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SAFETY BUREAU
CIVIL AERONAUTICS BOARD
Washington 25, D. C.

July 14, 1944

SUGGESTED NEW PART 43 OF THE CIVIL AIR REGULATIONS

Attached for your consideration and comment is a draft of the suggested new Part 43 of the Civil Air Regulations which covers non-air carrier operation rules. This is the third step in the revision of those Parts of the Civil Air Regulations which directly affect the private and commercial pilot, and the Civil Aeronautics Board has authorized the Safety Bureau to circulate it for preliminary comment by interested persons prior to their consideration thereof. With the completion of these revisions all classes of non-air carrier pilots, owners, and operators will find all of the regulations which directly affect them with respect to certification and operation in the following three Parts:

Part 60 - Air Traffic Rules (Released for comment Jan. 15, 1944)
Part 20 - Pilot Certificates (Released for comment March 24, 1944)
Part 43 - Non-Air Carrier Operation Rules (Released herewith)

In the revision and rearrangement of these regulations, we have had three objectives in mind. First, to eliminate from those regulations governing the student and private pilot and the ownership and operation of non-commercial aircraft all rules which did not have as their objective the public safety; second, to so group the rules that pilots and owners can readily find the regulations which govern them; and third, to so word these regulations that they are readily understandable to all concerned.

It has been our endeavor to secure the cooperation through constructive comment and discussion of as many pilots, operators, and other interested parties as possible to assist us in this work. Our appeal in this regard relative to Parts 20 and 60 received your wholehearted response, particularly with respect to the difficult problems of weather minimums. We believe that the more liberal minimums to be included in the final draft will meet with general approval. We sincerely hope that you will continue the same interest and study in commenting on the suggested new Part 43 as was evidenced in the comment received on the former Parts.

Your attention is particularly directed to the following revisions of the suggested Part:

(a) Airworthiness Certificate duration. An airworthiness certificate will expire 12 months after its issuance or renewal. It is intended that it can be renewed either by an appropriately Certificated Mechanic or by an Inspector of the Administrator. This renewal may be made as a result of a periodic inspection by the proper class of Mechanic. We are now working on the revision of Part 24, relating to Mechanic Certificates and privileges, which will provide for a class of Mechanic authorized to renew this Certificate.

(b) Dual controls. It is provided that any Private Pilot rated for the aircraft may carry any person seated at operative dual controls, except that when performing acrobatics such person must be a Pilot.

(c) Recent solo flight experience. The present rule requiring a Private or Commercial Pilot to be given a check flight before flying solo, if he has not made at least 5 take-offs and landings within the preceding 6 months, has been eliminated. No change is suggested with respect to the present recent flight experience requirement when carrying passengers.

(d) Acrobatic flight. The present provisions of the Civil Air Regulations requiring that pay passengers must not be carried and that each occupant of the aircraft must be equipped with a certificated parachute, when performing intentional acrobatic maneuvers, have been retained in the suggested Part. The desirability of retaining these restrictions has been expressed by a large majority of those who commented upon the deletion of these requirements from the suggested revision of Part 60.

As will be noted, no distinction is made in the suggested Part with respect to identification marks, maintenance, required equipment, and periodic inspections, between personal aircraft and aircraft operated for hire. However, for many months we have been weighing the desirability of the establishment of a personal aircraft category distinguished by the identification mark NP and under which a privately operated aircraft would not be subject to all the restrictions and limitations applicable to commercially used aircraft identified by NC. The Board recently received from the Administrator a recommendation for an amendment to Part 18 which would permit routine maintenance, minor repairs, and minor alterations to be made by a private or commercial pilot to aircraft in an NP category. However, we feel that there is considerable justification for the extension of this privilege to such pilots even in connection with NC aircraft. Although at first consideration the establishment of an NP category would appear very desirable, when considered in the light of this latter possibility and other presently proposed changes, many of the delays and difficulties with respect to routine maintenance, inspection, and return to service after major repairs or alterations even for NC aircraft will be eliminated or so reduced as to cast doubt on the desirability of a separate category. Furthermore, contemplated changes in Part 24 will set up a class of Mechanic authorized to inspect and return aircraft to service, which function is now, in most cases, restricted to an Inspector of the Administrator.

Since it seems necessary to retain the requirement that an aircraft not be operated unless it is maintained in a fully airworthy condition, about the principal advantages to be gained by a separate category would be the placing of complete responsibility for this maintenance of airworthiness on the owner and the elimination of the requirement for a logbook. These advantages would appear to be offset to a large extent by the benefits of regular inspections by thoroughly competent personnel and the availability of a complete operating record of the aircraft. We are particularly anxious to obtain an expression from you as to the advisability of setting up this new category.

The proposed specific requirements for an NP category would be somewhat as follows:

1. NP Aircraft. An aircraft for which an Airworthiness Certificate has been issued by the Administrator and which will be operated only under the following rules will display the Roman capital letters NP, followed by the registration number.

2. Limitation. NP aircraft must not be used to carry any passengers or property for hire. The sharing of expenses of a flight is not prohibited by this limitation.

3. Maintenance. NP aircraft must be maintained in an airworthy condition. Any major repair or alteration, or other change which requires a modification of the limitations set forth in the Aircraft Operations Record, must be made under the supervision of an appropriately rated Mechanic or other person authorized by the Administrator, and the proper change noted on such record and reported to the Administrator before the aircraft is returned to service. All other maintenance and minor repair or alteration work may be performed by the Pilot-owner.

4. Logbooks. Logbooks are not required.

5. Change over to NC aircraft. An NP aircraft may be reclassified as an NC aircraft upon application to the Administrator by demonstrating, by means of inspections and perhaps tests, that it fully meets the requirements for the original issuance of an NC Airworthiness Certificate for such aircraft.

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After your comments on the attached proposal are received, we expect to submit for your consideration the proposed final version of all three Parts, 20, 43, and 60, for your final consideration before we submit them to the Civil Aeronautics Board with a recommendation for adoption.

We will appreciate receiving your comments not later than September 1, 1944, addressed to the Safety Bureau, Civil Aeronautics Board, Washington 25, D. C.

Jesse W. Lankford
Director, Safety Bureau

SUGGESTED REVISION OF
PART 43 - NON-AIR CARRIER OPERATION RULES

43.0 General.
43.1 Aircraft certification and identification.
43.2 Maintenance of certificated aircraft.
43.3 Aircraft equipment.
43.4 Operating rules (general).
43.5 Student Pilot limitations.
43.6 Private and Commercial Pilot limitations.

43.0 General. The following rules govern the operation of non-air carrier civil aircraft in the United States. (Public aircraft including military aircraft are not considered civil aircraft.)

43.1 AIRCRAFT CERTIFICATION AND IDENTIFICATION

43.10 Certificates and identification marks. Aircraft, except foreign aircraft authorized by the Administrator to be flown in the United States, must not be operated unless the following requirements are met:

43.100 Registration Certificate. A Registration Certificate issued to the owner of the aircraft must be displayed in the aircraft at all times. (For rules governing the Registration and Recordation of Ownership of aircraft see Administrator's Regulations 501 and 503.)

43.101 Identification marks. Aircraft identification marks must be displayed on aircraft in a manner prescribed by the Administrator. They are as follows:

(a) NC. An aircraft which has fully complied with the minimum airworthiness requirements specified in the Civil Air Regulations must display the Roman capital letters NC followed by the registration number.

(b) NR. An aircraft which the Administrator has found to be safe for restricted operations must display the Roman capital letters NR followed by the registration number.

(c) NX. An aircraft which the Administrator has found to be safe for experimental operations must display the Roman capital letters NX followed by the registration number.

(d) Other marks or symbols. No other design, mark, or symbol which modifies or confuses the identification mark may be placed on aircraft, except with the approval of the Administrator.

43.1010 Export aircraft. An aircraft manufactured in the United States for delivery to a foreign purchaser may display such marks or insignia as the appropriate foreign government designates. Such aircraft may be operated only for the purpose of test flights and demonstration for a limited time or for delivery to the foreign purchaser.

43.102 Airworthiness Certificate. An Airworthiness Certificate or special authorization, issued by the Administrator, approving its operation must be carried in the aircraft at all times during flight.

Note: As a general rule the manufacturer obtains the Airworthiness Certificate which thereafter remains with the aircraft. If no Airworthiness Certificate has been issued for the aircraft, or if it has expired, the owner must obtain this Certificate.

43.1020 Aircraft Operation Record requirements. An aircraft must not be operated unless there is attached to the Airworthiness Certificate the appropriate Operation Record issued by the Administrator and it must be operated only in accordance with the limitations prescribed in such record. Any change which affects the limitations set forth in the Operation Record must be made under the supervision of an appropriately rated mechanic or other person authorized by the Administrator and such change must be noted in the Operation Record.

43.1021 Duration. An Airworthiness Certificate, unless recalled by the Administrator within 90 days after date of issuance, will expire 12 months after the date of issuance or date of last renewal unless the holder thereof secures an examination or inspection of the aircraft by a person authorized by the Administrator and such person renews the Airworthiness Certificate.

43.1022 Transferability. The Airworthiness Certificate and the attached currently effective aircraft Operation Record, upon transfer of ownership, must remain with the aircraft for which they were issued.

43.1023 Surrender. Upon the cancellation, suspension, or revocation of an Airworthiness Certificate the owner of the aircraft must, upon request, surrender such certificate to an authorized representative of the Administrator.

43.2 MAINTENANCE

43.20 General. An aircraft must not be operated unless it is in airworthy condition.

43.21 Periodic inspection. An aircraft must not be operated unless within each 100 hours of flight time it is given a periodic inspection and is found to be airworthy by an appropriately Certificated Mechanic. This inspection must be made in accordance with the periodic aircraft inspection report form furnished by the Administrator. (To be modified later in accordance with new Part 24.)

43.22 Aircraft and engine logbook. The registered owner must keep an accurate, current, permanent record of the operating history of the aircraft and each engine installed therein. This record must contain the total flight time of the aircraft and running time of each engine. Such records must be kept in logbooks or other suitable system readily available for transfer with the aircraft or engine and, upon request, must be presented to an authorized representative of the Administrator or Board.

43.23 Rebuilt engine logbook. A new record without previous operating history may be used for an aircraft engine rebuilt by the manufacturer provided such new record contains a signed statement by such manufacturer giving date engine was rebuilt and such other information as the Administrator may require.

43.3 AIRCRAFT EQUIPMENT

43.30 Airplane equipment. Airplanes which are certificated as NC aircraft must have at least the following equipment:

(a) Day contact flight.

(1) an airspeed indicator;
(2) an altimeter;
(3) a tachometer for each engine;
(4) an oil-pressure gauge for each engine;
(5) a liquid thermometer for each liquid-cooled engine;
(6) an oil thermometer for each air-cooled engine;
(7) a manifold-pressure gauge, or equivalent, for each altitude engine;
(8) a fuel quantity gauge indicating the amount of fuel in each tank;
(9) certificated safety belts for all passengers and members of the crew;
(10) a portable fire extinguisher of an approved type;
(11) position indicator if aircraft has retractable landing gear;
(12) a device for measuring or indicating the amount of oil in each tank;
(13) a magnetic compass;
(14) a first-aid kit; and
(15) approved flotation gear for each occupant and a Very pistol or equivalent signal device if the aircraft is operated for hire over water beyond gliding distance from shore without the aid of power.

(b) Night contact flight.

(1) the equipment specified in § 43.30 (a);
(2) a set of certificated standard forward position lights in combination with a certificated tail light;
(3) one electric landing light for aircraft of less than 1,500 pounds maximum weight and two such lights for aircraft of 1,500 pounds maximum weight or over, if the aircraft is operated for hire;
(4) certificated landing flares as follows, if the aircraft is operated for hire beyond a 3 mile radius from the center of the airport of take-off:
(i) five class-three flares or three class-two flares for airplanes of 3,500 pounds maximum authorized weight or less,
(ii) four class-two flares for airplanes of between 3,500 pounds and 5,000 pounds maximum authorized weight,

(iii) two class-one flares or three class-two flares and one class-one flare or four class-two flares for airplanes of 5,000 pounds maximum authorised weight or more;

(5) a storage battery adequate as a source of energy supply for such lights and radio as are installed;

(6) an adequate radio range and weather broadcast receiver permitting continuous reception of signals or broadcasts if the aircraft is operated in a control zone; and

(7) one spare set of fuses or 3 spare fuses of each magnitude, whichever is less.

(c) Instrument flight.

(1) the equipment specified for contact flight in § 43.30 (a) and (b);

(2) a radio transmitter operating on 3,105 kilocycles to permit communication at a distance of at least 100 miles and a radio receiver capable of receiving radio range and weather broadcasts;

(3) a gyroscopic rate-of-turn indicator. (All air-driven gyroscopic instruments must derive their energy from a suction air pump driven either by an engine or an auxiliary power plant unit);

(4) a bank indicator;

(5) a rate of climb indicator;

(6) a sensitive altimeter adjustable for change in barometric pressure and compensated for changes in temperature;

(7) a clock with a sweep second-hand; and

(8) a generator of adequate capacity.

43.4 OPERATING RULES (GENERAL)

43.400 Definitions.

(a) A Pilot is a person holding a valid Pilot Certificate issued by the Administrator.

(b) To pilot or piloting means to command or be in charge of the aircraft when it is being operated in flight.

(c) Passenger is an occupant of the aircraft in flight other than a crew member.

43.401 Pilot Certificate. Any person piloting an aircraft in the United States must hold a valid Pilot Certificate issued by the Administrator or a Foreign Pilot Certificate validated by the Administrator.

43.402 Periodic physical examination.

Note: The rules covering periodic physical examination will be placed in this section after it has been decided what the physical requirements shall be in connection with the issuance of Pilot Certificates in the proposed Part 20.

43.403 Pilot logbooks. Every Pilot and every person receiving flight instructions must keep a current permanent record of his flying time in which the entries with respect to dual instruction are certified to by his Instructor. Such records, upon request, must be submitted to an authorized representative of the Administrator or Board, or to Public Officers enforcing local regulations or laws.

43.4030 Contents. The logbook must contain the following information:

(a) the date of flight;
(b) the type, make, and model of aircraft flown, the airplane class and horsepower;
(c) the aircraft Identification Mark;
(d) a notation of dual instruction, solo, instrument, and night flying time; and
(e) the duration of flight and the points between which such flight was made.

43.404 Logging of flight time.

(a) Student Pilot. A Student Pilot may log as solo only that time during which he is the sole occupant of an aircraft in flight.

(b) Pilots of Private Class or higher. A Pilot of Private Class or higher may log as solo that portion of any flight during which he is the sole manipulator of the controls of an aircraft for which he is rated or any flight during which he is the sole occupant of the aircraft. A Flight Instructor also may log as solo all that flight time during which he is serving as Flight Instructor.

(c) Instrument time. Instrument flight time may be logged as such by the Pilot actually manipulating the controls and only when the aircraft is flown solely by reference to instruments either under actual or simulated instrument flight conditions approved by the Administrator.

43.405 Recent experience requirements.

(a) Passenger flight. A Pilot must not pilot an aircraft carrying any passenger unless, within the preceding 3 calendar months, he has made and logged at least 5 take-offs and 5 landings to a full stop in an aircraft of the same type and class.

(b) Instruction flight. A Flight Instructor must not give flight instruction unless within the preceding 12 calendar months he has either:

(1) given at least 10 hours of flight instruction while appropriately rated, or
(2) passed such practical flight test as the Administrator finds necessary and appropriate to demonstrate continued proficiency.

(c) Night flight. A Pilot must not take off or land an aircraft carrying passengers during the period from one hour after sunset to one hour before sunrise unless he has made and logged at least 5 take-offs and 5

landings to a full stop during such period within the preceding 5 calendar months.

(d) Instrument flight. A Pilot who within the preceding 6 calendar months has not flown and logged at least 2 hours of flight time solely by reference to instruments either under actual or simulated instrument flight conditions approved by the Administrator must not pilot an aircraft under instrument conditions until he has logged at least 2 hours of such flight time under:

(1) simulated instrument conditions, accompanied by a Pilot of at least Private Class holding an appropriate aircraft rating, or

(2) actual instrument conditions, accompanied by a Pilot of at least Private Class holding an appropriate aircraft and instrument rating.

43.406 Use of liquor, narcotics, and drugs. A Pilot or member of the aircraft crew in flight must not be under the influence of, or use intoxicating liquor or any drug which affects his faculties in any manner contrary to safety. A Pilot must not permit any person to be carried in the aircraft who is obviously under the influence of intoxicating liquor or drugs, except a medical patient under proper care or in case of emergency.

43.407 Towing by aircraft. A Pilot must not tow any object by aircraft unless authorized by the Administrator.

43.408 Dropping objects or things. A Pilot must not permit any object or thing to be dropped from an aircraft in flight except fine sand, small lead shot, fuel, or water, all unconfined, unless authorized by the Administrator.

43.409 Acrobatic flight. A Pilot must not intentionally fly an aircraft in acrobatic flight:

(a) carrying any passenger;

(b) carrying any other person unless all occupants are equipped with certificated parachutes; or

(c) carrying any person seated at operative dual controls other than a Private or higher class Pilot or a student receiving instruction.

43.410 Parachutes. The Pilot must not permit other than a certificated parachute that has been packed within the preceding 60 days by a Certificated Parachute Rigger to be carried in the aircraft in a manner available for emergency use.

43.5 STUDENT PILOT LIMITATIONS

43.50 General limitations. A Student Pilot must not pilot an aircraft carrying a passenger and must not pilot aircraft for hire or reward or in furtherance of a business.

43.51 Requirement for first solo. A first solo flight must not be made until the Student is found competent by a Flight Instructor to make such flight and authority therefor has been endorsed by such Instructor on the Student Pilot Certificate.

43.52 Flight area limitations. A Student Pilot must not pilot an aircraft outside a local flying area designated by his Flight Instructor in the vicinity of his operating base until:

(a) he has logged at least 10 solo flight hours;
(b) he has passed the written examination required in Part 20 of the Civil Air Regulations for cross-country flight; and
(c) his Student Pilot Certificate has been appropriately endorsed by a Flight Instructor.

43.53 Aircraft limitation. A Student Pilot must not pilot an aircraft other than that of the type, class, and horsepower range which has been endorsed on his Student Pilot Certificate by a Flight Instructor.

43.54 Recent experience. A Student Pilot who has not piloted an aircraft within 90 days must not pilot aircraft in solo flight until he has passed a satisfactory flight check given by a Flight Instructor and that fact has been endorsed by such Instructor on the Student Pilot Certificate.

43.6 PRIVATE AND COMMERCIAL PILOT LIMITATIONS

43.60 Private Pilot. A Private Pilot must not pilot aircraft for hire or reward or in the furtherance of a business, except as incident to his own transportation.

Note: The sharing of expenses incurred during flight is permitted under the terms of this section.

43.61 Commercial Pilot. A Commercial Pilot may exercise the privilege of a Private Pilot and in addition may pilot aircraft carrying passengers or property for hire or reward or in furtherance of a business.

43.62 Airline Transport Pilot. A Transport Pilot may exercise the privileges of a Commercial Pilot with an instrument rating.

43.63 Rating Record Requirements. A Private or higher Class Pilot must not pilot an aircraft unless there is attached to his Pilot Certificate the appropriate Rating Record issued by the Administrator, and he must not pilot any aircraft carrying passengers otherwise than in accordance with the aircraft rating limitations set forth in his Rating Record.

Note: § 43.63 does not permit a Pilot who by reason of § 29.2 has been limited to the operation of a particular make or model of aircraft or a general type of aircraft to operate other makes or models or other general types.

43.64 Flight instruction limitations. The following rules govern flight instruction:

43.640 Aircraft. Aircraft operated in flight instruction must be equipped with fully functioning dual controls.

43.461 Flight time. A Flight Instructor must not give more than 36 hours of dual flying instruction in any seven-day period.

43.642 Instructor Competency. A Flight Instructor may at any time be required to demonstrate continued proficiency to give flight instruction by passing a practical test prescribed by the Administrator.

43.65 Instrument flight limitations. A Pilot must not pilot aircraft under instrument flight rules unless he holds a valid instrument rating issued by the Administrator or a valid military instrument rating issued by his Service.

43.66 Instrument instruction. Instrument flight instruction may be given only by a person holding a valid instrument rating. A Flight Instructor Rating is not required.

43.67 Simulated instrument flight. Aircraft must not be flown under simulated instrument flight conditions unless:

(a) fully functioning dual controls are installed in the aircraft;
(b) an appropriately rated Pilot occupies the other control seat as safety Pilot; and
(c) such safety Pilot at all times has adequate vision forward and to either side of the aircraft, or a competent observer occupies such a position in the aircraft that his field of vision adequately supplements that of the safety Pilot.