Part 43.—AIR-SHARE

GRASS ROOTS—GENERAL AVIATION MEETINGS

REVIEW OF PART 43

Plain Language Summary of Part 43 of the Civil Air Regulations

Here are the regulations all general aviation people operate under, done over in plain language. This version is not "official"; it is a more readable version of the regulations designed for your reference in the Air-Share meetings; so, some of the finer points of what is said in the regulations may be missing. We hope this version will help you understand the rules better, which you will be discussing.

GEORGE C. PRILL, *Director.*
GEORGE S. MOORE, *Deputy Director.*
Federal Aviation Agency

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A Plain Language Summary of Civil Air Regulations

PART 43 AND SOME RELATED SECTIONS OF OTHER PARTS

Operation of Aircraft. **CAR 43.70.** The "operation" of aircraft means the use of aircraft for the purpose of air navigation, and includes the piloting of aircraft. Also, any person who authorizes or causes the operation of aircraft, whether or not he has the right of legal control, is considered to be an operator of the aircraft. (Federal Aviation Act of 1958, Section 101(25) and (26).)

The meaning of "operation" of aircraft is important to you so that you may know which of the rules apply to you, whether or not you are the pilot. In general, the owner, renter, lender, borrower, agent, begger or thief, as well as the pilot, must comply with the sections of the regulations which apply to the "operation" of aircraft. The sections which apply only to the pilot do not use the word "operate," or its derivatives.

PILOTING RULES

The general piloting rules are few, simple, and for the most part, make sense; here they are.

Fuel Supply. **CAR 43.51.** If you operate an aircraft under IFR conditions, it must carry enough fuel to fly to where you are going, then to an alternate airport, and after that, for 45 minutes at normal cruising speed.

There are no specific fuel requirements for VFR flights, however, CAR 60.11, "Preflight Action," requires the pilot to include in his preflight action, a careful study of weather reports and forecasts, taking into consideration his fuel requirements, an alternate course of action if the flight cannot be completed as planned (a way out), and any known traffic delays about which he has been advised by air traffic control.

Aerobatic Flight. **CAR 43.48, 43.49.** If you do aerobatics while carrying passengers, each person on board must have an approved parachute that has been packed within the past 60 days, unless chair type parachutes are used; then they must have been packed within the past 120 days.

Maneuvers that would be "aerobatic" in the sense used above, would include any intentional maneuver resulting in a bank greater than 60° or a nose up or down attitude greater than 30°. Maneuvers such as stalls or lazy eights which stay within these limits do not require parachutes. On the other hand, maneuvers which stay within these limits, but which exceed placarded speeds, or during which sudden and hard control pressures might be used would be aerobatic because the wings could be torn off.

With or without parachutes, you can't do aerobatics over congested areas, or over an open-air assembly of persons, nor within controlled airspace or below 1,500 feet above the surface. In any case, the flight visibility must be at least 3 miles. (CAR 60.16.)

Aerobatic flight, from the point of view of Part 60, which is concerned with air traffic rules, includes all the maneuvers covered by Part 43 and some others which would not require the wearing of parachutes. Part 60 tells us that aerobatics are "Maneuvers intentionally performed by an aircraft involving an abrupt change in its altitude, an abnormal attitude, or an abnormal acceleration." This does not include turns or maneuvers necessary to normal flight.

Broadly speaking, you must have parachutes when maneuvers may involve the structural safety of the aircraft; whereas Part 60 prohibts maneuvers in certain areas when they might endanger the structural safety of the aircraft, or endanger other air traffic because of sudden changes in altitude, position or direction even though structural safety is not involved, or the use of abnormal attitudes, such as inverted flying.

Dropping Objects or Persons. **CAR 43.47.** As the pilot, you may not allow any object to be dropped from the aircraft that would endanger persons or property. This does not prohibit aerial application operations such as seeding, spraying or dusting, nor the dropping of periodicals, circulars or objects of any kind, if reasonable precautions are taken to avoid injury or damage to persons or property.

You have to get an authorization from the FAA before you as the pilot may allow a voluntary parachute jump to be made from your airplane

over congested areas of cities, towns or settlements, or an open-air assembly of persons: except, of course, in an emergency.

Transportation of Explosives. **CAR 43.50.** Part 49 treats this subject in detail. Part 43 places responsibility for complying with Part 49 directly on the pilot.

Small arms ammunition for personal use, necessary signalling devices and equipment needed for safe operations of the aircraft are permitted.

Any person who causes explosives or other dangerous articles to be carried in an aircraft contrary to the provisions of Part 49 is subject to a criminal penalty, including fines and imprisonment. (FA Act of 1958, Section 902(h)(1).)

Operation During Physical Deficiency. **CAR 43.42.** Don't fly an aircraft during any known physical deficiency or illness which would disqualify you for your medical certificate.

Pilot Certificates. **CAR 43.40, 43.41.** You have to have your pilot and medical certificates with you whenever you pilot an aircraft. An employer is prohibited from employing a pilot who is not properly certificated. (FA Act of 1958, Section 610(a)(3).)

Duration of Pilot Certificates. Private, commercial and airline transport pilot certificates do not expire (CAR 21.11 and 21.24). There are exceptions to the general rule for foreign nationals, setting forth expiration dates.

Student pilot and limited flight instructor certificates expire on the last day of the month, 24 months after the month of issuance.

Expiration of Medical Certificate. **CAR 43.41.** Medical certificates have different periods of effectiveness, depending upon the type of flight operations done by the pilot.

(1) If the operations require an airline transport pilot certificate, you must hold a first class medical certificate: and for this purpose, it is effective for 6 calendar months.

(2) If the operations require at least a commercial pilot certificate, you must hold a first or second class medical certificate: and for this purpose, either one is effective for 12 calendar months.

(3) If the operations require at least a student pilot or private pilot certificate, you must hold a first, second, or third class medical certificate: and for this purpose, any of the medical certificates are effective for 24 calendar months.

A medical certificate becomes valid on the date of the physical examination, and continues in effect for the remainder of the month plus the number of calendar months specified above. (CAM 43.41-1.)

PILOT LIMITATIONS AND PRIVILEGES

Student Pilot: General. **CAR 43.52.** Above all else, a student pilot is not allowed to carry a passenger. He may manipulate the controls of a dual controlled aircraft if another person who is qualified to serve as pilot in command occupies a seat at the other set of full controls, and assumes or retains command, whether passengers are carried or not.

A student pilot may not solo an aircraft in international flight, nor in furtherance of a business, whether his own, or someone else's. (Special Civil Air Regulation No. SR-428 allows a student pilot to make international flights for solo cross-country experience, from Haines, Gustavus and Juneau Airports in Alaska, to White Horse, Yukon Territory, Canada.)

Student Pilot: Aircraft Limitations. **CAR 43.55.** A student pilot may solo only aircraft of the make and model that has been endorsed on his student pilot certificate by a certificated flight instructor.

Student Pilot: Recent Experience. **CAR 43.56.** If a student pilot has not flown a powered aircraft solo within 90 days, he must pass a flight check given by a certificated flight instructor, and have the check endorsed by the instructor in his student pilot log book before he may solo again.

Student Pilot: Solo Requirements. **CAR 20.23.** A student pilot may not solo until his student pilot certificate has been endorsed by a certificated flight instructor, who has determined that the student:

(1) Is familiar with the general and visual rules of CAR Part 60;

(2) Has received dual instruction in such preparatory and flight procedures as preflight inspections, starting, warming up, operating, and starting the engine; taxiing, take-offs, landings and parking; traffic pattern procedures; level flight, turns, climbs and glides, both visual and by instruments; and stalls and emergency landings; and

(3) Is otherwise competent to make solo flights.

CAR 20.53 and 20.83 make similar statements for solo flight in rotorcraft and gliders.

Student Pilot: Flight Area Limitations. **CAR 20.24.** A student pilot may not solo outside of a local area designated by his flight instructor until his student pilot certificate has been endorsed by a flight instructor, who has determined that the student:

(1) Is familiar with flight planning elements such as plotting courses, estimating time en route and fuel required, and getting and evaluating weather reports;

(2) Has received dual instruction in:

(*a*) Crosswind and simulated soft-field take-offs and landings;

(*b*) Climbing and gliding turns and minimum safe speeds;

(*c*) Cross-country navigation by reference to aeronautical charts;

(*d*) Safe operating procedures in simulated emergencies such as engine failure, loss of flying speed, marginal visibility, deteriorating weather, getting lost, and similar critical situations;

(*e*) Conforming with air traffic control instructions by radio and lights;

(*f*) The proper use of two-way radio communications; except that a synthetic trainer may be used for training if electronic facilities are not available within a hundred miles;

(*g*) VFR navigation procedures and techniques; and

(3) Is otherwise competent to make solo cross-country flights. CAR 20.54 and 20.84 make similar statements for solo cross-country flight in rotorcraft and gliders.

Private Pilot. **CAR 43.60.** A private pilot may not fly for compensation or hire; but he may pilot aircraft in connection with any business or employment if the flight is incidental to his business and does not involve carrying persons or property for hire. An aircraft salesman may demonstrate aircraft in flight to a prospective buyer if he has at least 200 hours of flight time.

The preamble to Amendment 43–3 which put present section 43.60 in effect September 11, 1950, sheds further light on the scope of this rule. It tells us that:

(1) A private pilot may share the actual operating expenses incurred during a flight with his passengers;

(2) The owner of a plantation or farm may crop dust or seed his own land since this would be incidental to his principal business of farming. He may also crop dust or seed the land of another, if he does not do so for compensation or hire.

(3) He may *not* ferry aircraft for compensation or hire.

(4) A real estate salesman may carry prospective buyers to show them the land or houses, since the flight would be incidental to his business as a real estate salesman.

(5) A business man may use a company aircraft and he may also carry friends or other employees if no charge is made.

NOTE.—In the matter of a private pilot sharing "actual operating expenses," many questions continue to arise about what is, or what is not an actual operating expense. You will be safe if you apply the test as to whether the expenses, or any portion of them, resulted from the particular trip.

These samples may help:

Fixed Expenses	*Actual Trip Expenses Which May Be Shared*
1. Home base hangar or tie-down.	1. En route hangar or tie-down.
2. Depreciation due to age.	2. Depreciation due to wear and tear, not compensated by maintenance or repairs.
3. Annual inspections.	3. Maintenance, repair and overhaul, including such work that any inspections show to be necessary.
4. Insurance on a calendar basis.	4. Trip insurance.
5. Taxes applied to the aircraft as property tax or local license fees.	5. Sales taxes, fees and levies applicable to the trip.

Commercial Pilot. **CAR 43.61.** A commercial pilot may fly for hire. However, if he flies for an air carrier or a commercial operator who transports passengers or property for hire in air commerce, or is also himself such an operator serving as a pilot, he becomes subject to the rules of Parts 40, 41, 42, 46 or 47, which impose either higher certificate requirements or additional experience requirements.

A commercial glider pilot may give flight instruction in gliders.

Aircraft Rating Requirements. **CAR 43.63.** Neither a private pilot nor a commercial pilot may carry passengers in an aircraft unless he holds a category rating for the aircraft used. Heavier-than-air categories are: (1) Airplane, (2) Rotorcraft, and (3) Glider. If the aircraft is an airplane, the pilot must also hold an airplane class rating.

Airplane classes are: (1) Single-engine land; (2) Multiengine land: (3) Single-engine sea: (4) Multiengine sea.

If the aircraft has a gross weight more than 12,500 pounds, the passenger-carrying pilot must also hold a type rating. A type rating shows the make and basic model of aircraft the pilot may operate.

Perhaps by the time you read this, the rotorcraft category will have two class ratings: helicopter and gyroplane.

The same rating requirements also apply if passengers are not carried, but the aircraft is operated for "remuneration," or if the pilot in command receives compensation. such as for ferrying aircraft.

The regulation is not altogether clear on this matter: and it must be read with the Board's intention as expressed in the preamble to Amendment 43–8, dated August 27, 1952, that put the present section in effect. It says in part, that "This change will also bring the regulation into conformity with the requirements of Annex I to the Convention on International Civil Aviation. Article 38 of the Chicago Convention requires the United States either to take such action or to file a notice of deviation with ICAO."

Section 2.1.2.3 of Annex I states: "The category, class and type rating shall be appropriate to the aircraft in which the holder of the license either acts as pilot in command carrying passengers or acts for remuneration as pilot in command."

Instrument Flight Limitations. **CAR 43.65.** You must have a "currently effective" instrument rating before you may act as pilot in command under instrument flight rules, or in weather conditions that require flight under instrument flight rules. This means you are not allowed to file an instrument flight plan even if you stay VFR at all times unless you are fully qualified to fly in IFR weather conditions.

Flight Instructor Requirements. **CAR 43.64.** Aircraft used for flight instruction must have complete dual controls.

A flight instructor may not give more than 8 hours of dual instruction in any one day, or more than 36 hours in any 7-day period.

Before a flight instructor endorses the certificate of a student pilot for solo flight or flight in different makes and models of aircraft, he must decide that the student can do so safely; and for cross-country flight, he must find that the student has an elementary knowledge of aeronautical charts, meteorological data, and the use of the magnetic compass.

Recent Experience. **CAR 43.68.** Before you carry passengers, you must have made at least 5 take-offs and landings to a full stop within the last 90 days in aircraft of the make and basic model you intend to use.

For passenger carrying at night, you must have made at least 5 take-offs and landings at night within the past 90 days. This may be done in any type of aircraft.

Recent Experience for Instrument Flight. **CAR 43.68(d).** To keep your instrument rating currently effective, you must have had within the last 6 calendar months, at least 6 hours of instrument flight under actual or simulated flight conditions. Three hours in a synthetic trainer may be substituted for the flight experience.

If your instrument rating is not currently effective, you may get your instrument experience under actual instrument conditions if a pilot of at least a private pilot grade accompanies you, who also holds an aircraft rating for the aircraft used and a currently effective instrument rating.

You may also get your instrument experience in an aircraft under simulated instrument conditions (under the hood).

Simulated Instrument Flight. **CAR 43.67.** When you fly under the hood, or by whatever means you block out the scenic views, the aircraft must have dual controls, and the safety pilot must occupy the other control seat, with fully functioning dual controls, at that. The safety pilot must also be rated for the aircraft and hold at least a private pilot certificate.

If the safety pilot does not have clear vision forward and to either side, you must also have a competent observer along, who sits where his view will properly supplement the safety pilot's.

OPERATION OF AIRCRAFT, DOCUMENTS REQUIRED

Certificate of Registration. The registration certificate must be displayed at all times, permanently fastened at the cabin or cockpit entrance so that it is readable by the passengers or crew. (Section 501.9, Regulations of the Administrator.) This section supplements CAR 43.10 which states that the certificate of registration must be carried in the aircraft whenever it is operated.

Airworthiness Certificate. The airworthiness certificate must be displayed at the cabin or cockpit entrance so that it is readable by the passengers or crew. (CAR 1.65 and CAM 1.65–1.) CAR 43.10 states that the airworthiness certificate or special flight permit must be carried in the airplane whenever it is operated.

Aircraft Operating Limitations. **CAR 43.10.** Aircraft operating limitations must be available in the aircraft whenever it is operated. They consist of one of the following:

(*a*) An FAA approved "Airplane Flight Manual" or a "Rotorcraft Flight Manual" issued by the manufacturer; or

(*b*) Form ACA–309a, issued by the CAA to the aircraft as a part of the airworthiness certificate before October 1, 1954; or

(*c*) Placards or listings or both, containing the following operating limitations when they have been prescribed by the Administrator for a particular aircraft: Engine limits (take-off, altitude, rpm, manifold pressure); Air speed limits (level flight or climb, glide or dive, flaps extended); Maximum weights (take-off, landing); Empty weight and useful load; Center of gravity range; Empty center of gravity; and any other limitation prescribed for the aircraft at the time it is certificated.

The placards and listings must be accessible to the pilot, legible and not easily erased or disfigured. (CAM 43.10–1.)

AIRCRAFT MAINTENANCE

General. **CAR 43.20.** The aircraft must be in an airworthy condition whenever it is operated. The following statement appears on the face of each airworthiness certificate:

> This certificate will remain in effect as long as the aircraft is maintained in accordance with Part 43 of the Civil Air Regulations unless surrendered, suspended, revoked, or a termination date is otherwise established by the (FAA).

Notice that the commonly called "permanent" certificate is not permanent as far as effectiveness is concerned. It is effective only when the aircraft is airworthy and the inspection requirements have been met. If the certificate becomes ineffective because of physical damage to the aircraft, or because the inspection time limits have been exceeded, it becomes effective again when the holder complies with the respective repair or inspection rules.

Responsibilities of the Pilot, Owner or Operator. The owner or operator is primarily responsible for keeping the aircraft in an airworthy condition for all flight operations. He must have it inspected at the required intervals, and keep the airplane in an airworthy condition between inspections by having the defects corrected or repaired. The owner or operator is also responsible for making sure that mechanics have made the proper entries in the aircraft and maintenance records to show that the airplane has been released to service.

The pilot is responsible for discontinuing a proposed flight, or a flight, when unairworthy mechanical or structural conditions occur. He should make a preflight inspection, including a visual inspection of the aircraft and its components for general condition and state of repairs, a check of the control movements, and of powerplants, instruments and the fuel and oil on board.

These responsibilities have been recognized for years, and have been given formal substance in CAM 43.20–1.

Inspections, General. **CAR 43.22.** There are two methods of inspection authorized. The first is the use of the periodic (annual) inspection, including any intermediate 100-hour inspections required if passengers are carried for hire. The second method is the progressive inspection which adjusts or equalizes the inspection workload on a continuous basis. (CAR 43.22, "Discussion.")

Periodic Inspections. Your aircraft must have had a periodic inspection within the last 12 months. This does not apply if the aircraft carries a special flight authorization or an experimental certificate. The inspection must be approved, for return to service of the aircraft, by a

certificated mechanic holding an Inspection Authorization (issued by the FAA), the manufacturer, or an approved repair station. The periodic inspection is a complete inspection of the aircraft. (CAR 18.12b, 43.22, CAM 18.30-18.)

Hundred Hour Inspection. **CAR 18.12a.** Your aircraft must have had a hundred hour inspection if you carry passengers for hire, or if you use it for flight instruction for hire; and the inspection must be within each 100 hours of time in service. The operator may go over the 100 hour interval by as much as 10 hours, but the additional time must be counted in the next 100 hours interval. This inspection is the same in scope as the periodic inspection. The difference lies in the fact that a certificated A&P mechanic may approve return of the aircraft to service without having to hold an Inspection Authorization.

Progressive Inspection. If the registered owner or lessee decides to use the progressive inspection system, he must first make arrangement for procedures, personnel and facilities, and then submit a written statement of his intention to use the progressive inspection system to the local General Aviation District Office before using the system. If he discontinues using the system he must immediately submit a written statement to this effect to the local District Office. (Sample statements are shown in Appendix A of CAM 43.) The same persons who may conduct periodic inspections may conduct progressive inspections.

Inspection Records. The rules require specific entries in the aircraft log books or aircraft maintenance records. These entries enable the operator or pilot to know the inspection and airworthiness status of the aircraft. The owner or operator is also responsible for making sure that the proper entries have been made. (CAM 18.30-18, 18.30-19 and CAR 43.23.)

If the person conducting a periodic or 100-hour inspection finds the aircraft is airworthy, and releases the aircraft to service, he is required to include the following statement in the aircraft maintenance records:

> I certify that this aircraft has been inspected in accordance with (—periodic or 100-hour inspection—) and was determined to be in airworthy condition.

If a person conducting a progressive inspection finds the aircraft is airworthy, and releases it to service, he is required to include the following statement in the aircraft maintenance records:

> A routine inspection of (—identify whether aircraft or components—) and a detailed inspection (—identify components—) were performed in accordance with a progressive inspection and the aircraft is released to service.

Aircraft and Engine Maintenance Records. **CAR 43.23.** The registered owner or operator is responsible for maintaining the maintenance records of the aircraft and each engine. He is responsible for presenting the records for required entries each time inspection or maintenance is accomplished.

Flight Tests Following Repairs or Alterations. **CAR 43.21.** When repairs or alterations are made, the person authorized to approve them should decide whether or not a flight test is required because of possible changes in flight characteristics or its operation in flight. A flight test is required under such conditions before passengers may be carried. The test pilot must hold at least a private pilot certificate and must be rated for the aircraft. A notation of satisfactory flight conditions must be made by the pilot in the aircraft log if he finds them to be satisfactory.

Aircraft Electronic Navigation Equipment Accuracy (VOR). **CAR 43.31.** Before you may operate under instrument flight rules using the VOR system of radio navigation, the VOR equipment in the aircraft must first have been operationally checked within the preceding 10 hours of aircraft flight time and within the preceding 10 days.

Checks must be conducted as follows:

(*a*) If VOR units independent of each other, with the exception of the antenna, are installed in the aircraft, one system may be checked against the other by tuning to the same VOR station and determining that the variation between the two indicated bearings is no greater than 4°.

(*b*) If the foregoing is not possible, or if preferred, the check may consist of one of the following, in the order of availability:

(1) Use of an FAA operated or approved test signal. The maximum permissible indicated bearing error

is plus or minus 4°. FAA operated or approved test signals and ground check points on an airport surface, and airborne check points designated by the Administrator are shown in the Airman's Guide. In using a point on an airport surface, use caution to head the aircraft in a direction which will prevent the aircraft structure from interfering with the ground signal.

(2) Use an airborne check point designated by the Administrator. The maximum permissible indicated bearing error is plus or minus 6°.

(3) Select the VOR radial which lies along the center line of an established VOR airway; choose a prominent ground point along the selected radial, preferably more than 20 miles from the VOR station, and maneuver the aircraft directly over the point at a reasonably low altitude; and note the VOR bearing indicated by the receiver when over the point. The maximum permissible difference between the published radial and the indicated bearing is plus or minus 6°.

Vor Check Records. Persons making the VOR operations check must make an entry of the check in the aircraft log or other permanent record showing the date, place, bearing error, and his signature.

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