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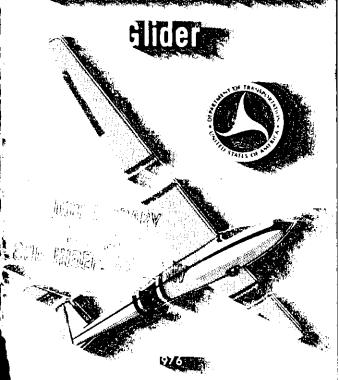
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U.S. DEPARIMENT OF TRANSPORTATION

SERAL AVIATION ADMINISTRATION

Hight Standards Service

## APPLICANT'S FLIGHT TEST CHECKLIST (Suggested)

AFFORMIMENT WITH INSPECTOR
OR EXAMINER: Name
Time/Date
ACCEPTABLE GLIDER
☐ Aircraft Documents:
Airworthiness Certificate
Registration Certificate
Operating Limitations
Aircraft Maintenance Records:
Airworthiness Inspections
☐ FCC Station License (if applicable)
PERSONAL RECORDS
☐ Pilot Certificate
☐ Medical Statement
Signed Recommendation
Written Test Results
☐ Logbook
☐ Notice of Disapproval (if applicable)
Approved School Graduation Certificate (if applicable)
FCC Radiotelephone Operator Permit (if applicable)
Examiner's Fee (if applicable)

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#### FLIGHT TEST GUIDE

# PRIVATE and COMMERCIAL PILOT Glider

1976

U.S. DEPARTMENT
OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Flight Standards Service

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#### **PREFACE**

This flight test guide supersedes AC 61-61 dated 1973. It was prepared by Flight Standards Service of the Federal Aviation Administration to assist the applicant and the instructor in preparing for the flight test for the Private and the Commercial Pilot Certificate with Glider Rating under Federal Aviation Regulations, Part 61. This guide contains information and guidance concerning the pilot operations, procedures, and maneuvers relevant to the flight test required for that certificate. A suggested flight test checklist is included for the convenience of those who may find such a checklist useful.

In addition to providing help to the applicant and the instructor, this guide will be useful to FAA Inspectors and designated pilot examiners in the conduct and standardization of flight tests. Persons using this guide in connection with private and commercial pilot training and flight tests should also refer to the applicable Federal Aviation Regulations; Airman's Information Manual; Flight Training Handbook, AC 61-21; American Soaring Handbooks; Joy of Soaring Manual; and pertinent advisory circulars.

Comments regarding this guide may be directed to U.S. Department of Transportation, Federal Aviation Administration, Flight Standards National Field Office, Examinations Branch, AFS-590, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

#### GENERAL INFORMATION

## PILOT TRAINING AND CERTIFICATION CONCEPT

Part 61 of the Federal Aviation Regulations has been revised and upgraded to reflect the complexity of the modern aircraft as well as its operating environment. In the past, airman certification requirements could be met by training a student to pass a written test and then to demonstrate ability to perform predetermined flight training maneuvers during a flight test. Rather than merely duplicating on the flight test the maneuvers used for training, the new training and certification concept requires that the applicant receive instruction in and demonstrate competency in all pilot operations listed in pertinent sections of Part 61. Pilot operations, as used herein, are groups of related procedures and maneuvers involving skills and knowledge required to safely and efficiently function as a pilot. The specific procedures and maneuvers used to teach the pilot operations are not listed in Part 61. Instead, the instructor is permitted to select procedures and maneuvers from FAA approved training publications pertinent to the certificate or rating sought. The instructor indicates by logbook endorsement that the applicant has demonstrated competency in all the required pilot operations and that the applicant is considered qualified to pass the flight test. On the flight test, the examiner selects the procedures and maneuvers to be performed by the applicant to show competency in each required pilot operation.

The procedures and maneuvers appropriate to the Private and Commercial Pilot Certificate with a Glider Rating are contained in the American Soaring Handbooks or Joy of Soaring Training Manual.

#### USE OF THIS GUIDE

The pilot operations in this flight test guide, indicated by Roman numerals, are required by § 61.107(d) and § 61.127(d) of Part 61. This guide is intended only to outline appropriate pilot operations and the minimum standards for the performance of each procedure or maneuver which will be accepted by the examiner as evidence of the pilot's competency. It is not intended that the applicant be tested on every procedure or maneuver within each pilot operation, but only those considered necessary by the examiner to determine competency in each pilot operation.

<sup>&</sup>lt;sup>3</sup>The word "examiner" is used hereafter in this guide to denote either the Federal Aviation Administration Inspector or designated pilot examiner who conducts an official flight test.

When, in the judgment of the examiner, certain demonstrations are impractical, competency may be determined by oral testing. Oral testing on any pilot operation can be administered in combination with any practical demonstration.

This guide contains an **Objective** for each required pilot operation. Under each pilot operation, pertinent procedures or maneuvers are listed with **Descriptions** and **Acceptable Performance Guidelines**.

- 1. The **Objective** states briefly the purpose of each pilot operation required on the flight test.
- 2. The **Description** provides information on what may be asked of the applicant regarding the selected procedure or maneuver. The procedures or maneuvers listed have been found most effective in demonstrating the objective of that particular pilot operation.
- 3. The Acceptable Performance Guidelines include the factors which will be
  taken into account by the examiner in
  deciding whether the applicant has met
  the objectives of the pilot operation.
  The airspeed, altitude, and heading tolerances given represent the minimum
  performance expected in good flying
  conditions. However, consistently exceeding these tolerances before corrective
  action is initiated is indicative of an
  unsatisfactory performance. Any procedure or action, or the lack thereof, re-

quiring the intervention of the examiner to maintain safe flight will be disqualifying. Failure to exercise proper vigilance or to take positive action to ensure that the flight area has been adequately cleared for conflicting traffic will also be disqualifying.

Emphasis will be placed on procedures, knowledge, and maneuvers most critical to a safe performance as a pilot. The demonstration of prompt stall recognition, adequate control, and recovery techniques will receive special attention. Other areas of importance include spatial disorientation, collision avoidance, and wake turbulence hazards.

The applicant will be expected to know the meaning and significance of the glider performance speeds important to the pilot and be able to readily find these speeds for the glider used for the flight test.

## GENERAL PROCEDURES FOR FLIGHT TESTS

The ability of an applicant for a private or commercial pilot certificate, with a glider rating on that certificate, to perform the required pilot operations is based on the following:

- 1. Executing procedures and maneuvers within the aircraft's performance capabilities and limitations.
- 2. Executing emergency procedures and maneuvers appropriate to the aircraft.
- 3. Piloting the aircraft with smoothness and accuracy.

- 4. Exercising judgment.
- 5. Applying required aeronautical knowledge.
- 6. Showing mastery of the aircraft, with the successful outcome of a procedure or maneuver never seriously in doubt.

If the applicant fails any of the required pilot operations, the applicant fails the flight test. The examiner or the applicant may discontinue the test at any time when the failure of a required pilot operation makes the applicant ineligible for the certificate or rating sought. If the test is discontinued, the applicant is entitled credit for only those entire pilot operations that were successfully performed.

#### FLIGHT TEST PREREQUISITES

An applicant for the private or commercial glider pilot flight test is required by § 61.39 of the Federal Aviation Regulations to have: passed the appropriate private or commercial glider pilot written test within 24 months before the date the flight test is taken, (2) the applicable instruction and aeronautical experience prescribed for a private or commercial glider pilot certificate, (3) a written statement certifying that no known medical defect exists that would result in the inability to pilot a glider, (4) reached at least 16 years of age for a private pilot certificate and 18 years of age for a commercial pilot certificate, and (5) a written statement from an appropriately certificated flight instructor certifying that the applicant has been given flight instruction in preparation for the flight test within 60 days preceding the date of application and was found to be competent to pass the test. The written statement will also state that the instructor found the applicant to have satisfactory knowledge in those subject areas in which the Airman Written Test Report shows the applicant experienced difficulty.

## GLIDER AND EQUIPMENT REQUIREMENTS FOR FLIGHT TEST

The applicant is required by § 61.45 to provide an airworthy glider for the flight test. This glider must be capable of, and its operating limitations must not prohibit, the pilot operations required in the test. The following equipment is relevant to the pilot operations required by Part 61:

- 1. If a two-place glider is used, flight controls that are easily reached and operated in a normal manner by both the applicant and the examiner.
- 2. Operating instructions and limitations. The applicant should have an appropriate checklist, the manufacturer's Flight Manual, or if required by regulations for the glider to be used, the FAA approved Glider Flight Manual. Any operating limitations or other published recommendations of the manufacturer that are applicable to the glider to be used will be observed.

#### PRIVATE PILOT OPERATIONS

#### I. PREFLIGHT

#### **Objective**

To determine that the applicant can verify that the requirements for acting as pilot in command have been met, that the glider and the launch or tow equipment are in condition for a safe operation, and that the weather conditions are suitable for the proposed flight.

#### Procedures/Maneuvers

#### A. Documents and Records

- 1. Description The applicant may be asked to present and discuss: (1) glider pilot certificates, (2) glider pilot and tow pilot recency of experience records, and (3) the glider's airworthiness and registration certificates, maintenance records, operating manual, operating limitations, and FAA approved Glider Flight Manual, if one is required.
- 2. Acceptable Performance Guidelines The applicant shall be able to present each item and explain its purpose and significance and shall determine the performance characteristics of the glider being used.

#### B. Weight and Balance

- 1. Description The applicant may be asked to make practical and appropriate computations of permissible loading and distribution of weight using approved weight and balance data applicable to the glider being used.
- 2. Acceptable Performance Guidelines The applicant shall determine loads and load distribution in relation to allowable gross weight and center of gravity limits and shall make necessary load adjustments to remain within limits.

#### C. Weather Information

- 1. Description The applicant may be asked to obtain Aviation Weather Reports, Area and Terminal Forecasts, and Winds Aloft Forecasts pertinent to the proposed flight.
- 2. Acceptable Performance Guidelines The applicant shall know what weather information is pertinent to glider operations and how to best obtain a weather briefing. The applicant shall also understand the significance of the weather information relative to the proposed flight.

#### D. Line Inspection

1. Description The applicant may be asked to demonstrate a visual inspection of the glider's condition, operation of controls, security of attachments, and proper assembly of all components of the glider. This includes inspecting the general condition and functioning of equipment used to launch or tow the

glider. Special emphasis should be given to towline and weak-link strength, proper hookup, and normal and emergency releases. The use of a checklist is recommended.

2. Acceptable Performance Guidelines The applicant shall perform an orderly and complete inspection of the glider and equipment necessary for the operation to determine their acceptability for safe operation.

#### II. GLIDER LAUNCHES OR TOWS

#### **Objective**

To determine that the appplicant can safely control the glider during ground launches or aerotows, whichever the applicant selects. (The applicant's certificate will be limited to the type of launch or tow demonstrated on the flight test.)

#### Procedures/Maneuvers

#### A. Ground Launch (automobile or winch)

1. Description The applicant may be asked to demonstrate the ability to pilot a glider during a launch by automobile or powered winch. The glider should be launched at a predetermined speed which will enable the applicant to climb and release at an altitude where a search for lift can be made safely, or at an altitude from which the applicant can fly a normal traffic pattern and return for landing.

2. Acceptable Performance Guidelines The applicant shall properly direct the hookup and shall properly signal readiness for launching. The applicant shall make a smooth and effective lift-off and shall establish the appropriate climb segments to efficiently attain adequate altitude for free flight. The applicant shall demonstrate full understanding of the effect of up-elevator on airspeed during the launch. The release shall be made smoothly without imposing excessive structural loads on the glider. The applicant shall display knowledge or procedures to be followed during emergencies, such as towline breaks or failure of the launch vehicle or release mechanism.

#### B. Aerotow

- 1. Description The applicant may be asked to demonstrate the ability to pilot a glider during an aerotow. The glider should be towed aloft and released at an altitude and position agreed upon in advance. This demonstration includes the use of standard signals, proper lift-off, proper tow position, timely and proper corrections for a slack towline, flight through and around the wake, proper maneuvering upon release, and emergency procedures.
- 2. Acceptable Performance Guidelines The applicant shall assure readiness for takeoff before giving the appropriate signal and shall make a smooth, normal lift-off. Retarding the towplane's perform-

ance by excessive or hazardous maneuvering, improper positioning, allowing excessive slack in the towline, or consistently using faulty coordination shall be disqualifying. The applicant shall display knowledge of procedures to be followed during emergencies.

#### III. PRECISION MANEUVERING

#### **Objective**

To determine that the applicant can safely maneuver the glider in free-flight to obtain maximum performance under various flight situations.

#### Procedures/Maneuvers

#### A. Steep Turns

- 1. Description The applicant may be asked to demonstrate both left and right turns, using banks of at least 45°, simulating circling within small diameter thermals. During these turns, the airspeed should be the appropriate minimum sink speed for the angle of bank.
- 2. Acceptable Performance Guidelines The applicant's performance shall be
  evaluated on the smoothness and coordination demonstrated while performing steep
  turns. As the bank steepens during the entry,
  the applicant shall adjust the pitch attitude
  as necessary to attain and maintain the appropriate airspeed. Any tendency to stall or
  enter a spiral dive during the turns shall disqualify the applicant.

#### **B.** Spirals

- 1. Description The applicant may be asked to perform a spiral while dissipating altitude over a specified area on the surface.
- 2. Acceptable Performance Guidelines The applicant's performance shall be evaluated on the ability to spiral in both directions over the specified area while correcting for wind drift and maintaining proper coordination. The applicant shall recognize the approach to an unintentional high-speed diving spiral and shall use proper recovery techniques should such a situation arise.

# IV. CRITICAL PERFORMANCE SPEEDS Objective

To determine that the applicant has knowledge of various speeds that are critical to glider operation and can safely and effectively apply that knowledge to specific situations.

#### Procedures/Maneuvers

#### A. Best Glide Speed

- 1. Description The applicant may be asked to determine, explain the use of, and if requested by the examiner, establish the indicated airspeed that will produce the flattest glide obtainable in still air.
- 2. Acceptable Performance Guidelines The applicant shall know the purpose of the best glide speed and be able to demonstrate its use.

#### B. Minimum Sink Speed

- 1. Description The applicant may be asked to determine, explain the use of, and establish the indicated airspeed at which the glider loses altitude at the slowest rate.
- 2. Acceptable Performance Guidelines The applicant shall determine minimum sink speed, explain its purpose, and be able to demonstrate its appropriate use.

#### C. Maximum Speeds

- 1. Description The applicant may be asked to apply the proper flight techniques to avoid flight at maximum placarded tow speeds and the never-exceed speeds.
- 2. Acceptable Performance Guidelines The applicant shall determine the maximum allowable speeds and be able to maneuver the glider in such a manner as to avoid exceeding those speeds.

#### D. Speed-To-Fly

- 1. Description The applicant may be asked to determine, explain the use of, and establish the speed which produces the flattest glide in conditions of convection without considering the effect of wind. The applicant shall also determine the speed to use for best penetration considering wind conditions.
- 2. Acceptable Performance Guidelines The applicant shall apply knowledge to determine the "speed-to-fly" and shall establish and maintain such speed. The applicant

shall determine and use the appropriate "speed-to-fly" speed for the prevailing wind conditions.

## V. FLIGHT AT CRITICALLY SLOW AIRSPEEDS

#### **Objective**

To determine that the applicant understands and can recognize changes in flight characteristics during free-flight at critically slow airspeeds. To determine that the applicant understands and can recognize imminent and full stalls and can make prompt, effective stall recoveries from all normally anticipated flight attitudes.

#### Procedures/Maneuvers

- A. Maneuvering at Minimum Control Speed
- 1. Description The applicant may be asked to maneuver the glider in straight and turning flight at such speed that controllability is minimized to the point that if the angle of attack is further increased by an increase in load factor or a decrease in airspeed, an immediate stall would result.
- 2. Acceptable Performance Guidelines The applicant shall recognize and establish the minimum controllable airspeed and be able to maintain that speed through straight and turning flight. Any indication of a stall shall be disqualifying.

#### **B.** Imminent Stalls

- 1. Description The applicant may be asked to establish a flight attitude that will result in an imminent stall. This should be accomplished during straight flight or during turns by smoothly increasing the angle of attack until the first buffeting or rapid decay of control effectiveness is noted. Recoveries should be made by reducing the angle of attack immediately to regain a normal flight attitude.
- 2. Acceptable Performance Guidelines The applicant shall recognize the indication of impending stalls and take prompt control action to recover to a normal flight attitude.

#### C. Full Stalls

- 1. Description The applicant may be asked to establish an attitude that will result in a full stall. The stall should be accomplished during straight flight or during turns by smoothly increasing the pitch attitude to produce the angle of attack that will result in a stall, then maintaining that attitude until a full stall occurs. Recovery should be made by reducing the angle of attack and then establishing a normal flight attitude.
- 2. Acceptable Performance Guidelines The applicant shall be aware that stalls may occur in any attitude or at any airspeed. The applicant shall recognize the indications

of a full stall and make a prompt, smooth, and effective recovery, and then return to a normal flight attitude.

## VI. ACCURACY APPROACHES AND LANDINGS

#### **Objective**

To determine that the applicant can make accurate, smooth, and safe approaches and landings in various landing situations.

#### Procedures/Maneuvers

#### A. Normal and Crosswind Landings

- 1. Description The applicant may be asked to perform accurate approaches and landings under normal and crosswind conditions. Considering the existing wind conditions, the applicant shall maneuver the glider to accomplish a landing, stopping short of and within 200 feet of a designated line or mark. Spoilers, dive brakes or flaps, and moderate slips may be used as necessary. The crosswind landing demonstration shall be required only when consistent with safety, considering the glider's crosswind capabilities and possible conflict with other air traffic.
- 2. Acceptable Performance Guidelines Poor judgment, violent maneuvering, the use of improper airspeeds, landing outside the designated landing area, or stopping beyond the designated line or mark shall be disqualifying.

#### **B.** Downwind Landings

- 1. Description The applicant may be asked to demonstrate the appropriate use of a downwind landing with due consideration given to wind and the size and slope of the selected landing area.
- 2. Acceptable Performance Guidelines The applicant shall display sound knowledge in recognizing a situation in which a downwind landing should be made. The applicant shall display knowledge of the effects of the wind and terrain on the approach and landing, and use proper speeds and control coordination.

#### C. Simulated Off-Field Landings

- 1. Description The applicant may be asked to display the knowledge essential for executing an approach and landing into a field other than one normally used for aircraft operations.
- 2. Acceptable Performance Guidelines The applicant shall display knowledge in the aspects of off-field approaches and landings.

# COMMERCIAL PILOT OPERATIONS

#### I. PREFLIGHT DUTIES

#### **Objective**

To determine that the applicant can verify that the ground and flight crewmembers are qualified for their tasks, that the glider and launch or tow equipment is in condition for a safe operation, and that the weather conditions are suitable for the proposed flight.

#### Procedures/Maneuvers

#### A. Weather Information

- 1. Description The applicant may be asked to obtain Aviation Weather Reports, Area and Terminal Forecasts, and Winds Aloft Forecasts pertinent to the proposed flight.
- 2. Acceptable Performance Guidelines The applicant shall know what weather
  information is pertinent to glider operations
  and how best to obtain a weather briefing.
  The applicant shall also understand the significance of the weather information relative
  to the proposed flight.

#### COMMERCIAL PILOT

#### **B.** Documents and Records

- 1. Description The applicant may be asked to present and discuss pilot certificates, glider pilot medical statement, tow pilot and glider pilot recency of experience records, glider airworthiness and registration certificates, maintenance records, operating manual, operating limitations, and FAA approved Glider Flight Manual, if one is required.
- 2. Acceptable Performance Guidelines The applicant shall present each item and explain its purpose and significance, and shall use the manufacturer's data to determine the glider's performance characteristics.

#### C. Glider Assembly

- 1. Description The applicant may be asked to demonstrate the assembly of the glider such as would be necessary after disassembly for retrieval, transporting, or storage. This involves a systematic procedure for the proper and careful assembly of major components of the glider. A checklist provided by the manufacturer or the operator should be used.
- 2. Acceptable Performance Guidelines The applicant shall select a proper location to assemble the glider, considering wind and other factors. Appropriate tools shall be used, and each component shall be assembled and safely secured in an acceptable sequence.

#### D. Preflight Inspection

- 1. Description The applicant may be asked to perform a visual inspection of the glider for condition, operation of controls, security of attachments, and proper assembly of all glider components. The use of a checklist is recommended.
- 2. Acceptable Performance Guidelines The applicant shall conduct an orderly preflight inspection of all components of the glider to determine their acceptability for safe operation.

#### E. Weight and Balance

- 1. Description The applicant may be asked to make practical and appropriate computations of permissible loading and distribution of weight using approved weight and balance data applicable to the glider being used.
- 2. Acceptable Peformance Guidelines The applicant shall determine the actual load and load distribution in relation to allowable gross weight and center of gravity limits and shall make necessary adjustments to remain within those limits.

## F. Inspection of Launch or Tow Equipment

1. Description The applicant may be asked to visually inspect the equipment used to launch or tow the glider. A tow-plane, automobile, or winch that is in good condition and suitable to the type of operation should be used.

#### COMMERCIAL PILOT

Towlines, releases, and other associated equipment should be inspected for general condition and wear.

2. Acceptable Performance Guidelines The applicant shall conduct an orderly and complete inspection of all launch or tow equipment necessary for the selected operation.

#### II. GLIDER LAUNCHES OR TOWS

#### **Objective**

To determine that the applicant can competently control a glider during ground launches or aerotows, whichever the applicant selects. (The applicant's certificate will be limited to the type of launch or tow demonstrated on the flight test.)

#### Procedures/Maneuvers

#### A. Ground Launch (automobile or winch)

1. Description The applicant may be asked to demonstrate the ability to pilot a glider during a launch by automobile or powered winch. The glider should be launched at a predetermined speed which will enable the applicant to climb and release at an altitude where a search for lift can be made safely, or at an altitude from which the applicant can fly a normal traffic pattern and return for landing.

#### COMMERCIAL PILOT

2. Acceptable Performance Guidelines The applicant shall properly direct the hookup and shall properly signal readiness for launching. The applicant shall make a smooth and effective lift-off and shall establish the appropriate climb segments to efficiently attain adequate altitude for free flight. The applicant shall demonstrate full understanding of the effect of up-elevator on airspeed during the tow. The release shall be made smoothly without imposing excessive structural loads on the glider. The applicant shall display knowledge of procedures to be followed during emergencies, such as towline breaks or failure of the launch release mechanism

#### B. Aerotow

- 1. Description The applicant may be asked to demonstrate the ability to pilot a glider during an aerotow. The glider should be towed aloft and released at an altitude and position agreed upon in advance. This demonstration includes the use of standard signals, proper lift-off, proper tow positions, timely and proper corrections for slack in tow-line, flying through and around the wake, release, and emergency procedures.
- 2. Acceptable Performance Guidelines The applicant shall signal readiness for takeoff and shall make a smooth, normal lift-off, and apply necessary corrections for wind. Retarding the towplane's performance

by excessive or hazardous maneuvering, improper positioning, allowing excessive slack in the towline, or faulty coordination shall be disqualifying. The applicant shall display knowledge of procedures to be followed during emergencies, such as towline breaks, failure of the release mechanism, or failure of the towplane's powerplant.

#### III. PRECISION MANEUVERING

#### **Objective**

To determine that the applicant can competently maneuver the glider in free-flight to obtain maximum performance under various flight situations.

#### Procedures/Maneuvers

#### A. Straight Glides

- I. Description The applicant may be asked to demonstrate straight glides by holding a constant heading and airspeed in coordinated flight. A landmark should be selected near the horizon for heading reference. The applicant should establish a pitch attitude that will result in maintaining the desired airspeed.
- 2. Acceptable Performance Guidelines The applicant shall be able to maintain a constant heading with reference to the selected landmark and maintain the desired airspeed. Over-controlling or excessive slips or skids shall be disqualifying.

#### B. Turns to Headings

- 1. Description The applicant may be asked to demonstrate turns to specified headings, using the compass or landmarks. The applicant should maintain the desired rates of turn and make timely roll-outs to the preselected headings while maintaining appropriate airspeeds.
- 2. Acceptable Performance Guidelines The applicant's performance shall be evaluated on the accuracy, smoothness, coordination, and airspeed control demonstrated.

#### C. Steep Turns

- 1. Description The applicant may be asked to demonstrate both left and right turns using 45° to 60° of bank, simulating circling within small diameter thermals. The turns should be properly coordinated and made smoothly. During these turns, the airspeed should be the appropriate minimum sink speed for the angle of bank.
- 2. Acceptable Performance Guidelines The applicant's performance shall be
  evaluated on the basis of smoothness and coordination demonstrated while performing
  the steep turns. As the bank steepens during
  entry, the applicant shall adjust the pitch
  attitude as necessary to attain and maintain
  the appropriate airspeed. Any tendency to
  stall or to enter a diving spiral during the
  turns shall disqualify the applicant.

#### D. Spirals

- 1. Description The applicant may be asked to perform a spiral while dissipating altitude over a specified area on the surface.
- 2. Acceptable Performance Guldelines The applicant's performance shall be evaluated on the ability to spiral in both directions over the specified area while correcting for wind and maintaining proper coordination. The applicant shall recognize the approach to an unintentional high-speed diving spiral, and shall use proper recovery techniques should such a situation arise.

# IV. PERFORMANCE SPEEDS AND FLIGHT AT CRITICALLY SLOW AIRSPEEDS

#### **Objective**

To determine that the applicant has a thorough knowledge of speeds pertinent to the safe and efficient operation of gliders, and can competently maneuver the glider with respect to those speeds. To determine that the applicant can make prompt, effective stall recoveries.

#### Procedures/Maneuvers

#### A. Performance Speeds

1. Description The applicant may be asked to demonstrate the use of glider speeds such as the best glide speed, minimum sink speed, speed-to-fly, maximum tow speed, and never-exceed speed.

2. Acceptable Performance Guidelines The applicant shall explain the purpose of various performance speeds and shall apply these speeds to pertinent flight situations as required.

#### B. Flight at Minimum Control Speed

- 1. Description The applicant may be asked to demonstrate straight flight and shallow and medium banked turns at such airspeed that controllability is minimized to the point that, if the angle of attack is further increased by an increase in load factor or a decrease in airspeed, an immediate stall would result.
- 2. Acceptable Performance Guidelines The applicant's performance shall be evaluated on positive airspeed control, smooth control usage, and proper coordination. Any indication of a stall shall disqualify the applicant.

#### C. Stalls

- 1. Description The applicant may be asked to demonstrate stalls and stall recoveries during straight and turning flight. Recoveries should be initiated either at the first indication of a stall or when the full stall occurs, as directed by the examiner. Recoveries should be made by decreasing the angle of attack and establishing straight flight.
- 2. Acceptable Performance Guidelines The applicant shall recognize an incipient stall or full stall and shall make a prompt, smooth, and positive recovery.

#### V. ACCURACY APPROACHES AND LAND-INGS

#### **Objective**

To determine that the applicant can make accurate, smooth, and safe approaches and landings in various landing situations.

#### Procedures/Maneuvers

#### A. Normal and Crosswind Landings

- asked to demonstrate approaches and landings under normal and crosswind conditions. With consideration for the existing wind conditions, the applicant should accurately plan and safely maneuver the glider to accomplish a landing, stopping short of and within 100 feet of a designated line or mark. Spoilers, dive brakes, flaps, and moderate slips may be used as necessary. Crosswind landing demonstrations should be consistent with safety, considering the glider's crosswind capability and possible conflict with other air traffic.
- 2. Acceptable Performance Guidelinez Poor judgment, violent maneuvering, landing outside the designated landing area, or stopping beyond the designated line or mark shall be disqualifying.

#### **B.** Downwind Landings

1. Description The applicant may be asked to demonstrate the appropriate use of a downwind landing with due consideration given to wind and the size and slope of the selected landing area.

#### COMMERCIAL PILOT

2. Acceptable Performance Guidelines The applicant shall display sound knowledge in recognizing a situation in which a downwind landing should be made. The applicant shall display knowledge of the effects of the wind and terrain on the approach and landing, and use proper speeds and control coordination.

#### C. Simulated Off-Field Landings

- 1. Description The applicant may be asked to display the knowledge essential for executing an approach and landing into a field other than one normally used for aircraft operations. Because the field elevation would normally be unknown, the altimeter should be disregarded or covered. The entire pattern should be planned and flown as usual, except the placement of the pattern legs and turns should be made without reference to the altimeter.
- 2. Acceptable Performance Guidelines The applicant shall have a thorough knowledge of all aspects of off-field approaches and landings. During this maneuver, safetechniques and sound judgment shall be displayed.