Takeoff Check
- F. Takeoff and Climb
- G. Engine Shutdown in Flight
- H. Engine Restart in Flight
- I. Abnormal Occurrences
- J. Approach and Landings With Power

IX. IN-FLIGHT MANEUVERS

- A. Straight Glides
- B. Turns to Headings
- C. Maneuvering at Critically Slow Airspeed
- D. Stall Recognition and Recovery
- E. Spins
- F. Recovery From Unusual Attitudes
- G. Steep Turns
- H. Steep Spirals

Continued

X. PERFORMANCE AIRSPEEDS

- A. Minimum Sink Airspeed
- B. Speed-to-fly

XI. SOARING TECHNIQUES

- A. Thermal Soaring
- B. Ridge and Slope Soaring
- C. Wave Soaring

XII. APPROACHES, LANDINGS, AND AFTER-LANDING PROCEDURES

- A. Traffic Pattern
- B. Normal and Crosswind Landings
- C. Forward Slip to a Landing
- D. Downwind Landing
- E. Simulated Off-Airport Landing
- F. After-Landing Procedures

APPLICANT'S PRACTICAL TEST CHECKLIST

(SUGGESTED)

APPOINTMENT WITH INSPECTOR OR EXAMINER: _____

NAME _____

TIME/DATE _____

ACCEPTABLE AIRCRAFT _____

- Aircraft Documents:
 - Airworthiness Certificate
 - Registration Certificate
 - Operating Limitations
- Pilot's Operating Handbook or FAA-Approved Flight Manual
- Aircraft Maintenance Records:
 - Airworthiness Inspections
- FCC Station License

PERSONAL EQUIPMENT

- Current Aeronautical Charts
- Computer and Plotter
- Flight Plan Form
- Flight Logs
- Current AIM

PERSONAL RECORDS

- Pilot Certificate
- Completed Application for an Airman Certificate and/or Rating (FAA Form 8710-1)
- Airman Written Test Report (AC Form 8080-2)
- Logbook with Instructor's Endorsement
- Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- Examiner's Fee (if applicable)

Notes

