

PART 61 - Good working Knowledge

Student Pilot

Flight Review

CFI Renewals

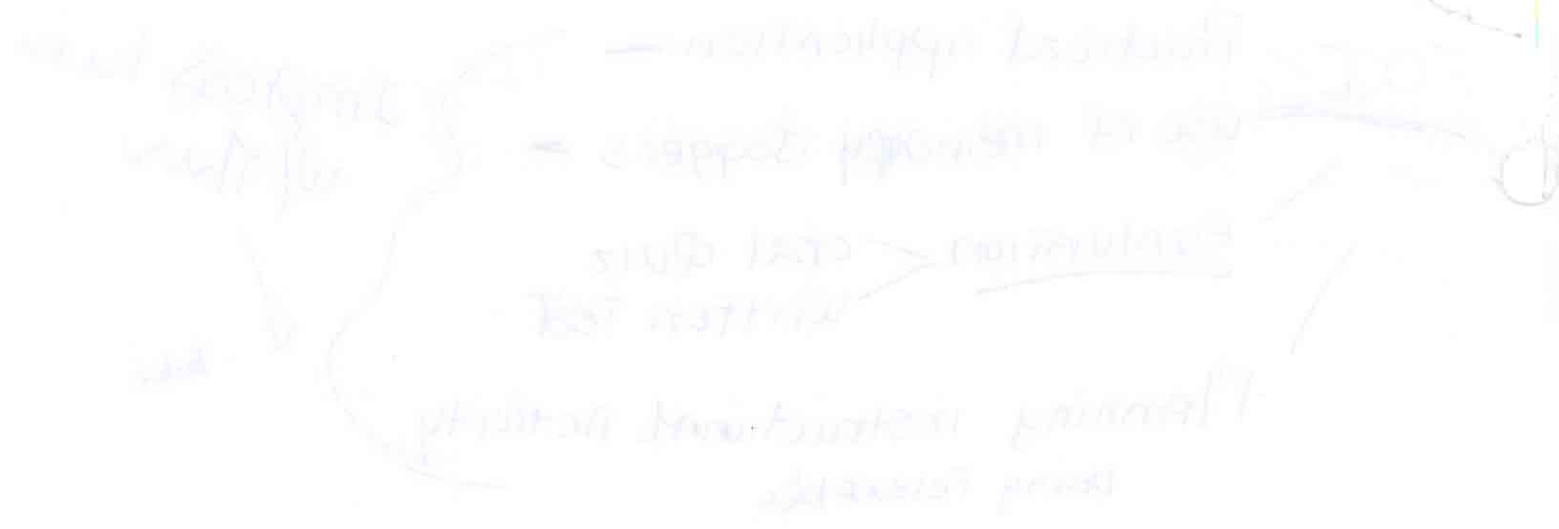
Teaching Subject Areas

Principles of Flight - Terminology / Definitions  
 Stability

Wt + Bal

NAV + FIT Planning - CHARTS

A/C Systems - LDG GEAR + PROP



The first part of the working knowledge is

STATISTICAL THEORY

Flight Review - Characteristics

Learning subject areas

~~Terminology of flight~~

Part 2 of

Part 2 of FIT Planning - Charts

~~Part 2 of FIT Planning - Charts~~

MANEUVER LESSONS!

What, Why, & How

Turns Around Point

Basic AT&T INST ✓

8's & 7's Long

Short Field LDG ✓

STALLS ✓

Forward Slip vs Side Slip ✓

Chandelles

LAZY 8's

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

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10/10/10

Each approved training course conducted by a certificated pilot school is given in strict accordance with a training syllabus specifically approved by the Federal Aviation Administration. Compliance with the appropriate approved syllabus is a condition for graduation from such courses. A student who has not been trained in accordance with the pertinent syllabus is not eligible for certification as an approved school graduate.

Any practical training syllabus must be flexible, and should be used primarily as a guide. The order of training can and should be altered, when necessary, to suit the progress of the student and the demands of special circumstances. In departing from the order prescribed by the syllabus, however, it is the responsibility of the instructor to consider the relationships of the blocks of learning affected. It is often preferable to skip to a completely different part of the syllabus when the conduct of a scheduled lesson is impossible, rather than proceeding to the next block, which may be predicated completely on skills to be developed during the lesson which is being postponed.

#### **Sample Private Pilot (Airplane) Ground Training Syllabus**

Each lesson of the sample private pilot (airplane) ground training syllabus which follows sets forth a unit of ground school instruction. Neither the time nor the number of ground school periods to be devoted to each lesson is specified. The sequence in which the sample lessons are listed is not necessarily the most desirable one to use in all training situations and may be varied as desired. Each lesson includes an *objective*, *content*, and *completion standards*.

#### **LESSON NO. 1**

**OBJECTIVE.** To develop the student's knowledge with regard to the definitions and abbreviations in Part 1 and the appropriate regulatory requirements of Part 61 of the Federal Aviation Regulations.

#### **CONTENT.**

1. Airplane Registration and Airworthiness Certificates.

2. FAR, Part 1—Definitions and abbreviations important to a private pilot.
3. FAR, Part 61.
  - a. Requirements for certificates and ratings.
  - b. Duration of pilot certificates.
  - c. Medical certificate requirements.
  - d. Written tests.
  - e. Flight tests.
  - f. Pilot logbooks.
  - g. Recency of experience (including biennial flight review).
  - h. Private pilot privileges and limitations.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a working knowledge of the appropriate portions of FAR Part 1 and Part 61, and demonstrates the ability to locate and use information in these rules.

#### **LESSON NO. 2**

**OBJECTIVE.** To develop the student's knowledge of the pertinent regulatory requirements of Part 91 of the Federal Aviation Regulations and the accident reporting rules of the National Transportation Safety Board as they relate to private pilot operations.

#### **CONTENT.**

1. FAR, Part 91.
  - a. General operating and flight rules.
  - b. VFR requirements.
  - c. IFR requirements (familiarization).
  - d. Maintenance, preventive maintenance, and alterations.
  - e. Familiarization with Subpart D.
2. National Transportation Safety Board Procedural Regulations, Part 830—Notification and Reporting of Accidents.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student demonstrates the ability to locate and use information in the appropriate rule as related to private pilot operations.

### LESSON NO. 3

**OBJECTIVE.** To develop the student's knowledge of the Airman's Information Manual as it relates to VFR operations and to develop competence in using the Advisory Circular System.

#### CONTENT.

1. Airman's Information Manual as it relates to:
  - a. Air Navigation Radio Aids.
  - b. Airports and Air Navigation Lighting and Marking aids.
  - c. Airspace.
  - d. Air Traffic Control.
  - e. Services Available to Pilots.
  - f. Airport Operations.
  - g. Emergency Procedures.
  - h. Good Operating Practices.
  - i. Airport Directory (legend).
  - j. Airport Facility Directory (legend).
  - k. Graphic Notices and Supplemental Data.
2. FAA Advisory Circular System—Series 00, 20, 60, 70, 90, 150, and 170 (familiarization).

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student displays a basic knowledge of appropriate Parts of the Airman's Information Manual and the FAA Advisory Circular System.

### LESSON NO. 4

**OBJECTIVE.** To develop the student's knowledge of the operation of aircraft radios, the use of proper radio phraseology with respect to air traffic control facilities, and to develop competence in the use of the slide rule face of the flight computer and aeronautical charts in planning a VFR cross-country flight.

#### CONTENT.

1. Radio communications.
  - a. Operation of radio communications equipment.
  - b. Ground control.
  - c. Tower.
  - d. ATIS.
  - e. Flight service station.

- f. UNICOM.
- g. Technique and phraseology.

2. ATC light signals.
3. Flight computer—slide rule face.
  - a. Time.
  - b. Speed.
  - c. Distance.
  - d. Fuel consumption.
4. VFR navigation.
  - a. Aeronautical charts.
  - b. Measurement of courses.
  - c. Pilotage.
  - d. Dead reckoning.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student displays a basic knowledge of radio communications, ATC facilities, and aeronautical charts, and is able to use the flight computer to solve elementary VFR navigation problems.

### LESSON NO. 5

**OBJECTIVE.** To further develop the student's knowledge of pilotage, dead reckoning, and radio navigation.

#### CONTENT.

1. VFR navigation.
  - a. Pilotage.
  - b. Dead reckoning.
2. Operation of the navigational radio equipment.
  - a. VOR.
  - b. ADF.
  - c. Use of radio aids.
3. Flight computer—wind face.
  - a. Determination of wind correction angle and true heading.
  - b. Determination of groundspeed.
4. Flight computer—slide rule face.
  - a. Review time, speed, and distance problems.
  - b. Review fuel consumption problems.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student

displays a basic knowledge of VFR navigation and the use of radio aids. The student should be able to solve fundamental and advanced problems on the flight computer.

### LESSON NO. 6

**OBJECTIVE.** To review Lesson 5 and thereby improve the student's competence in VFR navigation procedures; to introduce advanced VFR radio navigational problems; to develop the student's knowledge of emergency procedures with respect to VFR cross-country flying; and to introduce flight planning.

#### CONTENT.

1. Review of Lesson 5.
2. Use of ADF.
3. Radar.
4. Use of VOR, intercepting and maintaining radials.
5. Emergency procedures.
  - a. Diversion to an alternate.
  - b. Lost procedures, including the use of radar and DF instructions.
  - c. Inflight emergencies, including emergency landings.
6. Transponder.
7. DME.
8. Flight planning.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student displays a working knowledge of advanced VFR radio navigational procedures, cross-country emergency procedures, and can accurately plan and plot a VFR cross-country flight.

### LESSON NO. 7

**OBJECTIVE.** To further develop the student's competence in flight planning and to acquaint the student with the medical factors related to flight and general safety precautions.

#### CONTENT.

1. Flight planning.
2. Medical factors related to flight.
  - a. Fatigue.
  - b. Hypoxia.

- c. Hyperventilation.
- d. Alcohol.
- e. Drugs.
- f. Vertigo.
- g. Carbon monoxide.

#### 3. General safety.

- a. Ground handling of aircraft.
- b. Fire—on the ground and in the air.
- c. Collision avoidance precautions.
- d. Wake turbulence avoidance.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a basic knowledge of flight planning, the medical factors related to flight, and general safety procedures.

### LESSON NO. 8

**OBJECTIVE.** To develop the student's knowledge of the fundamentals of weather, as associated with the operation of aircraft.

#### CONTENT.

1. Atmospheric layers.
2. Pressure.
3. Circulation.
4. Temperature and moisture.
5. Stability and lapse rate.
6. Turbulence.
7. Clouds.
8. Airmasses.
9. Fronts.
10. Aircraft icing.
11. Thunderstorms.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student demonstrates a fundamental knowledge of aviation weather.

### LESSON NO. 9

**OBJECTIVE.** To develop the student's ability to interpret and use weather charts, reports, forecasts, and broadcasts; and to develop the student's knowledge of the procedure for obtaining weather briefings.

## CONTENT.

1. Review Lesson 8.
2. Weather charts.
  - a. Weather depiction charts.
  - b. Surface prognostic charts.
3. Aviation weather reports.
  - a. Hourly sequence reports.
  - b. Special surface reports.
  - c. Pilot reports.
  - d. Radar reports.
4. Aviation weather broadcasts.
  - a. Transcribed weather broadcasts.
  - b. Inflight weather advisories.
5. Weather briefings.
6. Review requirements of regulations for VFR flight.
7. Aviation weather forecasts.
  - a. Area forecasts.
  - b. Terminal forecasts.
  - c. Winds aloft forecasts and reports.
  - d. Route forecasts.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student displays the ability to interpret and use weather charts, reports, forecasts, and broadcasts, and can obtain and understand a weather briefing.

## LESSON NO. 10

**OBJECTIVE.** To further develop the student's knowledge of aviation weather through a review of Lessons 8 and 9; to develop the student's knowledge of Greenwich time; and to develop the student's ability to recognize various weather conditions.

### CONTENT.

1. Review of Lessons 8 and 9.
2. Greenwich time.
3. Weather recognition.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a working knowledge of Greenwich time, and a knowl-

edge of how critical weather situations can be recognized both from the ground and during flight.

## LESSON NO. 11

**OBJECTIVE.** To develop the student's knowledge of airplane structures, propellers, engines, systems, and the magnetic compass.

### CONTENT.

1. Airplane structures.
  - a. Construction features.
  - b. Flight control systems.
  - c. Rigging.
2. Propellers.
  - a. Fixed pitch.
  - b. Controllable.
3. Reciprocating airplane engines.
  - a. Construction features.
  - b. Principle of operation—four stroke cycle.
  - c. Fuel system, including carburetors and fuel injectors.
  - d. Lubrication system.
  - e. Ignition system.
  - f. Engine instruments.
  - g. Operating limitations.
  - h. Malfunctions and remedial actions.
4. Airplane hydraulic system.
  - a. Principle of hydraulics.
  - b. Use of hydraulics in airplanes.
  - c. Construction features of a simple airplane hydraulic system.
  - d. Retractable landing gear and flaps.
  - e. Malfunctions and remedial actions.
5. Airplane electrical system.
  - a. Fundamentals of electricity.
  - b. Operation of airplane electrical power system units.
  - c. Electrically operated flight instruments.
  - d. Retractable landing gear.
  - e. Flaps.
  - f. Fuses and circuit breakers.
  - g. Malfunctions and remedial actions.
6. Pitot-static system and instruments.
  - a. Airspeed indicator, including markings.
  - b. Altimeter.
  - c. Vertical-speed indicator.

7. Vacuum system and instruments.

- a. Attitude indicator.
- b. Heading indicator.
- c. Turn and slip indicator.

8. Magnetic compass.

- a. Errors.
- b. Use in flight.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a basic understanding of airplane structures, engines, systems, and instruments.

### LESSON NO. 12

**OBJECTIVE.** To develop the student's knowledge of basic aerodynamics.

**CONTENT.**

1. Forces acting on an airplane in flight.
  - a. Lift.
  - b. Weight.
  - c. Thrust.
  - d. Drag.
2. Airfoils.
  - a. Angle of incidence.
  - b. Angle of attack.
  - c. Bernoulli's Principle.
  - d. Newton's Laws.
3. Factors affecting lift and drag.
  - a. Wing area.
  - b. Airfoil shape.
  - c. Angle of attack.
  - d. Airspeed.
  - e. Air density.
4. Function of the controls.
  - a. Axes of rotation—longitudinal, lateral, and vertical.
  - b. Primary controls—ailerons, elevators, and rudder.
  - c. Secondary controls—trim tabs.
  - d. Flaps and other high-lift devices.
5. Stability.
  - a. Static stability.
  - b. Dynamic stability.
6. Loads and load factors.
  - a. Effect of bank angle on stall speed.
  - b. Effect of turbulence on load factor.
  - c. Effect of speed on load factor.
  - d. Effect of load factor on stall speed.

7. Torque.

- a. Gyroscopic reaction.
- b. Asymmetrical loading of propeller ("P" factor).
- c. Slipstream rotation.
- d. Torque reaction.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays an understanding of basic aerodynamics.

### LESSON NO. 13

**OBJECTIVE.** To develop the student's knowledge of the fundamental flight maneuvers.

**CONTENT.**

1. Straight-and-level flight.
  - a. Pitch, bank, and yaw.
  - b. Trim.
  - c. Integrated use of outside references and flight instruments.
2. Level turns.
  - a. Forces acting in a turn.
  - b. Aileron drag and coordination.
  - c. Speed of roll.
  - d. Slips and skids.
  - e. Integrated use of outside references and flight instruments.
3. Climbs and climbing turns.
  - a. Best rate-of-climb airspeed.
  - b. Best angle-of-climb airspeed.
  - c. Torque and coordination.
  - d. Trim.
4. Glides and gliding turns.
  - a. Effect of high lift devices.
  - b. Most efficient glide speed.
  - c. Coordination.
  - d. Trim.
5. Descents with power.
  - a. Power settings and airspeeds.
  - b. Trim.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a basic understanding of the fundamental flight maneuvers.

## LESSON NO. 14

**OBJECTIVE.** To develop the student's ability to properly use Pilot's Operating Handbooks and FAA Approved Airplane Flight Manuals; to develop the student's ability to perform basic weight and balance computations; and to develop the student's understanding of fundamental flight training maneuvers.

### CONTENT.

1. Use of data in Pilot's Operating Handbook or FAA Approved Airplane Flight Manual.
  - a. Takeoff and landing distances.
  - b. Fuel consumption and related charts.
  - c. Maximum range power settings.
  - d. Maximum endurance power settings.
2. Weight and balance.
  - a. Terms and definitions.
  - b. Effects of adverse balance.
  - c. Finding loaded weight.
  - d. Finding center of gravity—when weight is added or removed—when weight is shifted.
3. Maneuvering at minimum controllable air-speed.
4. Stalls.
  - a. Theory of stalls.
  - b. Imminent stalls—power-on and power-off.
  - c. Full stalls—power-on and power-off.
5. Flight maneuvering by reference to ground objects.
  - a. "S" turns across a road.
  - b. Rectangular course.
  - c. Eights along a road.
  - d. Eights across a road.
  - e. Turns around a point.
  - f. Eights around pylons.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test and demonstration, the student displays a basic knowledge of Pilot's Operating Handbooks and FAA Approved Airplane Flight Manuals; when the student is able to perform basic weight and balance computations; and when the student has a working knowledge of the performance of fundamental flight training maneuvers.

## LESSON NO. 15

**OBJECTIVE.** To develop the student's knowledge of fundamental flight maneuvers and attitude instrument flying.

### CONTENT.

1. Review Lesson 14.
2. Takeoffs and landings.
  - a. Normal and crosswind takeoffs and landings.
  - b. Soft field takeoffs and landings.
  - c. Short field takeoffs and landings.
  - d. Go-arounds or rejected landings.
3. Introduction to attitude instrument flying. Maneuvering by reference to flight instruments—pitch, power, bank, and trim control in the performance of basic flight maneuvers.
  - a. Straight-and-level flight.
  - b. Turns.
  - c. Climbs.
  - d. Descents.
  - e. Recovery from unusual attitudes.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a basic knowledge of the performance of takeoffs and landings under various conditions, and an understanding of the performance of basic maneuvers by reference to flight instruments.

## LESSON NO. 16

**OBJECTIVE.** To develop the student's knowledge of the fundamentals of night flying.

### CONTENT.

1. Night flying—general.
  - a. Requirements of regulations.
  - b. Preparation.
  - c. Equipment.
  - d. Night vision.
  - e. Airport lighting.
  - f. Orientation.
  - g. VFR navigation.
  - h. Weather factors.
2. Partial or complete power failure.
  - a. Sample situations.
  - b. Recommended courses of action.

3. Systems and equipment malfunctions.
  - a. Sample situations.
  - b. Recommended courses of action.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, by an oral test, the student displays a working knowledge of the fundamentals of night flying.

**Sample Private Pilot (Airplane)  
Flight Training Syllabus**

The sample private pilot (airplane) flight training syllabus which appears on the following pages is illustrative of content and organization. It is not necessarily the most desirable syllabus to use in all training situations; however, instruction in the procedures and maneuvers listed here are considered to be most effective in the development of competence in the *pilot operations* required on the private pilot (airplane) flight test.

It should be noted that each lesson prescribes a unit of flight training, not a specified period of instruction or flight time. Each lesson also includes an *objective*, *content*, and *completion standards*. The student must have at least the instruction required by the Federal Aviation Regulations before the first solo and the first solo cross-country flights, and the flight experience prescribed for a private pilot certificate at the completion of the syllabus.

The notation "(VR and IR)" is used to indicate maneuvers which should be performed by both visual references and instrument references during the conduct of integrated flight instruction.

Throughout the student's flight training, the instructor should emphasize collision and wake turbulence avoidance procedures.

**LESSON NO. 1—DUAL**

**OBJECTIVE.** To familiarize the student with the training airplane, its servicing, its operating characteristics, cabin controls, instruments, systems, preflight procedures, use of checklists, and safety precautions to be followed; to acquaint the student with the sensations of flight and the effect and use of controls; and to familiarize the student with the local flying area and airport.

**CONTENT.**

1. Preflight discussion.
2. Introduction.
  - a. Airplane servicing.
  - b. Purpose of preflight checks.
  - c. Visual inspection.
  - d. Importance of using a checklist.
  - e. Engine starting procedure.
  - f. Radio communications procedures.
  - g. Taxiing.
  - h. Pretakeoff checklist.
  - i. Takeoff.
  - j. Traffic pattern departure, climb-out, and level-off.
  - k. Effect and use of controls (VR and IR).
  - l. Straight-and-level flight (VR and IR).
  - m. Medium bank turns (VR and IR).
  - n. Local flying area familiarization.
  - o. Collision avoidance.
  - p. Wake turbulence avoidance.
  - q. Traffic pattern entry, approach, landing, and parking.
  - r. Ground safety.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student understands how to service the airplane, the use of a checklist for the visual inspection, starting procedure, and engine run-up; displays a knowledge of the effect and use of controls; and has a reasonable familiarity with the local flying area and airport.

**LESSON NO. 2—DUAL**

**OBJECTIVE.** To develop the student's skill in the performance of the four basic flight maneuvers (climbs, descents, turns, and straight-and-level flight).

**CONTENT.**

1. Preflight discussion.
2. Review.
  - a. Airplane servicing.
  - b. Visual inspection.
  - c. Engine starting procedure.
  - d. Radio communications procedures.

- e. Taxiing.
  - f. Pretakeoff checklist.
  - g. Takeoff.
  - h. Traffic pattern departure.
  - i. Straight-and-level flight (VR and IR).
  - j. Medium bank turns (VR and IR).
  - k. Traffic pattern entry, approach, landing, and parking.
3. Introduction.
- a. Climbs and climbing turns (VR and IR).
  - b. Glides and gliding turns (VR and IR).
  - c. Torque effect.
  - d. Level-off from climbs and glides (VR and IR).
4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can perform, with minimum assistance from the instructor, climbs, straight-and-level flight, turns, and glides. During straight-and-level flight the student should, with minimum instructor assistance, be able to maintain altitude within  $\pm 100$  feet, airspeed within  $\pm 10$  knots, and heading within  $\pm 10^\circ$  of that assigned.

### LESSON NO. 3—DUAL

**OBJECTIVE.** To review lessons One and Two; to develop the student's proficiency in the performance of the basic flight maneuvers; and to introduce maneuvering at minimum controllable airspeed and power-off stalls.

#### CONTENT.

- 1. Preflight discussion.
- 2. Review.
  - a. Use of checklist.
  - b. Engine starting procedure.
  - c. Radio communications procedures.
  - d. Takeoff.
  - e. Traffic pattern departure.
  - f. Climbs and climbing turns (VR and IR).
  - g. Straight-and-level flight (VR and IR).
  - h. Medium bank turns (VR and IR).
  - i. Glides and gliding turns (VR and IR).
  - j. Level-off procedures (VR and IR).
  - k. Traffic pattern and landing.

- 3. Introduction.
  - a. Maneuvering at minimum controllable airspeed (VR and IR).
  - b. Power-off stalls (imminent and full) (VR and IR).
  - c. Descents and descending turns, with power (VR and IR).
- 4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can display reasonable proficiency in the performance of the four basic flight maneuvers, and perform with minimum assistance, flight at minimum controllable airspeed. During this and subsequent flight lessons, the student should be able to perform the visual inspection, starting procedure, radio communications, taxiing, pretakeoff check, parking, and shut-down procedure without assistance. During climbs, level flight, turns, glides, and maneuvering at minimum controllable airspeed the student should, with minimum instructor assistance, be able to maintain assigned airspeed within  $\pm 10$  knots. The student should also, with minimum instructor assistance, be able to maintain assigned altitude within  $\pm 100$  feet and assigned heading within  $\pm 10^\circ$ .

### LESSON NO. 4—DUAL

**OBJECTIVE.** To review previous lessons, thereby increasing the student's competence in the performance of fundamental flight maneuvers; and to introduce power-on stalls, rectangular course, S-turns across a road, eights along a road, and elementary emergency landings.

#### CONTENT.

- 1. Preflight discussion.
- 2. Review.
  - a. Takeoff.
  - b. Traffic pattern departure.
  - c. Climbs and climbing turns (VR and IR).
  - d. Straight-and-level flight and medium bank turns (VR and IR).
  - e. Maneuvering at minimum controllable airspeed (VR and IR).
  - f. Power-off stalls (imminent and full) (VR and IR).
  - g. Glides and gliding turns (VR and IR).

- h. Descents and descending turns, with power (VR and IR).
  - i. Level-off procedures (VR and IR).
  - j. Traffic pattern and landing.
3. Introduction.
    - a. Power-on stalls (imminent and full) (VR and IR).
    - b. Rectangular course.
    - c. S-turns across a road.
    - d. Eights along a road and eights across a road.
    - e. Elementary emergency landings.
  4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student is competent to perform, with minimum instructor assistance, the procedures and maneuvers given during previous lessons. The student should achieve the ability to recognize stall indications and make safe prompt recoveries. The student should maintain assigned airspeed within  $\pm 10$  knots, assigned altitude within  $\pm 100$  feet, and assigned heading within  $\pm 10^\circ$ , and display a basic knowledge of elementary emergency landings.

#### LESSON NO. 5—DUAL

**OBJECTIVE.** To review previous lessons, with emphasis on maneuvering by reference to ground objects. To develop the student's ability to perform climbs at best rate and best angle, crosswind takeoffs and landings; and to introduce emergency procedures, changes of airspeed and configuration, turns around a point, and eights around pylons.

##### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Takeoff.
  - b. Climbs and climbing turns (VR and IR).
  - c. Maneuvering at minimum controllable airspeed (VR and IR).
  - d. Power-off and power-on stalls (imminent and full).
  - e. Rectangular course.
  - f. S-turns across a road.

- g. Eights along a road.
  - h. Elementary emergency landings.
  - i. Traffic pattern and landing.
3. Introduction.
    - a. Crosswind takeoffs and landings.
    - b. Climb at best rate (VR and IR).
    - c. Climb at best angle (VR and IR).
    - d. Emergency procedures.
    - e. Change of airspeed and configuration (VR and IR).
    - f. Turns around a point.
    - g. Eights around pylons.
  4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can recognize imminent and full stalls and make prompt effective recoveries, perform ground reference maneuvers with reasonably accurate wind drift corrections and good coordination, and has a proper concept of crosswind technique during takeoffs and landings. The student should have a working knowledge of emergency procedures, and be able to perform them with minimum assistance. During ground reference maneuvers, the student should maintain airspeed within  $\pm 10$  knots, altitude within  $\pm 100$  feet, and heading within  $\pm 10^\circ$  of that desired.

#### LESSON NO. 6—DUAL

**OBJECTIVE.** To review previous lessons; to develop the student's ability to perform slips, accelerated stalls, cross-control stalls, and advanced emergency landings; to improve the student's proficiency in normal and crosswind takeoffs and landings; and to introduce balked takeoffs and go-arounds (rejected landings).

##### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Normal and crosswind takeoffs.
  - b. Climbs at best rate and best angle (VR and IR).
  - c. Power-off stalls (imminent and full) (VR and IR).
  - d. Power-on stalls (imminent and full) (VR and IR).

- e. Change of airspeed and configuration (VR and IR).
  - f. Turns around a point.
  - g. Eights around pylons.
  - h. Emergency procedures.
  - i. Normal and crosswind landings.
3. Introduction.
    - a. Balked takeoffs.
    - b. Accelerated stalls.
    - c. Cross-control stalls.
    - d. 180° and 360° gliding approaches.
    - e. Advanced emergency landings.
    - f. Side slips and forward slips.
    - g. Go-arounds (rejected landings).
  4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can perform stall recoveries smoothly and promptly with a minimum loss of altitude, is able to make unassisted normal and crosswind takeoffs and landings, and can plan and fly emergency landing patterns with accuracy and consistency. The student should be able to execute balked takeoffs and go-arounds (rejected landings) without assistance, and should maintain assigned airspeed within  $\pm 10$  knots, assigned altitude within  $\pm 100$  feet, and assigned heading within  $\pm 10^\circ$ .

#### LESSON NO. 7—DUAL

**OBJECTIVE.** To review previous lessons. To further develop the student's competence in takeoffs, traffic patterns, and landings through concentrated practice. To develop the student's ability to use slips during landing approaches and improve the ability to perform go-arounds (rejected landings).

##### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Normal and crosswind takeoffs.
  - b. Normal and crosswind landings (touch-and-go and full-stop).
  - c. Forward slips.
  - d. Go-arounds (rejected landings).
  - e. 180° and 360° gliding approaches.

- f. Advanced emergency landings.
  - g. Emergency procedures.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can fly accurate traffic patterns and make unassisted normal and crosswind takeoffs and landings. The student should be competent in the go-around (rejected landing) procedure. During traffic patterns, the student should maintain desired airspeed within  $\pm 10$  knots, desired altitude within  $\pm 100$  feet, and desired heading within  $\pm 10^\circ$ .

#### LESSON NO. 8—DUAL

**OBJECTIVE.** To review power-off stalls, maneuvering at minimum controllable airspeed, and advanced emergency landings. To continue to develop the student's competence in takeoffs, traffic patterns, and landings, and to improve the ability to recover from poor approaches and landings.

##### CONTENT

1. Preflight discussion.
2. Review.
  - a. Normal and crosswind takeoffs.
  - b. Power-off stalls (imminent and full) (VR and IR).
  - c. Maneuvering at minimum controllable airspeed (VR and IR).
  - d. Advanced emergency landings.
  - e. Normal and crosswind landings (touch-and-go and full-stop).
  - f. Go-arounds (rejected landings).
  - g. Recovery from poor approaches and landings.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student can demonstrate a degree of proficiency in normal and crosswind takeoffs and landings and traffic patterns, which is considered safe for solo. The student should display sound judgment and proper techniques in recoveries from poor approaches and landings. During traffic patterns, the student should

maintain desired airspeed within  $\pm 10$  knots, desired altitude within  $\pm 100$  feet, and desired heading within  $\pm 10^\circ$ .

### LESSON NO. 9—DUAL AND SOLO

**OBJECTIVE.** To develop the student's competence to a level which will allow the safe accomplishment of the first supervised solo in the traffic pattern.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Normal and crosswind takeoffs.
  - b. Normal and crosswind landings (full-stop).
  - c. Go-arounds (rejected landings).
  - d. Recovery from poor approaches and landings.
  - e. Elementary emergency landings.
3. Introduction—first supervised solo in the traffic pattern. Three takeoffs and three full-stop landings should be performed.
4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student safely accomplishes the first supervised solo in the traffic pattern.

### LESSON NO. 10—DUAL AND SOLO

**OBJECTIVE.** To review previous lessons and to accomplish the student's second supervised solo in the traffic pattern.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Takeoff and traffic departure.
  - b. Climbs and climbing turns (VR and IR).
  - c. Maneuvering at minimum controllable airspeed (VR and IR).
  - d. Power-off stalls (imminent and full) (VR and IR).
  - e. Advanced emergency landings.
  - f. Traffic patterns, approaches and landings.
  - g. Recovery from poor approaches and landings.
3. Introduction—second supervised solo in the traffic pattern. Three takeoffs, two touch-

and-go, and one full-stop landing should be performed.

4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates solo competence in maneuvers performed and safely accomplishes the second supervised solo in the traffic pattern.

### LESSON NO. 11—DUAL AND SOLO

**OBJECTIVE.** To review presolo maneuvers with higher levels of proficiency required. To introduce short and soft field takeoffs, and maximum climbs; and to accomplish the student's third supervised solo in the traffic pattern.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Selected presolo maneuvers (VR and IR).
  - b. Takeoffs, traffic patterns, and landings.
  - c. Balked takeoff.
  - d. Go-around (rejected landing).
  - e. Recovery from poor approach and landing.
3. Introduction.
  - a. Short field takeoffs and maximum climbs.
  - b. Soft field takeoffs.
  - c. Third supervised solo in the traffic pattern. At least three takeoffs and landings should be performed.
4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates solo competence in the selected presolo maneuvers performed and safely accomplishes the third supervised solo in the traffic pattern. The student should be able to perform short field takeoffs, soft field takeoffs, and maximum climbs without instructor assistance.

### LESSON NO. 12—DUAL

**OBJECTIVE.** To refamiliarize the student with the local practice area and to improve proficiency in the presolo maneuvers in preparation for local area solo practice flights. To

develop the student's ability to obtain radar and DF heading instructions and to become oriented in relation to a VOR, and to "home" to a nondirectional beacon using ADF. To introduce wheel landings (tail wheel airplanes).

#### **CONTENT.**

1. Preflight discussion.
2. Review.
  - a. Practice area orientation.
  - b. Power-off stalls (imminent and full) (VR and IR).
  - c. Power-on stalls (imminent and full) (VR and IR).
  - d. Maneuvering at minimum controllable airspeed (VR and IR).
  - e. Turns around a point.
  - f. Eights around pylons.
  - g. Crosswind takeoffs and landings.
  - h. 180° and 360° gliding approaches.
  - i. Advanced emergency landings.
  - j. Emergency procedures.
3. Introduction.
  - a. Use of radar and DF heading instructions (VR and IR).
  - b. VOR orientation (VR and IR).
  - c. ADF "homing" (VR and IR).
  - d. Wheel landings (tailwheel airplanes).
4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates an improved performance of the presolo maneuvers, is able to determine position in the local practice area by pilotage, VOR, or ADF; and can safely perform assigned maneuvers. The student should be competent in obtaining radar and DF heading instructions and in the performance of simulated emergency landings and emergency procedures.

#### **LESSON NO. 13—SOLO**

**OBJECTIVE.** To develop the student's confidence and proficiency through solo practice of assigned maneuvers.

#### **CONTENT.**

1. Preflight discussion.
2. Review.
  - a. Normal and/or crosswind takeoffs and landings.
  - b. Power-off stalls (imminent and full).
  - c. Power-on stalls (imminent and full).
  - d. Maneuvering at minimum controllable airspeed.
  - e. Other maneuvers specified by the instructor during the preflight discussion.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student has accomplished the solo review and practiced the basic and precision flight maneuvers, in addition to those specified by the instructor. The student should gain confidence and improve flying technique as a result of the solo practice period.

#### **LESSON NO. 14—DUAL**

**OBJECTIVE.** To improve the student's proficiency in previously covered procedures and maneuvers and to review advanced emergency landings, emergency procedures, and orientation by means of VOR and/or ADF.

#### **CONTENT.**

1. Preflight discussion.
2. Review.
  - a. Normal and/or crosswind takeoffs and landings.
  - b. Power-off stalls (imminent and full) (VR and IR).
  - c. Power-on stalls (imminent and full) (VR and IR).
  - d. Maneuvering at minimum controllable airspeed (VR and IR).
  - e. Accelerated stalls.
  - f. Eights around pylons.
  - g. Short field and soft field takeoffs and landings.
  - h. Advanced emergency landings.
  - i. Emergency procedures.
  - j. Orientation by means of VOR and/or ADF.

8. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates an increased proficiency in previously covered procedures and maneuvers. The student should be able to maintain airspeed within  $\pm 10$  knots, altitude within  $\pm 100$  feet, and heading within  $\pm 10^\circ$  of that desired.

### LESSON NO. 15—SOLO

**OBJECTIVE.** To further develop the student's confidence and proficiency through solo practice of assigned maneuvers.

**CONTENT.**

1. Preflight discussion.
2. Review.
  - a. Normal and/or crosswind takeoffs and landings.
  - b. Turns around a point.
  - c. Eights around pylons.
  - d. Other maneuvers specified by the instructor during the preflight discussion.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student has accomplished the solo review and thereby increased proficiency and confidence.

### LESSON NO. 16—DUAL

**OBJECTIVE.** To develop the student's ability to plan, plot, and fly a 2-hour day cross-country flight with landings at two unfamiliar airports; to develop the student's proficiency in navigating by means of pilotage, dead reckoning, VOR, and/or ADF; and to develop the ability to take proper action in emergency situations.

**CONTENT.**

1. Preflight discussion.
  - a. Planning flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.

### 2. Introduction.

- a. Filing VFR flight plan.
- b. Pilotage.
- c. Dead reckoning.
- d. Tracking VOR radial and/or homing by ADF (VR and IR).
- e. Departure, en route, and arrival radio communications.
- f. Simulated diversion to an alternate airport.
- g. Unfamiliar airport procedures.
- h. Emergencies, including DF and radar heading instructions (VR and IR).
- i. Closing VFR flight plan.

3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, with instructor assistance, the student is able to perform the cross-country preflight planning, fly the planned course making necessary off-course corrections, and can make appropriate radio communications. The student should be competent in navigating by means of pilotage, dead reckoning, VOR, and/or ADF, and when so instructed, is able to accurately plan and fly a diversion to an alternate airport.

### LESSON NO. 17—DUAL

**OBJECTIVE.** To improve the student's proficiency in cross-country operations through the planning, plotting, and flying of a second dual 2-hour day cross-country flight, with landings at two unfamiliar airports. To improve the student's competence in navigating by means of pilotage, dead reckoning, VOR, and ADF; and to further develop the ability to take proper action in emergency situations.

**CONTENT.**

1. Preflight discussion.
  - a. Planning flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.
2. Review.
  - a. Filing VFR flight plan.
  - b. Pilotage and dead reckoning.

- c. Radio navigation (VOR and/or ADF) (VR and IR).
  - d. Departure, en route, and arrival radio communications.
  - e. Simulated diversion to an alternate airport.
  - f. Unfamiliar airport procedures.
  - g. Emergencies, including DF and radar heading instructions (VR and IR).
  - h. Closing VFR flight plan.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student, with minimum instructor assistance, is able to plan, plot, and fly the planned course. Estimated times of arrival should be accurate with an apparent error of not more than 10 minutes. Any off-course corrections should be accomplished accurately and promptly. The student should be able to give the instructor an accurate position report at any time without hesitation. When given a "simulated lost" situation, the student should be able to initiate and follow an appropriate "lost procedure."

#### LESSON NO. 18—SOLO

**OBJECTIVE.** To develop the student's ability to plan, plot, and fly a 3-hour solo day cross-country flight, with landings at two unfamiliar airports, thereby improving proficiency and confidence in the conduct of future solo cross-country flights. To improve the student's proficiency in navigating by means of pilotage, dead reckoning, VOR, and/or ADF; and to increase the ability to cope with new or unexpected flight situations.

##### CONTENT.

- 1. Preflight discussion.
  - a. Planning flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.
  - e. Procedure at unfamiliar airports.
  - f. Emergencies.
- 2. Review.
  - a. Filing VFR flight plan.

- b. Pilotage.
  - c. Dead reckoning.
  - d. Radio navigation (VOR and/or ADF).
  - e. Departure, en route, and arrival radio communications.
  - f. Unfamiliar airport procedures.
  - g. Closing VFR flight plan.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student is able to plan, plot, and fly the 3-hour cross-country flight as assigned by the instructor. The instructor should determine how well the flight was conducted through oral questioning.

#### LESSON NO. 19—DUAL AND SOLO

**OBJECTIVE.** To develop the student's ability to make solo night flights in the local practice area and airport traffic pattern. To familiarize the student with such aspects of night operations as: night vision, night orientation, judgment of distance, use of cockpit lights, position lights, landing lights, and night emergency procedures.

##### CONTENT.

- 1. Preflight discussion.
  - a. Night vision and vertigo.
  - b. Orientation in local area.
  - c. Judgment of distance.
  - d. Aircraft lights.
  - e. Airport lights.
  - f. Taxi technique.
  - g. Takeoff and landing technique.
  - h. Collision avoidance.
  - i. Unusual attitude recovery.
  - j. Emergencies.
- 2. Introduction.
  - a. Night visual inspection.
  - b. Use of cockpit lights.
  - c. Taxi techniques.
  - d. Takeoff and traffic departure.
  - e. Area orientation.
  - f. Interpretation of aircraft and airport lights.

- g. Recovery from unusual attitudes (VR and IR).
  - h. Radio communications.
  - i. Traffic entry.
  - j. Power approaches and full-stop landings.
  - k. Use of landing lights.
  - l. Simulated electrical failure to include at least one black-out landing.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student displays the ability to maintain orientation in the local flying area and traffic pattern, can accurately interpret aircraft and runway lights, and can competently fly the traffic pattern and perform takeoffs and landings. The student should display, through oral quizzing and demonstrations, competence in performing night emergency procedures. At least five takeoffs and landings should be accomplished.

#### LESSON NO. 20—DUAL

**OBJECTIVE.** To develop the student's ability to plan, plot, and fly a 1½-hour night cross-country flight around a triangular course with at least one landing at an unfamiliar airport. To develop the student's competence in navigating at night by means of pilotage, dead reckoning, and VOR or ADF; and to develop the student's ability to take proper action in night emergency situations.

##### CONTENT.

1. Preflight discussion.
  - a. Planning 1½-hour night cross-country flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.
2. Introduction.
  - a. Filing VFR flight plan.
  - b. Proper use of cockpit lights and flashlight for chart reading.
  - c. Pilotage—factors peculiar to night flying.
  - d. Dead reckoning.

- e. Tracking VOR radial and/or homing by ADF.
- f. Departure, en route, and arrival radio communications.
- g. Simulated diversion to an alternate airport.
- h. Emergencies, including simulated failure of electrical system, also DF and radar heading instructions.
- i. Closing VFR flight plan.

3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when, with minimum assistance from the instructor, the student is able to perform the night cross-country preflight planning, fly the planned course making necessary off-course corrections, and can make appropriate radio communications. The student should be competent in navigating by means of pilotage, dead reckoning, and VOR or ADF. The student should have a thorough knowledge of night emergency procedures.

#### LESSON NO. 21—SOLO

**OBJECTIVE.** To further develop the student's competence in cross-country operations through the planning, plotting, and flying of a second solo 3-hour day cross-country flight with landings at two unfamiliar airports. To improve the student's proficiency in navigating by means of pilotage, dead reckoning, VOR, and/or ADF; and to further increase the student's confidence and ability to properly handle unexpected flight situations.

##### CONTENT.

1. Preflight discussion.
  - a. Planning flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.
  - e. Procedure at unfamiliar airports.
  - f. Emergencies.
2. Review.
  - a. Filing VFR flight plan.
  - b. Pilotage and dead reckoning.
  - c. Radio navigation (VOR and/or ADF).

- d. Departure, en route, and arrival radio procedures.
  - e. Unfamiliar airport procedures.
  - f. Closing VFR flight plan.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student is able to plan, plot, and fly the second 3-hour day cross-country flight as assigned by the instructor. The instructor should determine how well the flight was conducted through oral questioning.

### LESSON NO. 22—SOLO

**OBJECTIVE.** To further develop the student's competence in cross-country operations through the planning, plotting, and flying of a solo 4-hour day cross-country flight, with landings at three unfamiliar airports, each of which is more than 100 nautical miles from the other airports.

#### CONTENT.

1. Preflight discussion.
  - a. Planning flight, including weather check.
  - b. Plotting course.
  - c. Preparing log.
  - d. Filing and closing VFR flight plan.
  - e. Procedure at unfamiliar airports.
  - f. Emergencies.
2. Review.
  - a. Filing VFR flight plan.
  - b. Pilotage and dead reckoning.
  - c. Radio navigation (VOR and/or ADF).
  - d. Departure, en route, and arrival radio communications.
  - e. Unfamiliar airport procedures.
  - f. Closing VFR flight plan.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student is able to plan, plot, and fly the 4-hour day cross-country flight as assigned by the instructor. The instructor should determine how well the flight was conducted through oral questioning.

### LESSON NO. 23—DUAL

**OBJECTIVE.** To develop precision in the student's performance of procedures and maneuvers covered previously with emphasis directed to stalls.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Power-off stalls (imminent and full) (VR and IR).
  - b. Power-on stalls (imminent and full) (VR and IR).
  - c. Maneuvering at minimum controllable airspeed (VR and IR).
  - d. 180° and 360° gliding approaches.
  - e. Advanced emergency landings.
  - f. Slips.
  - g. Crosswind takeoffs and landings.
  - h. Short field and soft field takeoffs and landings.
  - i. Emergency procedures.
3. Introduction of ASR approaches.
4. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates improved performance in the various maneuvers given. The student should be able to make ASR approaches with minimum instructor assistance.

### LESSON NO. 24—SOLO

**OBJECTIVE.** To further develop the student's competence through solo practice of assigned maneuvers. Emphasis will be directed to stalls.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Power-on and power-off stalls (imminent and full).
  - b. Maneuvering at minimum controllable airspeed.
  - c. Short field and soft field takeoffs and landings.

- d. Other maneuvers assigned by the instructor during preflight discussion.
- 3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student has accomplished the solo review and practiced the basic and precision flight maneuvers in addition to those specified by the instructor. The student should gain confidence and improve flying technique as a result of the solo practice period.

### LESSON NO. 25—DUAL

**OBJECTIVE.** To develop improved performance and precision in the procedures and maneuvers covered previously with emphasis directed to ground track maneuvers.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Maneuvering at minimum controllable airspeed.
  - b. Turns around a point.
  - c. Eights around pylons.
  - d. 180° and 360° gliding approaches.
  - e. Advanced emergency landings.
  - f. Slips.
  - g. Crosswind takeoffs and landings.
  - h. Wheel landings (tail wheel airplane).
  - i. ASR approach.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student demonstrates improved performance in the maneuvers given.

### LESSON NO. 26—SOLO

**OBJECTIVE.** To further develop the student's competence through solo practice of assigned maneuvers. Emphasis will be directed to ground track maneuvers.

#### CONTENT.

1. Preflight discussion.

2. Review.
  - a. Turns around a point.
  - b. Eights around pylons.
  - c. Short and soft field takeoffs and landings.
  - d. Wheel landings (tail wheel airplanes).
  - e. Other maneuvers assigned by the instructor during the preflight discussion.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student has accomplished the solo review. The student should gain proficiency in the ground track and other maneuvers assigned by the instructor.

### LESSON NO. 27—SOLO

**OBJECTIVE.** To improve the student's proficiency in the pilot operations required on the private pilot (airplane) flight check.

#### CONTENT.

1. Preflight discussion.
2. Review.
  - a. Ground track maneuvers.
  - b. Power-on and power-off stalls (imminent and full).
  - c. Maneuvering at minimum controllable airspeed.
  - d. Crosswind takeoffs and landings.
  - e. Other maneuvers assigned by the instructor during the preflight discussion.
3. Postflight critique and preview of next lesson.

**COMPLETION STANDARDS.** The lesson will have been successfully completed when the student has gained proficiency in the procedures and maneuvers assigned by the instructor.

### LESSON NO. 28—DUAL

**OBJECTIVE.** To evaluate the student's performance of the procedures and maneuvers necessary to conduct flight operations as a private pilot.

#### CONTENT.

1. Preflight discussion.

