AC NO: 141-1
DATE: 8/29/74

ADVISORY CIRCULAR

FILE

PILOT SCHOOL CERTIFICATION

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Initiated by: AFS-444

AC NO: 141-1

DATE: 8/29/74

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJECT: PILOT SCHOOL CERTIFICATION

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1. PURPOSE. This advisory circular sets forth guidelines to assist persons in obtaining a pilot school certificate and associated ratings under Federal Aviation Regulations, Part 141 (revised).

2. BACKGROUND. Part 141 (revised), Pilot Schools, was adopted May 29, 1974, pursuant to Notice of Proposed Rule Making No. 73-5 as Federal Aviation Regulations Amendment No. 141-13. The general effective date for all provisions of Part 141 (revised) is November 1, 1974. Pilot school certificates in effect prior to November 1, 1974, remain in effect until they expire, are suspended or revoked. The school may continue to enroll and train students under present Part 141 until the school certificate expires or the students are transitioned to the new approved courses of training under Part 141 (revised).

3. HOW TO GET THIS PUBLICATION. Order additional copies of this advisory circular from the Department of Transportation, Publications Section, TAD-443.1, Washington, D.C. 20590.

C. R. Melugin Jr.

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Acting Director, Flight Standards Service, AFS-1

Initiated by: AFS-444

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PILOT SCHOOL CERTIFICATION

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3. GLOSSARY OF TERMS.

As used in this advisory circular and as defined in the Federal Aviation Regulations, "Administrator" means the Federal Aviation Administrator or any person to whom he has delegated his authority in the matter concerned.

"Agricultural aircraft operation" means the operation of an aircraft for the purpose of (1) dispensing any economic poison, (2) dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life or pest control, or (3) engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

"Airplane" means an engine-driven fixed-wing aircraft heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

"Airport" means an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

"Airship" means an engine-driven lighter-than-air aircraft that can be steered.

"Approved," unless used with reference to another person, means approved by the Administrator.

"Balloon" means a lighter-than-air aircraft that is not engine driven.

"Category" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a broad classification of aircraft. Examples include: airplane; rotorcraft; glider; and lighter-than-air; and

b. As used with respect to the certification of aircraft, means a grouping of aircraft based upon intended use or operating limitations. Examples include: transport; normal; utility; acrobatic; limited; restricted; and provisional.

"Citizen of the United States" (as defined in the Federal Aviation Act of 1958) means (a) an individual who is a citizen of the United States or one of its possessions, or (b) a partnership of which each member is such an individual, or (c) a corporation or association created or organized under the laws of the United States or of any State, Territory, or possession of the United States, of which the president and two-thirds or more of the board of directors and other managing officers thereof are such individuals and in which at least 75 per centum of the voting interest is owned or controlled by persons who are citizens of the United States or of one of its possessions.

"Class" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a classification of aircraft within a category having similar operating characteristics. Examples include: single-engine; multiengine; land; water; gyroplane; helicopter; airship; and free balloon; and

b. As used with respect to the certification of aircraft, means a broad grouping of aircraft having similar characteristics of propulsion, flight, or landing. Examples include: airplane; rotorcraft; glider; balloon; landplane; and seaplane.

"External load" means a load that is carried or extends outside of the aircraft fuselage.

"Flight crewmember" means a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

"Flight time" means the time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing. (Block-to-block time)

"Glider" means a heavier-than-air aircraft, that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine.

"Gyroplane" means a rotorcraft whose rotors are not engine-driven except for initial starting, but are made to rotate by action of the air when the rotorcraft is moving; and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

"Helicopter" means a rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

"Heliport" means an area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

"Lighter-than-air aircraft" means aircraft that can rise and remain suspended by using contained gas weighing less than the air that is displaced by the gas.

"Operate," with respect to aircraft, means use, cause, or authorize to use aircraft, for the purpose (except as provided in §91.10) of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).

"Person" means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them.

"Pilot in command" means the pilot responsible for the operation and safety of an aircraft during flight time.

"Rotorcraft" means a heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

"Second in command" means a pilot who is designated to be second in command of an aircraft during flight time.

"Show," unless the context otherwise requires, means to show to the satisfaction of the Administrator.

"Type" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a specific make and basic model of aircraft, including modifications thereto that do not change its

handling or flight characteristics. Examples include: DC-7, 1049, and F-27; and

b. As used with respect to the certification of aircraft, means those aircraft which are similar in design. Examples include: DC-7 and DC-7C; 1049G and 1049H; and F-27 and F-27F.

"United States," in a geographical sense, means (1) the States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters, and (2) the airspace of those areas.

In addition to the foregoing:

a. "Present Part 141," for the purposes of this advisory circular, means the Part 141 in effect prior to November 1, 1974.

b. "Part 141 (revised)," for the purposes of this advisory circular, means the Part 141, effective November 1, 1974, as Amendment No. 141-13.

4. SCHOOLS CERTIFICATED UNDER PRESENT PART 141. Pilot school certificates in effect prior to November 1, 1974, remain in effect until they expire, are suspended or revoked. The school may continue to enroll and train students under present Part 141 until the school certificate expires or the students are transitioned to the new approved courses of training under Part 141 (revised).

5. RENEWAL OF CERTIFICATES UNDER PRESENT PART 141.

a. Schools that have students enrolled under the PRESENT Part 141 PRIOR to November 1, 1974 (the effective date of Part 141 (revised)), may continue to train those students under the present Part 141 until their school certificates expire. That school certificate, along with the necessary ratings, may be renewed for a period of time long enough to allow ONLY the students enrolled, prior to November 1, 1974, to complete their training under the present rules, but for not more than 24 months.

b. Pilot schools are encouraged to apply for certification as soon as possible under Part 141 (revised), not only to upgrade training standards, but to prevent an interruption of training for those students enrolled after November 1, 1974, under present Part 141, should the school certificate expire prior to the completion of those students' training.

c. A school training students under the present school certificate, when issued a new certificate under Part 141 (revised), may be the holder of two school certificates until the certificate issued under present Part 141 expires.

6. TESTING OF STUDENTS TRAINED UNDER PRESENT PART 141.

a. Part 141 is a means by which a student may, through approved training, meet the flight experience requirements of Part 61 with a lesser amount of flight experience than that prescribed in Part 61. However, the student must meet all other certification requirements of Part 61, including the practical test.

b. We recognize the burden that would be placed on pilot schools and students alike if students trained under the standards of present Part 141 were required to be tested under the updated requirements of Part 61 (revised). Part 61 (revised) has, therefore, been amended to allow those students graduated under present Part 141 to be tested under the Part 61 in effect prior to November 1, 1973, but under no circumstances, may they be tested under the old standards later than January 1, 1977.

7. NEW PILOT SCHOOL CONCEPT.

a. In 1968, the FAA recognized that Part 61 was in need of upgrading and action was initiated to accomplish this. The 1971 Department of Transportation General Aviation Safety Study confirmed FAA's contention. The upgrading of Part 61 has been accomplished to reflect the complexity of modern aircraft and the National Airspace System.

b. Part 61 introduced a new total operational training concept. This new concept is reflected in Part 141 (revised), along with the general upgrading recommended by the Secretary of Transportation study group. Under the revised rule, full recognition is given to the ability of a certificated school to develop its own course of training and also broadens the privileges of schools to recommend graduates of its own courses of training for appropriate airman certificates without being tested by FAA inspectors or designated pilot examiners. This concept is being implemented by making prescribed curriculums for training more flexible and by adopting procedures to assure that a training course adopted by a school is adequate, appropriate, and administered by qualified persons.

8. PILOT SCHOOL QUANTITY AND QUALITY OF INSTRUCTION.

a. To be eligible for a pilot school certificate after November 1, 1974, the school will be required to meet the pertinent requirements of Subpart A through C of Part 141 (revised) which, among other things, requires the school to have trained at least ten applicants for pilot certificates and ratings within the past 24 months. In addition, eight out of the ten of the most recent applicants tested by an FAA inspector or designated pilot examiner must have passed their practical tests the first time (reference Section 141.5).

b. An applicant for a school certificate that cannot meet the required recent training experience, but does meet the other requirements of Subparts A through C, will be issued a provisional pilot school certificate.

c. Pilot schools certificated under the present Part 141 that do not meet the ten applicant requirement, but which meet all other requirements of Subparts A through C, are also issued a provisional pilot school certificate.

d. A pilot school certificated under Part 141 (revised), which after two years does not meet the recent training experience requirements but meets all other requirements, may apply for a provisional pilot school certificate.

e. The holder of a provisional pilot school certificate that does not meet the recent training experience requirement prior to the expiration of its certificate (two years) may not apply for a new certificate for a period of six months from the expiration date of the expired certificate.

f. If a pilot school certificated under present Part 141 or Part 141 (revised), does NOT meet the QUALITY of instruction requirements of Section 141.5(b), that school is denied renewal of its certificate. However, the school may apply for the issuance of a provisional pilot school certificate.

). APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (OMB 04-R0204).

a. Application for a pilot school certificate or a provisional pilot school certificate is made in duplicate on FAA Form 8420-8 (OMB 04-R0204) and completed as shown or described on the back side of the form. (See Figures 1 and 2)

b. These forms may be obtained from the nearest General Aviation/Flight Standards District Office. The following describes acceptable signatures to a completed application form for the purposes of Part 141 (revised).

(1) An application from an individual should be signed by that individual.

(2) An application from a partnership should be signed by all partners.

(3) An application from a corporation should be signed by the president or such other officers as authorized by the corporation bylaws to sign for the corporation, and certified by the corporate secretary attesting to the individual's authority to sign such a document.

FIGURE 1. APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (FRONT SIDE)

APPLICANT - Read submittal and signature instructions on reverse. Form approved; OMB No. 04-R0204

DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

APPLICATION FOR PILOT SCHOOL CERTIFICATE

For FAA Use only

CERT. NO.

NAME OF SCHOOL	ADDRESS OF PRINCIPAL BUSINESS OFFICE
Carolyn S. Brannon dba Brannon Aviation	13206 Poplar Tree Rd., Fairfax, Va.
LOCATION OF MAIN OPERATIONS BASE	**LOCATION OF SATELLITE BASE(S)**
Fairfax Airport, Fairfax, Va.	Centerville Airport

APPLICATION IS HEREBY MADE FOR:

[XX] Issuance of a Pilot School Certificate and associated ratings to conduct the training courses identified below, and for the approval of these courses *(three copies of each course outline are attached)*; also, examining authority is requested for the courses appropriately checked.

[ ] Renewal of Pilot School Certificate and associated ratings currently numbered , which expires on [ ] without changes to the currently approved course outlines, [ ] with addition of course(s) identified below for which approval is requested *(three copies of each course outline is attached)*, including request for examining authority for the course(s) appropriately checked; [ ] with deletion of course(s) identified below from the curriculum.

[ ] Amending the current Pilot School Certificate and associated ratings numbered , which expires on [ ] by adding the course(s) identified below for which approval is requested *(three copies of each course outline are attached)*, including request examining authority where appropriately checked. [ ] for deletion of the course(s) identified below from the curriculum.

IDENTIFICATION OF TRAINING COURSES *NOTE: Where examining authority for a course is desired, place an 'X' in the box adjacent to the course identification.*

[XX]	Private Pilot	[ ]	
[XX]	Private test course	[ ]	
[XX]	Instrument Rating	[ ]	
[XX]	Commercial pilot	[ ]	
[ ]		[ ]	
[ ]		[ ]	

(If more space is needed, continue on reverse in space provided)

I (WE) certify that I am (we are) familiar with Part 141 of the Federal Aviation Regulations, and, to the best of my (our) knowledge, believe that my (our) school meets the requirements for certification as prescribed therein.

Signature(s) and Title(s): Carolyn S. Brannon / Carolyn S. Brannon / Owner

Date: Nov. 1, 1974

FOR FAA USE ONLY

[ ] APPROVED - [ ] a Provisional Pilot School Certificate [ ] a Pilot School Certificate, either with associated ratings bearing the number shown above is issued effective _____, and which expires on _____ _____. [ ] DISAPPROVED

[ ] Renewal [ ] without amendments [ ] with amendments [ ] Amendments

SIGNATURE OF APPROVING OFFICIAL	TITLE	DATE

FAA Form 8420-8 (4-74) Recommendations of Inspector(s) on reverse

FIGURE 2. APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (BACK SIDE)

INSTRUCTIONS TO THE APPLICANT:

Submit an original and one copy of this application, completed in full, along with the required number of attachments where specified on the face of this form, to the FAA District Office having jurisdiction over the area in which the school is located.

Signatures on the application should be as follows:

a. Application from a person acting as an individual should be signed by the owner;

b. Application from a partnership should be signed by all partners;

c. Application from a corporation should be signed by the president or such other officers as authorized by the corporation by-laws to sign for the corporation and certified to by the corporate secretary attesting to the authority of the individuals to sign such a document;

d. Application from a company, club, or association should be signed by the president or such other officer or director as authorized by the organization's by-laws, and attested to by the secretary.

IDENTIFICATION OF TRAINING COURSES (Continued) *NOTE: Where examining authority for a course is desired, place an "X" in the box adjacent to the course identification.*

☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____

THE FOLLOWING SPACE FOR FAA USE ONLY

Recommendations of Inspector(s)

INSPECTORS' SIGNATURES AND DATES	FOR OPERATIONS	FOR MAINTENANCE	FOR AVIONICS
	DATE	DATE	DATE

FIGURE 3. SAMPLE AIR AGENCY CERTIFICATE, FAA FORM 8000-4

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Air Agency Certificate

Number 01-NW

This certificate is issued to
CAROLYN S. BRANNON
dba
BRANNON AVIATION
whose business address is
13206 POPLAR TREE ROAD
FAIRFAX, VIRGINIA 22030

upon finding that its organization complies in all respects with the requirements of the Federal Aviation Regulations relating to the establishment of an Air Agency, and is empowered to operate an approved PILOT SCHOOL (OR PROVISIONAL PILOT SCHOOL)

with the following ratings:

PRIVATE PILOT
COMMERCIAL PILOT
INSTRUMENT RATING
PRIVATE TEST COURSE

This certificate, unless canceled, suspended, or revoked, shall continue in effect

Date issued: NOVEMBER 1, 1974

By direction of the Administrator
DONALD D. JONES
SUPERVISING INSPECTOR

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both

FAA Form 8000-4 (1-67) SUPERSEDES FAA FORM 390.

(4) An application from a company, club or association should be signed by the president or such other officer or director as authorized by the organization's bylaws and attested to by the secretary-treasurer.

c. Each requested pilot school rating should be listed on the application. The application when presented to the FAA should be accompanied by three complete copies of EACH proposed training course outline. If examining authority is being requested, the appropriate box should be checked on the application. Remember, when you make application for a pilot school certificate, you are certifying that you are familiar with Part 141 and believe that your school meets the appropriate requirements for certification.

10. PILOT SCHOOL RATINGS. Ratings that are placed on a pilot school or provisional pilot school certificate are listed under Sections 141.11(a), (b) and (c). When training course outline(s) have been approved by the FAA, the appropriate rating(s) are placed on the school certificate. For example, if a pilot school has received approval of two private pilot certification courses, one for airplanes and one for helicopters, a private pilot rating is placed on the school certificate. A school with a private pilot rating on its school certificate may conduct one or several private pilot certification courses, provided a training course outline is submitted and approved under Subpart C of Part 141 (revised) for each course of private pilot training given.

11. DURATION OF THE CERTIFICATE.

a. A pilot school certificate or a provisional pilot school certificate expires at the end of the 24th month after the month it was issued.

b. An exception to this will be a pilot school certificate renewed for a lesser period of time under the provisions of Section 141.29(b) which provides for the renewal of a pilot school certificate which was effective prior to November 1, 1974, for a period of time long enough to allow students enrolled in a course of training prior to November 1, 1974, to complete that training, but not for a period of time longer than November 1, 1976.

c. Further, a school certificate normally expires on the date that any change in ownership of the school or any change in the ownership of the facilities upon which the school certification is based occurs. However, if the school makes application for an amended certificate within 30 days after a change in ownership and there is no change in facilities, instructor personnel or training courses, the school certificate remains in effect and does not expire.

12. RENEWAL OF CERTIFICATES AND RATINGS.

a. A pilot school should apply for the renewal of its certificate at least 30 days before it expires. This is to ensure a timely

response from the FAA to effect a renewal of the school certificate without an interruption in training due to expiration of the old certificate.

b. Pilot schools that wish to renew certificates and ratings issued under present Part 141 should be prepared to show the need for such renewal, and the need for each rating to be renewed. The need for renewal can be shown by the following:

(1) Evidence that the students were enrolled in the course prior to November 1, 1974;

(2) Training records showing the amount of the training completed; and

(3) A practical estimate of the time period necessary for the student to complete his training.

c. When more than one student is enrolled in a course of training, the certificate will be renewed to accommodate the student requiring the longest period of time to complete his training. In addition, when an old certificate is renewed, only the ratings necessary for students to complete training will be renewed.

13. INSPECTION.

a. In order to carry out its responsibilities under the Federal Aviation Act of 1958, the FAA from time to time will make certain inspections as provided for in Section 141.21. Inspections may occur at the following times:

(1) Initial certification;

(2) Renewal of the certificate;

(3) Transfer of ownership;

(4) Change of base;

(5) Upon application of the school for an additional rating(s); and

(6) When the General Aviation District Office deems an inspection necessary to ensure compliance with the training course outline and other requirements of the FAR.

b. Inspections for the purpose of certification, renewal, transfer of ownership or change of base are made at a time agreeable to the school and the FAA. However, inspections made by the FAA to determine compliance with the training course outline or the rules are made when considered necessary.

14. ADVERTISING.

a. As required by Section 141.23, when advertising in any manner relating to its FAA flight school, an operator may not advertise that the school is certificated unless it clearly differentiates between courses that have been approved and those that have not.

b. The FAA does not expect a pilot school to resort to negative advertising and list every course which HAS NOT been approved. However, each training course which has been approved should be clearly stated, along with a clarification that ONLY those courses have been approved. In addition, under Section 141.23, the school may not make any statement relating to its certification and ratings which is false or designed to mislead any person contemplating enrollment in that school.

15. REMOVAL OF ADVERTISING.

a. When a school certificate has expired, or has been surrendered, suspended, or revoked, it is required under Section 141.23 to remove all indications that the school was certificated by the FAA. This would include advertising mediums such as billboards, radio, television, and the removal of all signs.

b. If an FAA approved school moves from one location to another, it is required to promptly remove from the premises it has vacated all signs indicating that the school was certificated by the FAA.

16. BUSINESS OFFICE AND OPERATING BASE.

a. Each pilot school is required by Part 141 (revised) to maintain a principal business office with a mailing address in the name on the school certificate. The purpose of a principal business office is to provide a specific location for required school files and records, and a location from which the operation of school business is conducted. This requirement should not be construed to mean that all school functions, such as scheduling flights, training functions, etc., must be conducted at the principal business office.

b. If the pilot school should choose to change the location of its business office or base of operation, the school is required to notify the FAA, in writing, of the planned move at least 30 days in advance. Such written notice should be accompanied by new application, FAA Form 8420-8 (OMB 04-R0204), showing the change of address or the change in the base of operations, as appropriate. In any case, the notice of a change of operating base must be accompanied by necessary amendments to approved training course outlines.

c. While Part 141 (revised) does not require that a "business office" be a room with four walls and a door, the regulation does prohibit

the sharing with or use by another pilot school of that business office; therefore, the business office should be conspicuously isolated by walls or partitions to ensure separation from another pilot school's activity. The business office should be located so that required school files and student training records can be kept up to date and available to students and instructors alike for the purpose of providing on-the-spot information regarding training progress and other business interests.

17. PILOT BRIEFING AREAS. An FAA approved school is required to have continuous use of a briefing area AT EACH AIRPORT at which training flights ORIGINATE. The requirement does not include airports of destination used for cross-country flight training. The briefing area must meet the requirements of Section 141.43 which requires that:

a. The area provide adequate shelter for students waiting to engage in training flights;

b. The area be arranged and equipped for the conduct of student briefings. To meet this requirement, the equipment should include tables of adequate size to lay out aeronautical charts for planning purposes, a chalk board for "thalk talks." In addition, if a flight service station or weather bureau is not available within a distance that its use would not delay or interrupt flight schedules, the school must provide a private landline or telephone communication in the briefing room to the nearest FAA flight service station or weather bureau if the school offers instrument or commercial pilot courses;

c. The briefing area should be located near enough to the airport where training flights originate to preclude a disruption of schedules because of excessive travel and a lack of communications between the flight line, business office and briefing area; and

d. There is no objection to other pilots using the briefing facilities provided orderly school functions are maintained, although no other school may use the area during the period it is to be used by the applicant. Briefing areas are subject to FAA approval under the provisions of Section 141.55(a)(4).

18. GROUND TRAINING FACILITIES. The FAA recognizes that pilot training methods differ from other kinds of training. Pilot schools enroll students with widely varying backgrounds, goals, and varying degrees of motivation and aviation experience. For this reason, it is understandable that it is not always possible to schedule large classes for ground training at one time. Individual instruction is often necessary for maximum benefit to a particular student. Therefore, it is anticipated that FAA approved schools will use classrooms, small isolated rooms, training booths, or other areas with an instructor or a training aid, as appropriate. Each ground training area is required to be heated,

lighted and ventilated to meet the applicable building code requirements of the area concerned. All ground instructional facilities are subject to approval by the FAA under Section 141.55(a).

19. CONTINUOUS USE OF FACILITIES. Part 141 (revised) requires, among other things, that an FAA approved school have continuous use of an airport and a pilot briefing area in order to function as a school. This requirement can be met by the school having a written agreement showing that it has continuous use of those facilities for six months at the time of certification or renewal of its certificates.

20. AIRCRAFT. As specified in Section 141.39, each aircraft used by an FAA approved school for pilot training is required to be registered civil aircraft of the United States. Training aircraft must be certificated in the standard airworthiness category except aircraft used for a course of training in agricultural aircraft operations, external-load operations and similiar aerial work operations; e.g., banner towing, sky writing, etc. In such courses, the school may use aircraft certificated in the restricted category. No other special airworthiness certificate is acceptable.

    a. Inspection of Aircraft. An aircraft used by an FAA approved school for flight training is required to be inspected and maintained in accordance with the requirements of Part 91. Section 91.169 applies to aircraft used to give flight instruction for hire. In effect, this requires aircraft used in an approved course of training to have 100-hour and annual inspections, or be maintained under a procedure prescribed under Section 91.169(c). Aircraft used exclusively for solo flights must also meet these inspection requirements.

    b. Thus, when a student enrolled in an approved school provides an aircraft for his use in an approved course, that aircraft would be required to meet the requirements of the training aircraft described in the appropriate training course outline. In addition, it would have to meet the same inspection requirements as any other aircraft used by the school.

21. CHECKLISTS. A broad cross section of airplanes are used in pilot training; some are uncomplicated while others are more complex. The requirement for a checklist defined in the terms of "pretakeoff" and "preland-ing" in Section 141.75(a) is broad and considers less complicated aircraft. However, it is always a good operating practice to expand upon checklists as aircraft become more complicated. Even though an aircraft is relatively uncomplicated, teaching the use of a more complex checklist is an excellent means of forming the habit in students of using a checklist. This habit will carry over when those students progress to larger more complex aircraft.

22. OPERATOR'S HANDBOOK. Under Section 141.75, when an operator's handbook is provided by the manufacturer, it must be carried aboard the aircraft. A school may elect to issue copies of aircraft checklists and operator's handbooks to students. In that case, these checklists and operator's handbooks must be aboard the aircraft when it is used by the student. The primary purpose of carrying the operator's handbook aboard the aircraft is to provide the pilot with performance data servicing instructions, weight and balance information, etc. Some operator's handbooks contain checklists. These checklists, while useful in developing a printed checklist, are not desirable for use as a checklist per se. Normally, such handbooks are not readily available to the pilot, and during emergency procedure training or during an actual emergency, particularly when there is only one pilot aboard the aircraft, he would be required to fly the aircraft and at the same time search through a book for the checklist.

23. CHIEF FLIGHT INSTRUCTOR. Each FAA approved school will be required to designate a chief instructor for each course of training. That chief instructor is required to meet the appropriate requirements prescribed under Sections 141.35 and 141.79. A chief instructor may serve in that capacity for more than one approved course, BUT MAY NOT SERVE AS CHIEF INSTRUCTOR FOR MORE THAN ONE SCHOOL.

24. ASSISTANT CHIEF INSTRUCTOR. Each FAA approved school may designate one or more assistant chief instructors for a course or courses of training. The assistant chief instructor is also required to meet the requirements of Section 141.35, since the assistant chief instructor is expected to act for the chief instructor in his absence. The designation of more than one assistant chief instructor for one course of training should be justified by the number of students involved, the complexity of the course, or the number of hours a day in which training is conducted. The FAA will approve the use of assistant chief instructor(s) when approving individual training course outlines. An assistant chief instructor is allowed to serve in that capacity for more than one approved course, BUT NOT FOR MORE THAN ONE SCHOOL.

25. INSTRUCTORS. Each ground or flight instructor used in a course of instruction is required to be the holder of a ground or flight instructor certificate, as appropriate, with the ratings, as necessary, for the instruction to be given. However, instructors who are not certificated may only be used for ground training under certain provisions described under Section 141.81.

26. OTHER EMPLOYEES. Each FAA approved school is required by the rules to ensure that dispatchers, service personnel, or other persons assigned responsibilities with the school are adequately instructed in the procedures and responsibilities of their employment. Compliance with this requirement may be accomplished through verbal instruction, manuals, or any other means decided upon by the school. The FAA may, under Section 141.21, at any time inspect any personnel to determine that

they have been instructed in their responsibilities and are competent to perform their duties. Qualified operations personnel, including flight instructors, may serve in more than one capacity with the school. For example, a school may wish to use a flight instructor as a dispatcher or a ground instructor.

27. CHIEF INSTRUCTOR QUALIFICATIONS. A chief instructor or assistant chief instructor is required by Part 141 (revised) to meet the following requirements. However, for a course of training for gliders, free balloons, or airships, only 40 percent of the flight time requirements need to be met.

a. Private Pilot Certificate or Rating Course(s).

(1) Commercial pilot certificate and a flight instructor certificate, each with a category and class rating appropriate to the course of training;

AND

(2) At least 1,000 hours as pilot in command;

AND

(3) Experience in primary flight instruction acquired as either a certificated flight instructor, or an instructor in a military pilot primary flight training program, or a combination of both consisting of at least two years experience and a total of 500 flight instruction hours or 1,000 flight hours;

AND

(4) WITHIN THE PRECEDING YEAR, 100 hours as a certificated flight instructor in the category of aircraft used in the approved pilot training course.

b. Instrument Rating Course(s).

(1) At least a commercial pilot certificate and a flight instructor certificate, each with an appropriate instrument rating;

AND

(2) At least 100 hours of actual or simulated instrument flight time;

AND

(3) At least 1,000 hours as pilot in command;

AND

(4) Instrument flight instruction experience acquired as either a certificated instrument flight instructor or an instructor in a military pilot basic or instrument flight training program, or a combination of both, consisting of at least two years experience and a total of 250 flight hours, or 400 flight hours;

AND

(5) WITHIN THE PRECEDING YEAR, 100 hours as an instrument flight instructor or one year as an FAA instrument rating examiner.

c. For all courses of training OTHER than those which result in the issuance of a private pilot certificate or an instrument rating or instrument privileges.

(1) A commercial pilot certificate and a flight instructor certificate, each with an appropriate category and class rating for course of training;

AND

(2) At least 2,000 hours as pilot in command;

AND

(3) Flight instruction experience acquired as either a certificated flight instructor, or an instructor in a military pilot primary or basic flight training program or a combination of both, consisting of at least three years experience and a total of 1,000 flight instruction hours, or 1,500 flight hours;

AND

(4) WITHIN PRECEDING YEAR, 100 hours as a certificated flight instructor in the category of aircraft used in the approved pilot training course, or one year of active service as chief instructor for an approved course of training, or one year of active service as an FAA designated pilot examiner.

d. Section 141.35 contains numerous references to primary and basic flight training in its flight instruction experience requirements. Historically, old Part 141 used these same terms which related to flight instruction given to private pilots or instruction given to applicants seeking higher ratings respectively.

e. Schools should keep in mind that approved courses of training that combine both basic and instrument flying skills, e.g., an unlimited type rating, would require a chief flight instructor or his assistant to meet more than one general requirement listed under Section 141.35. This must be considered when developing that kind of a course of training.

f. A chief flight instructor or an assistant chief instructor is required to pass an oral test on Part 141 (revised), Parts 61 and 91 of the FAR, and on the training standards and objectives of the course for which he is designated. He must also pass a flight test on the flight procedures and maneuvers appropriate to each course of training for which he is designated; however, he need not repeat procedures and maneuvers that are common to more than one course of training.

g. The chief ground instructor or assistant chief ground instructor must show that he has one year of experience as a ground school instructor in an FAA-approved pilot school. This may be shown by having the instructor present a record of his teaching accomplishments covering a period of one year in an FAA-approved school, or by presenting a letter from an FAA-approved school stating that the instructor has given ground school instruction at that school for the required period of time.

28. CHIEF FLIGHT INSTRUCTOR RESPONSIBILITIES. Part 141 (revised) outlines specific responsibilities for a chief flight instructor (CFI). The actual accomplishment of certain of these various responsibilities may be delegated to others, but the ultimate responsibility for each function remains with the CFI. The necessity for a CFI fulfilling his responsibilities completely and accurately cannot be overstressed. The need for proper certification of training records, graduation certificates, stage and final test reports becomes extremely important before a student graduates from a course of training or terminates his training to attend another school. When giving a stage or final test, "student recommendations," as discussed in Section 141.85(a)(1), should be complete and definitive with respect to additional training needed, if any. The CFI should continue to update and improve the courses of training for which he is responsible whenever he becomes aware of deficiencies in the course, or needed changes in training standards. CFIs are invited to seek assistance and guidance from FAA inspectors in the resolution of problems concerning their responsibilities.

29. CHIEF INSTRUCTOR AVAILABILITY - DIRECT SUPERVISION. The general requirement that instruction be given under the DIRECT SUPERVISION of the chief flight instructor, or the requirement that the chief instructor be AVAILABLE when instruction is given, are listed under Ground Training, Section 141.81(b)(2); Chief Instructor Responsibilities, Section 141.85(b); and Satellite Bases, Section 141.91(c). Pilot schools are permitted to use uncertificated GROUND INSTRUCTORS based upon their particular qualifications; therefore, Section 141.81(b)(2) requires that such instruction by uncertificated instructors be given under the DIRECT SUPERVISION of the chief instructor for the course, who must be present at the base during the time that instructor is teaching. On the other hand, those instructors that have established their qualifications through certification (both flight and ground instructors) do not require supervision from the chief instructor to the same extent as the

uncertificated person; therefore, the chief instructor need only be AVAILABLE for consultation at the school's base of operation when instruction is given in an approved course of training. For the purpose of Part 141, the term "direct supervision" could require that the chief instructor be present in the room when instruction is being given (this will only involve ground training given by uncertificated instructors). In other instances, the chief instructor need only be "available" for consultation and not necessarily present at the base. This is consistent with the provision for satellite bases (Section 141.91) to be located within 25 nautical miles, which, among other things, assures that the chief instructor can provide necessary supervision and meet his responsibilities with respect to a school's main base of operation and its satellite base.

30. CHANGE OF CHIEF FLIGHT INSTRUCTOR. Under Section 141.87, when an FAA-approved school makes any change of a chief instructor, it is required to notify immediately, in writing, the FAA district office having jurisdiction over the school. The school may continue to train students under an approved course of training without a chief flight instructor for a period of 60 days. However, during that time the school is without a chief flight instructor, each stage or final test of a student enrolled in that approved course of training must be given by an FAA inspector or designated pilot examiner. The FAA inspector or designated pilot examiner should familiarize himself with specific areas to be tested, as shown in the approved training syllabus, and with the completion standards for the stage of training being tested. The results of the tests given by the inspector or designated pilot examiner should be given to the operator of the school for inclusion in the appropriate student files.

31. CHIEF FLIGHT INSTRUCTOR REFRESHER COURSE. Section 141.79(c) states that each chief flight instructor must complete, at least once each 12 months, a flight instructor refresher course consisting of not less than 24 hours of ground or flight instruction, or both. For the purpose of implementing this requirement, a chief instructor may wish to attend one of the many flight instructor refresher courses conducted by the FAA Flight Instructor Refresher Unit or, attend an FAA-approved industry sponsored, industry conducted, Flight Instructor Refresher Clinic.

32. FLIGHT INSTRUCTOR RESPONSIBILITIES. Part 141 (revised) requires, among other things, that all flight instructors be qualified to teach each course of training to which they are assigned and, in addition, prescribes certain knowledge and proficiency tests to be accomplished prior to being assigned to an approved course of training. The instructor must satisfactorily accomplish a flight check for each course of training he teaches, given to him by the chief flight instructor. He is also required to accomplish such a flight check for each course of training in which he participates every 12 months thereafter. To further ensure that a flight instructor is appropriately qualified, he is required to

accomplish satisfactorily a flight check in each type of aircraft (e.g., Cessna 150, Piper PA-28) prior to giving any flight instruction. HE NEED NOT BE GIVEN A FLIGHT CHECK IN EACH TYPE OF AIRCRAFT ANNUALLY. In addition, each instructor, when used for an approved course of training, must be briefed on the objectives and standards of the course. An instructor may, at any time, be asked by an inspector to explain the objectives and standards for an approved course of training to which he is assigned. Records of such instructor briefings and flight checks should be kept in the instructor's logbook or in the permanent school records at the home base of operations. An additional responsibility placed upon flight instructors and students alike is the requirement that no student pilot may be authorized to start a solo practice flight from an airport until the flight has been approved by an authorized flight instructor who is PRESENT at the airport. Solo cross-country flights, when properly dispatched from the originating airport, would be considered to have approval for the entire flight. However, if the student should be delayed en route because of unexpected weather or mechanical delays, the school should arrange for another instructor based at the point of delay to redispatch the flight, or have a school instructor dispatch the flight by telephone. Cross-country flights should be made to airports specified in the appropriate training course outline. Emergency handling can be accomplished by prearrangement with other schools or fixed-base operators.

. CREDIT FOR PREVIOUS TRAINING. As specified in Section 141.77(b), when a student transfers from one FAA-approved school to another, course credits obtained in the previous course of training may be credited in all or part by the receiving school. The receiving school should determine the amount of credits to be allowed by flight check or written test, or both. A student may not be credited with more training by the receiving school than he was credited with at the school from which he transferred. A student who enrolls in a course of training may be credited for not more than 50 percent of the curriculum requirements for knowledge and experience gained in other than an FAA-approved flight school. In any case, the amount of credit for previous training allowed, whether received from an FAA-approved school or other source, should be placed in the student's enrollment record at the time of enrollment. When a student transfers from one FAA-approved school to another, or terminates his training for any reason, he must be given, upon request, a transcript of the results of his participation in the course of training which was interrupted. Such a transcript should consist of at least the following:

a. The name of the school that gave the training, including the school's certificate number.

b. The kind and amount of training given (dual, solo, ground school, ground trainer time, etc.).

c. The kind of training course involved.

d. **The results of each stage and final test given.**

e. A statement that the student's training was given by the school in it's approved course of training before he received the instruction and training that is certified.

NOTE: **The transcript should be certified by the chief flight instructor for that course of training.**

34. ENROLLMENT. **When a student is enrolled in an approved course of training, Section 141.93 requires that he be furnished the following information and materials:**

a. **A certificate of enrollment containing the name of the course in which he is enrolled and the date of enrollment.**

b. **A copy of the training syllabus required under Section 141.55(b).**

c. **A copy of the safety procedures and practices developed by the** school; e.g., fire drill instructions, procedures for the use of training aids, off-limits areas, handling of aircraft, parking instructions, and other safety instructions deemed necessary by the school, which must include the following:

(1) **Weather minimums required for dispatching dual and solo flights. For example, minimum ceiling,visibility and wind velocities for local flights and specific weather minimums for cross-country flights.**

(2) **Procedures for starting and taxiing aircraft on the ramp.**

(3) **Fire precautions and procedures, including the use of fire guards when starting aircraft.**

(4) **Redispatch procedures after unprogrammed landings on and off airports. This should include emergency security of the aircraft and a list of telephone numbers of persons to contact.**

(5) **Procedures for listing aircraft discrepancies and how write-offs are handled, including the importance of NOT USING an aircraft with a listed discrepancy until a properly qualified person determines its airworthiness.**

(6) **Securing of aircraft when not in use.**

(7) **Fuel reserves necessary for local and cross-country flights.**

(8) **Avoidance of other aircraft in flight and on the ground.**

(9) Minimum altitude limitations and instructions concerning simulated forced landings. For example, certain minimum altitudes may be specified for teaching and practicing stalls or other maneuvers. Instructions should be clear on simulated emergency landings with respect to engine cool down during prolonged glides, engine response with rapid throttle application, and a specific minimum altitude for terminating simulated emergency landings, including limitations on the solo practice of emergency landings and other instructions deemed necessary by the school.

(10) Descriptions and diagrams of assigned practice areas, including special instructions with respect to routes and minimum altitudes en route.

(11) Any instructions or guidance the school believes necessary to provide the highest standards of safety and operational control expected of an FAA-approved school.

d. A school is required by Part 141 (revised) to forward a copy of each enrollment certificate within five days to the FAA district office having jurisdiction over the school. These enrollment certificates are required to be mailed promptly since some approved training courses are of a very short duration and provide a minimum time for FAA to conduct possible surveillance of the training.

5. AIRPORTS. The airport requirements of Part 141 (revised) are essentially the same as those contained in old Part 141, with the following exceptions:

a. Each airport is required to have a wind direction indicator that is visible from the ends of each runway at ground level.

b. Each airport is required to have a traffic pattern indicator (defined IN AIM) when the airport has no operating control tower AND UNICOM advisories are not available.

c. Each airport used for night training flights must have permanent runway lights.

6. SATELLITE BASES. As specified in Section 141.91, an FAA-approved school may conduct ground or flight training and instruction in an approved course of training at a satellite base other than its main operations base, provided the satellite base is located not more than 25 nautical miles from its main operations base, and the airport facilities and personnel used at the satellite base meet the requirements of Part 141 (revised), including the requirements set forth in each approved training course outline. If training is conducted at a satellite base not included and approved in a training course outline, for more than seven consecutive days, the FAA district office having jurisdiction over the

school must be notified in writing. Operators who plan to conduct pilot training at locations more than 25 nautical miles from their main base of operations should apply for anadditional pilot school certificate. Applications for an additional certificate should be made to the FAA district office having jurisdiction over the area where the new school will be located. The new school will be considered and certificated as a completely separate school.

37. APPLICATION FOR EXAMINING AUTHORITY. Application for examining authority is made, in duplicate, on FAA Form 8420-8 (OMB 04-R0204). The appropriate block should be checked for each course of training for which examining authority is sought. Only the holder of a PILOT SCHOOL certificate may apply for authority to conduct written and/or flight tests of their own graduates for the issuance of pilot certificates and ratings without further testing by the FAA. Authority to test graduates for airline transport pilot or flight instructor certificates or turbo-jet type ratings will not be given under Part 141 (revised). The facility, equipment and maintenance standards for certificated pilot schools with examining authority are identical with those for other certificated pilot schools.

38. EXAMINING AUTHORITY PRIVILEGES. Section 141.65 provides that a pilot school with examining authority for a course(s) of training may recommend graduates of those courses for pilot certificates and ratings without taking the FAA flight test or, if approved, without taking the FAA written test. It should be noted that under Section 141.67, in order for a school to graduate a student from a course of training under examining authority, the student must complete all of his training at the school for that particular course. No credit will be allowed for training given by another school.

39. WRITTEN TESTS. When a pilot school requests approval of written tests to be given as the final written test, it should submit three copies of the test to the FAA district office having jurisdiction over the area in which the holder of the examining authority is located. The district office will return the written test to the school with the GADO chief's signature on each page, along with the date the test was approved. If the test is not approved, it will be returned to the school, along with a letter from the reviewing inspector indicating the changes that are necessary for approval. A pilot school should allow at least 60 days for the approval of a written test. The development and security of written tests will be the subject of a separate advisory circular.

40. AMENDMENTS OR CHANGES TO AN APPROVED TEST. Amendments or changes to an approved final written test will be processed the same as the original application for approval of a written test.

41. USE OF FINAL WRITTEN TESTS. Every effort should be made to provide the maximum security for approved written tests. An FAA inspector may

examine the security system of a school to determine if there is proper security for written examinations being used. The regulation points out that a written test may not be used if the school or the FAA has reason to believe it has been compromised.

SPECIAL CURRICULA. Under Section 141.57, an applicant for an FAA-approved school certificate, or the holder of an FAA-approved school certificate, may apply for approval to use a special curriculum; i.e., one not prescribed in the appendixes of Part 141 (revised). The school must show that the special curriculum contains features which can be expected to achieve a level of pilot competency equivalent to that achieved by the curriculum prescribed in the appendixes of Part 141 (revised), or the appropriate requirements of Part 61 (revised). Three copies of the special curricula should be submitted to the FAA district office having jurisdiction over the school at least 60 days before any training under the curriculum is scheduled to begin. The special curriculum should be accompanied by a cover letter explaining clearly how it will meet or exceed the requirements prescribed for a similar course in the appendixes of Part 141 (revised). Submission of a special curriculum 60 days before any training under the curriculum is scheduled to begin allows time for the FAA to approve the curriculum prior to the applicant's developing the training course outline which must be submitted for approval 30 days before training under the course is scheduled to begin.

GRADUATION CERTIFICATE. Section 141.95 requires that a graduation certificate be issued to each student who successfully completes an approved course of training. Each graduation certificate must contain at least the following information:

a. The name of the school, including the number on the school certificate.

b. The name of the graduate to whom the certificate is issued.

c. The course of training for which it is issued.

d. The date of graduation.

e. A statement that the student has satisfactorily completed each required stage of the approved course of training, including the tests for those stages.

f. A statement showing the cross-country training the student received in the course of training.

g. A certification of the information contained in the certificate by the chief instructor for that course of training.

44. TRAINING COURSE OUTLINES - GENERAL. An FAA approved school or applicant for an FAA-approved school must obtain FAA approval of the outline of each training course for which certification and rating is sought. Application for approval of a training course outline should be made at least 30 days before any training under the course is scheduled to begin. The application should include three copies of each training course outline for which approval is sought, and a cover letter for each course requesting approval. Two copies of FAA Form 8420-8 will be required if the approval of a particular training course outline places a rating on the school certificate. Amendment of an existing approved training course outline is accomplished in the same manner as a request for initial approval and should include three copies of the pages to be amended, including a cover letter specifying the pages in the course outline for which amendment is requested.

a. When a training course outline has been approved, the original copy will be returned to the school with each page signed and dated by the chief of the district office having jurisdiction over the school.

b. When amendment of an approved training course outline is submitted for approval, the district office will review the proposed changes and, if they are satisfactory, sign, date and return the original pages of the amendment(s) to the school.

45. COMPLIANCE WITH THE APPROVED TRAINING COURSE OUTLINE. When a training course outline has been approved by the FAA, Part 141 requires that the school giving instruction or training to a student enrolled in that approved course of training comply with all of the approved course of training. Therefore, when a school finds that it can no longer comply with an approved training course for any reason, e.g., a change or loss of aircraft, personnel (except as provided under Section 141.87), facilities or equipment, it must immediately cease giving instruction or training under that course until the necessary corrective action is taken and, if needed, the appropriately amended training course outline is approved by the FAA. If there is any question about whether training should be discontinued under a certain approved course, the FAA district office having jurisdiction over the school should be consulted immediately.

46. TRAINING SYLLABUS CONTENT. Under Section 141.55(a), each training course outline must have sufficient content not only to meet the appropriate curriculum requirements, but also to meet the requirements of Section 141.55(b), which states as follows:

a. The course outline must include a training syllabus for each course of training that includes at least the following information.

(1) The pilot certificate and ratings, if any, medical certificate, if necessary, and the training, pilot experience and knowledge required for enrollment in the course.

(2) A description of each lesson, including its objectives and standards, and the measurable unit of student accomplishment or learning to be derived from the lesson.

(3) The stage of training (including the standards therefor) normally accomplished within each training period of not more than 90 days.

(4) The tests and checks used to measure a student's accomplishment for each stage of training.

. TRAINING AIDS. The instructor can use aids to improve communication between himself and his students. Such instruction aids are defined by the Department of Audiovisual Instruction of the National Education Association as "Devices which assist an instructor in the teaching-learning processes by presenting supporting or supplementary material, usually intermittently. They are not self-supporting." The key factor is that such aids support, supplement or reinforce. Aids should be easily understood and compatible with the learning outcomes expected in the completion standards for the lesson. Aids have no value in the learning process if they cannot be heard or seen. Recordings of sounds should be tested for correct volume and quality in the actual environment in which they will be used. Visual aids should be visible to all if used for an entire class. Lettering and illustrations should be large enough to be seen easily by the students farthest from the aids. Colors when used should be clearly contrasted and easily visible.

a. The effectiveness of aids will be judged by their organization, sequencing, pattern of logic and their overall effectiveness when used in support of and in obtaining the objectives and standards prescribed in the training syllabus.

b. In recent years we have seen an abundance of excellent new material and techniques in the field of training aids. They present many advantages for the school; however, the school must keep in mind the teaching goals to be achieved, including the continuous monitoring of student progress necessary to develop effectively the knowledge of each student according to the training syllabus. Training aids, although valuable, cannot replace the instructor who must ensure that prescribed training is given, and that completion standards are attained.

. AIRCRAFT DESCRIPTION. A school is required under Part 141 to describe the type(s) of aircraft, including any special equipment used for each phase of instruction, in the training course outline for each particular course of training for which approval is sought. A particular type of aircraft may be used for one or several courses of training provided that aircraft meets the requirements of Section 141.39 and is not prohibited from performing any of the procedures and maneuvers required by the particular course of training for which it will be used.

49. AIRCRAFT USED FOR INSTRUMENT TRAINING. Aircraft used for instrument training must be equipped as follows to meet the requirements of Part 141:

a. If the approved training syllabus requires flights under Instrument Flight Rules under Part 91, the aircraft used must be one in which instrument flight is authorized by its operating limitations and by its equipment; or

b. If the approved training syllabus requires only simulated IFR operations, the aircraft must be equipped and maintained for IFR operations. It should be noted that under Part 91, simulated IFR operations need not be authorized by the aircraft's operating limitations; or

c. An aircraft not completely equipped for IFR operations may be used for instruction in the control and precision maneuvering of an aircraft by reference to instruments if it is approved in the training course outline. For example, an airplane need only be equipped with appropriate flight instruments needed for the basic instrument portion of a course of training.

50. COMPLEX AIRCRAFT REQUIREMENTS. The commercial pilot certification course (airplanes) and the commercial pilot test course (airplanes), set forth in Appendixes D and E of Part 141 (revised) require flight instruction in an airplane with a retractable gear, flaps, a controllable pitch propeller, and powered by AT LEAST a 180 hp engine. If a school applies for a commercial pilot certification or test course (airplanes) with a seaplane-class rating (using seaplanes for the entire course) a special curriculum should be submitted under Section 141.57, which includes the general requirement of Appendix D, Commercial Pilot Certification Course. The complex airplane used in such a course should have flaps, controllable pitch propeller and floats. The use of an airplane, amphibian, in a commercial pilot certification or test course could qualify a student for both a land and sea-class rating, provided the training course outline was so approved.

51. GROUND TRAINERS. When a ground trainer is used in an approved training course, the full extent of that use should be clearly stated in the training syllabus and the learning outcomes well defined. This is necessary to provide the instructor with proper guidance, and give the FAA a baseline on which to judge the adequacy of the trainer to be used.

a. Section 141.41(a) prescribes the requirements for ground trainers that may be used to obtain the maximum flight training credit allowed for ground trainers in an approved pilot training course.

b. Section 141.41(b) provides for the use of ground trainers that do not meet the more complex requirements of Section 141.41(a). There is a large number of ground trainers currently being used by pilot schools that do not meet all of the requirements proposed in

Section 141.41(a). In recognition of the fact that these trainers can be used to provide effective instruction in certain operations required in an approved course of training, provisions for their use have been made. However, it is imperative that the training syllabus clearly define their use. Because of their limitations, full credit against flight time is not to be allowed for instruction in such trainers. The provisions in Appendixes A, C, D, E and F allow credit for instruction in ground trainers for not more than 50 percent of the credit against the time allowed in a ground trainer meeting all of the requirements of Section 141.41(a). Discretion should be used when developing a training syllabus that substitutes ground trainer instruction for the flight time required in a complex airplane. Any use of a ground trainer in lieu of flight time in a complex airplane should be justified with clearly-stated learning outcomes in the training syllabus that support the skills expected to be learned in such an airplane. Approval of the training course outline will be based on the ability of the ground trainer to provide effective training for this kind of airplane if a ground trainer is to be used.

2. STAGE AND FINAL TESTS. As provided in Section 141.55, during the development of a training syllabus, it must be remembered that an appropriate number of stage checks are to be included in both ground training and flight courses to measure the student's accomplishment for each stage of training. This should assure standardization and compliance with the approved training course outline.

a. Stage checks must be given by the chief flight instructor that is responsible for a particular course of training or by his designated assistant. Proper entries are to be made in the student's training record recording the student's accomplishments and should comment on corrective training if needed.

b. The appendixes of Part 141 allow a certain amount of the time acquired during stage and final tests to be credited toward the ground training and flight time required by the particular curriculum. Remember, the time required for a stage or final test can vary significantly with each student. Even though only a specific amount of time acquired through these checks may be credited, every effort should be made to provide adequate time for objective and complete testing even though the total course time may exceed that prescribed in the curriculum.

APPENDIX 1. SAMPLE PRIVATE PILOT TRAINING COURSE OUTLINE

GENERAL

The following sample private pilot training course outline is intended to serve as a general guide to assist in the preparation of a training course outline for which FAA approval is sought. It is intended that pilot schools DEVELOP THEIR OWN TRAINING COURSE OUTLINES to meet the needs of their particular operation with respect to physical layout of the operation, their personnel, aircraft, kinds of training aids available, methods and procedures of operation, and the goals and standards of the school. The content of the training syllabi contained herein is not considered to be the optimum. The arrangement of syllabus content should be in a manner best suited to the individual school whose training procedures are often dictated by weather, location or specific training needs.

The sample contains a training syllabus for both private pilot ground and flight training and is designed to be taught concurrently.

1. A training course outline is required by Section 141.55 to meet at least the minimum curriculum requirements of the course prescribed in the appropriate appendixes of Part 141. If the school elects to submit a training course outline, based on a special curriculum approved under Section 141.57, such a course will be approved upon a showing that the course, as outlined, will achieve a level of training prescribed in the approved special curriculum.

2. It is intended that the appendixes of Part 141 include uniform curricula for approved courses of training but would not prescribe maneuvers and other details included in the curriculums contained in present Part 141. This was done to provide flexibility. This flexibility is necessary and directed by the fact that students trained under Part 141 (revised) must be tested under the upgraded and expanded requirements of Part 61 (revised).

3. DEFINITION OF TERMS.

   a. Curriculum. The courses offered by a flight school. A set of courses depicting total flight or ground instructing offered by a flight or ground school. In addition, a curriculum also refers to the overall general content of a course of instruction that is to be taught.

   b. Training Course Outline. An abbreviated listing of training directly supporting the curriculum offered in any one course.

   c. Training Syllabus. A step-by-step (building block) progression of learning with provision for regular review and evaluation at prescribed stages of learning. The syllabus defines the unit of training, states by objective what the student is expected to accomplish

during the unit of training, shows an organized plan for instruction (building block--from the simple to the complex) and dictates evaluation process for either the unit or stages of learning.

d. Lesson Plan. The instructor's plan for teaching a unit of learning. It is the very basic method for an orderly flow of information to a student based on the student's way of learning.

TRAINING COURSE OUTLINE SAMPLE

1. Brannon Aviation, located at Fairfax Airport, Fairfax, Virginia, and holds Air Agency Certificate No. 01-NW, is owned and operated as:

CAROLYN S. BRANNON

dba

BRANNON AVIATION

13206 POPLAR TREE ROAD

FAIRFAX, VA. 22030

2. COURSE TITLE. Private Pilot Certification Course - Airplane Single-Engine Land.

3. This training course outline meets all of the curriculum requirements for the Private Pilot Certification Course contained in Appendix A of Part 141 (revised) (describe the approved special curriculum if one is used as a basis for the training course outline).

4. The training syllabus herein contains a separate ground training course and a flight training course which will be taught concurrently.

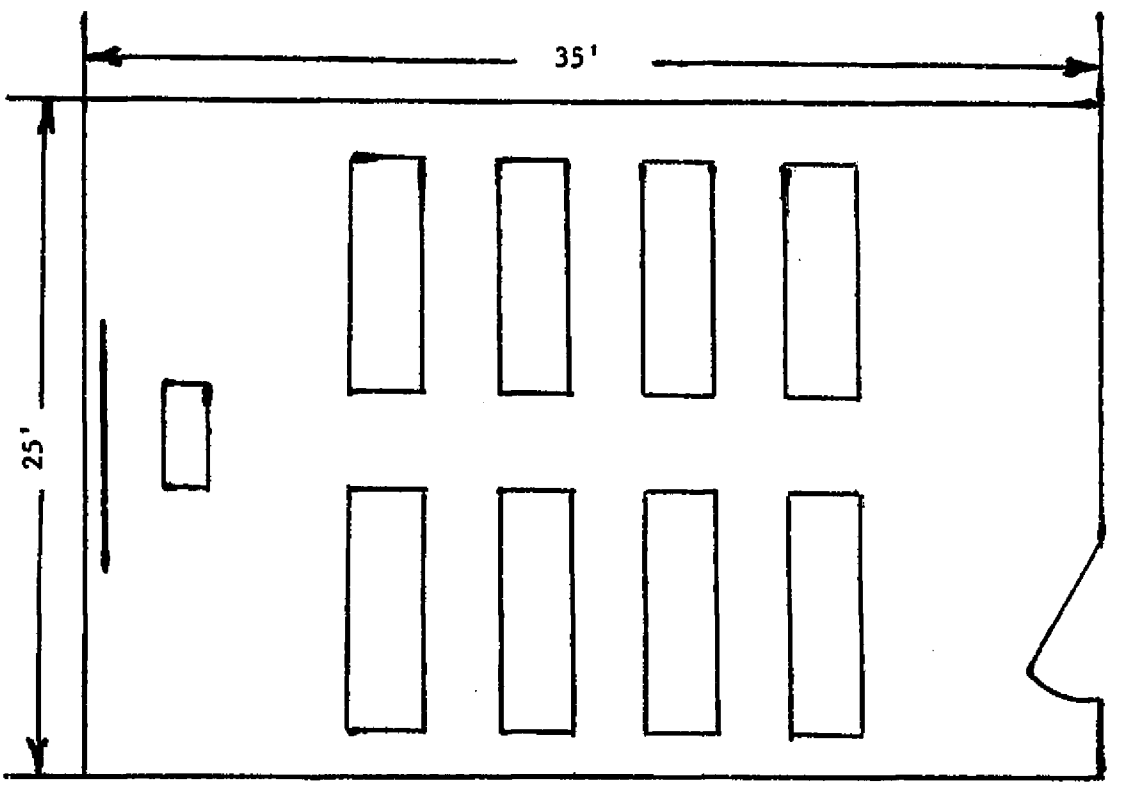
5. COURSE OBJECTIVE. The student will obtain the knowledge, skill and aeronautical experience necessary to meet the requirements for a private pilot certificate with an airplane category rating and a single-engine land class rating.

6. COMPLETION STANDARD. The student must demonstrate through written tests, flight tests, and show through appropriate records that he meets the knowledge, skill and experience requirements necessary to obtain a private pilot certificate with an airplane category rating and a single engine land class rating.

7. GROUND INSTRUCTIONAL FACILITIES. Ground instructional facilities are located in Hangar No. 12 at Fairfax Airport. They consist of two 25 by 25-foot rooms equipped with tables and chairs and instruction booths, as shown in the following diagrams.

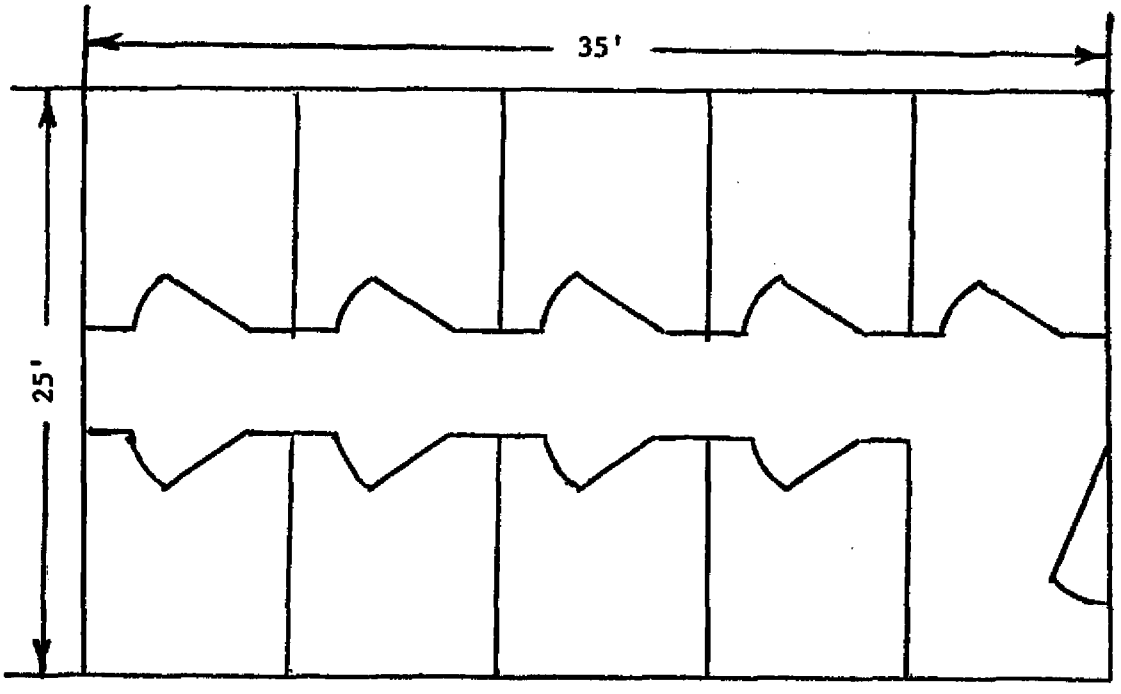
a. Training Room No. 1 is equipped with eight 36" by 72" tables and chairs to accommodate 16 students. The room is also equipped with a 36" by 60" chalk board, including a 16mm projector, an overhead projector and screen. The tables are equipped with a "four-answer" responder system with the master panel located on the instructor's lectern.

b. Training Room No. 1.



c. Training Room No. 2 is equipped with nine individual training booths. Booths one through eight are equipped with Apex Visual Screens and projectors. Booth No. nine is equipped with closed circuit television.

d. Training Room No. 2.



e. The training rooms are well lighted and the temperature is thermostatically controlled. Each room is well ventilated and conforms to local building, sanitation and health codes. The rooms are so designed and located that students will not be distracted by instruction conducted in the other rooms or by flight and maintenance operations on the airport.

8. AIRPORT. Fairfax Airport is the main operations base for training in this course. Flight training operations, including the dispatching of flight, will also be conducted at Centerville Airport, Centerville, Virginia. Both airports have hard surfaced runways and meet the requirements of Section 141.37 of the FAR for day and night flight operations. Each airport has fuel and maintenance services available from 0600-2200.

9. AIRPORT FACILITIES. Each airport is equipped with a pilot briefing area. These are permanent structures and are located in Hangar 12 at Fairfax Airport and in Hangar 1 at Centerville Airport. Both briefing areas are equipped with weather teletype reporting and a direct line telephone to the Fairfax FSS. The facilities are used exclusively by students, air taxi pilots, aircraft salesmen, itinerant pilots, and regular customers of Brannon Aviation. The briefing areas are 20' by 25' and equipped with numerous tables for planning purposes. The briefing areas have a full set of aeronautical charts, including the current AIM. Large wall maps depicting the entire U. S. along with a mileage indicator. The local practice areas are shown and described on a detailed chart posted on the wall.

10. AIRCRAFT. Bendix 180 airplanes will be used for all flight training in this course. These aircraft will meet the requirements of Section 141.39 of the FAR. Radio equipment will consist of at least one 360 channel transceiver and at least one VOR navigational receiver. In addition, each airplane is equipped for day and night VFR and IFR flying as specified in Section 91.33 of the FAR.

11. CHIEF FLIGHT INSTRUCTOR. The chief flight instructor for a course of training should be designated by name in the appropriate training course outline. If the school's qualifications for a chief flight instructor are higher than those listed in Section 141.35, those qualifications should be listed.

12. FLIGHT INSTRUCTORS. (The minimum qualifications and ratings for flight instructors must be listed in the training course outline.) For example: Each flight instructor assigned to this course must be the holder of at least a commercial pilot certificate with an airplane category rating and a single-engine land class rating. In addition, he must be the holder of a flight instructor certificate with an airplane category rating with a single-engine class rating and an instrument airplane rating. He must have a total of 1,000 hours of flying time, including at least 200 hours of flight instruction.

13. CHIEF GROUND INSTRUCTOR. If a chief ground instructor is used in a course of training, he should be designated by name in the appropriate training course outline. If the school's qualifications are higher than those listed in Section 141.35, they should be listed.

FIGURE 4. SAMPLE PAGE FOR RECORD OF CHANGES.

RECORD OF CHANGES

CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL USE	CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL USE

TRAINING COURSE OUTLINE--TRAINING SYLLABUS

PRIVATE PILOT CERTIFICATION COURSE AIRPLANE-SINGLE ENGINE LAND
GROUND TRAINING: 35 HOURS

1. GROUND TRAINING COURSE OBJECTIVES. The student will obtain the necessary aeronautical knowledge and meet the prerequisites specified in Part 61 of the FAR for a private pilot written test.

2. GROUND TRAINING COURSE COMPLETION STANDARDS. The student has demonstrated through oral, written tests, and records that he meets the prerequisites specified in Part 61 of the FAR, and has the knowledge necessary to pass the private pilot written test.

STAGE ONE--FAR AND OTHER PUBLICATIONS: 7:00 HOURS

1. STAGE ONE OBJECTIVE. To develop the student's knowledge of the Federal Aviation Regulations, Airman's Information Manual, Advisory Circular System, and the kind of flight operations authorized by his private pilot certificate.

2. STAGE ONE COMPLETION STANDARD. This stage will be successfully completed when the student passes the Stage One final written examination with a grade of 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

   a. Objective. During this lesson, the student will be introduced to the appropriate regulatory requirements of Part 61 and 91 of the Federal Aviation Regulations.

      CONTENT:

      (1) Airplane Registration and Airworthiness Certificate.

      (2) Federal Aviation Regulations, 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 requirements (including biennial flight review).

(h) Private pilot privileges and limitations.

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination, he displays a working knowledge of the appropriate portions of Parts 61 and 91 of the FAR, and demonstrates how to locate and use information in the rule.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the pertinent regulatory requirements of Part 91 and the accident report-rules of the NTSB as related to private pilot operations.

CONTENT:

(1) Part 91 of the FAR.

(a) General operating and flight rules.

(b) VFR requirements.

(c) IFR requirements (familiarization).

(d) Maintenance, preventative maintenance and alterations.

(e) Familiarization with Subpart D.

(2) National Transportation Safety Board Procedural Regulations, Part 430 - Notification and Reporting of Accidents.

b. Completion Standards. The lesson will be successfully completed when, by oral examination, the student can demonstrate how to locate and use information in the appropriate rule as related to private pilot operations.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. During this lesson, the student will be given instruction in the basic content of Parts 1, 2, 3 and 4 of the Airman's Information Manual for VFR operations and in the Advisory Circular System.

CONTENT:

(1) Airman's Information Manual.

(a) Air navigation radio aids.

(b) Airport 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 circulars Series 00, 20, 60, 70, 90, 150 and 170 (familiarization).

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination and demonstration, he displays basic knowledge of the appropriate Parts of the Airman's Information Manual for VFR operations and the Advisory Circular System.

6. STAGE ONE FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage One final written examination should be included with the training syllabus when submitted to the FAA for approval.

STAGE TWO - NAVIGATION: 9:00 HOURS

1. STAGE TWO OBJECTIVE. To develop the student's ability to plan and plot a VFR cross-country flight using pilotage, dead reckoning and radio navigation.

2. STAGE TWO COMPLETION STANDARD. This stage will be successfully completed when the student passes the Stage Two final written examination with a grade of 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the operation of aircraft radios and the use of radio phraseology with respect to air traffic control facilities. The flight computer will be introduced along with the basic use of aeronautical charts.

CONTENT:

(1) Radio communications.

(a) Operation of the communications radio equipment.

(b) Ground control.

(c) Tower.

(d) ATIS.

(e) Flight service station.

(f) UNICOM.

(g) Technique and phraseology.

(h) ATC light signals.

(2) Flight computer - slide rule face.

(a) Time.

(b) Speed.

(c) Distance.

(d) Fuel consumption.

(3) VFR navigation.

(a) Aeronautical charts.

(b) Measurement of courses.

(c) Pilotage.

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination and demonstration, he displays basic knowledge of radio communications, ATC facilities and aeronautical charts. He will be able to solve elementary problems on the flight computer.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the fundamentals of navigation, the operation of navigational radio equipment, and advanced problems on the flight computer.

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 ground speed.

(c) Review, time, speed, distance, and fuel consumption problems on the computer.

b. Completion Standards. The student will have successfuly completed the lesson when, by oral examination and demonstration, he has a basic knowledge of navigation and the use of radio aids. He will be able to solve fundamental and advanced problems on the flight computer.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. Lesson Two will be reviewed. Advanced radio navigational problems, emergency procedures with respect to cross-country flying and flight planning will be introduced.

CONTENT:

(1) Review Lesson Two.

(2) Use of ADF.

(3) Radar.

(4) Use of VOR, intercepting radials.

(5) Emergency procedures.

(a) Diversion to an alternate.

(b) Lost procedures, including use of radar and DF instructions.

(c) In-flight emergencies, including forced landings.

(6) Transponder.

(7) DME.

(8) Review flight planning.

(9) Review computer.

b. Completion Standards. This lesson will be completed when, by oral examination and demonstration, the student has a working knowledge of advanced radio navigation procedures, emergency procedures and solving of flight computer problems.

6. LESSON NO. 4 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in advanced flight planning, review of flight computer problems, and will be introduced to the medical factors related to flight and general safety precautions. At this time, the school procedures for cross-country training flights will be introduced.

(1) Flight planning.

(2) Review computer.

(3) Medical factors related to flight.

(a) Fatigue.

(b) Hypoxia.

(c) Hyperventilation.

(d) Alcohol.

(e) Drugs.

(f) Vertigo.

(g) Carbon monoxide.

(4) General safety.

(a) Collision avoidance precautions.

(b) Wake turbulence avoidance.

(c) Fire - in the air and on the ground.

(d) Use of fire extinguishers.

(e) Ground handling of aircraft.

(5) School procedures for dispatching flights after unscheduled stops.

(6) Obtaining maintenance away from the home base.

b. Completion Standards. This lesson will be completed when, by oral examination and demonstration, the student displays knowledge of medical factors related to flight, general safety procedures, and school policy and procedures for cross-country training flights.

7. STAGE TWO FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage Two final written examination, along with its passing standards, should be included with the training syllabus when submitted to the FAA for approval.

STAGE THREE - WEATHER: 7:00 HOURS

1. STAGE THREE OBJECTIVE. To develop the ability to recognize critical weather situations from both the ground and in flight, procedures and use of appropriate aeronautical weather reports and forecasts.

2. STAGE THREE COMPLETION STANDARDS. The student will have successfully completed this stage when he passes the Stage Three final written examination with a grade of at least 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the fundamentals of weather as associated with the operation of aircraft.

CONTENT:

(1) Aviation weather basics.

(a) Atmospheric layers.

(b) Pressure.

(c) Circulation.

(d) Temperature and moisture.

(e) Stability and lapse rates.

(f) Turbulence.

(g) Clouds.

(2) Air masses.

(3) Fronts.

(4) Aircraft icing.

(5) Thunderstorms.

b. Completion Standards. This lesson will be completed when, by oral examination, the student demonstrates fundamental knowledge of aviation weather.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objective. Lesson One will be reviewed. The interpretation and use of weather reports, forecasts, aviation broadcasts and the obtaining of weather briefings will be introduced.

CONTENT:

(1) Review Lesson No. 1.

(2) Aviation weather reports.

(a) Hourly sequence reports.

(b) Special surface reports.

(c) Pilot reports.

(d) Radar reports.

(3) Aviation weather broadcasts.

(a) Transcribed weather broadcasts.

(b) In-flight weather advisories.

(4) Weather briefings.

(5) Review requirements of regulations for VFR flight.

(6) Aviation weather forecasts.

(a) Area forecasts.

(b) Terminal forecasts.

(c) Wind-aloft forecasts and reports.

b. Completion Standards. The lesson will be completed when, by oral examination and demonstration, the student can interpret and use aviation weather reports, forecasts and can obtain a weather briefing

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. This lesson will consist of a review of the previous two lessons and instruction in the use of Greenwich time, in-flight weather advisories and weather recognition.

CONTENT:

(1) Review Lessons No. One and Two.

(2) Greenwich time.

(3) In-flight weather advisories.

(4) Weather recognition.

b. Completion Standards. This lesson will be completed when, by oral examination, the student has a working knowledge of Greenwich time and in-flight aviation weather advisories.

6. STAGE THREE FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage Three final written examination should be included with the training syllabus when submitted to the FAA for approval.

STAGE FOUR--FLIGHT FUNDAMENTALS AND AIRPLANE SYSTEMS: 12:00 HOURS

1. STAGE FOUR OBJECTIVE. To develop the student's knowledge to operate an airplane safely in high density airport operations, using collision avoidance precautions and radio communication procedures.

2. STAGE FOUR COMPLETION STANDARDS. This stage will be successfully completed when the student passes the Stage Four final written examination with a grade of 80 percent.

3. LESSON ONE - 2:00 HOURS.

a. Objectives. During this lesson, the student will be instructed in the four basic maneuvers of flight.

CONTENT:

(1) Straight and level flight.

(a) Pitch, bank and yaw.

(b) Trim.

(c) Integrated use of outside reference and flight instruments.

(2) Level turns.

(a) Forces in a turn.

(b) Aileron yaw.

(c) Speed of roll.

(d) Slips and skids.

(e) Integrated use of outside reference and flight instruments.

(3) Climbs and climbing turns.

(a) Gyroscopic action.

(b) Asymmetrical loading of propeller ("P" factor).

(c) Slipstream rotation.

(d) Torque effect.

(e) Best rate of climb airspeed.

(f) Best angle of climb airspeed.

(g) 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.

b. Completion Standards. The student will have successfully completed the lesson when, by means of an oral test, he displays a basic understanding of the fundamentals of flight presented in this lesson and in previous flight training.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objectives. During this lesson, Lesson One will be reviewed. The student will be instructed in the fundamentals of flight basic aerodynamics, including load factors.

CONTENT:

(1) Review Lesson No. 1.

(2) Forces action on an airplane in flight.

(a) Lift.

(b) Weight.

(c) Thrust.

(d) Drag.

(3) Airfoils.

(a) Angle of incidence.

(b) Angle of attach.

(c) Bernoulli's Principle.

(4) Factors affecting lift and drag.

(a) Wing area.

(b) Airfoil shape.

(c) Angle of attack.

(d) Airspeed.

(e) Air density.

(5) Functions of the controls.

(a) Axis 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.

(6) Stability.

(a) Static stability.

(b) Dynamic stability.

(7) 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.

b. Completion Standards. This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the fundamentals of flight, basic aerodynamics, and load factors.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the use of the owner's handbooks, flight manuals and weight and balance, and fundamental flight training maneuvers will be introduced.

CONTENT:

(1) Use of data in owner's handbook or FAA-approved Airplane Flight Manual.

(a) Takeoff and landing distances.

(b) Fuel consumption and related charts.

(c) Maximum range power settings; maximum endurance power settings.

(2) Weight and balance.

(a) Terms and definitions.

(b) Effects of abnormal balance.

(c) Finding loaded weight.

(d) Finding center of gravity; when weight is shifted; when weight is added or removed.

(3) Maneuvering at minimum controllable airspeed.

(4) Stalls.

(a) Theory of stalls.

(b) Imminent stalls - power on and power off.

(c) Full stalls - power on and power off.

(5) Steep turns.

(6) 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 about a point.

(f) Eights around pylons.

b. Completion Standards. This lesson will be completed successfully when, by demonstration, the student has a basic knowledge of the owner's handbook, flight manual, weight and balance, and the fundamentals of basic flight training maneuvers.

6. LESSON NO. 4 - 2:00 HOURS.

a. Objective. The student will be instructed in flight training maneuvers, including an introduction to attitude instrument flying.

CONTENT:

(1) Review Lesson No. Three.

(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 basic attitude instrument flying. Maneuvering by reference to flight instruments - pitch, bank, power and trim control in the performance of basic maneuvers.

(a) Straight and level flight.

(b) Turns.

(c) Climbs.

(d) Descents.

(e) Recovery from unusual attitudes.

b. Completion Standards. This lesson will be completed successfully when, by oral examination and demonstration, the student displays a basic knowledge of the fundamentals of flight training maneuvers and attitude instrument flying.

7. LESSON No. 5 - 2:00 HOURS.

a. Objective. During this lesson the student will be instructed in systems and instruments.

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 simple airplane hydraulic systems.

(d) Retractable landing gear and flaps.

(e) Malfunctions and remedial actions.

(5) Airplane electrical systems.

(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) Altitude indicator.

(b) Heading indicator.

(c) Turn and slip indicator.

(8) Magnetic compass.

(a) Errors in the magnetic compass.

(b) Use of the magnetic compass.

b. Completion Standards. This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the aircraft systems and instruments.

8. LESSON NO. 6 - 2:00 HOURS.

a. Objective. During this lesson the student will be instructed in the fundamentals of night flying. Previous lessons will be reviewed as necessary.

CONTENT:

(1) Review Lessons One through Five.

(2) Night flying.

(a) Requirements of regulations.

(b) Preparation.

(c) Equipment.

(d) Night vision.

(e) Airport lighting.

(f) Orientation.

(g) VFR navigation.

(h) Weather factors.

(3) Partial and complete power failure.

(a) Sample situations.

(b) Recommended courses of action.

(4) Systems and equipment malfunctions.

(a) Sample situations.

(b) Recommended courses of action.

b. Completion Standards. The lesson will be completed successfuly when the student, by oral examination and demonstration, displays a working knowledge of the fundamentals of night flying.

9. STAGE FOUR FINAL EXAMINATION. A copy of the final examination to be given should be included with the training syllabus when submitted to the FAA for approval.

TRAINING COURSE OUTLINE--TRAINING SYLLABUS
PRIVATE PILOT CERTIFICATION COURSE AIRPLANE-SINGLE ENGINE LAND
FLIGHT TRAINING: 35 HOURS

1. ENROLLMENT PREREQUISITES. Students enrolling in this flight course must possess a valid student pilot certificate and hold at least a current third-class medical certificate.

2. FLIGHT TRAINING COURSE OBJECTIVES. The student will obtain the aeronautical skill and experience necessary to meet the requirements for a Private Pilot Certificate with an airplane category rating and single engine land class rating.

3. FLIGHT TRAINING COURSE COMPLETION STANDARDS. The student has demonstrated through flight test and school records that he has the necessary aeronautical skill and experience to obtain a Private Pilot Certificate with an airplane category rating and single engine land class rating.

STAGE ONE - SOLO FLIGHT EIGHT HOURS DUAL, ONE HOUR SOLO

1. STAGE ONE OBJECTIVES. The student will be instructed in the basic flying procedures and skills necessary for the first solo flight.

2. STAGE ONE COMPLETION STANDARDS. The stage will be completed when the student satisfactorily passes the Stage One check and is able to conduct solo flights safely.

3. FLIGHT LESSON ONE (ONE HOUR) DUAL.

   a. Objectives. The student will be familiarized with the training airplane, its operating characteristics, cabin controls, instruments, and systems, preflight procedures, use of checklists, and safety precautions to be followed. The student will be instructed in basic flight maneuvers.

      CONTENT:

      (1) Preflight discussion.

      (2) Introduction.

         (a) Purpose of preflight checks.

         (b) Line (preflight) inspection.

         (c) Importance of using a checklist.

         (d) Engine start.

         (e) Basic radio procedures.

(f) Taxi.

(g) Pre-takeoff checklist.

(h) Takeoff (normal or crosswind).

(i) Traffic pattern departure.

(j) Local flying area familiarization.

(k) Straight and level flight (VR and IR). 1/

(l) Medium bank turns (VR and IR).

(m) Collision avoidance.

(n) Traffic pattern entry.

(o) Ground safety.

(3) Post flight critique and preview of next lesson.

b. Completion Standards. At the completion of this lesson, the student should be able to, with assistance, conduct a preflight, use checklists, make engine runups, maintain altitude in straight and level and turns, within ± 200 feet and control heading with ± 20°, and display an understanding of ground safety.

4. FLIGHT LESSON TWO (ONE HOUR) DUAL.

a. Objectives. The student will receive instruction and review on basic flight maneuvers. Instruction in climbs, climbing turns, glides, gliding turns, and level off procedures will be given.

CONTENT.

(1) Preflight discussion.

(2) Review.

(a) Normal or crosswind takeoff.

(b) Traffic pattern departure.

(c) Medium bank turns (VR) and (IR).

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

(d) Straight and level flight (VR) and (IR).

(3) Introduction.

(a) Airplane servicing.

(b) Climbs and climbing turns (VR) and (IR).

(c) Glides and gliding turns (VR) and (IR).

(d) Torque effect.

(e) Level off from climbs and glides (VR) and (IR).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should be able to establish proper climbs and descents, and control airspeed, within ± 10 knots with power and altitude adjustments, hold altitude within ± 100 feet and headings within ± 10°.

5. FLIGHT LESSON THREE (ONE HOUR) DUAL.

a. Objectives. This flight period will be a review of maneuvers and procedures previously introduced. Flight at minimum controllable airspeed, steep power turns and power off stalls will be given.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Use of checklist.

(b) Basic radio communications procedure.

(c) Engine starting.

(d) Straight and level flight (VR) and (IR).

(e) Medium bank turns (VR) and (IR).

(f) Climbs and climbing turns (VR) and (IR).

(g) Glides and gliding turns (VR) and (IR).

(h) Level off procedures (VR) and (IR).

(3) Introduction.

(a) Steep power turns.

(b) Descents and descending turns (VR) and (IR).

(c) Aproach to landing and preview of next lesson.

(d) Flight at minimum controllable airspeed (VR) and (IR).

(e) Power off stalls (imminent and full).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will be expected to display proficiency in maintaining airspeed within ± 10 knots of appropriate airspeeds. Loss or gain of altitude should be restricted to within ± 100 feet and heading control within ± 10° while in straight and level flight.

6. FLIGHT LESSON FOUR (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of all previous maneuvers, S-turns across a road, turns about a point, power on stalls, and elementary emergency landings will be introduced.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Straight and level flight.

(b) Medium bank turns.

(c) Flight at minimum controllable airspeed.

(d) Takeoff and pattern departure.

(e) Power off stalls.

(f) Steep power turns.

(g) Pattern entry.

(3) Introduction.

(a) Power on stalls (imminent and full) (VR) and (IR).

(b) S-turns.

(c) Turns about a point.

(d) Elementary emergency landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will have successfully completed the lesson when he is competent to perform, with minimum assistance, the procedures and maneuvers given during previous lessons. He should achieve the ability to recognize stall indications and make safe prompt recoveries. He should maintain assigned airspeed within ±10 knots, assigned altitude within ± 100 feet and assigned heading within ± 10°, and display a basic knowledge of elementary emergency landings.

7. FLIGHT LESSON FIVE (ONE HOUR) DUAL.

a. Objectives. In addition to review items, the student will be introduced to emergency procedures, the procedures used to change airspeed and configuration of the aircraft in various flight attitudes.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Slow flight.

(b) Steep power turns.

(c) Stall.

(3) Introduction.

(a) Best rate of climb and climbing turns (VR) and (IR).

(b) Best angle of climb and climbing turns (VR) and (IR).

(c) Emergency procedures.

(d) Change of airspeed and configuration.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display, through performance and discussion, complete understanding of possible emergencies and procedures to use during the flight. The student should maintain airspeed within ± 10 knots of assigned airspeeds.

8. FLIGHT LESSON SIX (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of previous maneuvers and an introduction to rejected landing procedures. At least three takeoffs and landings to a full stop will be accomplished with instructor guidance.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Best rate of climb and climbing turns (VR) and (IR).

(c) Best angle of climb and climbing turns (VR) and (IR).

(d) Power on stall (imminent and full).

(e) Steep power turns (VR) and (IR).

(f) Emergency procedures.

(g) Airspeed and configuration changes (VR) and (IR).

(h) Climbing and descending turns (VR) and (IR).

(i) Normal and crosswind takeoffs and landings.

(3) Introduction.

(a) Rejected landing.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should perform with proficiency the basic flight maneuvers; he should demonstrate the ability to maintain altitude within $\pm$ 100 feet and ability to control heading within $\pm$ 10°, and control airspeed within $\pm$ 10 knots of preselected airspeed, where applicable.

9. FLIGHT LESSON SEVEN (ONE HOUR) DUAL

a. Objectives. This lesson will consist of a review of previous maneuvers and procedures. The student should perform those maneuvers and procedures for evaluation and practice in preparation for solo.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Power off stalls (imminent and full).

(c) Steep power turns.

(d) Emergency procedures.

(e) Airspeed configuration changes (VR) and (IR).

(f) Climbing and descending turns.

(g) Normal and crosswind takeoffs and landings.

(h) Go-around procedures.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should perform the basic flight maneuvers and demonstrate the ability to maintain altitude within ± 100 feet and to control heading within ± 10° of that assigned. In addition, the student should control airspeed within ± 10 knots of the preselected airspeed.

10. FLIGHT LESSON EIGHT (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of selected maneuvers and procedures. In addition, the student will continue takeoff and landing practice.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Straight and level flight (VR) and (IR).

(b) Medium bank turns (VR) and (IR).

(c) Takeoff and pattern departure.

(d) Pattern entry and normal and/or crosswind landings.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display skill and understanding in the execution of selected maneuvers and procedures and show solo competence while executing takeoffs and landings.

11. FLIGHT LESSON NINE (ONE HOUR) DUAL FIRST SOLO FLIGHT.

a. Objectives. During this lesson the student will accomplish his first supervised solo flight if he displays the required level of safety and competence.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Best rate of climb and climbing turns.

(c) Best angle of climb and climbing turns.

(d) Emergency procedures.

(e) Normal and crosswind takeoffs and landings.

(f) Go-around procedures.

(3) Introduction.

(a) Supervised solo in the traffic pattern (approximately 15 minutes, three takeoffs and landings).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the ability to successfully perform his first supervised solo flight.

12. STAGE CHECK: STAGE ONE, SOLO FLIGHT (ONE HOUR).

a. Objectives. During this flight, the chief flight instructor or his assistant will determine if the student can safely conduct solo flights and exercise the privileges associated with the solo operation of the airplane.

b. Completion Standards. The student will be evaluated on the basis of the following standards:

(1) Maintain altitude within ± 100 feet.

(2) Control heading within ± 10°.

(3) Control airspeed within ± 5 knots.

(4) Maintain coordinated control of the airplane.

(5) Display reasonable skill and understanding in the execution of all Stage One maneuvers and procedures.

STAGE TWO - CROSS COUNTRY: SEVEN HOURS DUAL, FIVE HOURS SOLO

1. STAGE TWO OBJECTIVES. The student will be instructed in the conduct of cross-country flights in an airplane using pilotage, dead reckoning, and radio navigation (VOR and ADF). He will also be instructed in operations within the ATC environment under VFR conditions.

2. STAGE TWO COMPLETION STANDARDS. The stage will be completed when the student has demonstrated through stage check, solo flight and records that he can safely conduct solo cross-country flights in an airplane using pilotage, dead reckoning, and radio navigation under VFR conditions.

3. FLIGHT LESSON ONE (ONE HOUR) DUAL AND SOLO.

a. Objective. During this lesson the student will operate the airplane in the traffic pattern in solo flight after an appropriate checkout by a flight instructor.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Collision avoidance.

(b) Traffic pattern.

(c) Normal and crosswind landings and takeoffs.

(3) Solo flight in the traffic pattern.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the proficiency and competency required to act as pilot in command on subsequent solo flights. The student should display full understanding of proper radio procedures and ground traffic procedures.

4. FLIGHT LESSON TWO (ONE HOUR) DUAL.

a. Objectives. The student will be able to demonstrate, recognize and recover from accelerated stalls, obtain maximum performance during short and soft field takeoffs and landings, and determine his position and track using VOR navigation.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Basic radio procedures.

(b) Medium bank turns (VR) and (IR).

(c) Climbs and descents (VR) and (IR).

(d) Steep power turns (VR) and (IR).

(3) Introduction.

(a) Accelerated stalls.

(b) Short and soft field takeoffs.

(c) Short and soft field approaches and landings.

(d) Basic radio navigation, VOR position finding and VOR tracking.

(e) Solo flight within traffic pattern.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will demonstrate that he is able to recognize and recover from accelerated stalls, obtain maximum performance during short and soft field takeoffs and landings and determine his position and track within ± 2 miles using VOR navigation.

5. FLIGHT LESSON THREE (ONE HOUR) SOLO.

a. Objective. During this solo period, the student will review and practice the basic and precision flight maneuvers learned previously, in addition to those maneuvers specified by the flight instructor.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Flight at minimum controllable airspeeds.

(b) Stalls, power-on and power-off.

(c) S turns across a road.

(d) Normal and/or crosswind landings.

(e) Maneuvers specified by the flight instructor during the preflight discussion.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards.

This lesson will be completed when the student has accomplished the solo review and practice of basic and precision flight maneuvers in addition to those maneuvers specified by the flight instructor.

6. FLIGHT LESSON FOUR (ONE HOUR) NIGHT - DUAL

a. Objectives. During this lesson, the student's ability should be developed to a level which will enable him to make solo night flights in the local practice area and airport traffic pattern. He will be instructed in such aspects of night operations as: night vision, night orientation, judgment of distance, use of cockpit, position and 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 techniques.

(h) Collision avoidance.

(i) Unusual altitude recovery.

(j) Emergencies.

(2) Demonstration and directed performance.

(a) Night line inspection.

(b) Use of cockpit lights.

(c) Taxi technique.

(d) Takeoff and traffic departure.

(e) Area orientation.

(f) Interpretation of aircraft and airport lights.

(g) Recovery from unusual altitudes (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 blackout landing.

(3) Student performance -5 takeoffs and landings as solo manipulator of the flight controls.

(a) Takeoff and traffic departure.

(b) Traffic entry.

(c) Full stop landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will have successfully completed the lesson when he 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. He should display through oral examination and demonstrations, competence in performing night emergency procedures.

7. FLIGHT LESSON FIVE (TWO HOURS) - DUAL

a. Objectives. The student will be able to navigate using pilotage, dead reckoning and radio navigation. He will be able to compute fuel consumption and ETA's to checkpoints and destinations (include names of destination airports).

CONTENT:

(1) Preflight discussion and preparation.

(a) Weather analysis and notices to airman.

(b) Cross-country planning log.

(c) Airports.

(d) Aircraft performance.

(e) FAA flight plan.

(2) Introduction: Three-leg round robin day cross-country flight.

(a) Pilotage navigation - all three legs.

(b) Dead reckoning navigation - all three legs.

(c) VOR or ADF navigation on two legs (preferably last two).

(d) Compute ETA's and fuel consumption - all three legs.

(e) Departure procedures (open flight plan).

(f) Enroute procedures.

(g) Arrival procedures - (close flight plan, obtain airport advisories, etc.).

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has demonstrated that he can navigate using pilotage, dead reckoning, radio navigation, and make necessary radio communications. He should demonstrate computation of ETA's and fuel consumption for each leg of the flight.

8. FLIGHT LESSON SIX (TWO HOURS) - DUAL.

a. Objectives. During this lesson, a dual cross-country flight will be planned to (blank) airport. However, a diversion to an alternate wil be made prior to arrival. The student will perform all required navigation procedures, and display the ability to safely conduct solo cross-country flights.

CONTENT:

(1) Preflight discussion and preparation.

(a) Weather analysis and NOTAMs.

(b) Cross-country planning log.

(c) Airports.

(d) Aircraft performance.

(e) FAA flight plan.

(2) Introduction: Diversion to alternate airport.

(a) Emergency computation of a flight course.

(b) Determining position by VOR or ADF.

(3) Review.

(a) Pilotage, dead reckoning and VOR or ADF radio navigation.

(b) Computing ETA's and fuel consumption.

(c) Emergency (including lost) procedures.

(d) Departure procedures.

(e) En route procedures.

(f) Arrival procedures.

(g) Crosswind takeoffs and landings.

(h) Arrival.

(i) Straight and level flight (VR) and (IR).

(j) Climbs and climbing turns (VR) and (IR).

(k) Glides and gliding turns (VR) and (IR).

(l) Level off procedures (VR) and (IR).

(m) Crosswind takeoffs and landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will be expected to demonstrate the ability to conduct cross-country flights using various means of navigation. He should display a thorough knowledge of cross-country flight planning, weather analysis and use of proper publications. He should be able to compute ETA's, fuel consumption, and other computer problems associated with cross-country planning. He should be able maintain altitude within $\pm$ 200 feet and headings within $\pm$ 10°. He should be able to use the various means of navigation to maintain his planned course within one mile. In addition, he should be able to identify his position at all times.

9. FLIGHT LESSON SEVEN (THREE HOURS) - SOLO.

a. Objectives. During this lesson student will conduct a three-leg solo cross-country flight using pilotage, dead reckoning and radio navigation (VOR or ADF). (This cross-country flight should be over the same course as the first dual cross-country.)

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed solo cross-country flight consisting of three legs using pilotage, dead reckoning, and radio navigation.

10. STAGE CHECK: STAGE TWO, CROSS COUNTRY (ONE HOUR).

a. Objectives. To confirm that the student can plan and conduct a cross-country flight, including a diversion to an alternate airport, as necessary, to avoid adverse weather. This stage check will be conducted by the Chief Flight Instructor, or his assistant.

b. Completion Standards. The student will be expected to demonstrate the ability to safely conduct cross-country flight operations and should display a thorough knowledge of proper preflight action, flight planning, weather analysis and publications available. He should perform all duties of pilot in command with smoothness, accuracy and competence. He should be able to divert to an alternate airport and give a reasonable estimate of his arrival time and remaining fuel. Prior to arrival at the alternate airport, he will be placed under the hood until lost. The student should be able to locate himself within

three miles without aid from the instructor by using all of the means available. The student will:

(1) Establish and maintain headings required to stay on course;

(2) Correctly identify his position at any time by various means;

(3) Provide reasonable estimates of ETA's with an apparent error of not more than ten minutes;

(4) Maintain altitude within ± 200 feet; and

(5) Establish a course to an alternate, and within a reasonable time, give an acceptable estimate of the time and required fuel to the alternate.

STAGE THREE - PILOT OPERATIONS: FIVE HOURS DUAL, NINE HOURS SOLO

1. STAGE THREE OBJECTIVES. The student will gain further experience in solo cross-country practice and receive instruction in preparation for the private pilot airplane flight test.

2. STAGE THREE COMPLETION STANDARDS. This stage will be completed when the student satisfactorily passes the final stage check for the course.

3. FLIGHT LESSON ONE (THREE HOURS SOLO CROSS COUNTRY).

a. Objectives. During this lesson the student will conduct a three-leg solo cross-country with landings at two different airports (name airports), with stops at each airport.

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed a solo cross-country flight to two airports (name airports) with stops at each airport. The instructor should determine how well the cross-country flight was conducted through an oral examination, and a check should be made to determine that all required flight log entries have been made.

4. FLIGHT LESSON TWO (FOUR HOURS SOLO CROSS COUNTRY).

a. Objectives. During this lesson, the student will conduct a three-leg solo cross-country with landings at two different airports (name airports).

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Solo cross-country flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed a solo cross-country flight to two airports (name airports), with stops at each airport. The instructor should determine how well the cross-country flight was conducted through an oral examination; and a check should be made to determine that all required flight log entries have been made.

5. FLIGHT LESSON THREE (ONE HOUR DUAL).

a. Objectives. The student will be able to perform advanced maneuvers and recover from unusual attitudes solely by reference to the flight instruments, and conduct ASR approaches.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Short field takeoffs and landings.

(b) Soft field takeoffs and landings.

(c) Ground reference maneuvers as needed.

(d) Flight at minimum controllable airspeed.

(e) Stalls (imminent and full) (power-on and power-off).

(f) Steep power turns.

(g) Maneuvers by reference to flight instruments.

(h) Emergency operations.

(3) Introduction of ASR approaches.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should demonstrate proficiency in all required advanced maneuvers, recovery from unusual attitudes solely by reference to the flight instruments, and conduct ASR approaches.

5. FLIGHT LESSON FOUR (ONE HOUR) - SOLO.

a. Objectives. The student will be able to perform specific solo flight maneuvers assigned by the flight instructor to increase proficiency.

CONTENT:

(1) Preflight discussion.

(2) Performance of assigned maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed the specific solo flight maneuvers assigned by the flight instructor.

'. FLIGHT LESSON FIVE (ONE HOUR DUAL).

a. Objectives. During this lesson, the instructor will determine the student's proficiency in all maneuvers and procedures necessary to conduct flight operations as a private pilot.

CONTENT:

(1) Preflight discussion.

(2) Review of previously covered procedures and maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the ability to meet the requirements as outlined in the private pilot test guide for operations as a private pilot.

. FLIGHT LESSON SIX (ONE HOUR) SOLO.

a. Objectives. During this lesson, the student will practice maneuvers specified by the flight instructor to increase proficiency.

CONTENT:

(1) Preflight discussion and orientation.

(2) Performance of assigned maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed the specific solo flight maneuvers assigned by the flight instructor.

9. FLIGHT LESSON SEVEN (ONE HOUR DUAL).

a. Objectives. During this lesson the instructor will make a further determination of the student's proficiency in all maneuvers and procedures necessary to conduct flight operations as a private pilot.

CONTENT:

(1) Preflight discussions.

(2) Review of previously covered procedures and maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student's performance of the procedures and maneuvers should be at the proficiency level of a private pilot.

10. STAGE CHECK: STAGE THREE, FINAL CHECK (ONE HOUR).

a. Objectives. The student will be able to demonstrate the required proficiency in the practical test for a private pilot certificate. This stage check will be conducted by the Chief Flight Instructor, or his assistant.

CONTENT:

(1) Preflight discussion, including an oral examination.

(2) Review of the private pilot flight test.

(3) Post-flight critique.

b. Completion Standards. The student will demonstrate the required proficiency in the practical test for a private pilot certificate. The standard of performance used may be presented by the school, but in no case less than that prescribed by the FAA. If additional instruction is necessary, the chief flight instructor or his assistant will assign the additional training. If the flight is satisfactory, the chief flight instructor will complete the student's training records and issue an appropriate graduation certificate.

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AC NO: 141-1
DATE: 8/29/74

ADVISORY CIRCULAR

PILOT SCHOOL CERTIFICATION

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Initiated by: AFS-444

AC NO: 141-1
DATE: 8/29/74

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJECT: PILOT SCHOOL CERTIFICATION

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1. PURPOSE. This advisory circular sets forth guidelines to assist persons in obtaining a pilot school certificate and associated ratings under Federal Aviation Regulations, Part 141 (revised).

2. BACKGROUND. Part 141 (revised), Pilot Schools, was adopted May 29, 1974, pursuant to Notice of Proposed Rule Making No. 73-5 as Federal Aviation Regulations Amendment No. 141-13. The general effective date for all provisions of Part 141 (revised) is November 1, 1974. Pilot school certificates in effect prior to November 1, 1974, remain in effect until they expire, are suspended or revoked. The school may continue to enroll and train students under present Part 141 until the school certificate expires or the students are transitioned to the new approved courses of training under Part 141 (revised).

3. HOW TO GET THIS PUBLICATION. Order additional copies of this advisory circular from the Department of Transportation, Publications Section, TAD-443.1, Washington, D.C. 20590.

C. R. Melugin Jr.

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Acting Director, Flight Standards Service, AFS-1

Initiated by: AFS-444

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PILOT SCHOOL CERTIFICATION

1. PURPOSE. This advisory circular sets forth guidelines to assist persons in obtaining a pilot school certificate and associated ratings under Part 141 (revised).

2. BACKGROUND AND EFFECTIVE DATES. Part 141 (revised) was adopted May 29, 1974, pursuant to Notice of Proposed Rule Making No. 73-5 as Federal Aviation Regulations Amendment No. 141-13. The general effective date for all provisions of Part 141 (revised) is November 1, 1974.

3. GLOSSARY OF TERMS.

As used in this advisory circular and as defined in the Federal Aviation Regulations, "Administrator" means the Federal Aviation Administrator or any person to whom he has delegated his authority in the matter concerned.

"Agricultural aircraft operation" means the operation of an aircraft for the purpose of (1) dispensing any economic poison, (2) dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life or pest control, or (3) engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

"Airplane" means an engine-driven fixed-wing aircraft heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

"Airport" means an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

"Airship" means an engine-driven lighter-than-air aircraft that can be steered.

"Approved," unless used with reference to another person, means approved by the Administrator.

"Balloon" means a lighter-than-air aircraft that is not engine driven.

"Category" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a broad classification of aircraft. Examples include: airplane; rotorcraft; glider; and lighter-than-air; and

b. As used with respect to the certification of aircraft, means a grouping of aircraft based upon intended use or operating limitations. Examples include: transport; normal; utility; acrobatic; limited; restricted; and provisional.

"Citizen of the United States" (as defined in the Federal Aviation Act of 1958) means (a) an individual who is a citizen of the United States or one of its possessions, or (b) a partnership of which each member is such an individual, or (c) a corporation or association created or organized under the laws of the United States or of any State, Territory, or possession of the United States, of which the president and two-thirds or more of the board of directors and other managing officers thereof are such individuals and in which at least 75 per centum of the voting interest is owned or controlled by persons who are citizens of the United States or of one of its possessions.

"Class" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a classification of aircraft within a category having similar operating characteristics. Examples include: single-engine; multiengine; land; water; gyroplane; helicopter; airship; and free balloon; and

b. As used with respect to the certification of aircraft, means a broad grouping of aircraft having similar characteristics of propulsion, flight, or landing. Examples include: airplane; rotorcraft; glider; balloon; landplane; and seaplane.

"External load" means a load that is carried or extends outside of the aircraft fuselage.

"Flight crewmember" means a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

"Flight time" means the time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing. (Block-to-block time)

"Glider" means a heavier-than-air aircraft, that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine.

"Gyroplane" means a rotorcraft whose rotors are not engine-driven except for initial starting, but are made to rotate by action of the air when the rotorcraft is moving; and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

"Helicopter" means a rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

"Heliport" means an area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

"Lighter-than-air aircraft" means aircraft that can rise and remain suspended by using contained gas weighing less than the air that is displaced by the gas.

"Operate," with respect to aircraft, means use, cause, or authorize to use aircraft, for the purpose (except as provided in §91.10) of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).

"Person" means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them.

"Pilot in command" means the pilot responsible for the operation and safety of an aircraft during flight time.

"Rotorcraft" means a heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

"Second in command" means a pilot who is designated to be second in command of an aircraft during flight time.

"Show," unless the context otherwise requires, means to show to the satisfaction of the Administrator.

"Type" --

a. As used with respect to the certification, ratings, privileges, and limitations of airmen, means a specific make and basic model of aircraft, including modifications thereto that do not change its

handling or flight characteristics. Examples include: DC-7, 1049, and F-27; and

b. As used with respect to the certification of aircraft, means those aircraft which are similar in design. Examples include: DC-7 and DC-7C; 1049G and 1049H; and F-27 and F-27F.

"United States," in a geographical sense, means (1) the States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters, and (2) the airspace of those areas.

In addition to the foregoing:

a. "Present Part 141," for the purposes of this advisory circular, means the Part 141 in effect prior to November 1, 1974.

b. "Part 141 (revised)," for the purposes of this advisory circular, means the Part 141, effective November 1, 1974, as Amendment No. 141-13.

4. SCHOOLS CERTIFICATED UNDER PRESENT PART 141. Pilot school certificates in effect prior to November 1, 1974, remain in effect until they expire, are suspended or revoked. The school may continue to enroll and train students under present Part 141 until the school certificate expires or the students are transitioned to the new approved courses of training under Part 141 (revised).

5. RENEWAL OF CERTIFICATES UNDER PRESENT PART 141.

a. Schools that have students enrolled under the PRESENT Part 141 PRIOR to November 1, 1974 (the effective date of Part 141 (revised)), may continue to train those students under the present Part 141 until their school certificates expire. That school certificate, along with the necessary ratings, may be renewed for a period of time long enough to allow ONLY the students enrolled, prior to November 1, 1974, to complete their training under the present rules, but for not more than 24 months.

b. Pilot schools are encouraged to apply for certification as soon as possible under Part 141 (revised), not only to upgrade training standards, but to prevent an interruption of training for those students enrolled after November 1, 1974, under present Part 141, should the school certificate expire prior to the completion of those students' training.

c. A school training students under the present school certificate, when issued a new certificate under Part 141 (revised), may be the holder of two school certificates until the certificate issued under present Part 141 expires.

6. TESTING OF STUDENTS TRAINED UNDER PRESENT PART 141.

a. Part 141 is a means by which a student may, through approved training, meet the flight experience requirements of Part 61 with a lesser amount of flight experience than that prescribed in Part 61. However, the student must meet all other certification requirements of Part 61, including the practical test.

b. We recognize the burden that would be placed on pilot schools and students alike if students trained under the standards of present Part 141 were required to be tested under the updated requirements of Part 61 (revised). Part 61 (revised) has, therefore, been amended to allow those students graduated under present Part 141 to be tested under the Part 61 in effect prior to November 1, 1973, but under no circumstances, may they be tested under the old standards later than January 1, 1977.

7. NEW PILOT SCHOOL CONCEPT.

a. In 1968, the FAA recognized that Part 61 was in need of upgrading and action was initiated to accomplish this. The 1971 Department of Transportation General Aviation Safety Study confirmed FAA's contention. The upgrading of Part 61 has been accomplished to reflect the complexity of modern aircraft and the National Airspace System.

b. Part 61 introduced a new total operational training concept. This new concept is reflected in Part 141 (revised), along with the general upgrading recommended by the Secretary of Transportation study group. Under the revised rule, full recognition is given to the ability of a certificated school to develop its own course of training and also broadens the privileges of schools to recommend graduates of its own courses of training for appropriate airman certificates without being tested by FAA inspectors or designated pilot examiners. This concept is being implemented by making prescribed curriculums for training more flexible and by adopting procedures to assure that a training course adopted by a school is adequate, appropriate, and administered by qualified persons.

8. PILOT SCHOOL QUANTITY AND QUALITY OF INSTRUCTION.

a. To be eligible for a pilot school certificate after November 1, 1974, the school will be required to meet the pertinent requirements of Subpart A through C of Part 141 (revised) which, among other things, requires the school to have trained at least ten applicants for pilot certificates and ratings within the past 24 months. In addition, eight out of the ten of the most recent applicants tested by an FAA inspector or designated pilot examiner must have passed their practical tests the first time (reference Section 141.5).

b. An applicant for a school certificate that cannot meet the required recent training experience, but does meet the other requirements of Subparts A through C, will be issued a provisional pilot school certificate.

c. Pilot schools certificated under the present Part 141 that do not meet the ten applicant requirement, but which meet all other requirements of Subparts A through C, are also issued a provisional pilot school certificate.

d. A pilot school certificated under Part 141 (revised), which after two years does not meet the recent training experience requirements but meets all other requirements, may apply for a provisional pilot school certificate.

e. The holder of a provisional pilot school certificate that does not meet the recent training experience requirement prior to the expiration of its certificate (two years) may not apply for a new certificate for a period of six months from the expiration date of the expired certificate.

f. If a pilot school certificated under present Part 141 or Part 141 (revised), does NOT meet the QUALITY of instruction requirements of Section 141.5(b), that school is denied renewal of its certificate. However, the school may apply for the issuance of a provisional pilot school certificate.

9. APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (OMB 04-R0204).

a. Application for a pilot school certificate or a provisional pilot school certificate is made in duplicate on FAA Form 8420-8 (OMB 04-R0204) and completed as shown or described on the back side of the form. (See Figures 1 and 2)

b. These forms may be obtained from the nearest General Aviation/Flight Standards District Office. The following describes acceptable signatures to a completed application form for the purposes of Part 141 (revised).

(1) An application from an individual should be signed by that individual.

(2) An application from a partnership should be signed by all partners.

(3) An application from a corporation should be signed by the president or such other officers as authorized by the corporation bylaws to sign for the corporation, and certified by the corporate secretary attesting to the individual's authority to sign such a document.

FIGURE 1. APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (FRONT SIDE)

APPLICANT - Read submittal and signature instructions on reverse. Form approved: OMB No. 04-R0203

DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

APPLICATION FOR PILOT SCHOOL CERTIFICATE

For FAA Use only

CERT. NO.

NAME OF SCHOOL: Carolyn S. Brannon dba Brannon Aviation

ADDRESS OF PRINCIPAL BUSINESS OFFICE: 13206 Poplar Tree Rd., Fairfax, Va.

LOCATION OF MAIN OPERATIONS BASE: Fairfax Airport, Fairfax, Va.

LOCATION OF SATELLITE BASE(S): Centerville Airport

APPLICATION IS HEREBY MADE FOR:

[XX] Issuance of a Pilot School Certificate and associated ratings to conduct the training courses identified below, and for the approval of these courses (three copies of each course outline are attached); also, examining authority is requested for the courses appropriately checked.

[ ] Renewal of Pilot School Certificate and associated ratings currently numbered , which expires on [ ] without changes to the currently approved course outlines, [ ] with addition of course(s) identified below for which approval is requested (three copies of each course outline is attached), including request for examining authority for the course(s) appropriately checked; [ ] with deletion of course(s) identified below from the curriculum.

[ ] Amending the current Pilot School Certificate and associated ratings numbered , which expires on [ ] by adding the course(s) identified below for which approval is requested (three copies of each course outline are attached), including request examining authority where appropriately checked; [ ] for deletion of the course(s) identified below from the curriculum.

IDENTIFICATION OF TRAINING COURSES	NOTE: Where examining authority for a course is desired, place an "X" in the box adjacent to the course identification.
[XX] Private Pilot	[ ]
[XX] Private test course	[ ]
[XX] Instrument Rating	[ ]
[XX] Commercial pilot	[ ]
[ ]	[ ]
[ ]	[ ]

(If more space is needed, continue on reverse in space provided)

I (WE) certify that I am (we are) familiar with Part 141 of the Federal Aviation Regulations, and, to the best of my (our) knowledge, believe that my (our) school meets the requirements for certification as prescribed therein.

Signature(s) and Title(s): Carolyn S. Brannon — Carolyn S. Brannon, Owner

Date: Nov. 1, 1974

FOR FAA USE ONLY

[ ] APPROVED - [ ] a Provisional Pilot School Certificate [ ] a Pilot School Certificate, either with associated ratings bearing the number shown above is issued effective _____, and which expires on _____.

[ ] Renewal [ ] without amendments [ ] with amendments [ ] Amendments

[ ] DISAPPROVED

SIGNATURE OF APPROVING OFFICIAL	TITLE	DATE

FAA Form 8420-8 (4-74) Recommendations of Inspector(s) on reverse

FIGURE 2. APPLICATION FOR PILOT SCHOOL CERTIFICATE, FAA FORM 8420-8 (BACK SIDE)

INSTRUCTIONS TO THE APPLICANT:

Submit an original and one copy of this application, completed in full, along with the required number of attachments where specified on the face of this form, to the FAA District Office having jurisdiction over the area in which the school is located.

Signatures on the application should be as follows:

a. Application from a person acting as an individual should be signed by the owner;

b. Application from a partnership should be signed by all partners;

c. Application from a corporation should be signed by the president or such other officers as authorized by the corporation by-laws to sign for the corporation and certified to by the corporate secretary attesting to the authority of the individuals to sign such a document;

d. Application from a company, club, or association should be signed by the president or such other officer or director as authorized by the organization's by-laws, and attested to by the secretary.

IDENTIFICATION OF TRAINING COURSES (Continued) *NOTE: Where examining authority for a course is desired, place an 'X' in the box adjacent to the course identification.*

☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____
☐	_____	☐	_____

THE FOLLOWING SPACE FOR FAA USE ONLY

Recommendations of Inspector(s)

INSPECTORS' SIGNATURES AND DATES	FOR OPERATIONS	FOR MAINTENANCE	FOR AVIONICS
	DATE	DATE	DATE

FIGURE 3. SAMPLE AIR AGENCY CERTIFICATE, FAA FORM 8000-4

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Air Agency Certificate

Number 01-NW

This certificate is issued to
CAROLYN S. BRANNON
dba
BRANNON AVIATION
whose business address is
13206 POPLAR TREE ROAD
FAIRFAX, VIRGINIA 22030

upon finding that its organization complies in all respects with the requirements of the Federal Aviation Regulations relating to the establishment of an Air Agency, and is empowered to operate an approved PILOT SCHOOL (OR PROVISIONAL PILOT SCHOOL)

with the following ratings:

PRIVATE PILOT
COMMERCIAL PILOT
INSTRUMENT RATING
PRIVATE TEST COURSE

This certificate, unless canceled, suspended, or revoked, shall continue in effect

By direction of the Administrator

Date issued:
NOVEMBER 1, 1974

DONALD D. JONES
SUPERVISING INSPECTOR

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both

FAA Form 8000-4 (1-67) SUPERSEDES FAA FORM 390.

(4) An application from a company, club or association should be signed by the president or such other officer or director as authorized by the organization's bylaws and attested to by the secretary-treasurer.

c. Each requested pilot school rating should be listed on the application. The application when presented to the FAA should be accompanied by three complete copies of EACH proposed training course outline. If examining authority is being requested, the appropriate box should be checked on the application. Remember, when you make application for a pilot school certificate, you are certifying that you are familiar with Part 141 and believe that your school meets the appropriate requirements for certification.

10. PILOT SCHOOL RATINGS. Ratings that are placed on a pilot school or provisional pilot school certificate are listed under Sections 141.11(a), (b) and (c). When training course outline(s) have been approved by the FAA, the appropriate rating(s) are placed on the school certificate. For example, if a pilot school has received approval of two private pilot certification courses, one for airplanes and one for helicopters, a private pilot rating is placed on the school certificate. A school with a private pilot rating on its school certificate may conduct one or several private pilot certification courses, provided a training course outline is submitted and approved under Subpart C of Part 141 (revised) for each course of private pilot training given.

11. DURATION OF THE CERTIFICATE.

a. A pilot school certificate or a provisional pilot school certificate expires at the end of the 24th month after the month it was issued.

b. An exception to this will be a pilot school certificate renewed for a lesser period of time under the provisions of Section 141.29(b) which provides for the renewal of a pilot school certificate which was effective prior to November 1, 1974, for a period of time long enough to allow students enrolled in a course of training prior to November 1, 1974, to complete that training, but not for a period of time longer than November 1, 1976.

c. Further, a school certificate normally expires on the date that any change in ownership of the school or any change in the ownership of the facilities upon which the school certification is based occurs. However, if the school makes application for an amended certificate within 30 days after a change in ownership and there is no change in facilities, instructor personnel or training courses, the school certificate remains in effect and does not expire.

12. RENEWAL OF CERTIEICATES AND RATINGS.

a. A pilot school should apply for the renewal of its certificate at least 30 days before it expires. This is to ensure a timely

response from the FAA to effect a renewal of the school certificate without an interruption in training due to expiration of the old certificate.

b. Pilot schools that wish to renew certificates and ratings issued under present Part 141 should be prepared to show the need for such renewal, and the need for each rating to be renewed. The need for renewal can be shown by the following:

(1) Evidence that the students were enrolled in the course prior to November 1, 1974;

(2) Training records showing the amount of the training completed; and

(3) A practical estimate of the time period necessary for the student to complete his training.

c. When more than one student is enrolled in a course of training, the certificate will be renewed to accommodate the student requiring the longest period of time to complete his training. In addition, when an old certificate is renewed, only the ratings necessary for students to complete training will be renewed.

13. INSPECTION.

a. In order to carry out its responsibilities under the Federal Aviation Act of 1958, the FAA from time to time will make certain inspections as provided for in Section 141.21. Inspections may occur at the following times:

(1) Initial certification;

(2) Renewal of the certificate;

(3) Transfer of ownership;

(4) Change of base;

(5) Upon application of the school for an additional rating(s); and

(6) When the General Aviation District Office deems an inspection necessary to ensure compliance with the training course outline and other requirements of the FAR.

b. Inspections for the purpose of certification, renewal, transfer of ownership or change of base are made at a time agreeable to the school and the FAA. However, inspections made by the FAA to determine compliance with the training course outline or the rules are made when considered necessary.

14. ADVERTISING.

a. As required by Section 141.23, when advertising in any manner relating to its FAA flight school, an operator may not advertise that the school is certificated unless it clearly differentiates between courses that have been approved and those that have not.

b. The FAA does not expect a pilot school to resort to negative advertising and list every course which HAS NOT been approved. However, each training course which has been approved should be clearly stated, along with a clarification that ONLY those courses have been approved. In addition, under Section 141.23, the school may not make any statement relating to its certification and ratings which is false or designed to mislead any person contemplating enrollment in that school.

15. REMOVAL OF ADVERTISING.

a. When a school certificate has expired, or has been surrendered, suspended, or revoked, it is required under Section 141.23 to remove all indications that the school was certificated by the FAA. This would include advertising mediums such as billboards, radio, television, and the removal of all signs.

b. If an FAA approved school moves from one location to another, it is required to promptly remove from the premises it has vacated all signs indicating that the school was certificated by the FAA.

16. BUSINESS OFFICE AND OPERATING BASE.

a. Each pilot school is required by Part 141 (revised) to maintain a principal business office with a mailing address in the name on the school certificate. The purpose of a principal business office is to provide a specific location for required school files and records, and a location from which the operation of school business is conducted. This requirement should not be construed to mean that all school functions, such as scheduling flights, training functions, etc., must be conducted at the principal business office.

b. If the pilot school should choose to change the location of its business office or base of operation, the school is required to notify the FAA, in writing, of the planned move at least 30 days in advance. Such written notice should be accompanied by new application, FAA Form 8420-8 (OMB 04-R0204), showing the change of address or the change in the base of operations, as appropriate. In any case, the notice of a change of operating base must be accompanied by necessary amendments to approved training course outlines.

c. While Part 141 (revised) does not require that a "business office" be a room with four walls and a door, the regulation does prohibit

the sharing with or use by another pilot school of that business office; therefore, the business office should be conspicuously isolated by walls or partitions to ensure separation from another pilot school's activity. The business office should be located so that required school files and student training records can be kept up to date and available to students and instructors alike for the purpose of providing on-the-spot information regarding training progress and other business interests.

17. PILOT BRIEFING AREAS. An FAA approved school is required to have continuous use of a briefing area AT EACH AIRPORT at which training flights ORIGINATE. The requirement does not include airports of destination used for cross-country flight training. The briefing area must meet the requirements of Section 141.43 which requires that:

    a. The area provide adequate shelter for students waiting to engage in training flights;

    b. The area be arranged and equipped for the conduct of student briefings. To meet this requirement, the equipment should include tables of adequate size to lay out aeronautical charts for planning purposes, a chalk board for "chalk talks." In addition, if a flight service station or weather bureau is not available within a distance that its use would not delay or interrupt flight schedules, the school must provide a private landline or telephone communication in the briefing room to the nearest FAA flight service station or weather bureau if the school offers instrument or commercial pilot courses;

    c. The briefing area should be located near enough to the airport where training flights originate to preclude a disruption of schedules because of excessive travel and a lack of communications between the flight line, business office and briefing area; and

    d. There is no objection to other pilots using the briefing facilities provided orderly school functions are maintained, although no other school may use the area during the period it is to be used by the applicant. Briefing areas are subject to FAA approval under the provisions of Section 141.55(a)(4).

18. GROUND TRAINING FACILITIES. The FAA recognizes that pilot training methods differ from other kinds of training. Pilot schools enroll students with widely varying backgrounds, goals, and varying degrees of motivation and aviation experience. For this reason, it is understandable that it is not always possible to schedule large classes for ground training at one time. Individual instruction is often necessary for maximum benefit to a particular student. Therefore, it is anticipated that FAA approved schools will use classrooms, small isolated rooms, training booths, or other areas with an instructor or a training aid, as appropriate. Each ground training area is required to be heated,

lighted and ventilated to meet the applicable building code requirements of the area concerned. All ground instructional facilities are subject to approval by the FAA under Section 141.55(a).

19. CONTINUOUS USE OF FACILITIES. Part 141 (revised) requires, among other things, that an FAA approved school have continuous use of an airport and a pilot briefing area in order to function as a school. This requirement can be met by the school having a written agreement showing that it has continuous use of those facilities for six months at the time of certification or renewal of its certificates.

20. AIRCRAFT. As specified in Section 141.39, each aircraft used by an FAA approved school for pilot training is required to be registered civil aircraft of the United States. Training aircraft must be certificated in the standard airworthiness category except aircraft used for a course of training in agricultural aircraft operations, external-load operations and similiar aerial work operations; e.g., banner towing, sky writing, etc. In such courses, the school may use aircraft certificated in the restricted category. No other special airworthiness certificate is acceptable.

    a. Inspection of Aircraft. An aircraft used by an FAA approved school for flight training is required to be inspected and maintained in accordance with the requirements of Part 91. Section 91.169 applies to aircraft used to give flight instruction for hire. In effect, this requires aircraft used in an approved course of training to have 100-hour and annual inspections, or be maintained under a procedure prescribed under Section 91.169(c). Aircraft used exclusively for solo flights must also meet these inspection requirements.

    b. Thus, when a student enrolled in an approved school provides an aircraft for his use in an approved course, that aircraft would be required to meet the requirements of the training aircraft described in the appropriate training course outline. In addition, it would have to meet the same inspection requirements as any other aircraft used by the school.

21. CHECKLISTS. A broad cross section of airplanes are used in pilot training; some are uncomplicated while others are more complex. The requirement for a checklist defined in the terms of "pretakeoff" and "preland-ing" in Section 141.75(a) is broad and considers less complicated aircraft. However, it is always a good operating practice to expand upon checklists as aircraft become more complicated. Even though an aircraft is relatively uncomplicated, teaching the use of a more complex checklist is an excellent means of forming the habit in students of using a checklist. This habit will carry over when those students progress to larger more complex aircraft.

22. OPERATOR'S HANDBOOK. Under Section 141.75, when an operator's handbook is provided by the manufacturer, it must be carried aboard the aircraft. A school may elect to issue copies of aircraft checklists and operator's handbooks to students. In that case, these checklists and operator's handbooks must be aboard the aircraft when it is used by the student. The primary purpose of carrying the operator's handbook aboard the aircraft is to provide the pilot with performance data servicing instructions, weight and balance information, etc. Some operator's handbooks contain checklists. These checklists, while useful in developing a printed checklist, are not desirable for use as a checklist per se. Normally, such handbooks are not readily available to the pilot, and during emergency procedure training or during an actual emergency, particularly when there is only one pilot aboard the aircraft, he would be required to fly the aircraft and at the same time search through a book for the checklist.

23. CHIEF FLIGHT INSTRUCTOR. Each FAA approved school will be required to designate a chief instructor for each course of training. That chief instructor is required to meet the appropriate requirements prescribed under Sections 141.35 and 141.79. A chief instructor may serve in that capacity for more than one approved course, BUT MAY NOT SERVE AS CHIEF INSTRUCTOR FOR MORE THAN ONE SCHOOL.

24. ASSISTANT CHIEF INSTRUCTOR. Each FAA approved school may designate one or more assistant chief instructors for a course or courses of training. The assistant chief instructor is also required to meet the requirements of Section 141.35, since the assistant chief instructor is expected to act for the chief instructor in his absence. The designation of more than one assistant chief instructor for one course of training should be justified by the number of students involved, the complexity of the course, or the number of hours a day in which training is conducted. The FAA will approve the use of assistant chief instructor(s) when approving individual training course outlines. An assistant chief instructor is allowed to serve in that capacity for more than one approved course, BUT NOT FOR MORE THAN ONE SCHOOL.

25. INSTRUCTORS. Each ground or flight instructor used in a course of instruction is required to be the holder of a ground or flight instructor certificate, as appropriate, with the ratings, as necessary, for the instruction to be given. However, instructors who are not certificated may only be used for ground training under certain provisions described under Section 141.81.

26. OTHER EMPLOYEES. Each FAA approved school is required by the rules to ensure that dispatchers, service personnel, or other persons assigned responsibilities with the school are adequately instructed in the procedures and responsibilities of their employment. Compliance with this requirement may be accomplished through verbal instruction, manuals, or any other means decided upon by the school. The FAA may, under Section 141.21, at any time inspect any personnel to determine that

they have been instructed in their responsibilities and are competent to perform their duties. Qualified operations personnel, including flight instructors, may serve in more than one capacity with the school. For example, a school may wish to use a flight instructor as a dispatcher or a ground instructor.

27. CHIEF INSTRUCTOR QUALIFICATIONS. A chief instructor or assistant chief instructor is required by Part 141 (revised) to meet the following requirements. However, for a course of training for gliders, free balloons, or airships, only 40 percent of the flight time requirements need to be met.

a. Private Pilot Certificate or Rating Course(s).

(1) Commercial pilot certificate and a flight instructor certificate, each with a category and class rating appropriate to the course of training;

AND

(2) At least 1,000 hours as pilot in command;

AND

(3) Experience in primary flight instruction acquired as either a certificated flight instructor, or an instructor in a military pilot primary flight training program, or a combination of both consisting of at least two years experience and a total of 500 flight instruction hours or 1,000 flight hours;

AND

(4) WITHIN THE PRECEDING YEAR, 100 hours as a certificated flight instructor in the category of aircraft used in the approved pilot training course.

b. Instrument Rating Course(s).

(1) At least a commercial pilot certificate and a flight instructor certificate, each with an appropriate instrument rating;

AND

(2) At least 100 hours of actual or simulated instrument flight time;

AND

(3) At least 1,000 hours as pilot in command;

AND

(4) Instrument flight instruction experience acquired as either a certificated instrument flight instructor or an instructor in a military pilot basic or instrument flight training program, or a combination of both, consisting of at least two years experience and a total of 250 flight hours, or 400 flight hours;

AND

(5) WITHIN THE PRECEDING YEAR, 100 hours as an instrument flight instructor or one year as an FAA instrument rating examiner.

c. For all courses of training OTHER than those which result in the issuance of a private pilot certificate or an instrument rating or instrument privileges.

(1) A commercial pilot certificate and a flight instructor certificate, each with an appropriate category and class rating for course of training;

AND

(2) At least 2,000 hours as pilot in command;

AND

(3) Flight instruction experience acquired as either a certificated flight instructor, or an instructor in a military pilot primary or basic flight training program or a combination of both, consisting of at least three years experience and a total of 1,000 flight instruction hours, or 1,500 flight hours;

AND

(4) WITHIN PRECEDING YEAR, 100 hours as a certificated flight instructor in the category of aircraft used in the approved pilot training course, or one year of active service as chief instructor for an approved course of training, or one year of active service as an FAA designated pilot examiner.

d. Section 141.35 contains numerous references to primary and basic flight training in its flight instruction experience requirements. Historically, old Part 141 used these same terms which related to flight instruction given to private pilots or instruction given to applicants seeking higher ratings respectively.

e. Schools should keep in mind that approved courses of training that combine both basic and instrument flying skills, e.g., an unlimited type rating, would require a chief flight instructor or his assistant to meet more than one general requirement listed under Section 141.35. This must be considered when developing that kind of a course of training.

f. A chief flight instructor or an assistant chief instructor is required to pass an oral test on Part 141 (revised), Parts 61 and 91 of the FAR, and on the training standards and objectives of the course for which he is designated. He must also pass a flight test on the flight procedures and maneuvers appropriate to each course of training for which he is designated; however, he need not repeat procedures and maneuvers that are common to more than one course of training.

g. The chief ground instructor or assistant chief ground instructor must show that he has one year of experience as a ground school instructor in an FAA-approved pilot school. This may be shown by having the instructor present a record of his teaching accomplishments covering a period of one year in an FAA-approved school, or by presenting a letter from an FAA-approved school stating that the instructor has given ground school instruction at that school for the required period of time.

28. CHIEF FLIGHT INSTRUCTOR RESPONSIBILITIES. Part 141 (revised) outlines specific responsibilities for a chief flight instructor (CFI). The actual accomplishment of certain of these various responsibilities may be delegated to others, but the ultimate responsibility for each function remains with the CFI. The necessity for a CFI fulfilling his responsibilities completely and accurately cannot be overstressed. The need for proper certification of training records, graduation certificates, stage and final test reports becomes extremely important before a student graduates from a course of training or terminates his training to attend another school. When giving a stage or final test, "student recommendations," as discussed in Section 141.85(a)(1), should be complete and definitive with respect to additional training needed, if any. The CFI should continue to update and improve the courses of training for which he is responsible whenever he becomes aware of deficiencies in the course, or needed changes in training standards. CFIs are invited to seek assistance and guidance from FAA inspectors in the resolution of problems concerning their responsibilities.

29. CHIEF INSTRUCTOR AVAILABILITY - DIRECT SUPERVISION. The general requirement that instruction be given under the DIRECT SUPERVISION of the chief flight instructor, or the requirement that the chief instructor be AVAILABLE when instruction is given, are listed under Ground Training, Section 141.81(b)(2); Chief Instructor Responsibilities, Section 141.85(b); and Satellite Bases, Section 141.91(c). Pilot schools are permitted to use uncertificated GROUND INSTRUCTORS based upon their particular qualifications; therefore, Section 141.81(b)(2) requires that such instruction by uncertificated instructors be given under the DIRECT SUPERVISION of the chief instructor for the course, who must be present at the base during the time that instructor is teaching. On the other hand, those instructors that have established their qualifications through certification (both flight and ground instructors) do not require supervision from the chief instructor to the same extent as the

uncertificated person; therefore, the chief instructor need only be AVAILABLE for consultation at the school's base of operation when instruction is given in an approved course of training. For the purpose of Part 141, the term "direct supervision" could require that the chief instructor be present in the room when instruction is being given (this will only involve ground training given by uncertificated instructors). In other instances, the chief instructor need only be "available" for consultation and not necessarily present at the base. This is consistent with the provision for satellite bases (Section 141.91) to be located within 25 nautical miles, which, among other things, assures that the chief instructor can provide necessary supervision and meet his responsibilities with respect to a school's main base of operation and its satellite base.

30. CHANGE OF CHIEF FLIGHT INSTRUCTOR. Under Section 141.87, when an FAA-approved school makes any change of a chief instructor, it is required to notify immediately, in writing, the FAA district office having jurisdiction over the school. The school may continue to train students under an approved course of training without a chief flight instructor for a period of 60 days. However, during that time the school is without a chief flight instructor, each stage or final test of a student enrolled in that approved course of training must be given by an FAA inspector or designated pilot examiner. The FAA inspector or designated pilot examiner should familiarize himself with specific areas to be tested, as shown in the approved training syllabus, and with the completion standards for the stage of training being tested. The results of the tests given by the inspector or designated pilot examiner should be given to the operator of the school for inclusion in the appropriate student files.

31. CHIEF FLIGHT INSTRUCTOR REFRESHER COURSE. Section 141.79(c) states that each chief flight instructor must complete, at least once each 12 months, a flight instructor refresher course consisting of not less than 24 hours of ground or flight instruction, or both. For the purpose of implementing this requirement, a chief instructor may wish to attend one of the many flight instructor refresher courses conducted by the FAA Flight Instructor Refresher Unit or, attend an FAA-approved industry sponsored, industry conducted, Flight Instructor Refresher Clinic.

32. FLIGHT INSTRUCTOR RESPONSIBILITIES. Part 141 (revised) requires, among other things, that all flight instructors be qualified to teach each course of training to which they are assigned and, in addition, prescribes certain knowledge and proficiency tests to be accomplished prior to being assigned to an approved course of training. The instructor must satisfactorily accomplish a flight check for each course of training he teaches, given to him by the chief flight instructor. He is also required to accomplish such a flight check for each course of training in which he participates every 12 months thereafter. To further ensure that a flight instructor is appropriately qualified, he is required to

accomplish satisfactorily a flight check in each type of aircraft (e.g., Cessna 150, Piper PA-28) prior to giving any flight instruction. HE NEED NOT BE GIVEN A FLIGHT CHECK IN EACH TYPE OF AIRCRAFT ANNUALLY. In addition, each instructor, when used for an approved course of training, must be briefed on the objectives and standards of the course. An instructor may, at any time, be asked by an inspector to explain the objectives and standards for an approved course of training to which he is assigned. Records of such instructor briefings and flight checks should be kept in the instructor's logbook or in the permanent school records at the home base of operations. An additional responsibility placed upon flight instructors and students alike is the requirement that no student pilot may be authorized to start a solo practice flight from an airport until the flight has been approved by an authorized flight instructor who is PRESENT at the airport. Solo cross-country flights, when properly dispatched from the originating airport, would be considered to have approval for the entire flight. However, if the student should be delayed en route because of unexpected weather or mechanical delays, the school should arrange for another instructor based at the point of delay to redispatch the flight, or have a school instructor dispatch the flight by telephone. Cross-country flights should be made to airports specified in the appropriate training course outline. Emergency handling can be accomplished by prearrangement with other schools or fixed-base operators.

33. CREDIT FOR PREVIOUS TRAINING. As specified in Section 141.77(b), when a student transfers from one FAA-approved school to another, course credits obtained in the previous course of training may be credited in all or part by the receiving school. The receiving school should determine the amount of credits to be allowed by flight check or written test, or both. A student may not be credited with more training by the receiving school than he was credited with at the school from which he transferred. A student who enrolls in a course of training may be credited for not more than 50 percent of the curriculum requirements for knowledge and experience gained in other than an FAA-approved flight school. In any case, the amount of credit for previous training allowed, whether received from an FAA-approved school or other source, should be placed in the student's enrollment record at the time of enrollment. When a student transfers from one FAA-approved school to another, or terminates his training for any reason, he must be given, upon request, a transcript of the results of his participation in the course of training which was interrupted. Such a transcript should consist of at least the following:

a. The name of the school that gave the training, including the school's certificate number.

b. The kind and amount of training given (dual, solo, ground school, ground trainer time, etc.).

c. The kind of training course involved.

d. **The results of each stage and final test given.**

e. A statement that the student's training was given by the school in it's approved course of training before he received the instruction and training that is certified.

NOTE: **The transcript should be certified by the chief flight instructor for that course of training.**

34. ENROLLMENT. **When a student is enrolled in an approved course of training, Section 141.93 requires that he be furnished the following information and materials:**

a. **A certificate of enrollment containing the name of the course in which he is enrolled and the date of enrollment.**

b. **A copy of the training syllabus required under Section 141.55(b).**

c. **A copy of the safety procedures and practices developed by the** school; e.g., fire drill instructions, procedures for the use of training aids, off-limits areas, handling of aircraft, parking instructions, and other safety instructions deemed necessary by the school, which must include the following:

(1) **Weather minimums required for dispatching dual and solo flights. For example, minimum ceiling,visibility and wind velocities for local flights and specific weather minimums for cross-country flights.**

(2) **Procedures for starting and taxiing aircraft on the ramp.**

(3) **Fire precautions and procedures, including the use of fire guards when starting aircraft.**

(4) **Redispatch procedures after unprogrammed landings on and off airports. This should include emergency security of the aircraft and a list of telephone numbers of persons to contact.**

(5) **Procedures for listing aircraft discrepancies and how write-offs are handled, including the importance of NOT USING an aircraft with a listed discrepancy until a properly qualified person determines its airworthiness.**

(6) **Securing of aircraft when not in use.**

(7) **Fuel reserves necessary for local and cross-country flights.**

(8) **Avoidance of other aircraft in flight and on the ground.**

(9) Minimum altitude limitations and instructions concerning simulated forced landings. For example, certain minimum altitudes may be specified for teaching and practicing stalls or other maneuvers. Instructions should be clear on simulated emergency landings with respect to engine cool down during prolonged glides, engine response with rapid throttle application, and a specific minimum altitude for terminating simulated emergency landings, including limitations on the solo practice of emergency landings and other instructions deemed necessary by the school.

(10) Descriptions and diagrams of assigned practice areas, including special instructions with respect to routes and minimum altitudes en route.

(11) Any instructions or guidance the school believes necessary to provide the highest standards of safety and operational control expected of an FAA-approved school.

d. A school is required by Part 141 (revised) to forward a copy of each enrollment certificate within five days to the FAA district office having jurisdiction over the school. These enrollment certificates are required to be mailed promptly since some approved training courses are of a very short duration and provide a minimum time for FAA to conduct possible surveillance of the training.

35. AIRPORTS. The airport requirements of Part 141 (revised) are essentially the same as those contained in old Part 141, with the following exceptions:

a. Each airport is required to have a wind direction indicator that is visible from the ends of each runway at ground level.

b. Each airport is required to have a traffic pattern indicator (defined IN AIM) when the airport has no operating control tower AND UNICOM advisories are not available.

c. Each airport used for night training flights must have permanent runway lights.

36. SATELLITE BASES. As specified in Section 141.91, an FAA-approved school may conduct ground or flight training and instruction in an approved course of training at a satellite base other than its main operations base, provided the satellite base is located not more than 25 nautical miles from its main operations base, and the airport facilities and personnel used at the satellite base meet the requirements of Part 141 (revised), including the requirements set forth in each approved training course outline. If training is conducted at a satellite base not included and approved in a training course outline, for more than seven consecutive days, the FAA district office having jurisdiction over the

school must be notified in writing. Operators who plan to conduct pilot training at locations more than 25 nautical miles from their main base of operations should apply for anadditional pilot school certificate. Applications for an additional certificate should be made to the FAA district office having jurisdiction over the area where the new school will be located. The new school will be considered and certificated as a completely separate school.

37. APPLICATION FOR EXAMINING AUTHORITY. Application for examining authority is made, in duplicate, on FAA Form 8420-8 (OMB 04-R0204). The appropriate block should be checked for each course of training for which examining authority is sought. Only the holder of a PILOT SCHOOL certificate may apply for authority to conduct written and/or flight tests of their own graduates for the issuance of pilot certificates and ratings without further testing by the FAA. Authority to test graduates for airline transport pilot or flight instructor certificates or turbojet type ratings will not be given under Part 141 (revised). The facility, equipment and maintenance standards for certificated pilot schools with examining authority are identical with those for other certificated pilot schools.

38. EXAMINING AUTHORITY PRIVILEGES. Section 141.65 provides that a pilot school with examining authority for a course(s) of training may recommend graduates of those courses for pilot certificates and ratings without taking the FAA flight test or, if approved, without taking the FAA written test. It should be noted that under Section 141.67, in order for a school to graduate a student from a course of training under examining authority, the student must complete all of his training at the school for that particular course. No credit will be allowed for training given by another school.

39. WRITTEN TESTS. When a pilot school requests approval of written tests to be given as the final written test, it should submit three copies of the test to the FAA district office having jurisdiction over the area in which the holder of the examining authority is located. The district office will return the written test to the school with the GADO chief's signature on each page, along with the date the test was approved. If the test is not approved, it will be returned to the school, along with a letter from the reviewing inspector indicating the changes that are necessary for approval. A pilot school should allow at least 60 days for the approval of a written test. The development and security of written tests will be the subject of a separate advisory circular.

40. AMENDMENTS OR CHANGES TO AN APPROVED TEST. Amendments or changes to an approved final written test will be processed the same as the original application for approval of a written test.

41. USE OF FINAL WRITTEN TESTS. Every effort should be made to provide the maximum security for approved written tests. An FAA inspector may

examine the security system of a school to determine if there is proper security for written examinations being used. The regulation points out that a written test may not be used if the school or the FAA has reason to believe it has been compromised.

42. SPECIAL CURRICULA. Under Section 141.57, an applicant for an FAA-approved school certificate, or the holder of an FAA-approved school certificate, may apply for approval to use a special curriculum; i.e., one not prescribed in the appendixes of Part 141 (revised). The school must show that the special curriculum contains features which can be expected to achieve a level of pilot competency equivalent to that achieved by the curriculum prescribed in the appendixes of Part 141 (revised), or the appropriate requirements of Part 61 (revised). Three copies of the special curricula should be submitted to the FAA district office having jurisdiction over the school at least 60 days before any training under the curriculum is scheduled to begin. The special curriculum should be accompanied by a cover letter explaining clearly how it will meet or exceed the requirements prescribed for a similar course in the appendixes of Part 141 (revised). Submission of a special curriculum 60 days before any training under the curriculum is scheduled to begin allows time for the FAA to approve the curriculum prior to the applicant's developing the training course outline which must be submitted for approval 30 days before training under the course is scheduled to begin.

43. GRADUATION CERTIFICATE. Section 141.95 requires that a graduation certificate be issued to each student who successfully completes an approved course of training. Each graduation certificate must contain at least the following information:

a. The name of the school, including the number on the school certificate.

b. The name of the graduate to whom the certificate is issued.

c. The course of training for which it is issued.

d. The date of graduation.

e. A statement that the student has satisfactorily completed each required stage of the approved course of training, including the tests for those stages.

f. A statement showing the cross-country training the student received in the course of training.

g. A certification of the information contained in the certificate by the chief instructor for that course of training.

44. TRAINING COURSE OUTLINES - GENERAL. An FAA approved school or applicant for an FAA-approved school must obtain FAA approval of the outline of each training course for which certification and rating is sought. Application for approval of a training course outline should be made at least 30 days before any training under the course is scheduled to begin. The application should include three copies of each training course outline for which approval is sought, and a cover letter for each course requesting approval. Two copies of FAA Form 8420-8 will be required if the approval of a particular training course outline places a rating on the school certificate. Amendment of an existing approved training course outline is accomplished in the same manner as a request for initial approval and should include three copies of the pages to be amended, including a cover letter specifying the pages in the course outline for which amendment is requested.

a. When a training course outline has been approved, the original copy will be returned to the school with each page signed and dated by the chief of the district office having jurisdiction over the school.

b. When amendment of an approved training course outline is submitted for approval, the district office will review the proposed changes and, if they are satisfactory, sign, date and return the original pages of the amendment(s) to the school.

45. COMPLIANCE WITH THE APPROVED TRAINING COURSE OUTLINE. When a training course outline has been approved by the FAA, Part 141 requires that the school giving instruction or training to a student enrolled in that approved course of training comply with all of the approved course of training. Therefore, when a school finds that it can no longer comply with an approved training course for any reason, e.g., a change or loss of aircraft, personnel (except as provided under Section 141.87), facilities or equipment, it must immediately cease giving instruction or training under that course until the necessary corrective action is taken and, if needed, the appropriately amended training course outline is approved by the FAA. If there is any question about whether training should be discontinued under a certain approved course, the FAA district office having jurisdiction over the school should be consulted immediately.

46. TRAINING SYLLABUS CONTENT. Under Section 141.55(a), each training course outline must have sufficient content not only to meet the appropriate curriculum requirements, but also to meet the requirements of Section 141.55(b), which states as follows:

a. The course outline must include a training syllabus for each course of training that includes at least the following information.

(1) The pilot certificate and ratings, if any, medical certificate, if necessary, and the training, pilot experience and knowledge required for enrollment in the course.

(2) A description of each lesson, including its objectives and standards, and the measurable unit of student accomplishment or learning to be derived from the lesson.

(3) The stage of training (including the standards therefor) normally accomplished within each training period of not more than 90 days.

(4) The tests and checks used to measure a student's accomplishment for each stage of training.

47. TRAINING AIDS. The instructor can use aids to improve communication between himself and his students. Such instruction aids are defined by the Department of Audiovisual Instruction of the National Education Association as "Devices which assist an instructor in the teaching-learning processes by presenting supporting or supplementary material, usually intermittently. They are not self-supporting." The key factor is that such aids support, supplement or reinforce. Aids should be easily understood and compatible with the learning outcomes expected in the completion standards for the lesson. Aids have no value in the learning process if they cannot be heard or seen. Recordings of sounds should be tested for correct volume and quality in the actual environment in which they will be used. Visual aids should be visible to all if used for an entire class. Lettering and illustrations should be large enough to be seen easily by the students farthest from the aids. Colors when used should be clearly contrasted and easily visible.

a. The effectiveness of aids will be judged by their organization, sequencing, pattern of logic and their overall effectiveness when used in support of and in obtaining the objectives and standards prescribed in the training syllabus.

b. In recent years we have seen an abundance of excellent new material and techniques in the field of training aids. They present many advantages for the school; however, the school must keep in mind the teaching goals to be achieved, including the continuous monitoring of student progress necessary to develop effectively the knowledge of each student according to the training syllabus. Training aids, although valuable, cannot replace the instructor who must ensure that prescribed training is given, and that completion standards are attained.

48. AIRCRAFT DESCRIPTION. A school is required under Part 141 to describe the type(s) of aircraft, including any special equipment used for each phase of instruction, in the training course outline for each particular course of training for which approval is sought. A particular type of aircraft may be used for one or several courses of training provided that aircraft meets the requirements of Section 141.39 and is not prohibited from performing any of the procedures and maneuvers required by the particular course of training for which it will be used.

49. AIRCRAFT USED FOR INSTRUMENT TRAINING. Aircraft used for instrument training must be equipped as follows to meet the requirements of Part 141:

a. If the approved training syllabus requires flights under Instrument Flight Rules under Part 91, the aircraft used must be one in which instrument flight is authorized by its operating limitations and by its equipment; or

b. If the approved training syllabus requires only simulated IFR operations, the aircraft must be equipped and maintained for IFR operations. It should be noted that under Part 91, simulated IFR operations need not be authorized by the aircraft's operating limitations; or

c. An aircraft not completely equipped for IFR operations may be used for instruction in the control and precision maneuvering of an aircraft by reference to instruments if it is approved in the training course outline. For example, an airplane need only be equipped with appropriate flight instruments needed for the basic instrument portion of a course of training.

50. COMPLEX AIRCRAFT REQUIREMENTS. The commercial pilot certification course (airplanes) and the commercial pilot test course (airplanes), set forth in Appendixes D and E of Part 141 (revised) require flight instruction in an airplane with a retractable gear, flaps, a controllable pitch propeller, and powered by AT LEAST a 180 hp engine. If a school applies for a commercial pilot certification or test course (airplanes) with a seaplane-class rating (using seaplanes for the entire course) a special curriculum should be submitted under Section 141.57, which includes the general requirement of Appendix D, Commercial Pilot Certification Course. The complex airplane used in such a course should have flaps, controllable pitch propeller and floats. The use of an airplane, amphibian, in a commercial pilot certification or test course could qualify a student for both a land and sea-class rating, provided the training course outline was so approved.

51. GROUND TRAINERS. When a ground trainer is used in an approved training course, the full extent of that use should be clearly stated in the training syllabus and the learning outcomes well defined. This is necessary to provide the instructor with proper guidance, and give the FAA a baseline on which to judge the adequacy of the trainer to be used.

a. Section 141.41(a) prescribes the requirements for ground trainers that may be used to obtain the maximum flight training credit allowed for ground trainers in an approved pilot training course.

b. Section 141.41(b) provides for the use of ground trainers that do not meet the more complex requirements of Section 141.41(a). There is a large number of ground trainers currently being used by pilot schools that do not meet all of the requirements proposed in

Section 141.41(a). In recognition of the fact that these trainers can be used to provide effective instruction in certain operations required in an approved course of training, provisions for their use have been made. However, it is imperative that the training syllabus clearly define their use. Because of their limitations, full credit against flight time is not to be allowed for instruction in such trainers. The provisions in Appendixes A, C, D, E and F allow credit for instruction in ground trainers for not more than 50 percent of the credit against the time allowed in a ground trainer meeting all of the requirements of Section 141.41(a). Discretion should be used when developing a training syllabus that substitutes ground trainer instruction for the flight time required in a complex airplane. Any use of a ground trainer in lieu of flight time in a complex airplane should be justified with clearly-stated learning outcomes in the training syllabus that support the skills expected to be learned in such an airplane. Approval of the training course outline will be based on the ability of the ground trainer to provide effective training for this kind of airplane if a ground trainer is to be used.

52. STAGE AND FINAL TESTS. As provided in Section 141.55, during the development of a training syllabus, it must be remembered that an appropriate number of stage checks are to be included in both ground training and flight courses to measure the student's accomplishment for each stage of training. This should assure standardization and compliance with the approved training course outline.

a. Stage checks must be given by the chief flight instructor that is responsible for a particular course of training or by his designated assistant. Proper entries are to be made in the student's training record recording the student's accomplishments and should comment on corrective training if needed.

b. The appendixes of Part 141 allow a certain amount of the time acquired during stage and final tests to be credited toward the ground training and flight time required by the particular curriculum. Remember, the time required for a stage or final test can vary significantly with each student. Even though only a specific amount of time acquired through these checks may be credited, every effort should be made to provide adequate time for objective and complete testing even though the total course time may exceed that prescribed in the curriculum.

APPENDIX 1. SAMPLE PRIVATE PILOT TRAINING COURSE OUTLINE

GENERAL

The following sample private pilot training course outline is intended to serve as a general guide to assist in the preparation of a training course outline for which FAA approval is sought. It is intended that pilot schools DEVELOP THEIR OWN TRAINING COURSE OUTLINES to meet the needs of their particular operation with respect to physical layout of the operation, their personnel, aircraft, kinds of training aids available, methods and procedures of operation, and the goals and standards of the school. The content of the training syllabi contained herein is not considered to be the optimum. The arrangement of syllabus content should be in a manner best suited to the individual school whose training procedures are often dictated by weather, location or specific training needs.

The sample contains a training syllabus for both private pilot ground and flight training and is designed to be taught concurrently.

1. A training course outline is required by Section 141.55 to meet at least the minimum curriculum requirements of the course prescribed in the appropriate appendixes of Part 141. If the school elects to submit a training course outline, based on a special curriculum approved under Section 141.57, such a course will be approved upon a showing that the course, as outlined, will achieve a level of training prescribed in the approved special curriculum.

2. It is intended that the appendixes of Part 141 include uniform curricula for approved courses of training but would not prescribe maneuvers and other details included in the curriculums contained in present Part 141. This was done to provide flexibility. This flexibility is necessary and directed by the fact that students trained under Part 141 (revised) must be tested under the upgraded and expanded requirements of Part 61 (revised).

3. DEFINITION OF TERMS.

   a. Curriculum. The courses offered by a flight school. A set of courses depicting total flight or ground instructing offered by a flight or ground school. In addition, a curriculum also refers to the overall general content of a course of instruction that is to be taught.

   b. Training Course Outline. An abbreviated listing of training directly supporting the curriculum offered in any one course.

   c. Training Syllabus. A step-by-step (building block) progression of learning with provision for regular review and evaluation at prescribed stages of learning. The syllabus defines the unit of training, states by objective what the student is expected to accomplish

during the unit of training, shows an organized plan for instruction (building block--from the simple to the complex) and dictates evaluation process for either the unit or stages of learning.

d. Lesson Plan. The instructor's plan for teaching a unit of learning. It is the very basic method for an orderly flow of information to a student based on the student's way of learning.

TRAINING COURSE OUTLINE SAMPLE

1. Brannon Aviation, located at Fairfax Airport, Fairfax, Virginia, and holds Air Agency Certificate No. 01-NW, is owned and operated as:

CAROLYN S. BRANNON

dba

BRANNON AVIATION

13206 POPLAR TREE ROAD

FAIRFAX, VA. 22030

2. COURSE TITLE. Private Pilot Certification Course - Airplane Single-Engine Land.

3. This training course outline meets all of the curriculum requirements for the Private Pilot Certification Course contained in Appendix A of Part 141 (revised) (describe the approved special curriculum if one is used as a basis for the training course outline).

4. The training syllabus herein contains a separate ground training course and a flight training course which will be taught concurrently.

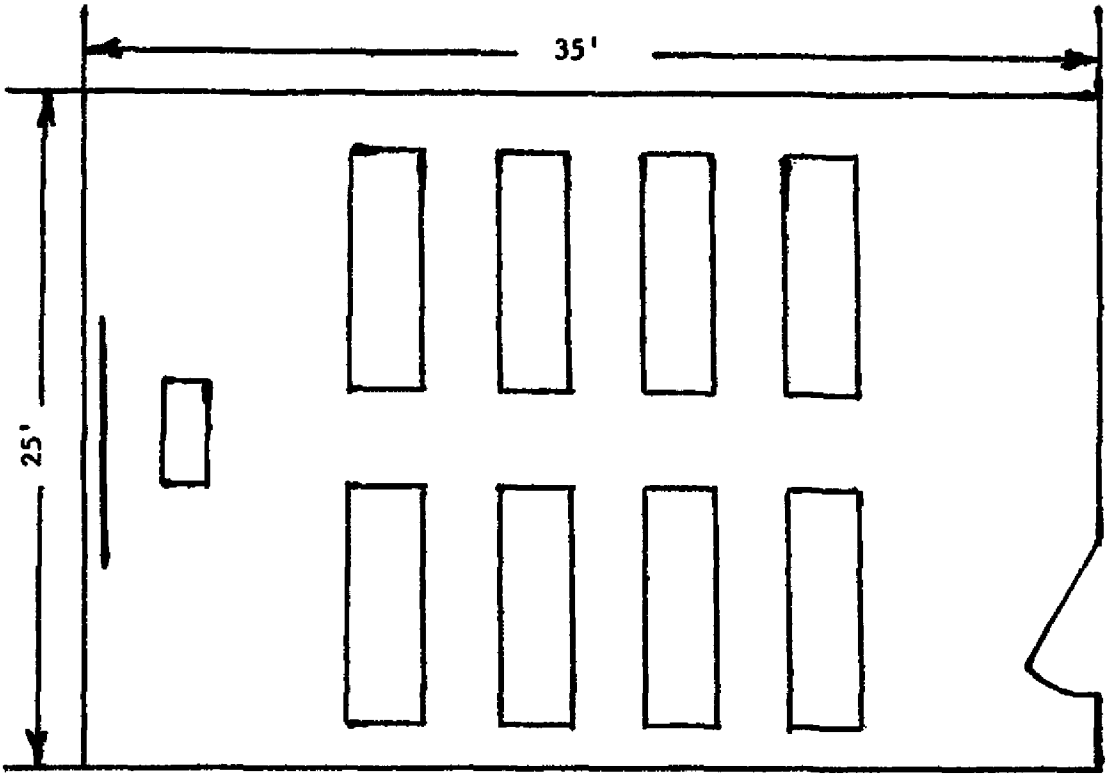
5. COURSE OBJECTIVE. The student will obtain the knowledge, skill and aeronautical experience necessary to meet the requirements for a private pilot certificate with an airplane category rating and a single-engine land class rating.

6. COMPLETION STANDARD. The student must demonstrate through written tests, flight tests, and show through appropriate records that he meets the knowledge, skill and experience requirements necessary to obtain a private pilot certificate with an airplane category rating and a single engine land class rating.

7. GROUND INSTRUCTIONAL FACILITIES. Ground instructional facilities are located in Hangar No. 12 at Fairfax Airport. They consist of two 25 by 25-foot rooms equipped with tables and chairs and instruction booths, as shown in the following diagrams.

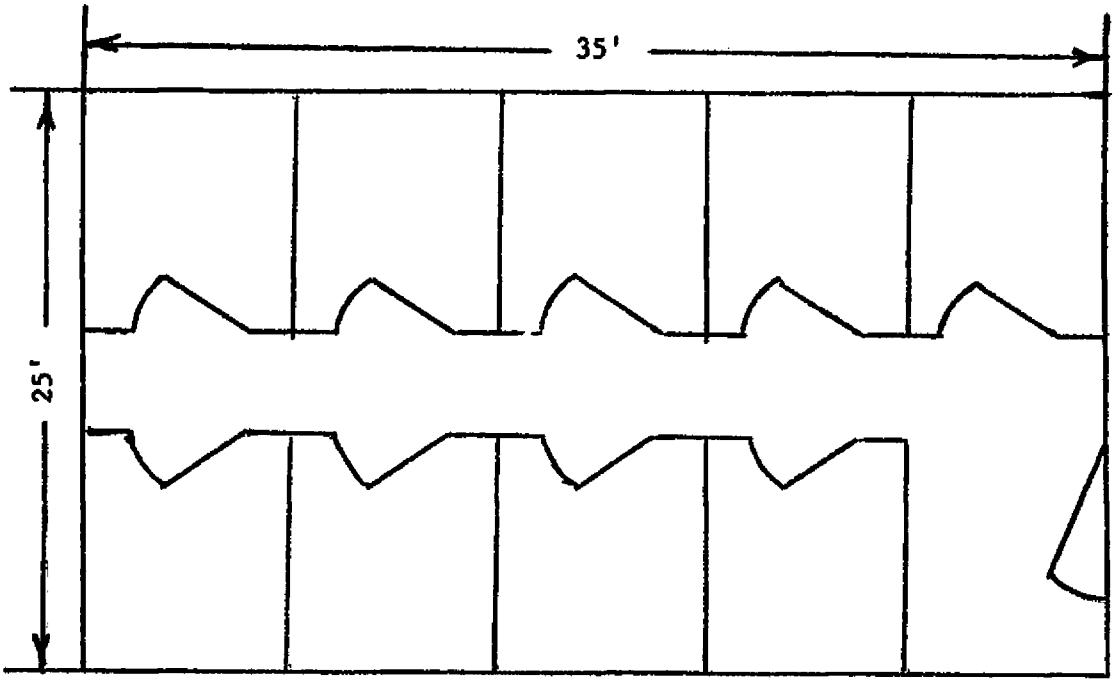
a. Training Room No. 1 is equipped with eight 36" by 72" tables and chairs to accommodate 16 students. The room is also equipped with a 36" by 60" chalk board, including a 16mm projector, an overhead projector and screen. The tables are equipped with a "four-answer" responder system with the master panel located on the instructor's lectern.

b. Training Room No. 1.



c. Training Room No. 2 is equipped with nine individual training booths. Booths one through eight are equipped with Apex Visual Screens and projectors. Booth No. nine is equipped with closed circuit television.

d. Training Room No. 2.



e. The training rooms are well lighted and the temperature is thermostatically controlled. Each room is well ventilated and conforms to local building, sanitation and health codes. The rooms are so designed and located that students will not be distracted by instruction conducted in the other rooms or by flight and maintenance operations on the airport.

8. AIRPORT. Fairfax Airport is the main operations base for training in this course. Flight training operations, including the dispatching of flight, will also be conducted at Centerville Airport, Centerville, Virginia. Both airports have hard surfaced runways and meet the requirements of Section 141.37 of the FAR for day and night flight operations. Each airport has fuel and maintenance services available from 0600-2200.

9. AIRPORT FACILITIES. Each airport is equipped with a pilot briefing area. These are permanent structures and are located in Hangar 12 at Fairfax Airport and in Hangar 1 at Centerville Airport. Both briefing areas are equipped with weather teletype reporting and a direct line telephone to the Fairfax FSS. The facilities are used exclusively by students, air taxi pilots, aircraft salesmen, itinerant pilots, and regular customers of Brannon Aviation. The briefing areas are 20' by 25' and equipped with numerous tables for planning purposes. The briefing areas have a full set of aeronautical charts, including the current AIM. Large wall maps depicting the entire U. S. along with a mileage indicator. The local practice areas are shown and described on a detailed chart posted on the wall.

10. AIRCRAFT. Bendix 180 airplanes will be used for all flight training in this course. These aircraft will meet the requirements of Section 141.39 of the FAR. Radio equipment will consist of at least one 360 channel transceiver and at least one VOR navigational receiver. In addition, each airplane is equipped for day and night VFR and IFR flying as specified in Section 91.33 of the FAR.

11. CHIEF FLIGHT INSTRUCTOR. The chief flight instructor for a course of training should be designated by name in the appropriate training course outline. If the school's qualifications for a chief flight instructor are higher than those listed in Section 141.35, those qualifications should be listed.

12. FLIGHT INSTRUCTORS. (The minimum qualifications and ratings for flight instructors must be listed in the training course outline.) For example: Each flight instructor assigned to this course must be the holder of at least a commercial pilot certificate with an airplane category rating and a single-engine land class rating. In addition, he must be the holder of a flight instructor certificate with an airplane category rating with a single-engine class rating and an instrument airplane rating. He must have a total of 1,000 hours of flying time, including at least 200 hours of flight instruction.

13. CHIEF GROUND INSTRUCTOR. If a chief ground instructor is used in a course of training, he should be designated by name in the appropriate training course outline. If the school's qualifications are higher than those listed in Section 141.35, they should be listed.

FIGURE 4. SAMPLE PAGE FOR RECORD OF CHANGES.

RECORD OF CHANGES

CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL USE	CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL USE

TRAINING COURSE OUTLINE--TRAINING SYLLABUS

PRIVATE PILOT CERTIFICATION COURSE AIRPLANE-SINGLE ENGINE LAND
GROUND TRAINING: 35 HOURS

1. GROUND TRAINING COURSE OBJECTIVES. The student will obtain the necessary aeronautical knowledge and meet the prerequisites specified in Part 61 of the FAR for a private pilot written test.

2. GROUND TRAINING COURSE COMPLETION STANDARDS. The student has demonstrated through oral, written tests, and records that he meets the prerequisites specified in Part 61 of the FAR, and has the knowledge necessary to pass the private pilot written test.

STAGE ONE--FAR AND OTHER PUBLICATIONS: 7:00 HOURS

1. STAGE ONE OBJECTIVE. To develop the student's knowledge of the Federal Aviation Regulations, Airman's Information Manual, Advisory Circular System, and the kind of flight operations authorized by his private pilot certificate.

2. STAGE ONE COMPLETION STANDARD. This stage will be successfully completed when the student passes the Stage One final written examination with a grade of 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

   a. Objective. During this lesson, the student will be introduced to the appropriate regulatory requirements of Part 61 and 91 of the Federal Aviation Regulations.

      CONTENT:

      (1) Airplane Registration and Airworthiness Certificate.

      (2) Federal Aviation Regulations, 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 requirements (including biennial flight review).

(h) Private pilot privileges and limitations.

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination, he displays a working knowledge of the appropriate portions of Parts 61 and 91 of the FAR, and demonstrates how to locate and use information in the rule.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the pertinent regulatory requirements of Part 91 and the accident report-rules of the NTSB as related to private pilot operations.

CONTENT:

(1) Part 91 of the FAR.

(a) General operating and flight rules.

(b) VFR requirements.

(c) IFR requirements (familiarization).

(d) Maintenance, preventative maintenance and alterations.

(e) Familiarization with Subpart D.

(2) National Transportation Safety Board Procedural Regulations, Part 430 - Notification and Reporting of Accidents.

b. Completion Standards. The lesson will be successfully completed when, by oral examination, the student can demonstrate how to locate and use information in the appropriate rule as related to private pilot operations.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. During this lesson, the student will be given instruction in the basic content of Parts 1, 2, 3 and 4 of the Airman's Information Manual for VFR operations and in the Advisory Circular System.

CONTENT:

(1) Airman's Information Manual.

(a) Air navigation radio aids.

(b) Airport 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 circulars Series 00, 20, 60, 70, 90, 150 and 170 (familiarization).

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination and demonstration, he displays basic knowledge of the appropriate Parts of the Airman's Information Manual for VFR operations and the Advisory Circular System.

6. STAGE ONE FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage One final written examination should be included with the training syllabus when submitted to the FAA for approval.

STAGE TWO - NAVIGATION: 9:00 HOURS

1. STAGE TWO OBJECTIVE. To develop the student's ability to plan and plot a VFR cross-country flight using pilotage, dead reckoning and radio navigation.

2. STAGE TWO COMPLETION STANDARD. This stage will be successfully completed when the student passes the Stage Two final written examination with a grade of 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the operation of aircraft radios and the use of radio phraseology with respect to air traffic control facilities. The flight computer will be introduced along with the basic use of aeronautical charts.

CONTENT:

(1) Radio communications.

(a) Operation of the communications radio equipment.

(b) Ground control.

(c) Tower.

(d) ATIS.

(e) Flight service station.

(f) UNICOM.

(g) Technique and phraseology.

(h) ATC light signals.

(2) Flight computer - slide rule face.

(a) Time.

(b) Speed.

(c) Distance.

(d) Fuel consumption.

(3) VFR navigation.

(a) Aeronautical charts.

(b) Measurement of courses.

(c) Pilotage.

b. Completion Standards. The student will have successfully completed the lesson when, by oral examination and demonstration, he displays basic knowledge of radio communications, ATC facilities and aeronautical charts. He will be able to solve elementary problems on the flight computer.

LESSON NO. 2 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the fundamentals of navigation, the operation of navigational radio equipment, and advanced problems on the flight computer.

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 ground speed.

(c) Review, time, speed, distance, and fuel consumption problems on the computer.

b. Completion Standards. The student will have successfuly completed the lesson when, by oral examination and demonstration, he has a basic knowledge of navigation and the use of radio aids. He will be able to solve fundamental and advanced problems on the flight computer.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. Lesson Two will be reviewed. Advanced radio navigational problems, emergency procedures with respect to cross-country flying and flight planning will be introduced.

CONTENT:

(1) Review Lesson Two.

(2) Use of ADF.

(3) Radar.

(4) Use of VOR, intercepting radials.

(5) Emergency procedures.

(a) Diversion to an alternate.

(b) Lost procedures, including use of radar and DF instructions.

(c) In-flight emergencies, including forced landings.

(6) Transponder.

(7) DME.

(8) Review flight planning.

(9) Review computer.

b. Completion Standards. This lesson will be completed when, by oral examination and demonstration, the student has a working knowledge of advanced radio navigation procedures, emergency procedures and solving of flight computer problems.

LESSON NO. 4 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in advanced flight planning, review of flight computer problems, and will be introduced to the medical factors related to flight and general safety precautions. At this time, the school procedures for cross-country training flights will be introduced.

(1) Flight planning.

(2) Review computer.

(3) Medical factors related to flight.

(a) Fatigue.

(b) Hypoxia.

(c) Hyperventilation.

(d) Alcohol.

(e) Drugs.

(f) Vertigo.

(g) Carbon monoxide.

(4) General safety.

(a) Collision avoidance precautions.

(b) Wake turbulence avoidance.

(c) Fire - in the air and on the ground.

(d) Use of fire extinguishers.

(e) Ground handling of aircraft.

(5) School procedures for dispatching flights after unscheduled stops.

(6) Obtaining maintenance away from the home base.

b. Completion Standards. This lesson will be completed when, by oral examination and demonstration, the student displays knowledge of medical factors related to flight, general safety procedures, and school policy and procedures for cross-country training flights.

7. STAGE TWO FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage Two final written examination, along with its passing standards, should be included with the training syllabus when submitted to the FAA for approval.

STAGE THREE - WEATHER: 7:00 HOURS

1. STAGE THREE OBJECTIVE. To develop the ability to recognize critical weather situations from both the ground and in flight, procedures and use of appropriate aeronautical weather reports and forecasts.

2. STAGE THREE COMPLETION STANDARDS. The student will have successfully completed this stage when he passes the Stage Three final written examination with a grade of at least 80 percent.

3. LESSON NO. 1 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the fundamentals of weather as associated with the operation of aircraft.

CONTENT:

(1) Aviation weather basics.

(a) Atmospheric layers.

(b) Pressure.

(c) Circulation.

(d) Temperature and moisture.

(e) Stability and lapse rates.

(f) Turbulence.

(g) Clouds.

(2) Air masses.

(3) Fronts.

(4) Aircraft icing.

(5) Thunderstorms.

b. Completion Standards. This lesson will be completed when, by oral examination, the student demonstrates fundamental knowledge of aviation weather.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objective. Lesson One will be reviewed. The interpretation and use of weather reports, forecasts, aviation broadcasts and the obtaining of weather briefings will be introduced.

CONTENT:

(1) Review Lesson No. 1.

(2) Aviation weather reports.

(a) Hourly sequence reports.

(b) Special surface reports.

(c) Pilot reports.

(d) Radar reports.

(3) Aviation weather broadcasts.

(a) Transcribed weather broadcasts.

(b) In-flight weather advisories.

(4) Weather briefings.

(5) Review requirements of regulations for VFR flight.

(6) Aviation weather forecasts.

(a) Area forecasts.

(b) Terminal forecasts.

(c) Wind-aloft forecasts and reports.

b. Completion Standards. The lesson will be completed when, by oral examination and demonstration, the student can interpret and use aviation weather reports, forecasts and can obtain a weather briefing.

5. LESSON NO. 3 - 2:00 HOURS.

a. Objective. This lesson will consist of a review of the previous two lessons and instruction in the use of Greenwich time, in-flight weather advisories and weather recognition.

CONTENT:

(1) Review Lessons No. One and Two.

(2) Greenwich time.

(3) In-flight weather advisories.

(4) Weather recognition.

b. Completion Standards. This lesson will be completed when, by oral examination, the student has a working knowledge of Greenwich time and in-flight aviation weather advisories.

6. STAGE THREE FINAL WRITTEN EXAMINATION - 1:00 HOUR. A copy of the Stage Three final written examination should be included with the training syllabus when submitted to the FAA for approval.

STAGE FOUR--FLIGHT FUNDAMENTALS AND AIRPLANE SYSTEMS: 12:00 HOURS

1. STAGE FOUR OBJECTIVE. To develop the student's knowledge to operate an airplane safely in high density airport operations, using collision avoidance precautions and radio communication procedures.

2. STAGE FOUR COMPLETION STANDARDS. This stage will be successfully completed when the student passes the Stage Four final written examination with a grade of 80 percent.

3. LESSON ONE - 2:00 HOURS.

a. Objectives. During this lesson, the student will be instructed in the four basic maneuvers of flight.

CONTENT:

(1) Straight and level flight.

(a) Pitch, bank and yaw.

(b) Trim.

(c) Integrated use of outside reference and flight instruments.

(2) Level turns.

(a) Forces in a turn.

(b) Aileron yaw.

(c) Speed of roll.

(d) Slips and skids.

(e) Integrated use of outside reference and flight instruments.

(3) Climbs and climbing turns.

(a) Gyroscopic action.

(b) Asymmetrical loading of propeller ("P" factor).

(c) Slipstream rotation.

(d) Torque effect.

(e) Best rate of climb airspeed.

(f) Best angle of climb airspeed.

(g) 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.

b. Completion Standards. The student will have successfully completed the lesson when, by means of an oral test, he displays a basic understanding of the fundamentals of flight presented in this lesson and in previous flight training.

4. LESSON NO. 2 - 2:00 HOURS.

a. Objectives. During this lesson, Lesson One will be reviewed. The student will be instructed in the fundamentals of flight basic aerodynamics, including load factors.

CONTENT:

(1) Review Lesson No. 1.

(2) Forces action on an airplane in flight.

(a) Lift.

(b) Weight.

(c) Thrust.

(d) Drag.

(3) Airfoils.

(a) Angle of incidence.

(b) Angle of attach.

(c) Bernoulli's Principle.

(4) Factors affecting lift and drag.

(a) Wing area.

(b) Airfoil shape.

(c) Angle of attack.

(d) Airspeed.

(e) Air density.

(5) Functions of the controls.

(a) Axis 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.

(6) Stability.

(a) Static stability.

(b) Dynamic stability.

(7) 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.

b. Completion Standards. This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the fundamentals of flight, basic aerodynamics, and load factors.

LESSON NO. 3 - 2:00 HOURS.

a. Objective. During this lesson, the student will be instructed in the use of the owner's handbooks, flight manuals and weight and balance, and fundamental flight training maneuvers will be introduced.

CONTENT:

(1) Use of data in owner's handbook or FAA-approved Airplane Flight Manual.

(a) Takeoff and landing distances.

(b) Fuel consumption and related charts.

(c) Maximum range power settings; maximum endurance power settings.

(2) Weight and balance.

(a) Terms and definitions.

(b) Effects of abnormal balance.

(c) Finding loaded weight.

(d) Finding center of gravity; when weight is shifted; when weight is added or removed.

(3) Maneuvering at minimum controllable airspeed.

(4) Stalls.

(a) Theory of stalls.

(b) Imminent stalls - power on and power off.

(c) Full stalls - power on and power off.

(5) Steep turns.

(6) 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 about a point.

(f) Eights around pylons.

b. Completion Standards. This lesson will be completed successfully when, by demonstration, the student has a basic knowledge of the owner's handbook, flight manual, weight and balance, and the fundamentals of basic flight training maneuvers.

6. LESSON NO. 4 - 2:00 HOURS.

a. Objective. The student will be instructed in flight training maneuvers, including an introduction to attitude instrument flying.

CONTENT:

(1) Review Lesson No. Three.

(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 basic attitude instrument flying. Maneuvering by reference to flight instruments - pitch, bank, power and trim control in the performance of basic maneuvers.

(a) Straight and level flight.

(b) Turns.

(c) Climbs.

(d) Descents.

(e) Recovery from unusual attitudes.

b. Completion Standards. This lesson will be completed successfully when, by oral examination and demonstration, the student displays a basic knowledge of the fundamentals of flight training maneuvers and attitude instrument flying.

7. LESSON No. 5 - 2:00 HOURS.

a. Objective. During this lesson the student will be instructed in systems and instruments.

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 simple airplane hydraulic systems.

(d) Retractable landing gear and flaps.

(e) Malfunctions and remedial actions.

(5) Airplane electrical systems.

(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) Altitude indicator.

(b) Heading indicator.

(c) Turn and slip indicator.

(8) Magnetic compass.

(a) Errors in the magnetic compass.

(b) Use of the magnetic compass.

b. Completion Standards. This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the aircraft systems and instruments.

8. LESSON NO. 6 - 2:00 HOURS.

a. Objective. During this lesson the student will be instructed in the fundamentals of night flying. Previous lessons will be reviewed as necessary.

CONTENT:

(1) Review Lessons One through Five.

(2) Night flying.

(a) Requirements of regulations.

(b) Preparation.

(c) Equipment.

(d) Night vision.

(e) Airport lighting.

(f) Orientation.

(g) VFR navigation.

(h) Weather factors.

(3) Partial and complete power failure.

(a) Sample situations.

(b) Recommended courses of action.

(4) Systems and equipment malfunctions.

(a) Sample situations.

(b) Recommended courses of action.

b. Completion Standards. The lesson will be completed successfuly when the student, by oral examination and demonstration, displays a working knowledge of the fundamentals of night flying.

9. STAGE FOUR FINAL EXAMINATION. A copy of the final examination to be given should be included with the training syllabus when submitted to the FAA for approval.

TRAINING COURSE OUTLINE--TRAINING SYLLABUS
PRIVATE PILOT CERTIFICATION COURSE AIRPLANE-SINGLE ENGINE LAND
FLIGHT TRAINING: 35 HOURS

1. ENROLLMENT PREREQUISITES. Students enrolling in this flight course must possess a valid student pilot certificate and hold at least a current third-class medical certificate.

2. FLIGHT TRAINING COURSE OBJECTIVES. The student will obtain the aeronautical skill and experience necessary to meet the requirements for a Private Pilot Certificate with an airplane category rating and single engine land class rating.

3. FLIGHT TRAINING COURSE COMPLETION STANDARDS. The student has demonstrated through flight test and school records that he has the necessary aeronautical skill and experience to obtain a Private Pilot Certificate with an airplane category rating and single engine land class rating.

STAGE ONE - SOLO FLIGHT EIGHT HOURS DUAL, ONE HOUR SOLO

1. STAGE ONE OBJECTIVES. The student will be instructed in the basic flying procedures and skills necessary for the first solo flight.

2. STAGE ONE COMPLETION STANDARDS. The stage will be completed when the student satisfactorily passes the Stage One check and is able to conduct solo flights safely.

3. FLIGHT LESSON ONE (ONE HOUR) DUAL.

   a. Objectives. The student will be familiarized with the training airplane, its operating characteristics, cabin controls, instruments, and systems, preflight procedures, use of checklists, and safety precautions to be followed. The student will be instructed in basic flight maneuvers.

   CONTENT:

   (1) Preflight discussion.

   (2) Introduction.

      (a) Purpose of preflight checks.

      (b) Line (preflight) inspection.

      (c) Importance of using a checklist.

      (d) Engine start.

      (e) Basic radio procedures.

(f) Taxi.

(g) Pre-takeoff checklist.

(h) Takeoff (normal or crosswind).

(i) Traffic pattern departure.

(j) Local flying area familiarization.

(k) Straight and level flight (VR and IR). 1/

(l) Medium bank turns (VR and IR).

(m) Collision avoidance.

(n) Traffic pattern entry.

(o) Ground safety.

(3) Post flight critique and preview of next lesson.

b. Completion Standards. At the completion of this lesson, the student should be able to, with assistance, conduct a preflight, use checklists, make engine runups, maintain altitude in straight and level and turns, within ± 200 feet and control heading with ± 20°, and display an understanding of ground safety.

4. FLIGHT LESSON TWO (ONE HOUR) DUAL.

a. Objectives. The student will receive instruction and review on basic flight maneuvers. Instruction in climbs, climbing turns, glides, gliding turns, and level off procedures will be given.

CONTENT.

(1) Preflight discussion.

(2) Review.

(a) Normal or crosswind takeoff.

(b) Traffic pattern departure.

(c) Medium bank turns (VR) and (IR).

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

(d) Straight and level flight (VR) and (IR).

(3) Introduction.

(a) Airplane servicing.

(b) Climbs and climbing turns (VR) and (IR).

(c) Glides and gliding turns (VR) and (IR).

(d) Torque effect.

(e) Level off from climbs and glides (VR) and (IR).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should be able to establish proper climbs and descents, and control airspeed, within ± 10 knots with power and altitude adjustments, hold altitude within ± 100 feet and headings within ± 10°.

5. FLIGHT LESSON THREE (ONE HOUR) DUAL.

a. Objectives. This flight period will be a review of maneuvers and procedures previously introduced. Flight at minimum controllable airspeed, steep power turns and power off stalls will be given.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Use of checklist.

(b) Basic radio communications procedure.

(c) Engine starting.

(d) Straight and level flight (VR) and (IR).

(e) Medium bank turns (VR) and (IR).

(f) Climbs and climbing turns (VR) and (IR).

(g) Glides and gliding turns (VR) and (IR).

(h) Level off procedures (VR) and (IR).

(3) Introduction.

(a) Steep power turns.

(b) Descents and descending turns (VR) and (IR).

(c) Aproach to landing and preview of next lesson.

(d) Flight at minimum controllable airspeed (VR) and (IR).

(e) Power off stalls (imminent and full).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will be expected to display proficiency in maintaining airspeed within ± 10 knots of appropriate airspeeds. Loss or gain of altitude should be restricted to within ± 100 feet and heading control within ± 10° while in straight and level flight.

6. FLIGHT LESSON FOUR (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of all previous maneuvers, S-turns across a road, turns about a point, power on stalls, and elementary emergency landings will be introduced.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Straight and level flight.

(b) Medium bank turns.

(c) Flight at minimum controllable airspeed.

(d) Takeoff and pattern departure.

(e) Power off stalls.

(f) Steep power turns.

(g) Pattern entry.

(3) Introduction.

(a) Power on stalls (imminent and full) (VR) and (IR).

(b) S-turns.

(c) Turns about a point.

(d) Elementary emergency landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will have successfully completed the lesson when he is competent to perform, with minimum assistance, the procedures and maneuvers given during previous lessons. He should achieve the ability to recognize stall indications and make safe prompt recoveries. He should maintain assigned airspeed within ±10 knots, assigned altitude within ± 100 feet and assigned heading within ± 10°, and display a basic knowledge of elementary emergency landings.

7. FLIGHT LESSON FIVE (ONE HOUR) DUAL.

a. Objectives. In addition to review items, the student will be introduced to emergency procedures, the procedures used to change airspeed and configuration of the aircraft in various flight attitudes.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Slow flight.

(b) Steep power turns.

(c) Stall.

(3) Introduction.

(a) Best rate of climb and climbing turns (VR) and (IR).

(b) Best angle of climb and climbing turns (VR) and (IR).

(c) Emergency procedures.

(d) Change of airspeed and configuration.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display, through performance and discussion, complete understanding of possible emergencies and procedures to use during the flight. The student should maintain airspeed within ± 10 knots of assigned airspeeds.

8. FLIGHT LESSON SIX (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of previous maneuvers and an introduction to rejected landing procedures. At least three takeoffs and landings to a full stop will be accomplished with instructor guidance.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Best rate of climb and climbing turns (VR) and (IR).

(c) Best angle of climb and climbing turns (VR) and (IR).

(d) Power on stall (imminent and full).

(e) Steep power turns (VR) and (IR).

(f) Emergency procedures.

(g) Airspeed and configuration changes (VR) and (IR).

(h) Climbing and descending turns (VR) and (IR).

(i) Normal and crosswind takeoffs and landings.

(3) Introduction.

(a) Rejected landing.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should perform with proficiency the basic flight maneuvers; he should demonstrate the ability to maintain altitude within $\pm$ 100 feet and ability to control heading within $\pm$ 10°, and control airspeed within $\pm$ 10 knots of preselected airspeed, where applicable.

9. FLIGHT LESSON SEVEN (ONE HOUR) DUAL

a. Objectives. This lesson will consist of a review of previous maneuvers and procedures. The student should perform those maneuvers and procedures for evaluation and practice in preparation for solo.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Power off stalls (imminent and full).

(c) Steep power turns.

(d) Emergency procedures.

(e) Airspeed configuration changes (VR) and (IR).

(f) Climbing and descending turns.

(g) Normal and crosswind takeoffs and landings.

(h) Go-around procedures.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should perform the basic flight maneuvers and demonstrate the ability to maintain altitude within ± 100 feet and to control heading within ± 10° of that assigned. In addition, the student should control airspeed within ± 10 knots of the preselected airspeed.

10. FLIGHT LESSON EIGHT (ONE HOUR) DUAL.

a. Objectives. This lesson will consist of a review of selected maneuvers and procedures. In addition, the student will continue takeoff and landing practice.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Straight and level flight (VR) and (IR).

(b) Medium bank turns (VR) and (IR).

(c) Takeoff and pattern departure.

(d) Pattern entry and normal and/or crosswind landings.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display skill and understanding in the execution of selected maneuvers and procedures and show solo competence while executing takeoffs and landings.

11. FLIGHT LESSON NINE (ONE HOUR) DUAL FIRST SOLO FLIGHT.

a. Objectives. During this lesson the student will accomplish his first supervised solo flight if he displays the required level of safety and competence.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Medium bank turns (VR) and (IR).

(b) Best rate of climb and climbing turns.

(c) Best angle of climb and climbing turns.

(d) Emergency procedures.

(e) Normal and crosswind takeoffs and landings.

(f) Go-around procedures.

(3) Introduction.

(a) Supervised solo in the traffic pattern (approximately 15 minutes, three takeoffs and landings).

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the ability to successfully perform his first supervised solo flight.

12. STAGE CHECK: STAGE ONE, SOLO FLIGHT (ONE HOUR).

a. Objectives. During this flight, the chief flight instructor or his assistant will determine if the student can safely conduct solo flights and exercise the privileges associated with the solo operation of the airplane.

b. Completion Standards. The student will be evaluated on the basis of the following standards:

(1) Maintain altitude within ± 100 feet.

(2) Control heading within ± 10°.

(3) Control airspeed within ± 5 knots.

(4) Maintain coordinated control of the airplane.

(5) Display reasonable skill and understanding in the execution of all Stage One maneuvers and procedures.

STAGE TWO - CROSS COUNTRY: SEVEN HOURS DUAL, FIVE HOURS SOLO

1. STAGE TWO OBJECTIVES. The student will be instructed in the conduct of cross-country flights in an airplane using pilotage, dead reckoning, and radio navigation (VOR and ADF). He will also be instructed in operations within the ATC environment under VFR conditions.

2. STAGE TWO COMPLETION STANDARDS. The stage will be completed when the student has demonstrated through stage check, solo flight and records that he can safely conduct solo cross-country flights in an airplane using pilotage, dead reckoning, and radio navigation under VFR conditions.

3. FLIGHT LESSON ONE (ONE HOUR) DUAL AND SOLO.

a. Objective. During this lesson the student will operate the airplane in the traffic pattern in solo flight after an appropriate checkout by a flight instructor.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Collision avoidance.

(b) Traffic pattern.

(c) Normal and crosswind landings and takeoffs.

(3) Solo flight in the traffic pattern.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the proficiency and competency required to act as pilot in command on subsequent solo flights. The student should display full understanding of proper radio procedures and ground traffic procedures.

4. FLIGHT LESSON TWO (ONE HOUR) DUAL.

a. Objectives. The student will be able to demonstrate, recognize and recover from accelerated stalls, obtain maximum performance during short and soft field takeoffs and landings, and determine his position and track using VOR navigation.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Basic radio procedures.

(b) Medium bank turns (VR) and (IR).

(c) Climbs and descents (VR) and (IR).

(d) Steep power turns (VR) and (IR).

(3) Introduction.

(a) Accelerated stalls.

(b) Short and soft field takeoffs.

(c) Short and soft field approaches and landings.

(d) Basic radio navigation, VOR position finding and VOR tracking.

(e) Solo flight within traffic pattern.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will demonstrate that he is able to recognize and recover from accelerated stalls, obtain maximum performance during short and soft field takeoffs and landings and determine his position and track within ± 2 miles using VOR navigation.

5. FLIGHT LESSON THREE (ONE HOUR) SOLO.

a. Objective. During this solo period, the student will review and practice the basic and precision flight maneuvers learned previously, in addition to those maneuvers specified by the flight instructor.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Flight at minimum controllable airspeeds.

(b) Stalls, power-on and power-off.

(c) S turns across a road.

(d) Normal and/or crosswind landings.

(e) Maneuvers specified by the flight instructor during the preflight discussion.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards.

This lesson will be completed when the student has accomplished the solo review and practice of basic and precision flight maneuvers in addition to those maneuvers specified by the flight instructor.

5. FLIGHT LESSON FOUR (ONE HOUR) NIGHT - DUAL

a. Objectives. During this lesson, the student's ability should be developed to a level which will enable him to make solo night flights in the local practice area and airport traffic pattern. He will be instructed in such aspects of night operations as: night vision, night orientation, judgment of distance, use of cockpit, position and 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 techniques.

(h) Collision avoidance.

(i) Unusual altitude recovery.

(j) Emergencies.

(2) Demonstration and directed performance.

(a) Night line inspection.

(b) Use of cockpit lights.

(c) Taxi technique.

(d) Takeoff and traffic departure.

(e) Area orientation.

(f) Interpretation of aircraft and airport lights.

(g) Recovery from unusual altitudes (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 blackout landing.

(3) Student performance -5 takeoffs and landings as solo manipulator of the flight controls.

(a) Takeoff and traffic departure.

(b) Traffic entry.

(c) Full stop landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will have successfully completed the lesson when he 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. He should display through oral examination and demonstrations, competence in performing night emergency procedures.

7. FLIGHT LESSON FIVE (TWO HOURS) - DUAL

a. Objectives. The student will be able to navigate using pilotage, dead reckoning and radio navigation. He will be able to compute fuel consumption and ETA's to checkpoints and destinations (include names of destination airports).

CONTENT:

(1) Preflight discussion and preparation.

(a) Weather analysis and notices to airman.

(b) Cross-country planning log.

(c) Airports.

(d) Aircraft performance.

(e) FAA flight plan.

(2) Introduction; Three-leg round robin day cross-country flight.

(a) Pilotage navigation - all three legs.

(b) Dead reckoning navigation - all three legs.

(c) VOR or ADF navigation on two legs (preferably last two).

(d) Compute ETA's and fuel consumption - all three legs.

(e) Departure procedures (open flight plan).

(f) Enroute procedures.

(g) Arrival procedures - (close flight plan, obtain airport advisories, etc.).

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has demonstrated that he can navigate using pilotage, dead reckoning, radio navigation, and make necessary radio communications. He should demonstrate computation of ETA's and fuel consumption for each leg of the flight.

8. FLIGHT LESSON SIX (TWO HOURS) - DUAL.

a. Objectives. During this lesson, a dual cross-country flight will be planned to (blank) airport. However, a diversion to an alternate will be made prior to arrival. The student will perform all required navigation procedures, and display the ability to safely conduct solo cross-country flights.

CONTENT:

(1) Preflight discussion and preparation.

(a) Weather analysis and NOTAMs.

(b) Cross-country planning log.

(c) Airports.

(d) Aircraft performance.

(e) FAA flight plan.

(2) Introduction: Diversion to alternate airport.

(a) Emergency computation of a flight course.

(b) Determining position by VOR or ADF.

(3) Review.

(a) Pilotage, dead reckoning and VOR or ADF radio navigation.

(b) Computing ETA's and fuel consumption.

(c) Emergency (including lost) procedures.

(d) Departure procedures.

(e) En route procedures.

(f) Arrival procedures.

(g) Crosswind takeoffs and landings.

(h) Arrival.

(i) Straight and level flight (VR) and (IR).

(j) Climbs and climbing turns (VR) and (IR).

(k) Glides and gliding turns (VR) and (IR).

(l) Level off procedures (VR) and (IR).

(m) Crosswind takeoffs and landings.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student will be expected to demonstrate the ability to conduct cross-country flights using various means of navigation. He should display a thorough knowledge of cross-country flight planning, weather analysis and use of proper publications. He should be able to compute ETA's, fuel consumption, and other computer problems associated with cross-country planning. He should be able maintain altitude within ± 200 feet and headings within ± 10°. He should be able to use the various means of navigation to maintain his planned course within one mile. In addition, he should be able to identify his position at all times.

9. FLIGHT LESSON SEVEN (THREE HOURS) - SOLO.

a. Objectives. During this lesson student will conduct a three-leg solo cross-country flight using pilotage, dead reckoning and radio navigation (VOR or ADF). (This cross-country flight should be over the same course as the first dual cross-country.)

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed solo cross-country flight consisting of three legs using pilotage, dead reckoning, and radio navigation.

10. STAGE CHECK: STAGE TWO, CROSS COUNTRY (ONE HOUR).

a. Objectives. To confirm that the student can plan and conduct a cross-country flight, including a diversion to an alternate airport, as necessary, to avoid adverse weather. This stage check will be conducted by the Chief Flight Instructor, or his assistant.

b. Completion Standards. The student will be expected to demonstrate the ability to safely conduct cross-country flight operations and should display a thorough knowledge of proper preflight action, flight planning, weather analysis and publications available. He should perform all duties of pilot in command with smoothness, accuracy and competence. He should be able to divert to an alternate airport and give a reasonable estimate of his arrival time and remaining fuel. Prior to arrival at the alternate airport, he will be placed under the hood until lost. The student should be able to locate himself within

three miles without aid from the instructor by using all of the means available. The student will:

(1) Establish and maintain headings required to stay on course;

(2) Correctly identify his position at any time by various means;

(3) Provide reasonable estimates of ETA's with an apparent error of not more than ten minutes;

(4) Maintain altitude within ± 200 feet; and

(5) Establish a course to an alternate, and within a reasonable time, give an acceptable estimate of the time and required fuel to the alternate.

STAGE THREE - PILOT OPERATIONS: FIVE HOURS DUAL, NINE HOURS SOLO

1. STAGE THREE OBJECTIVES. The student will gain further experience in solo cross-country practice and receive instruction in preparation for the private pilot airplane flight test.

2. STAGE THREE COMPLETION STANDARDS. This stage will be completed when the student satisfactorily passes the final stage check for the course.

3. FLIGHT LESSON ONE (THREE HOURS SOLO CROSS COUNTRY).

a. Objectives. During this lesson the student will conduct a three-leg solo cross-country with landings at two different airports (name airports), with stops at each airport.

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed a solo cross-country flight to two airports (name airports) with stops at each airport. The instructor should determine how well the cross-country flight was conducted through an oral examination, and a check should be made to determine that all required flight log entries have been made.

4. FLIGHT LESSON TWO (FOUR HOURS SOLO CROSS COUNTRY).

a. Objectives. During this lesson, the student will conduct a three-leg solo cross-country with landings at two different airports (name airports).

CONTENT:

(1) Preflight discussion.

(2) Preparation.

(3) Solo cross-country flight.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed a solo cross-country flight to two airports (name airports), with stops at each airport. The instructor should determine how well the cross-country flight was conducted through an oral examination; and a check should be made to determine that all required flight log entries have been made.

5. FLIGHT LESSON THREE (ONE HOUR DUAL).

a. Objectives. The student will be able to perform advanced maneuvers and recover from unusual attitudes solely by reference to the flight instruments, and conduct ASR approaches.

CONTENT:

(1) Preflight discussion.

(2) Review.

(a) Short field takeoffs and landings.

(b) Soft field takeoffs and landings.

(c) Ground reference maneuvers as needed.

(d) Flight at minimum controllable airspeed.

(e) Stalls (imminent and full) (power-on and power-off).

(f) Steep power turns.

(g) Maneuvers by reference to flight instruments.

(h) Emergency operations.

(3) Introduction of ASR approaches.

(4) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should demonstrate proficiency in all required advanced maneuvers, recovery from unusual attitudes solely by reference to the flight instruments, and conduct ASR approaches.

6. FLIGHT LESSON FOUR (ONE HOUR) - SOLO.

a. Objectives. The student will be able to perform specific solo flight maneuvers assigned by the flight instructor to increase proficiency.

CONTENT:

(1) Preflight discussion.

(2) Performance of assigned maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed the specific solo flight maneuvers assigned by the flight instructor.

7. FLIGHT LESSON FIVE (ONE HOUR DUAL).

a. Objectives. During this lesson, the instructor will determine the student's proficiency in all maneuvers and procedures necessary to conduct flight operations as a private pilot.

CONTENT:

(1) Preflight discussion.

(2) Review of previously covered procedures and maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student should display the ability to meet the requirements as outlined in the private pilot test guide for operations as a private pilot.

8. FLIGHT LESSON SIX (ONE HOUR) SOLO.

a. Objectives. During this lesson, the student will practice maneuvers specified by the flight instructor to increase proficiency.

CONTENT:

(1) Preflight discussion and orientation.

(2) Performance of assigned maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student has completed the specific solo flight maneuvers assigned by the flight instructor.

9. FLIGHT LESSON SEVEN (ONE HOUR DUAL).

a. Objectives. During this lesson the instructor will make a further determination of the student's proficiency in all maneuvers and procedures necessary to conduct flight operations as a private pilot.

CONTENT:

(1) Preflight discussions.

(2) Review of previously covered procedures and maneuvers.

(3) Post-flight critique and preview of next lesson.

b. Completion Standards. The student's performance of the procedures and maneuvers should be at the proficiency level of a private pilot.

10. STAGE CHECK: STAGE THREE, FINAL CHECK (ONE HOUR).

a. Objectives. The student will be able to demonstrate the required proficiency in the practical test for a private pilot certificate. This stage check will be conducted by the Chief Flight Instructor, or his assistant.

CONTENT:

(1) Preflight discussion, including an oral examination.

(2) Review of the private pilot flight test.

(3) Post-flight critique.

b. Completion Standards. The student will demonstrate the required proficiency in the practical test for a private pilot certificate. The standard of performance used may be presented by the school, but in no case less than that prescribed by the FAA. If additional instruction is necessary, the chief flight instructor or his assistant will assign the additional training. If the flight is satisfactory, the chief flight instructor will complete the student's training records and issue an appropriate graduation certificate.

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