PART 43 - AIR-SHARE CONFERENCES

GENERAL AVIATION CONFERENCES

APRIL, 1962

Sponsored By The

FEDERAL AVIATION AGENCY
FLIGHT STANDARDS SERVICE
WASHINGTON 25, D. C.

SUBJECT: Part 43 of the Civil Air Regulations, and Related Sections of Parts 1, 3, 18, 20, 24 and 501

This is the second phase of the Part 43 Air-Share Program, and consists of General Aviation Conferences in each Federal Aviation Agency region and the District of Columbia during the last two weeks in April. The dates and locations are added below. The Agenda for the conferences between the members of the general aviation community and representatives of the Administrator are made up of changes we are considering for Part 43 and related other parts. These informal proposals follow our analyses of comments obtained from the Grass-Roots meetings of October 21, 1961.

We are meeting to tell you what we are considering--and why; and to listen to your views and suggestions about the attached agenda items. We shall record the substance of your comments at the meetings as accurately as possible for later reference, but invite your detailed comments in writing about issues that interest you. Please mail your written comments to the Federal Aviation Agency, Flight Standards Service, ATTN: FS-40, Washington 25, D. C., before May 30, 1962.

The next step in this rule making process will be the development of a formal notice of proposed rule making after study of your comments about the

agenda items, and further internal review of the need for the changes now being considered. You will then have another opportunity to comment on our proposals before final regulatory action is taken.

Part 43 Air-Share Meeting (Place - Date - Hour)

Eastern Region	- Officers Club, Harrisburg State Airport, Harrisburg, Pennsylvania	April 30	12:30 p.m.
Central Region	- Fairfax Airport, Kansas City, Kansas, Terminal Building	April 19	1:00 p.m.
Southern Region	- Atlanta, Georgia Air Host Inn, Atlanta Municipal Airport	April 19	10:00 a.m.
Southwest Region	- Amon Carter Airport, Fort Worth, Texas, Rm. 207, Admin. Bldg.	April 28	10:00 a.m.
Western Region	- Skyways Inc. Hangar, Van Nuys Airport, Van Nuys, California	April 28	10:00 a.m.
Alaskan Region	- Lousaac-Sogn Library, Anchorage Alaska	April 18	6:00 p.m.
Pacific Region	- Conference Room, Honolulu International Airport Terminal Building, Honolulu, Hawaii	April 27	9:00 a.m.
Washington, D. C.	- Conference Room "B", Departmental Auditorium, Constitution Avenue between 12th and 14th Streets, Washington, D. C.	April 24	10:00 a.m.

George C. Prill
Director
Flight Standards Service

Attachment

February 16, 1962

FEDERAL AVIATION AGENCY

FLIGHT STANDARDS SERVICE
Washington 25, D.C.

PART 43 AIR-SHARE AGENDA

April, 1962 Meeting

Item 1. EXPIRATION AND RENEWAL PROGRAM FOR ALL AIRMAN CERTIFICATES

History

Before 1942, all airman certificates expired periodically unless the holder's certificate was endorsed by an inspector on the basis of a showing of recent experience, or, in some cases, by reexamination if recency was lacking.

Draft Release No. 6 was issued December 23, 1941, proposing to eliminate the requirement for periodic endorsement of pilot certificates; and Part 20 was thus amended March 27, 1942. The need for the amendment was justified on the basis of a large increase in airmen, and on the fact that it would be ". . . nearly impossible for our present inspection staff or any proposed augmented staff . . ." to continue the program of periodic endorsement of pilot certificates. The problem of gathering meaningful statistics needed for orderly functioning of the Agency was compromised by providing for certain statistical information on the medical form.

Other parts were amended June 29, 1942, to provide for indefinite duration of airman certificates. Holders of certificates not subject to medical requirements were required to submit a report during the month of January of each year, to fulfill the statistical needs of the Agency. However it was found that the information was of limited use, and the requirement for submitting the annual report was deleted by amendments dated December 28, 1950. The deficiency lay in the complexity of unmechanized analyzing and sorting, and the uneconomic heavy staffing needed to correlate the data.

It has thus been necessary, in spite of the rapidly increasing numbers of airmen, to defer the important task of getting and correlating airman data until efficient means for getting and using the data had been developed. The systems for doing so are now available, and may be put into effect with a minimum of bother or annoyance to the certificate holder.

Objectives

A record system, using modern electronic analyzers, may be adapted to an economical program of sorting and analyzing data when the method of issuing and renewing certificates is related to a single certificate containing all authorized airman privileges. By using the holder's social security number, airman identification can be improved. Reasonably current addresses will be available; and an accurate file of names and addresses of current airmen will enable the Administrator to use direct mailing programs economically for the dissemination of safety information.

More direct information about persons currently engaged in airman activities, the extent of their engagement and the subareas of their activities will give useful and practical data that may properly be used in reviewing regulatory needs, enforcement requirements and accident trends.

Orderly periodic expiration of airman privileges will also relieve the burdens placed irregularly upon airmen when it is necessary, as it has been in the past, to expire all, or certain classes of certificates to reissue in conformance with certain regulatory changes, such as reissued pilot certificates, reissued certificates with rotorcraft ratings, reissued flight instructor certificates.

The system will permit a general "housecleaning" to eliminate inactive certificate holders from the Agency work program; thus giving more accurate and realistic data to justify work planning, public service and budgetary requirements. The more realistic the data, the more economically the work program can be developed, or, on the other hand, the more readily safety deficiencies may be recognized and correcting programs justified.

The Program

(a) *Exchange of existing certificates.*

(1) Revalidation is a term we use here for the process of exchanging existing certificates for the new single certificate containing all authorized airman privileges and fitting the airman record into the revised airman records system.

(2) For holders of certificates that *do not* require a current medical certificate, revalidation would be made upon application without a showing of recent experience. Revalidation of certificates that require a medical certificate would be made at the time of the next medical examination within the

2-year validation period without a showing of recent experience. The holder of both kinds of certificates would have them revalidated at the time of his next medical examination within the 2-year period; but if he elects not to take a medical examination, he could have his "nonmedical" certificates revalidated upon application.

(3) All current airman certificates would have to be revalidated by reissuance. A grace period of two years would be allowed for this purpose, after which any certificate that has not been reissued would expire, and any later reissuance would be in the same manner as described in item (b)(8) below.

(b) *Duration and renewal of all airman certificates.*

(1) Each airman certificate that has been revalidated or has been issued after the effective date of the "renewal" amendment would be valid for two years: and renewable at any time up to four years.

(2) If an airman certificate privilege is not renewed within a 4-year period, the certificated privilege would expire and could be reisssued only in accordance with item (b)(8) below.

(3) All airmen privileges would be specified on a single airman certificate.

(4) All certificated privileges that require a medical certificate would be renewed at the time of undergoing and passing the prescribed medical examination. Completion of the application for renewal and medical examination, and meeting the physical requirements would be the basis for renewal of those certificated airman privileges.

(5) All certificated privileges that do not require a medical certificate would be renewed by submitting an application for renewal. The applicant would have to meet presently prescribed recent experience requirements for each authorized airman privilege that does not require a medical certificate. The application would be accepted by the Agency upon the applicant's statement that he does meet the recent experience requirements.

(6) If the certificate holder is authorized privileges, some of which require a medical certificate, and some of which do not, all privileges would be renewable at the time of next medical examination. If a medically renewable privilege is not renewed within the valid period of the privileges (there may be good reason, such as being out of the country and not being able to reach an FAA medical examiner, or temporary physical incapacity), the nonmedical privileges could then be renewed in the same manner as though no medically renewable privileges were authorized. If the medical examination is completed within the following 2 years, (so that the total does not exceed 4 years from time of issuance or last renewal of medically certificated privileges), then all the privileges authorized would be renewed at the same time, if the applicant at that time meets the recent experience requirements for the nonmedical privileges.

(7) In certain instances, both medical and recent experience would be required such as for flight instructors.

(8) A person whose certificated airman privilege has expired (if it has not been renewed within a 4-year period) would reapply for a new authorization to exercise the privilege. He could submit evidence of his previous certification and experience as an airman in place of submitting evidence of aeronautical experience required for original certification. He would be subject to reexamination up to complete examination for original issuance. However, the Agency would issue standards for the guidance of inspectors in deciding on the extent and scope of examination necessary. These standards would be related to the length of time the airman has been inactive, his total experience, the degree of change in written examination standards since last examined, the relative extent of technological changes in aircraft since the applicant was last active, and similar considerations.

Future Changes

Very possibly the requirements will change; but the data on hand acquired through this system will permit rule changes to be made on the basis of known factors rather than estimated and sometimes controversial factors.

We agree there are some inconsistencies in the standards for renewal presented here; however, the major need for the program at the present time is to get facts that will enable us to evaluate aviation safety as related to the recent experience of airmen on the basis of known factors; we must first start from a broad platform with minimum burden to airmen. If the specific information gathered through the statistical data obtainable shows a safety need, for instance, to expire a privilege that has not been exercised by an airman, such as a multiengine rated pilot who has not flown a multiengine airplane in 10 years, then action should definitely be taken to do this. If the data shows that recent experience provisions are too high or too low, without respect to airman renewals, then these should be changed. The important thing is that we expect to be able to get significant and substantial data that will support safety action by the Agency.

Item 2. CARRYING OF DOCUMENTS IN AIRCRAFT

Section 43.10(a) requires the airworthiness and registration certificates to be carried in the airplane when it is operated. We are not contemplating changing this rule. However, other rules (section 1.65–1 and 501.9), require display of the certificates in specified locations. We are considering deleting the display requirements and amending the appropriate sections in Part 1 of the Civil Air Regulations and Part 501 of the Regulations of the Administrator to include the same provisions as Part 43. (Part 43 does not apply to operations outside the United States, so the present duplication in Part 43 is for the convenience of the pilot-operator who may not have immediate access to the other parts while operating within the United States.) Other rules pertaining to the operation of aircraft outside the United

States are being considered, which would then be the appropriate location for sections pertaining to "Documents required" outside the United States.

Item 3. AIRCRAFT RECORDS

We propose to amend section 43.23 to state conditions under which records need not be kept involving engine total time before last complete overhaul, and aircraft and engine inspections before the most recent complete inspection.

For instance, earlier records of total time in service of an aircraft engine would not be required to be kept when the engine is completely overhauled under the manufacturer's overhaul standards and the overhaul is recorded as required by section 18.22. Also only the most recent 100-hour and periodic or progressive inspection reports would be required to be kept and available.

Item 4. ESTABLISHMENT OF NEW RECORDS

Section 43.24 provides for establishing a new record without previous operating history for an aircraft engine rebuilt by the manufacturer or an agency approved by the manufacturer.

We propose to expand this privilege so as to permit new records for any product rebuilt by a manufacturer of the product under section 18.10(d) of the Civil Air Regulations.

We also propose to provide for the establishment of new maintenance or time in service records when previous records have been lost or destroyed. We are considering the following means:

(a) Total time in service—Owner or operator may certify over his own signature that time in service is not more than so many hours.

(b) Maintenance records—If after inspection, the item (aircraft, engine, component, etc.), including all repairs and alterations are found in condition for safe operation under the provisions of section 18.30 of the CARs.

(c) Limited service-life parts records—If all parts subject to service-life limitations are retired from service and replaced by new parts or parts with known time-in-service.

(d) AD Notes—Compliance with each applicable note.

(e) Inspection records—Conduct complete inspections and enter in new record.

Item 5. PROGRESSIVE INSPECTIONS

We would like to have your comments about the rules providing for progressive inspections. Although we feel the prescribed progressive inspection systems are practical, obviously something is wrong with the rules, or their interpretations, as shown by the few users of the system, and the number of cancellations made by people who have used the system.

We solicit your comments and suggestions for changes that you believe might make such an inspection system work well. We would most like to hear from those of you who have had personal experience with the progressive inspection system.

Item 6. SERVICE CONDITION OF INSTRUMENTS AND EQUIPMENT

Section 43.30 specifies instruments and equipment required for powered aircraft with standard airworthiness certificates. The airworthiness requirements for these items are covered by the inspection requirements of sections 43.20 and 43.22. The responses to our Air-Share Notebook items show that a large number of pilots do not realize that the general maintenance paragraph 43.20 applies to them as pilots if any component or part of the airplane, including the instruments and equipment, are in an unairworthy condition. Since this fact seems to be obscure, we propose to add a requirement specifying that the instruments and equipment must be in a serviceable condition as determined by functional checks normal to pretakeoff checks or inspections, and that those instruments and items of equipment subject to check only in flight, such as an airspeed indicator must have been repaired before next takeoff when known to be malfunctioning. This may be placed in a different section.

Item 7. INSTRUMENTS AND EQUIPMENT

Section 43.30(a)(11) requires approved flotation gear readily available for each occupant if the aircraft is operated for hire. We propose to amend the section to be applicable to any passenger-carrying operation, and to clarify that individual life vests or approved cushions will satisfy the requirement. We also propose to apply the Very pistol or equivalent signalling device to night operations, and to permit other day devices such as water-dyes and signalling mirrors. We would add an exception clause for landplanes, excepting them from the necessary flight path for takeoff or landing.

Item 8. INSTRUMENTS AND EQUIPMENT

The equipment requirements of section 43.30 for operations under instrument flight conditions do not adequately provide for safe continued operations. Analysis of accident reports involving loss of control under instrument conditions does not permit us to determine if the loss of control (usually resulting in structural failure) is due to pilot incompetence or to failure of essential instrumentation for continued controlled flight. The experience level of some of the pilots involved does not support an assumption that the pilot exceeded his capacities. We propose some provisions at this time, while further studies are being made of the need for icing protection. We believe the following additional equipment is necessary for safe instrument flying:

(a) Carburetor heating or deicing equipment for each engine. (This requirement would involve only the few aircraft now in use that are not so equipped.)

(b) Pitot tube heater for each airspeed indicator.

(c) An alternate source of energy to supply gyroscopic instruments, and capable of carrying the required load, with a means for selecting the power source. The installation and power systems should be so that failure of one instrument or one source of energy will not interfere with the proper supply of

energy to the remaining instruments or from the other power source. Engine-driven pumps or generators should be on separate engines when multiengine airplanes are used. Either the primary or alternate source of energy should be an engine-driven pump or generator. On single-engine airplanes, the alternate source of energy requirement may be met if single, but different sources of energy are provided for the operation of the gyroscopic rate-of-turn indicator and the gyroscopic bank-and-pitch indicator. (For example, one electrical source and one vacuum source, or two separate vacuum sources. With these arrangements, the gyroscopic direction indicator may be driven from either source.)

(d) An emergency source of static pressure capable of providing static pressure to the altimeter and airspeed indicators. This source may be inside an unpressurized portion of the airplane in pressurized airplanes; and may be cockpit pressure in unpressurized airplanes.

(e) Power failure warning means or vacuum gauge on the instrument panel connecting to lines leading to gyroscopic instruments, to provide information to the pilot when adequate energy is not being supplied.

Item 9. AIRCRAFT ELECTRONIC EQUIPMENT ACCURACY

Section 43.31 requires operational checks of VOR equipment both within the preceding 10 hours of aircraft flight time and within the preceding 10 days if the aircraft is to be operated under instrument flight rules.

We have asked for your experience in applying the rule, and whether your experience indicated a change in the time standards should be made. It appears from the information available from the responses that went thoroughly into histories of logged recorded data that the time limits may be safely increased.

The Agency therefore suggests that 30 hours and 30 days may be substituted for the 10 hours and 10 days now contained in the rule, and that the history of reliability of the equipment commonly in use warrants this change.

In addition to the operational checks prescribed in section 43.31, we propose to permit an operational check for VOR accuracy performed by an appropriately certificated repair station. Some of these repair stations now have equipment permitting operational checks at the ramp.

Item 10. COPILOTS AND OTHER CREWMEMBERS

Section 43.40 requires personal possession of a pilot certificate with appropriate ratings by the pilot in command. We propose to amend the section to include any certificated flight crewmember required by the regulations to be on duty for the flight.

Section 43.41 specifies the medical certificate requirements for a pilot in command. We propose to amend the section to include any certificated flight crewmember required by the regulations to be on duty for the flight and for whom a medical certificate is required for the issuance of the airman certificate involved.

Section 43.42 applies to operation during physical deficiency by the pilot in command. We propose to amend the section to include any certificated flight crewmember required by the regulations to be on duty for the flight and for whom a medical certificate is required for the issuance of the airman certificate involved.

Item 11. STUDENT PILOTS FLYING IN FURTHERANCE OF A BUSINESS

Section 43.52 prohibits a student pilot from piloting an aircraft in the furtherance of a business. The Grass Roots Notebook presented a suggestion that the prohibition be deleted or at least made less restrictive.

We do not believe the objective of the rule is obsolete, but we do believe the objective may be obtained by other means. Through a separate project that may have reached the notice of proposed rule making stage before this meeting, the Agency is considering establishing more realistic standards for flight instructor supervision of student pilots, at least up to the time of eligibility for applying for a private pilot certificate. (This item was aired both at the first Air-Share meetings in the Spring of 1961, and at the Grass Roots meetings of October 21, 1961, and has therefore progressed closer to the formal notice of proposed rule making stage.) If the proposal is adopted, or a rule designed to obtain similar objectives, we propose to delete the restriction against flying in the furtherance of a business.

Item 12. PRIVATE PILOT PRIVILEGES

The responses from the Grass Roots meetings show a general agreement that the private pilot privileges contained in section 43.60 should be set forth more clearly in the body of the regulations. In doing this, the specific privileges may be more restrictive in some views and more liberal in other views, according to the various interpretations that have been made or assumed.

We propose to bring into the body of the rule some of the substance of the information now contained in the preamble to Amendment 43-3 that put the present rule in effect September 11, 1950, and to otherwise provide more specifics. It would read something like this:

"A private pilot may not pilot aircraft for compensation or hire. He may pilot aircraft in connection with any business or employment if the flight is merely incidental to his transportation and does not involve the carriage of persons or property for compensation or hire.

"He may share the actual direct operating expenses incurred during a flight with his passengers when the trip is incidental to his own transportation and when the trip is not in connection with a business or employment. Direct operating expenses consist of trip expenses such as cost of en route hangarage or tie-downs, fuel, oils, en route maintenance services, trip insurance, sales taxes, fees and levies applicable to

the trip, and aircraft rental costs when the aircraft is rented from a source other than the pilot or the passengers.

"He may engage in special purpose operations incidental to his own business such as crop dusting or seeding, or, if not for compensation or hire, the land of another person; and, as a real estate salesman, for instance, he may show the land to prospective buyers by carrying them as passengers in the aircraft."

Item 13. TRANSITIONAL FLIGHT CHECKS

There was a Grass Roots Notebook suggestion, originating from the Agency, to require transitional flight checks in each type (make and model) of powered aircraft, to be obtained from a certificated flight instructor. The major industry objection lay in the problem of locating a flight instructor who was qualified to give the flight check in newer aircraft as they come off the production line, and in some of the aircraft of the past that had limited production.

The soundness of having transitional flight checks from one type to another was not generally questioned. The problem lies in a practical rule that will accomplish the safety purpose without introducing an unnecessary or undue burden on pilots.

We believe this can be done, as we shall later describe. However, first we wish to present other related safety problems that may also be solved by our proposal. Item 11, under the heading of "new items" in the Air-Share Notebook for the October 21, 1961, meeting, stated: "Rotorcraft class rating should also include single and multiple lifting rotors as distinct classes in small aircraft." Item 12 stated: "In view of the development of civil aircraft with tandem engines, clarification of multiengine is needed."

These items reflect concern for the growing need for additional class ratings to provide for the complex changes occurring in aircraft designs. However, there is good reason to keep the number of classes to a minimum, to stay within practical limits. One extreme would be to require a type rating for each type. This would eliminate the need for class or category ratings. This suggestion occurs from time to time, and has therefore been considered. However, we believe it is not necessary to go this far to maintain the safety level as more complex and diversified aircraft become available.

What we are now considering should provide adequate transitional checks in each subclass of aircraft, and will also serve instead of increasing the number of classes of aircraft as contained in items 11 and 12 of the "Notebook". As will be seen, we would group many types together into what we shall call "subclass" for the time being. Here is what we are considering:

Require that no person may carry passengers or fly for hire in an aircraft of a particular subclass unless he has received a flight check from an FAA inspector, authorized flight examiner or from a flight instructor, and the pilot's logbook has been endorsed by the person giving the flight check as having satisfactorily demonstrated his proficiency in that subclass of aircraft.

The persons authorized to give the flight check would not be required to meet the recent experience requirements for the subclass aircraft used for the flight check, nor to have had an officially logged check in the aircraft being used. This provision is premised on the acknowledged ability of these people to evaluate the performance of another pilot, even though the check pilot is not fully qualified to perform. (Flight instructors or examiners would be required to hold the class rating). It may be entirely feasible to permit observation of certain maneuvers from the ground, but at least some of the flight check items would have to be observed while the examiner is in the aircraft during flight.

The foregoing is not related to getting the refresher or transitional training. For the purpose of this section, we do not propose to call such training "dual flight instruction." Therefore, a private or commercial pilot would be able to get transitional flight training from any person holding at least a private pilot certificate with appropriate ratings who has been officially "logged out" in the subclass of aircraft to be used for flight check. (The private pilot may not do this for hire.) The flight instructor would also have to have the appropriate rating and logged endorsement to give transitional flight training in the aircraft.

If the aircraft requires a copilot, a properly rated pilot, with logged endorsement would have to occupy the copilot seat during the flight check. The examiner in that case would occupy a seat where he may observe properly to evaluate the pilot's performance. This would also be permitted when prudence dictates the desirability of a fully qualified pilot at one of the seats of controls.

Provision would also be necessary to provide "grandfather" rights for those who have acquired a certain amount of experience in aircraft within the subclasses. We are leaving the amount open for discussion at this time.

It would be necessary to identify the subclasses of small aircraft requiring transitional flight checks. This would be done in an appendix to Part 20 or Part 43. We are considering the following subclasses:

Airplane Category—Small single-engine classes (land or sea if both ratings held).

1. All single-engine airplanes not equipped with all the following three items (a) Retractable landing gear: (b) Controllable propeller; and (c) Flaps.

2. By manufacturer, and grouping similar models not included in (1) above, as separate subclasses from dissimilar models.

Airplane Category—Small multiengine classes (land or sea if both ratings held).

1. By manufacturer, and grouping similar models as separate subclasses from dissimilar models.

Example:

Beechcraft Models C–18, D–18, E–18, AT–11, SNB

Cessna Model 310 series

Rotorcraft Category—Gyroplane and helicopter classes

1. By manufacturer, and grouping similar models as separate subclasses from dissimilar models, within appropriate class.

Item 14. RECENT FLIGHT EXPERIENCE

Section 43.68 requires a pilot to have made 5 landings and takeoffs in aircraft of the same category, class, and *type* within the preceding 90 days before he may carry passengers. It would be appropriate to change the requirement applied to each *type* aircraft to apply to each subclass of small aircraft as proposed in item 13.

If provision is made for transitional flight checking, we believe the requirement for 5 landings and takeoffs in the past 90 days may be reduced to 3 landings and takeoffs. Many people object to the "full stop" requirement for the landings, yet most agree "touch and go" is not adequate. We do not believe the "full stop" is required; but the experience obtained should be at least down through speeds to normal taxiing speeds, which on most general aviation airports would require a turn-around to go back to a safe starting position for the takeoff. However, we do propose to eliminate the "full stop" requirement, and substitute a requirement that the landing rolls for compliance with this section should be extended until the airplane has reached a safe taxiing speed, or, if helicopter, until the aircraft is at rest on the surface with minimum collective pitch.

Many Air-Share comments suggested the recency of night flying experience requirement is unrealistic. We are considering the following change:

Prohibit carrying of passengers at night unless the pilot:

(1) Holds at least a commercial pilot certificate without notation of limited night flying experience; or

(2) Has been flight checked by an appropriately rated flight instructor who has endorsed the pilot's logbook, certifying that he has checked the pilot at night and found him safe for night passenger-carrying operations.

(This provision would be located in a different section, and no recent night experience would then be required. It would also provide for "grandfather" rights for those who have acquired a certain amount of night experience before the effective date of this rule. We are leaving the amount open for discussion at this time.)

Item 15. RATINGS FOR NONSTANDARD AIRCRAFT

Some aircraft designs that seem to be reaching practical levels do not fall into present category or class concepts. With the respect to present classifications they are "unconventional:" but they may indeed become the more conventional in time if the designer and builders are the pacemakers. The Air-Share Notebook, item 10 suggested a rating designated as "unconventional" to be followed by the type rating. In all fairness to the manufacturer and the pilot, the term "unconventional" is hardly appropriate. Realizing that the status of some of the planned aircraft may change in time, as they come into common use, we are now considering the following:

The FAA will decide during type rating tests of an aircraft whether its characteristics are those that lie within present aircraft classifications. If it decides they do not, the aircraft specifications will specify this, and the particular make and model will be identified in an appendix to Part 20 of the Civil Air Regulations as requiring a type rating (without respect to weight). The pilot must hold a type rating for the aircraft under the same conditions that would otherwise require him to hold a class rating.

Item 16. HELICOPTER LANDING AREAS

Item No. 1 under "New Items" in the Air-Share Notebook stated that "standards should be set for approach-departure paths to heliports in congested areas." The reference was made particularly with respect to rooftop heliports.

In the meantime, we have evaluated responses to specific standards set forth in the notice of proposed rule making contained in Draft Release No. 60–13. (These were the air-taxi rule proposals.) The question considered was whether the same rules would be appropriate in Part 43, or whether different standards should apply to private and nonprofessional operations. Since the major aspect of the standards applied to the rule in Part 47 was in terms of the safety of persons and property on the ground, we believe the same rule may be applied to Part 43. Here is what we are considering:

Helicopter approach-departure paths. During takeoffs and landings, helicopters must be operated within takeoff and landing areas and approach-departure paths selected by the pilot, in a manner that would permit an emergency landing without undue hazard to the passengers, or persons or property on the surface. NOTE: Compliance with this paragraph may not be based on the availability of areas such as school yards, parking lots, recreation areas, highways, and public docks for emergency landings when the areas are occupied by persons or vehicles; except that they may be selected for possible emergency use when unoccupied portions of sufficient size are available to assure reasonable safety to nearby persons and property.

Major industry objection to the Part 47 proposal was twofold—

(1) The proposed Note was too restrictive. (It did not contain the exception added to the Note as we have it above); and

(2) It was discriminatory and belied the practical usefulness of the helicopter in that "approach-departure" paths, or any other minimum altitude rules do

not apply to airplanes, and hitherto have not applied to helicopters, when necessary for landing or taking off.

We believe the first objection has been overcome by the exception that been added to the Note.

The proposal is discriminatory to the extent that the nature and uses of the helicopter require considerations for public safety that may not be applicable to airplanes. There are many things that a helicopter can do usefully that an airplane cannot do, but it cannot do all those things with reasonable safety to others. The very usefulness of the helicopter in getting into and out of congested areas and small landing pads, when unrestricted, can result in undue hazards to persons or property concentrated around the immediate landing area and therefore results in a concentrated hazard if allowed to continue.

The large number of proposals received by the Agency to build heliports on rooftops in very unsafe locations, creating undue hazards both to passengers and persons and property on the ground shows that competitive pressures are building toward taking advantage of the "absolute" usefulness of the helicopter rather than reasonably safe usefulness. If this were allowed to continue, the safety hazards would be inimicable to the public interest.

Item 17. RECENT INSTRUMENT FLIGHT EXPERIENCE

Section 43.68(d) prescribes recent experience requirements for instrument flight. It does not specify any conditions of instrument experience, so that the 6 hours required in the past 6 months may consist of nothing but straight flying between radio facilities, or under-the-hood flying without reference to radio navigation.

This minimum experience is not realistic, and the increasing use of IFR facilities requires maintenance of proficiency in radio navigation, and letdown procedures.

We therefore propose to amend this section by requiring that the prescribed hours of recent experience include at least one instrument approach procedure from minimum en route altitude to the lowest authorized minimum for the airport in use appropriate to the flight. This may be done under actual or simulated instrument conditions in an airplane, or under simulated instrument conditions in equipment approved by the Adminstriator.

Item 18. PREREQUISITE EXPERIENCE FOR AN INSTRUMNT RATING

The present experience requirements in section 20.127 for an instrument rating applicant do not require cross-country experience. Since accuracy in planning cross-country flights, making plans good or making correct revisions to the flight plan as circumstances require are essential to the safety of all users of controlled airspace, flight training in cross-country IFR flying is essential.

We propose to amend section 20.127, by adding cross-country as an aeronautical experience requirement, either under actual instrument conditions, or under-the-hood, in an airplane. The cross-country flight would include use of approach procedures for at least two facilities, with letdown to the minimums prescribed for the airport served by the facility. The cross-country distance would be at least 75 miles, or whatever greater distance may be required to pass over at least two required reporting points en route to the destination.

The above subject was brought up by several people attending the March-April Air-Share meetings of 1961, while discussing the subject of flight testing with use of low frequency versus omni range. It connection with the latter, we propose to amend section 20.128–1 to require VOR or UHF omni-range flying as part of the flight test if radio navigation, including orientation, is done on a low frequency range.

Item 19. SECOND PILOT REQUIREMENT FOR LARGE MULTIENGINE AIRCRAFT

Most large multiengine aircraft have been designed for two-pilot crews, whether or not the type certificate or operations require the use of two pilots. Consequently, the cockpit visbility of these aircraft places limitations upon a single pilot that are hazardous, particularly under VFR conditions.

Since the main function of a copilot in these aircraft would be to act as an observer who is competent to evaluate what he sees in terms of safety of flight, we are considering requiring copilots in large multiengine aircraft that are designed to accommodate two pilots, including dual controls. The copilot would be required to hold at least a private pilot certificate, but would not be required to hold a rating for the aircraft.

Private pilots serving as copilots would be allowed to fly "for hire" in aircraft that do not require a copilot by the provisions of its type certificate or other operating rules.

Item 20. AEROBATICS WITH PASSENGERS

When aerobatics are performed with passengers, section 43.48 requires all occupants to be equipped with parachutes. Section 43.48–1 describes the intentional maneuver limits beyond which the maneuvers are deemed to be aerobatic. A Grass Roots Air-Share suggestion presented at the October 21, 1961, meetings was to describe aerobatics as snap maneuvers, inverted maneuvers or rolls. This approach would permit all the maneuvers required for a, commercial flight test or flight instructor flight test to be performed without parachutes.

The principal safety factor in aerobatics lies in the degree of skill of the pilot that permits him to perform any particular maneuver well within the safe design limits of the aircraft, rather than unintentionally exceeding those limits. The parachute requirement is supposed to protect the passenger if the skill of the pilot is not great enough to do the maneuvers safely.

Nevertheless, modern design requirements of cabin aircraft do not specify consideration for getting out of the aircraft in flight and under emergency condi-

tions. This coupled with the present clean configuration of modern aircraft, has made the wearing of parachutes more futile. Rules requiring their availability serve only to give a sense of false security to the unwary. The wearing of parachutes also introduces other hazards in many aircraft because of control interference or poor visibility from the pilot's displaced position. This leads only to the conclusion that passenger safety is not assured by requiring parachutes. Their safety may only be reasonably assured by protecting them from the inept aerobatic pilot, by generally limiting the conditions under which aerobatics may be performed at all, with or without parachutes.

We are considering a proposal to prohibit aerobatics when passengers are carried, with certain exceptions, in the belief that aerobatic rules must give emphasis to the source of undue hazard, which when understood, should lead to more compliance than a rule whose purpose is misunderstood, and consequently violated when convenient to do so.

The degree of hazard in an aerobatic maneuver is directly related to the degree of skill with which the pilot is able to perform it well within the safe design limits of the aircraft. The degree of protection that a parachute will give a passenger if the pilot is unskillful, or willfully exceeds the safe aircraft limits, is inversely related to the degree of difficulty in getting out of the aircraft.

Here is our concept of the regulatory approach to the problem:

> Aerobatics should not be performed in an aircraft when passengers are carried in aircraft with a standard airworthiness certificate unless the pilot in commands holds a flight instructor certificate and the purpose of the flight is to give aerobatic instruction, demonstrate aerobatic maneuvers to a certificated student pilot or pilot, or to check his proficiency.
>
> No other person except the person receiving the instruction, demonstration or flight check should be carried except crewmembers necessary for the flight.

This general authority granted to flight instructors would be limited to aerobatic maneuvers not involving snap maneuvers, inverted maneuvers or rolls. Other aerobatic maneuvers would be permitted only upon the issuance of a special authorization or waiver to the flight instructor.

Exception would be made to the extent that aerobatics could be performed by any certificated pilot when passengers are carried, if all occupants wear parachutes and the aircraft is either open cockpit, or a cabin aircraft equipped with an emergency quick-release door or exitway, doors that pivot on hinges aligned longitudinally, or sliding exit hatches.

Other than the foregoing, the carrying of parachutes during aerobatic flight instruction would be left to the discretion of the flight instructor with respect to the expected hazards of the maneuvers intended and the degree of skill expected to be necessary to stay within safe load limits or to avoid entering other unintentional maneuvers. That, or not doing the maneuver, if parachutes would be useless in an aircraft the occupants could not escape from with reasonable facility.

To apply the foregoing concept, the definition of aerobatics in Part 60 (there called acrobatic flight) would be used, rather than designing a different one for operations under Part 43. Here is the definition—

> *Acrobatic flight.* Maneuvers intentionally performed by an aircraft involving an abrupt change in its altitude, an abnormal attitude, or an abnormal acceleration. NOTE: The term "aerobatic flight" is not intended to include turns or maneuvers necessary for normal flight.

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