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**FAA-S-8081-22  
with Change 1**

**PRIVATE PILOT**

**Practical Test Standards**

**for**

**GLIDER**

**APRIL 1999**

**FLIGHT STANDARDS SERVICE  
Washington, DC 20591**

# **PRIVATE PILOT**

## **Practical Test Standards**

**for**

**GLIDER**

**1999**

**FLIGHT STANDARDS SERVICE  
Washington, DC 20591**

## **NOTE**

Material in FAA-S-8081-22 will be effective April 1, 1999. All previous editions of the Private Pilot—Glider Practical Test Standards will be obsolete as of this date.

## RECORD OF CHANGES

### Change 1—9/1/2010

#### IV. AREA OF OPERATION: LAUNCHES AND LANDINGS

**G. TASK: Aerotow – Abnormal Occurrences**

**Q. TASK: Landings – Normal and Crosswind Landing**

- To clarify the intent, extent, and condition of the evaluation.

## FOREWORD

The Private Pilot—Glider Practical Test Standards (PTS) book has been published by the Federal Aviation Administration (FAA) to establish the standards for private pilot certification practical tests for the glider category. FAA inspectors and designated pilot examiners shall conduct practical tests in compliance with these standards. Flight instructors and applicants should find these standards helpful during training and when preparing for practical tests.

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L. Nicholas Lacey  
Director, Flight Standards Service

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# APPLICANT'S PRACTICAL TEST CHECKLIST

## Private Pilot—Glider

EXAMINER'S NAME \_\_\_\_\_

LOCATION \_\_\_\_\_

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

### ACCEPTABLE AIRCRAFT

- Aircraft Documents:
  - Airworthiness Certificate
  - Registration Certificate
  - Operating Limitations
- Aircraft Maintenance Records:
  - Record of Airworthiness Inspections
  - Current Status of Applicable Airworthiness Directives
- € Pilot's Operating Handbook, FAA-Approved Glider Flight Manual

### PERSONAL EQUIPMENT

- Practical Test Standard
- Current Aeronautical Charts
- Computer and Plotter
- Flight Plan Form
- Flight Log Form
- Current AIM, Airport Facility Directory, and Appropriate Publications

### PERSONAL RECORDS

- € Identification - Photo/Signature ID
- Pilot Certificate
- Completed FAA Form 8710-1, Airman Certificate and/or Rating Application with Instructor's Signature (if applicable)
- Airman Test Report
- Pilot Logbook with Appropriate Instructor Endorsements
- FAA Form 8060-5, Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- Examiner's Fee (if applicable)

# EXAMINER'S PRACTICAL TEST CHECKLIST

## Private Pilot—Glider

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

LOCATION \_\_\_\_\_

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

### I. PREFLIGHT PREPARATION

- A. Certificates and Documents
- B. Weather Information
- C. Operation of Systems
- D. Performance and Limitations
- E. Aeromedical Factors

### II. PREFLIGHT PROCEDURES

- A. Assembly
- B. Ground Handling
- C. Preflight Inspection
- D. Cockpit Management
- E. Visual Signals

### III. AIRPORT AND GLIDERPORT OPERATIONS

- A. Radio Communications
- B. Traffic Patterns
- C. Airport, Runway, and Taxiway Signs, Markings, and Lighting

### IV. LAUNCHES AND LANDINGS

#### AERO TOW

- A. Before Takeoff Check
- B. Normal and Crosswind Takeoff
- C. Maintaining Tow Positions
- D. Slack Line
- E. Boxing The Wake
- F. Tow Release
- G. Abnormal Occurrences

## **GROUND TOW (AUTO OR WINCH)**

- H.** Before Takeoff Check
- I.** Normal and Crosswind Takeoff
- J.** Abnormal Occurrences

## **SELF-LAUNCH**

- K.** Engine Starting
- L.** Taxiing
- M.** Before Takeoff Check
- N.** Normal and Crosswind Takeoff and Climb
- O.** Engine Shutdown In Flight
- P.** Abnormal Occurrences

## **LANDINGS**

- Q.** Normal and Crosswind Landing
- R.** Slips to Landing
- S.** Downwind Landing

## **V. PERFORMANCE AIRSPEEDS**

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

## **VI. SOARING TECHNIQUES**

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

## **VII. PERFORMANCE MANEUVERS**

- A.** Straight Glides
- B.** Turns to Headings
- C.** Steep Turns

## **VIII. NAVIGATION**

- A.** Flight Preparation and Planning
- B.** National Airspace System

## ADDITIONAL RATING TASK TABLE

<b>ADDITION OF A GLIDER RATING TO AN EXISTING PRIVATE PILOT CERTIFICATE</b>								
<b>AREA OF OPERATION</b>	Required TASKS are indicated by either the TASK letter(s) that apply(s) or an indication that all or none of the TASKS must be tested.							
	<b>ASEL</b>	<b>ASES</b>	<b>AMEL</b>	<b>AMES</b>	<b>RH</b>	<b>RG</b>	<b>Balloon</b>	<b>Airship</b>
<b>I</b>	B,C,D	B,C,D	B,C,D	B,C,D	B,C,D	B,C,D	C,D	C,D
<b>II</b>	A,B,C,E	A,B,C,E	A,B,C,E	A,B,C,E	A,B,C,E	A,B,C,E	ALL	A,B,C,E
<b>III</b>	B	B	B	B	B	B	B	B
<b>IV</b>	ALL*	ALL*	ALL*	ALL*	ALL*	ALL*	ALL*	ALL*
<b>V</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
<b>VI</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
<b>VII</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
<b>VIII</b>	NONE	NONE	NONE	NONE	NONE	NONE	A	NONE
<b>IX</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
<b>X</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
<b>XI</b>	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL

\*EXAMINER SHALL SELECT KIND OF LAUNCH BASED ON THE APPLICANT'S QUALIFICATIONS.

**LEGEND**

- ASEL Airplane Single-Engine Land
- ASES Airplane Single-Engine Sea
- AMEL Airplane Multiengine Land
- AMES Airplane Multiengine Sea
- RH Rotorcraft Helicopter
- RG Rotorcraft Gyroplane

## **I. AREA OF OPERATION: PREFLIGHT PREPARATION**

### **A. TASK: CERTIFICATES AND DOCUMENTS**

REFERENCES: 14 CFR parts 43, 61, and 91; AC 61-23; Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to certificates and documents by explaining—
  - a. pilot certificate privileges and limitations.
  - b. medical fitness.
  - c. pilot logbook or flight records.
2. Exhibits knowledge of the elements related to certificates and documents by locating and explaining—
  - a. airworthiness and registration certificates.
  - b. operating limitations, placards, and instrument markings.
  - c. weight and balance data and equipment list.
  - d. maintenance requirements, appropriate records, airworthiness directives, and compliance records.

### **B. TASK: WEATHER INFORMATION**

REFERENCES: AC 00-6, AC 00-45, AC 61-23, and AC 61-84; Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to weather information from various sources with emphasis on—
  - a. use of weather reports, charts, and forecasts.
  - b. significant weather prognostics.
2. Exhibits knowledge of the relationship of the following factors to the lifting process—
  - a. pressure and temperature lapse rates.
  - b. atmospheric instability.
  - c. thermal index and thermal production.
  - d. cloud formation and identification.
  - e. frontal weather.
  - f. other lifting sources.

3. Explains hazards associated with flight in the vicinity of thunderstorms.
4. Makes a competent “go/no-go” decision based on available weather information.

**C. TASK: OPERATION OF SYSTEMS**

REFERENCES: AC 61-23; Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to the operation of instruments and systems, including as appropriate—
  - a. magnetic compass.
  - b. yaw string or inclinometer.
  - c. airspeed indicator and altimeter.
  - d. variometer and total energy compensators.
  - e. gyroscopic instruments.
  - f. electrical.
  - g. landing gear and brakes.
  - h. avionics.
  - i. high-lift and drag devices.
  - j. oxygen equipment.
2. Correctly interprets information displayed on the instruments.

**D. TASK: PERFORMANCE AND LIMITATIONS**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to performance and limitations, including the use of charts, tables, data to determine performance, and the adverse effects of exceeding limitations.
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 its effect on performance.
5. Describes the effect of various atmospheric conditions on the glider's performance.
6. Explains the applicable performance speeds and their uses.
7. Describes the relationship between airspeeds and load factors.

**E. TASK: AEROMEDICAL FACTORS**

REFERENCES: AIM, Soaring Flight Manual.

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

1. Symptoms, causes, effects, and corrective action of at least three (3) of the following—
  - a. hypoxia.
  - b. hyperventilation.
  - c. middle ear and sinus problems.
  - d. spatial disorientation.
  - e. motion sickness.
  - f. carbon monoxide poisoning (self-launch).
  - g. stress and fatigue.
  - h. dehydration and heatstroke.
2. Effects of alcohol and drugs, including over-the-counter drugs.
3. Effects of evolved gas from scuba diving on a pilot during flight.

## II. AREA OF OPERATION: PREFLIGHT PROCEDURES

### A. TASK: ASSEMBLY

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

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to assembly procedures.
2. Selects a suitable assembly 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 post-assembly inspection, including a positive control check.

### B. TASK: GROUND HANDLING

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

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



**C. TASK: PREFLIGHT INSPECTION**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to preflight inspection, including which items must be inspected, for what reasons, and how to detect possible defects.
2. Inspects the glider using the appropriate checklist.
3. Verifies the glider is in condition for safe flight, notes any discrepancies, and determines if maintenance is required.
4. Inspects the launch equipment, including towline, tow hitches, weak links, and release mechanism.

**D. TASK: COCKPIT MANAGEMENT**

REFERENCES: 14 CFR part 91; Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to cockpit management procedures.
2. Organizes and arranges material and equipment in a manner making items readily available.
3. Briefs passengers on the use of safety belts, shoulder harnesses, and emergency procedures.
4. Utilizes all appropriate checklists.

**E. TASK: VISUAL SIGNALS**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to aero tow or ground tow visual signals, as appropriate.
2. Uses, interprets, and responds to prelaunch, launch, airborne, and emergency signals, as appropriate.

### III. AREA OF OPERATION: AIRPORT AND GLIDERPORT OPERATIONS

#### A. TASK: RADIO COMMUNICATIONS

**NOTE:** If radio communications are impractical, competency may be determined by oral testing.

REFERENCE: AIM.

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

1. Exhibits knowledge of the elements related to radio communications, radio failure, and ATC light signals.
2. Selects appropriate frequencies for facilities to be used.
3. Transmits using recommended phraseology.
4. Acknowledges radio communications and complies with instructions.
5. Uses appropriate procedures for simulated radio communications failure.
6. Interprets and complies with ATC light signals.

#### B. TASK: TRAFFIC PATTERNS

REFERENCES: 14 CFR part 91; AC 90-66; Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to traffic pattern procedures for gliders.
2. Follows established traffic pattern procedures.
3. Maintains awareness of other traffic in pattern.
4. Maintains proper ground track with crosswind correction, if necessary.
5. Crosses designated points at appropriate altitudes, unless conditions make such action impractical.
6. Selects touchdown and stop points.
7. Adjusts glidepath and track promptly to compensate for unexpected lift, sink, or changes in wind velocity.
8. Makes smooth, coordinated turns with a bank angle not to exceed 45° when turning final approach.
9. Adjusts flaps, spoilers, or dive brakes, as appropriate.
10. Recognizes and makes appropriate corrections for the effect of wind.
11. Completes the prescribed checklist, if applicable.

**C. TASK: AIRPORT, RUNWAY, AND TAXIWAY SIGNS,  
MARKINGS, AND LIGHTING**

REFERENCES: AC 61-23; AIM.

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

1. Exhibits knowledge of the elements related to airport, runway, and taxiway signs, markings, and lighting.
2. Identifies, interprets, and complies with appropriate airport, runway, and taxiway signs, markings, and lighting.

#### IV. AREA OF OPERATION: LAUNCHES AND LANDINGS

**NOTE:** Examiner shall select kind of launch based on the applicant's qualifications.

##### **AERO TOW**

##### **A. TASK: BEFORE TAKEOFF CHECK**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to the before takeoff check, including the reasons for checking the items, and how to detect malfunctions.
2. Establishes a course of action with crewmembers, including signals, speeds, wind, and emergency procedures.
3. Ensures that the glider is in safe operating condition.
4. Checks towline hookup and release mechanism, using the appropriate hook for the type of launch conducted.
5. Ensures no conflict with traffic prior to takeoff.
6. Completes the prescribed checklist, if applicable.

##### **B. TASK: NORMAL AND CROSSWIND TAKEOFF**

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

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to normal and crosswind takeoff, including configurations and tow positions.
2. Uses proper signals for takeoff.
3. Lifts off at an appropriate airspeed.
4. Maintains proper position until towplane lifts off.
5. Maintains directional control and proper wind-drift correction throughout the takeoff.
6. Maintains proper alignment with the towplane.

**C. TASK: MAINTAINING TOW POSITIONS**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to high-tow (slightly above the wake) and low-tow (slightly below the wake) positions during various phases of aero tow.
2. Makes smooth and correct control applications to maintain vertical and lateral positions during high and low tow.
3. Transitions from high- to low-tow position through the wake while maintaining positive control.
4. Maintains proper tow position during turns.

**D. TASK: SLACK LINE**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to 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**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to boxing the wake (maneuvering around the wake).
2. Maneuvers the glider, while on tow, slightly outside the towplane's wake in a rectangular, box-like pattern.
3. Maintains proper control and coordination.

**Change 1 (9/1/10)**

**F. TASK: TOW RELEASE**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to tow release, including related safety factors.
2. Maintains high-tow position with normal towline tension.
3. Clears the area before releasing the towline.
4. Releases the towline and confirms release by observing the towline.
5. Makes level or climbing turn.

**G. TASK: ABNORMAL OCCURRENCES**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to aero tow abnormal occurrences, for 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 (**oral only**).
2. Demonstrates simulated aero tow abnormal occurrences as required by the examiner.

## **GROUND TOW (AUTO OR WINCH)**

### **H. TASK: BEFORE TAKEOFF CHECK**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to the before takeoff check, including the reasons for checking the items, and how to detect malfunctions.
2. Establishes a course of action with crewmembers, including signals, speeds, wind direction, and emergency procedures.
3. Ensures glider is in safe operating condition.
4. Checks towline hookup and release mechanism, using the appropriate hook for the type of launch conducted.
5. Ensures no conflict with traffic prior to takeoff.
6. Completes the prescribed checklist, if applicable.

### **I. TASK: NORMAL AND CROSSWIND TAKEOFF**

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

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to normal and crosswind takeoff, including related safety factors.
2. Uses proper signals for takeoff.
3. Maintains directional control during launch.
4. Lifts off at the proper airspeed.
5. Establishes proper initial climb pitch attitude.
6. Takes prompt action to correct high speed, low speed, or porpoising.
7. Maintains proper ground track during climb.
8. Releases in proper manner and confirms release.

**J. TASK: ABNORMAL OCCURRENCES**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to ground tow abnormal occurrences for various situations, such as—
  - a. overrunning the towline.
  - b. towline break.
  - c. inability to release towline.
  - d. over- and under-speeding.
  - e. porpoising.
2. Demonstrates simulated ground tow abnormal occurrences, as required by the examiner.



## **SELF-LAUNCH**

### **K. TASK: ENGINE STARTING**

REFERENCE: Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to engine starting, including various atmospheric conditions, and awareness of other persons and property during start.
2. Accomplishes recommended starting procedures.
3. Completes appropriate checklists.

### **L. TASK: TAXIING**

REFERENCE: Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to taxiing, including the effect of wind during taxiing and appropriate control positions.
2. Performs a brake check immediately after the glider begins moving.
3. Positions flight controls properly, considering the wind.
4. Controls direction and speed without excessive use of brakes.
5. Avoids other aircraft and hazards.
6. Complies with signals.

### **M. TASK: BEFORE TAKEOFF CHECK**

REFERENCE: Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to the before takeoff check, including the reason for checking each item and to detect malfunctions.
2. Positions the glider properly considering other aircraft, wind, and surface conditions.
3. Ensures engine temperatures and pressures are suitable for run-up and takeoff.
4. Accomplishes before takeoff checks and ensures the glider is in safe operating condition.
5. Reviews airspeeds, takeoff distance, and emergency procedures.
6. Completes appropriate checklists.

**N. TASK: NORMAL AND CROSSWIND TAKEOFF AND CLIMB**

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

REFERENCE: Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to normal and crosswind takeoff and climb.
2. Positions flight controls for existing wind conditions.
3. Clears the area, taxis into takeoff position, and aligns the glider for departure.
4. Advances throttle smoothly to takeoff power.
5. Rotates at recommended airspeed, and accelerates to appropriate climb speed, +10/-5 knots.
6. Maintains takeoff power to a safe maneuvering altitude, then sets climb power.
7. Completes appropriate checklists.

**O. TASK: ENGINE SHUTDOWN IN FLIGHT**

REFERENCE: Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to engine shutdown procedures in flight.
2. Sets power for proper engine cooling.
3. Establishes appropriate airspeed.
4. Sets electrical equipment.
5. Shuts down engine.
6. Feathers or positions propeller and stows, as applicable.
7. Selects proper static source, if applicable.
8. Completes appropriate checklists.

**P. TASK: ABNORMAL OCCURRENCES**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to self-launch abnormal occurrences, for various situations, such as—
  - a. partial, 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. engine restart in flight.
2. Demonstrates simulated self-launch abnormal occurrences, as required by the examiner.

## Change 1 (9/1/10)

### LANDINGS

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

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to normal and crosswind approach and landing procedures.
2. Adjusts flaps, spoilers, or dive brakes, as appropriate.
3. Maintains recommended approach airspeed, +10/-5 knots.
4. Maintains crosswind correction and directional control throughout the approach and landing.
5. Makes smooth, timely, and positive control application during the roundout and touchdown.
6. Touches down smoothly within the designated landing area, with no appreciable drift, and with the longitudinal axis aligned with the desired landing path, stopping short of and within 200 feet (120 meters) of a designated point.

**NOTE:** The applicant shall touchdown and roll to a point designated by the examiner stopping within 200' without rolling past the designated point. The point should be far enough away from the touchdown point that it should not require more than light-medium braking to come to a stop within the required distance.

7. Maintains control during the after-landing roll.
8. Completes appropriate checklists.

### R. TASK: SLIPS TO LANDING

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to forward, side, and turning slips to landing, with and without the use of drag devices.
2. Recognizes the situation where a slip should be used to land in a desired area.

3. Establishes a slip without the use of drag devices.
4. Maintains the desired ground track.
5. Maintains proper approach attitude.
6. Makes smooth, proper, and positive control applications during recovery from the slip.
7. Touches down smoothly within the designated landing area.

**S. TASK: DOWNWIND LANDING**

**NOTE:** This TASK may be evaluated orally at the discretion of the examiner.

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to downwind landings, including safety related factors.
2. Adjusts flaps, spoilers, or dive brakes, as appropriate.
3. Maintains recommended approach airspeed,  $\pm 5$  knots.
4. Uses proper downwind landing procedures.
5. Maintains proper directional control during touchdown and roll-out.
6. Applies brake smoothly to bring glider to a stop.

## **V. AREA OF OPERATION: PERFORMANCE AIRSPEEDS**

### **A. TASK: MINIMUM SINK AIRSPEED**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to aerodynamic factors and use of minimum sink airspeed.
2. Determines the minimum sink airspeed for a given situation and maintains the selected speed,  $\pm 5$  knots.

### **B. TASK: SPEED-TO-FLY**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to speed-to-fly, and its uses.
2. Determines the speed-to-fly for a given situation and maintains the speed,  $\pm 5$  knots.

## VI. AREA OF OPERATION: SOARING TECHNIQUES

**NOTE:** Due to varying geographical locations and atmospheric conditions, the applicant may be asked to demonstrate at least one of the following soaring TASKS most appropriate for the particular location and existing conditions.

If conditions do not permit a demonstration of soaring skills, applicants will be expected to demonstrate knowledge of the various types of soaring through oral testing.

### A. TASK: THERMAL SOARING

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to 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 coordinated control and planning when entering and maneuvering 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

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to ridge and slope soaring.
2. Recognizes terrain features and wind conditions which create orographic lift.
3. Enters the area of lift 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. Uses correct technique to re-enter the area of lift, if lift is lost.

7. Remains oriented to ground references, wind, and other aircraft.
8. Uses proper procedures and techniques when crossing ridges.
9. Maintains proper airspeeds.

**C. TASK: WAVE SOARING**

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to wave soaring.
2. Locates and enters the area of lift.
3. Exhibits smooth, coordinated control, and planning to remain within the area of lift.
4. Uses correct technique 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 ATC, as appropriate.



## VII. AREA OF OPERATION: PERFORMANCE MANEUVERS

### A. TASK: STRAIGHT GLIDES

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to 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 flaps, spoilers, or dive brakes, if equipped, in relation to pitch attitude and airspeed.
4. Exhibits smooth, coordinated control, and planning.
5. Maintains the specified heading,  $\pm 10^\circ$ , and the specified airspeed,  $\pm 10$  knots.

### B. TASK: TURNS TO HEADINGS

REFERENCE: Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to turns to headings, including the relationship of pitch attitude, bank angle, and airspeed.
2. Enters and maintains an appropriate rate of turn with smooth, proper, and coordinated control applications.
3. Maintains the desired airspeed,  $\pm 10$  knots, and rolls out on the specified heading,  $\pm 10^\circ$ .

### C. TASK: STEEP TURNS

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to steep turns, including load factor, effect on stall speed, and overbanking tendency.
2. Establishes the recommended entry airspeed.
3. Enters a turn maintaining a bank angle of  $45^\circ/\pm 5^\circ$ , with smooth and coordinated control applications.
4. Maintains desired airspeed,  $\pm 10$  knots.
5. Recovers with smooth and coordinated control application within  $10^\circ$  of the desired heading.

## VIII. AREA OF OPERATION: NAVIGATION

**NOTE:** The applicant's knowledge of this AREA OF OPERATION will be evaluated through oral testing.

### A. TASK: FLIGHT PREPARATION AND PLANNING

REFERENCES: AC 61-23; AIM, Soaring Flight Manual.

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

1. Exhibits knowledge of the elements related to flight preparations and planning.
2. Selects and uses current and appropriate aeronautical charts.
3. Plots a course and selects prominent en route checkpoints.
4. Constructs a flight profile to determine minimum flight altitude at go-ahead points.
5. Explains method of using lift sources and speeds effectively within and between lift sources.
6. Selects available landing area.
7. Describes coordination procedures with air traffic control, as appropriate.

### B. TASK: NATIONAL AIRSPACE SYSTEM

REFERENCES: 14 CFR part 91; AIM.

**Objective.** To determine that the applicant exhibits knowledge of the elements related to the National Airspace System by explaining:

1. Basic VFR weather minimums for all classes of airspace.
2. Airspace classes and their dimensions, pilot certification, and glider equipment requirements for the following—
  - a. Class A.
  - b. Class B.
  - c. Class C.
  - d. Class D.
  - e. Class E.
  - f. Class G.
3. Special use airspace and other airspace areas.

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

### A. TASK: MANEUVERING AT MINIMUM CONTROL AIRSPEED

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to maneuvering at minimum control airspeed, including flight characteristics and controllability.
2. Establishes and maintains the airspeed at which any further increase in angle of attack or change in configurations would result in a 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 proper procedures 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.

### B. TASK: STALL RECOGNITION AND RECOVERY

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to stall recognition and recovery, including the aerodynamic factors and flight situations that may result in stalls, 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 a stall during both straight and turning flight with and without flaps, spoilers, or dive brakes, as appropriate.
4. Maintains a specified bank angle of up to  $15^\circ$  of bank,  $\pm 10^\circ$ , during turns.
5. Recovers at the stall.
6. Uses smooth and coordinated control applications throughout the maneuver.

## **X. AREA OF OPERATION: EMERGENCY OPERATIONS**

**NOTE:** These TASKS are knowledge only.

### **A. TASK: SIMULATED OFF-AIRPORT LANDING**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

**Objective.** To determine that the applicant exhibits knowledge of the elements related to a simulated off-airport landing, including selection of a suitable landing area and the procedures used to accomplish an off-airport landing.

### **B. TASK: EMERGENCY EQUIPMENT AND SURVIVAL GEAR**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

**Objective.** To determine that the applicant exhibits knowledge of the elements related to emergency equipment and survival gear, appropriate to the glider used for the practical test, by describing:

1. Location in the glider.
2. Method of operation or use.
3. Servicing and storage.
4. Inspection, fitting, and use of parachutes.
5. Equipment and gear appropriate for operation in various climates and over various types of terrain.

## **XI. AREA OF OPERATION: POSTFLIGHT PROCEDURES**

### **TASK: AFTER-LANDING AND SECURING**

REFERENCES: Soaring Flight Manual, Glider Flight Manual.

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

1. Exhibits knowledge of the elements related to after-landing and securing procedures, including local and ATC operations, ramp safety, parking hand signals, shutdown (if appropriate), securing, and postflight inspection.
2. Selects a suitable parking area while considering wind and safety of nearby persons and property.
3. Taxies to parking area and performs engine shutdown, if applicable.
4. Services the glider, if applicable.
5. Secures the glider properly.
6. Performs a satisfactory postflight inspection.
7. Completes the prescribed checklist.