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FEDERAL AVIATION AGENCY

PART 60 · AIR TRAFFIC RULES

CIVIL AIR REGULATIONS

NOTE:

This consolidation includes basic Part 60 dated 9/10/55, Amends 1 thru 13, and Amend 15, & SR-430, 431 & 433.

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FEDERAL AVIATION AGENCY

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Washington 25, D. C.

Part 60 of the Civil Air Regulations was last reprinted on September 10, 1955. Since that time, 15 amendments to the Part have been issued. Additionally, revisions to this 1955 edition have been made by the provisions of Special Civil Air Regulations Numbers 430, 431 and 433.

The consolidation of amendments provided herewith involves no substantive or editorial changes but is intended only to incorporate all outstanding, currently effective, amendments and revisions affecting Part 60 as revised on September 10, 1955. Those sections of Part 60 containing rules, policies and interpretations issued as Civil Aeronautics Manual 60 (CAMs) are not included.

The amendments incorporated in this printing include 60-1 through 60-13, Amendment 60-15, and the revisions made by the provisions of Special Civil Air Regulations Numbers 430, 431 and 433. The next amendment to Part 60 will be numbered 60-16. For convenient reference, Amendment 60-14, which becomes effective on January 1, 1960, unless made sooner effective by the Administrator, is attached.

This reprint is intended to provide a more simplified edition of the Air Traffic Rules which will facilitate the use of this Part for an interim period pending a complete revision which is currently under development.

TITLE 14 - AERONAUTICS AND SPACE

CHAPTER I - FEDERAL AVIATION AGENCY

PART 60 - AIR TRAFFIC RULES

GENERAL

Sec.

GENERAL FLIGHT RULES (GFR)

VISUAL FLIGHT RULES (VFR)

INSTRUMENT FLIGHT RULES (IFR)

DEFINITIONS

Note: The statements contained in the notes in this part are intended as explanation only and shall not be construed as official interpretations of the regulations.

§60.1 Scope. The air traffic rules in this part shall apply to aircraft operated anywhere in the United States, including the several States, the District of Columbia, and the several Territories and possessions of the United States, including the territorial waters and the overlying airspace thereof, except:

(a) Military aircraft of the United States Armed Forces when compliance with this part has been waived by the Administrator or when appropriate military authority determines that noncompliance with this Part is required by military emergency, or current military necessity essential to the defense of the United States, and prior notice thereof is given to the Administrator. Such prior notice shall be given to the Administrator at the earliest time practicable and, to the extent time and circumstances permit, every reasonable effort shall be made to consult fully with the Administrator and to arrange in advance for the required deviation from the rules on a mutually acceptable basis.

(b) Aircraft engaged in special flight operations, requiring deviation from this part, which are conducted in accordance with the terms and conditions of a certificate of waiver issued by the Administrator.

Note: Specific operations which cannot be conducted within the provisions of the regulations in this part, such as air races, air meets, acrobatic flights, or certain pest control or seeding operations require, prior to commencement of the operation, a certificate of waiver which may be obtained from the nearest office of FAA.

§60.1a Operation over the high seas. Aircraft of United States registry operated in air commerce shall while over the high seas comply with the provisions of Annex 2 (Rules of the Air) to the Convention on International Civil Aviation.

Note: An airman who complies fully with Part 60 while over the high seas will also be in compliance with Annex 2. Under Article 12 of the Convention on International Civil Aviation, the member states undertake to make their regulations conform to the greatest possible extent to the ICAO Annexes. It may therefore be expected that the provisions of Annex 2 will be generally applicable to flight over the territory of member states of the International Civil Aviation Organization.

§60.2 Authority of the pilot. The pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to operation of the aircraft. In emergency situations which require immediate decision and action the pilot may deviate from the rules prescribed in this part to the extent

required by consideration of safety. When such emergency authority is exercised, the pilot, upon request of the Administrator, shall file a written report of such deviation. In an emergency situation which results in no deviation from the rules prescribed in this part but which requires air traffic control to give priority to an aircraft, the pilot of such aircraft shall make a report within 48 hours of such emergency situation to the nearest regional office of the Administrator.

GENERAL FLIGHT RULES (GFR)

§60.10 Application. Aircraft shall be operated at all times in compliance with the following general flight rules and also in compliance with either the visual flight rules or the instrument flight rules, whichever are applicable.

§60.11 Preflight action. Before beginning a flight, the pilot in command of the aircraft shall familiarize himself with all available information appropriate to the intended operation. Preflight action for flights away from the vicinity of an airport, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements, an alternate course of action if the flight cannot be completed as planned, and also any known traffic delays of which he has been advised by air traffic control.

§60.12 Careless or reckless operation. No person shall operate an aircraft in a careless or reckless manner so as to endanger the life or property of others.

Note: Examples of aircraft operations which may endanger the lives or property of others are:

(a) Any person who "buzzes", dives on, or flies in close proximity to a farm, home, any structure, vehicle, vessel, or group of persons on the ground. In rural districts the flight of aircraft at low altitude often causes injury to livestock. A pilot who engages in careless or reckless flying and who does not own the aircraft which he is flying unduly endangers the aircraft, the property of another.

(b) The operation of aircraft at an insufficient altitude endangers persons or property on the surface or passengers within the aircraft. Such a flight may also constitute a violation of §60.17.

(c) Lack of vigilance by the pilot to observe and avoid other air traffic. This includes failure of the pilot to clear his position prior to starting any maneuver, either on the ground or in flight;

and special flight activities which require such preoccupation by the pilot with cockpit duties as would prevent adequate vigilance outside the cockpit for the purpose of collision avoidance without compensation for such reduced degree of vigilance by the use of a competent observer in the aircraft, a chase aircraft, or other equivalent arrangements.

(d) Passing other aircraft too closely.

(e) An operation conducted above a cloud layer in accordance with VFR minimums which results in the pilot becoming involved in instrument flight, unless the pilot possesses a valid instrument rating, the aircraft is properly equipped for instrument flight, and all IFR requirements are observed.

§60.13 Avoidance of prohibited and restricted areas.

(a) Prohibited area. No person shall operate an aircraft within a prohibited area unless prior permission has been obtained from appropriate authority.

(b) Restricted area. No person shall operate an aircraft within a restricted area contrary to the restrictions imposed unless prior permission has been obtained from appropriate authority.

Note: Prohibited and restricted areas are established in order to conduct certain essential activities either on the ground or within the airspace area. Avoidance of prohibited areas and operation within restricted areas strictly in accordance with the published restrictions are imperative to the safety of flight or the protection of the activity on the ground. Any person desiring to secure permission to fly in such areas contrary to the prohibition or the restrictions imposed, should contact the agency controlling that area. Prohibited and restricted areas, indicating the prohibitions or restrictions to flight and the name of the using agency, are shown on aeronautical charts or in publications of aids to air navigation.

§60.13a Authority for designation of restricted areas by the Administrator. Upon petition of any interested party or upon his own notice, recognizing the independent authority of the President of the United States as Commander-in-Chief, and under Section 4 of the Air Commerce Act of 1926, the Administrator under delegation of authority from the Board, will designate restricted areas when he finds such action necessary to assure the safety of aircraft in flight. The Administrator may impose such terms, conditions, and limitations as he may deem necessary, and may modify or revoke such designation when required in the public interest. In exercising the authority granted herein, the Administrator shall give full consideration to

the requirements of national defense.

§60.14 Right-of-way. An aircraft which is obliged by the following rules to keep out of the way of another shall avoid passing over or under the other, or crossing ahead of it, unless passing well clear:

Note: Right-of-way rules do not apply when, for reasons beyond the pilot's control, aircraft cannot be seen due to restrictions of visibility. The aircraft which has the right-of-way will normally maintain its course and speed, but nothing in this part relieves the pilot from the responsibility for taking such action as will best aid to avert collision.

(a) Distress. An aircraft in distress has the right-of-way over all other air traffic:

(b) Converging. Aircraft converging shall give way to other aircraft of a different category in the following order: airplanes and rotorcraft shall give way to airships, gliders, and balloons; airships shall give way to gliders and balloons; gliders shall give way to balloons. When two or more aircraft of the same category are converging at approximately the same altitude, each aircraft shall give way to the other which is on its right. In any event, mechanically driven aircraft shall give way to aircraft which are seen to be towing other aircraft;

Note: In effect, an aircraft will give way to another of a different class which is less maneuverable and is unable to take as effective action to avoid collision. For this reason aircraft towing others are given the right-of-way.

(c) Approaching head-on. When two aircraft are approaching head-on, or approximately so, each shall alter its course to the right;

(d) Overtaking. An aircraft that is being overtaken has the right-of-way, and the overtaking aircraft, whether climbing, descending, or in horizontal flight, shall keep out of the way of the other aircraft by altering its course to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear;

Note: Passing an overtaken aircraft on the right is required because the pilot in side-by-side, dual-control aircraft is seated on the left and has a better view on that side. Further, in narrow traffic lanes, passing on the left of an overtaken aircraft would place the overtaking aircraft in the path of the oncoming traffic.

(e) Landing. Aircraft, while on final approach to land, or while landing, have the right-of-way over other aircraft in flight or operating on the surface. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in in front of another which is on final approach to land, or to overtake that aircraft.

Note: Pilots must recognize that once committed to a landing in certain aircraft the pilot has little chance to avoid other aircraft which may interfere with that landing and, therefore, careful observance of this rule is important to the safety of all concerned.

§60.15 Proximity of aircraft. No person shall operate an aircraft in such proximity to other aircraft as to create a collision hazard. No person shall operate an aircraft in formation flight when passengers are carried for hire. No aircraft shall be operated in formation flight except by prearrangement between the pilots in command of such aircraft.

§60.16 Acrobatic flight. No person shall engage in acrobatic flight:

(a) Over congested areas of cities, towns, settlements, or over an open-air assembly of persons, or

(b) Within any federal airway or control zone. or

(c) When the flight visibility is less than 3 miles, or

(d) Below an altituae of 1,500 feet above the surface.

Note: Acrobatic maneuvers perrormed over a congested area or an open assembly of persons, or in areas where considerable air traffic exists, creates an undue hazard to persons or property. Flight visibility of at least 3 miles is believed to be a prerequisite to acrobatic flight in order that the pilot, after scanning the entire vicinity, may be reasonably assured that no other aircraft is within dangerous proximity prior to performing such maneuvers.

§60.17 Minimum safe altitudes. Except when necessary for take-off or landing, no person shall operate an aircraft below the following altitudes:

(a) Anywhere. An altitude which will permit, in the event of the failure of a power unit, an emergency landing without undue hazard to persons or property on the surface;

(b) Over congested areas. Over the congested areas of cities, towns or settlements, or over an open-air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet from the aircraft. Helicopters may be flown at less than the minimum prescribed herein if such operations are conducted without hazard to persons or property on the surface and in accordance with paragraph (a) of this section; however, the Administrator, in the interest of safety, may prescribe specific routes and altitudes for such operations, in which event helicopters shall conform thereto;

Note: The rule recognizes the special flight characteristics of the helicopter which can accomplish an emergency landing within a relatively small space. However, if a helicopter is flown over the congested area of a city, town or settlement, at less than 1,000 feet above the highest obstacle, the pilot is required to fly with due regard to places in which an emergency landing can be made with safety and, further, to maintain an altitude along the flight path thus selected from which such an emergency landing can be effected at any time.

(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In such event, the aircraft shall not be operated closer than 500 feet to any person, vessel, vehicle, or structure. Helicopters may be flown at less than the minimums prescribed herein if such operations are conducted without hazard to persons or property on the surface and in accordance with paragraph (a) of this section;

Note: When flight is necessary at an altitude of less than 500 feet above the surface, the pilot must avoid creating any hazard to persons or property on the surface which may result from such flight. In no event should the pilot expose his passengers to unnecessary hazard while engaging in flight at low altitude. The maneuverability of the helicopter permits safe flight below the minimums required in §60.17, provided good judgment and caution are exercised by the pilot.

(d) IFR operations. The minimum IFR altitude established by the Administrator for that portion of the route over which the operation is conducted. Such altitude shall be that which the safe conduct of flight permits or requires considering the character of the terrain being traversed, the meteorological services and navigational facilities available, and other flight conditions. Where the Administrator has not established such a minimum, operations shall be conducted at not less than 1,000 feet above the highest obstacle within a horizontal distance of 5 miles from the center of the course intended to be flown.

Note: When minimum altitudes are established by the Administrator for particular routes, such altitudes will be published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts and Radio Facility Charts of the Coast and Geodetic Survey, and in the Airman's Guide.

Note: Civil Air Regulations, Interpretation 1, 19 F. R. 4602, July 27, 1954, provides in part as follows:

"The Board construes the words 'Except when necessary for take-off or landing, no persons shall operate an aircraft below the following altitudes' where such words appear in § 60.17 of the Civil Air Regulations, as establishing a minimum altitude rule of specific applicability to aircraft taking off and landing. It is a rule based on the standard of necessity, and applies during every instant that the airplane climbs after take-off and throughout its approach to land. Since this provision does prescribe a series of minimum altitudes within the meaning of the act, it follows, through the application of section 3, that an aircraft pursuing a normal and necessary flight path in climb after take-off or in approaching to land is operating in the navigable airspace."

§60.18 Operation on and in the vicinity of an airport. Aircraft shall be operated on and in the vicinity of an airport in accordance with the following rules:

(a) When approaching for landing, all turns shall be made to the left unless the airport displays standard visual markings approved by the Administrator and which indicate that all turns are to be made to the right, or unless otherwise authorized by air traffic control;

Note: Where right-hand turns and clockwise flow of traffic are desirable in the interest of safety, airport markings visible from the air will inform the transient pilot of the necessity for making turns to the right.

(b) If air traffic control is in operation at the airport, contact shall be maintained with such control, either visually or by radio, to receive any air traffic control instructions which may be issued;

(c) Aircraft operating from an airport shall conform to the traffic patterns prescribed for that airport;

(d) The Administrator may, when necessary in the interest of safety, prescribe traffic patterns for an airport which shall supersede any other traffic patterns previously prescribed;

(e) When light signals are used for the control of air traffic, they shall be of the color and have the meaning prescribed by the Administrator.

Note: Light signals and their meanings are published in the FAA Flight Information Manual, for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

(f) High density air traffic zone. In any area not above 3,000 feet above the surface in which the Administrator finds that the volume of traffic is such as to adversely affect safety, he shall designate such airspace as a high density air traffic zone in which the following rules shall apply:

(1) Speed. No person shall operate an aircraft within a high density air traffic zone at a speed in excess of 180 mph or 160 knots indicated airspeed unless operational limitations for a particular aircraft require greater airspeeds, in which case the aircraft shall not be flown in excess of the minimum speed consistent with the safe operational limitations of the aircraft.

(2) Communication requirements. No person shall take off or land an aircraft at or enter the traffic pattern of a designated high density airport unless radio communication with the appropriate air traffic control facility has been established: Provided, That an aircraft not equipped with functioning two-way radio may take off or land at or enter the traffic pattern of such designated airport if prior authorization from the appropriate airport traffic control tower has been given.

§60.19 Air traffic control instructions. No person shall operate an aircraft contrary to air traffic control instructions in areas where air traffic control is exercised.

§60.20 Notification of arrival. If a flight plan has been filed, the pilot in command of the aircraft, upon landing or completion of the flight, shall file an arrival or completion notice with the nearest Federal Aviation Agency communication station or control tower.

§60.21 Adherence to air traffic clearances. When an air traffic clearance has been obtained under either the VFR or IFR rules, the pilot in command of the aircraft shall not deviate from the provisions thereof unless an amended clearance is obtained. In case emergency authority is used to deviate from the provision of an air traffic clearance, the pilot in command shall notify air traffic control as soon as possible and, if necessary, obtain an amended clearance. However, nothing in this section shall prevent a pilot, operating on an IFR traffic clearance, from notifying air traffic control that he is canceling his IFR flight plan and proceeding under VFR: Provided, That he is operating in VFR weather conditions when he takes such action.

§60.22 Water operations. An aircraft operated on the water shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation. The following rules shall be observed with respect to other aircraft or vessels operated on the water:

(a) Crossing. The aircraft or vessel which has the other on its right shall give way so as to keep well clear;

(b) Approaching head-on. When aircraft, or an aircraft and vessel, approach head-on, or approximately so, each shall alter its course to the right to keep well clear;

(c) Overtaking. The aircraft or vessel which is being overtaken has the right-of-way, and the one overtaking shall alter its course to keep well clear;

(d) Special circumstances. When two aircraft, or an aircraft and vessel, approach so as to involve risk of collision, each shall proceed with careful regard to existing circumstances and conditions including the limitations of the respective craft.

Note: The rules for operating aircraft on the surface of the water conform to marine rules for the operation of vessels. The "Special circumstances" rule is provided for situations wherein it may be impracticable or hazardous for a vessel or another aircraft to bear to the right because of depth of a waterway, wind conditions, or other circumstances.

§60.23 Aircraft lights. Between sunset and sunrise:

(a) All aircraft in flight or operated on the ground or under way on the water shall display position lights;

(b) All aircraft parked or moved within or in dangerous proximity to that portion of any airport used for, or available to, night flight operations shall be clearly illuminated or lighted, unless the aircraft are parked or moved in an area marked with obstruction lights;

(c) All aircraft at anchor shall display anchor lights, unless in an area within which lights are not required for vessels at anchor; and

(d) Within the State of Alaska the lights required in paragraphs (a), (b), and (c) of this section shall be displayed during those hours specified and published by the Administrator.

Note: International visual distress and urgency signals are contained in the FAA Flight Information Manual for sale by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C.

§60.24 Flight test. The following provisions shall apply to the flight testing of aircraft unless otherwise authorized by the Administrator under such conditions as he may prescribe:

(a) No person shall flight test an aircraft unless such flight test is conducted:

(1) Over open water or sparsely populated areas having light air traffic and approved by the Administrator; or

(2) Over an area designated by the Administrator.

(b) This section shall not apply to take-offs and landings and operations necessary for flights to and from approved flight areas of production aircraft and aircraft which have been subject to major alterations as defined in Part 18 of the Civil Air Regulations.

(c) All flight tests shall be conducted in accordance with such traffic rules as the Administrator may from time to time prescribe.

Note: It should be recognized that any flight operation that requires excessive preoccupation with cockpit duties may result in careless or reckless operation of aircraft. See Example (c) under § 60.12 of the Civil Air Regulations.

§60.25 Altimeter setting. The cruising altitude or flight level of aircraft shall be maintained by reference to an altimeter which shall be set:

(a) At or below 23,500 feet MSL, to the current reported altimeter setting of a station along the route of flight within 100 nautical miles: Provided, That where there is no such station, the current reported altimeter setting of an appropriate available station shall be used: And provided further, That in aircraft having no radio the altimeter shall be set to the elevation of the airport of departure or appropriate altimeter settings available prior to departure shall be used.

(b) At or above 24,000 feet MSL, to 29.92" Hg. The use of flight levels below this altitude is not permissible.

(c) For overseas operations, in ICAO Flight Information Regions, in accordance with ICAO Regional Supplementary Procedures.

Note: Flight levels appropriate to normally encountered atmospheric pressure are shown in the table following:

Atmospheric pressure in inches of mercury	Lowest usable flight level
29.92	240
29.91 to 29.42	245
29.41 to 28.92	250
28.91 to 28.42	255
28.41 to 27.92	260

§60.26 Flight crew members at controls. All required flight crew members when on flight deck duty shall remain at their respective stations while the aircraft is taking off or landing, and while en route except when the absence of one such flight crew member is necessary for the performance of his duties in connection with the operation of the aircraft. All flight crew members shall keep their seat belts fastened when at their respective stations.

VISUAL FLIGHT RULES (VFR)

§60.30 Basic VFR minimum weather conditions. Except as provided in § 60.31 aircraft shall not be flown VFR in weather conditions below those specified herein.

(a) Clearance from clouds.

(1) In controlled airspace. Aircraft shall not be flown VFR less than 500 feet vertically under, 1,000 feet vertically over, and 2,000 feet horizontally from any cloud

formation, except that in the continental control area, aircraft shall not be flown VFR less than 1,000 feet vertically and one mile horizontally from any cloud formation. Aircraft shall not be flown VFR within a control zone when the ceiling is less than 1,000 feet.

(2) Outside controlled airspace. When at an altitude of more than 700 feet above the surface, aircraft shall not be flown VFR less than 500 feet vertically under, 1,000 feet vertically over, and 2,000 feet horizontally from any cloud formation. When at an altitude of 700 feet or less above the surface, aircraft flown VFR shall be flown clear of clouds.

(b) Visibility within controlled airspace.

(1) Control zones. When the flight visibility is less than 3 miles, no person shall operate an aircraft VFR in flight within a control zone. When the ground visibility is less than 3 miles, no person shall take off or land an aircraft or enter the traffic pattern of an airport within a control zone.

(2) Control area. When the flight visibility is less than 3 miles, no person shall operate an aircraft VFR in flight within a control area.

(3) Continental control area. When the flight visibility is less than 5 miles, no person shall operate an aircraft VFR in flight within the continental control area.

(c) Flight visibility outside controlled airspace. No person shall operate an aircraft VFR in flight when the flight visibility is less than one mile. However, helicopters may be flown at or below 700 feet above the surface when the flight visibility is less than one mile, if operated at such reduced speed as to give the pilot of such helicopter adequate opportunity to see other air traffic or any other obstruction in time to avoid collision.

Note: The minimum weather conditions prescribed in this section for flight in controlled airspace are those within which a pilot is expected to be able to observe and avoid other air traffic. When operating in weather conditions equal to or above those specified herein, irrespective of the type of flight plan an aircraft may be operated under, i.e., IFR or VFR, the primary responsibility for the avoidance of collision rests with the pilot. It should be recognized that the criteria contained herein prescribe the "minimums" required for VFR flight. Good operating practice requires that regular or continued flight in near minimum weather conditions be avoided.

§60.31 Special VFR minimum weather conditions in control zones. When a clearance is obtained from air traffic control, aircraft may be flown VFR within a control zone when the weather conditions are below the basic minimums specified in § 60.30 subject, however, to special weather minimums as follows:

(a) Visibility. When the flight visibility is less than one mile, no person shall operate an aircraft VFR, other than a helicopter, in flight within a control zone. When the ground visibility is less than one mile, no person shall take off or land an aircraft VFR, other than a helicopter, at an airport within a control zone.

(b) Clearance from clouds. No person shall operate an aircraft VFR in flight within a control zone unless clear of clouds.

Note: With respect to this section, an air traffic clearance obtained under these provisions does not constitute authority for the pilot to deviate from § 60.17 or any other applicable provision of the Civil Air Regulations.

§60.32 VFR cruising altitudes. When an aircraft is operated in level cruising flight at 3,000 feet or more above the surface, the following cruising altitudes, or the equivalent flight levels, whichever is appropriate, shall be observed:

(a) Below 29,000 feet. At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at odd thousands plus 500 (3,500; 5,500; etc.).

(2) 180° to 359° inclusive, at even thousands plus 500 (4,500; 6,500; etc.).

(b) Above 29,000 feet. At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at 4,000-foot intervals beginning at 30,000 (30,000; 34,000; etc.).

(2) 180° to 359° inclusive, at 4,000-foot intervals beginning at 32,000 (32,000; 36,000; etc.).

§60.33 VFR flight plan. If a VFR flight plan is filed, it shall contain such of the information listed in § 60.41 as air traffic control may require.

Note: Although flight plans are not required for VFR flight, air traffic control will accept such flight plans when desired by the pilot. Flights proceeding over sparsely populated areas or mountainous terrain may thus take advantage of any search and rescue facilities which may be available in emergencies. The information contained in such a flight plan is of importance to search and rescue operations.

INSTRUMENT FLIGHT RULES (IFR)

§60.40 Application. When aircraft are not flown in accordance with the distance-from-cloud and visibility rules prescribed in the visual flight rules, §§ 60.30-60.33, aircraft shall be flown in accordance with the rules prescribed in §§ 60.41-60.49.

§60.41 IFR flight plan. Prior to operating in controlled airspace, a flight plan shall be filed with air traffic control. Such flight plan shall contain the following information unless otherwise authorized by air traffic control.

(a) Aircraft identification, and if necessary, radio call sign;

(b) Type of aircraft; or, in the case of a formation flight, the types and number of aircraft involved;

(c) Full name, address, and number of pilot certificate of pilot in command of the aircraft, or of the flight commander if a formation flight is involved;

(d) Point of departure;

(e) Cruising altitudes or flight levels, and the route to be followed;

(f) Point of first intended landing;

(g) Proposed true air speed at cruising altitude;

(h) Radio transmitting and receiving frequencies to be used;

(i) Proposed time of departure;

(j) Estimated elapsed time until arrival over the point of first intended landing;

(k) Alternate airport or airports, in accordance with the requirements of § 60.42;

(l) Amount of fuel on board expressed in hours;

(m) Any other information which the pilot in command of the aircraft, or air traffic control, deems necessary for air traffic control purposes;

(n) For international flights: The number of persons on board.

§60.42 Alternate airport. An airport shall not be listed in the flight plan as an alternate airport unless current weather reports and forecasts show a trend indicating that the ceiling and visibility at such airport will be at or above the following minimums at the time of arrival:

(a) Airport served by radio directional facility. Ceiling 1,000 feet, visibility one mile; or ceiling 900 feet, visibility 1½ miles; or, ceiling 800 feet, visibility 2 miles;

(b) Airport not served by radio directional facility. Ceiling 1,000 feet with broken clouds or better, visibility 2 miles;

(c) Minimums at individual airports. The Administrator may, in the interest of safety, prescribe higher ceiling and visibility minimums at individual airports than required by paragraph (a) or (b) of this section; and for individual operations at particular airports, may specify lower minimums if he shall find that such reduced minimums will not decrease safety.

Note: The minimums set forth in § 60.42 are required for clearance prior to take-off and are not intended to limit use of any alternate airport if weather conditions change while en route, in which event the published landing minimums shall apply. Minimums for particular airports which may be prescribed by the Administrator will be published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts of the Coast and Geodetic Survey, and in the Airman's Guide.

§60.43 Air traffic clearance. Prior to operating in controlled airspace, an air traffic clearance shall be obtained from air traffic control.

§60.44 IFR cruising altitudes. When an aircraft is operated in level cruising flight, it shall be operated in accordance with the following cruising altitudes, or the equivalent flight levels, whichever is appropriate, except that, in the absence of a specific altitude authorized by air traffic control, aircraft operating "on top" shall be flown at altitudes specified in § 60.32:

(a) Within controlled airspace. At altitudes authorized by air traffic control.

(b) Outside controlled airspace - below 29,000 feet. At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at odd thousands (1,000; 3,000; etc.).

(2) 180° to 359° inclusive, at even thousands (2,000; 4,000; etc.).

(c) Outside controlled airspace at and above 29,000 feet in the State of Alaska and in territorial possessions of the United States. At an altitude appropriate to the magnetic course being flown as follows:

(1) 0° to 179° inclusive, at 4,000-foot intervals beginning at 29,000 (29,000; 33,000; etc.).

(2) 180° to 359° inclusive, at 4,000-foot intervals beginning at 31,000 (31,000; 35,000; etc.).

§60.45 Course to be flown. Aircraft operating IFR in controlled airspace shall be flown as follows unless otherwise authorized by air traffic control:

(a) On federal airways. Along the center line of the airway.

(b) On other routes. Along the direct course between the navigational aids or fixes defining the route.

§60.46 Instrument approach procedure. When instrument letdown to an airport is necessary, a standard instrument approach procedure prescribed for that airport by the Administrator shall be used, unless:

(a) A different instrument approach procedure specifically authorized by the Administrator is used, or

(b) A different instrument approach procedure is authorized by air traffic control for the particular approach, provided such authorization is issued in accordance with procedures approved by the Administrator.

Note: Standard instrument approach procedures prescribed by the Administrator are published in Parts 609 and 610 of this title, and also may be found in the Approach and Landing Charts and

Radio Facility Charts of the Coast and Geodetic Survey, and in the Airman's Guide. Such procedures have been carefully investigated with respect to pattern and terrain clearance. Safety would not permit several aircraft to make simultaneous use of more than one instrument approach procedure unless such operations were controlled.

§60.47 Radio communications. Within controlled airspace the pilot in command of the aircraft shall ensure that a continuous watch is maintained on the appropriate radio frequencies and shall report by radio as soon as possible the time and altitude of passing each designated reporting point, or the reporting points specified by air traffic control, together with weather conditions which have not been forecast, and other information pertinent to the safety of flight.

Note: Designated reporting points are noted in publications of aids to air navigation. Control of air traffic is predicated on knowledge of the position of aircraft in flight. The reporting of unanticipated weather encountered en route such as icing or extreme turbulence may be of importance to the safety of other aircraft anticipating flight within the area.

§60.49 Radio failure. If unable to maintain two-way radio communications, the pilot in command of the aircraft shall:

(a) If operating under VFR conditions, proceed under VFR and land as soon as practicable, or

(b) Proceed according to the latest air traffic clearance to the radio facility serving the airport of intended landing, maintaining the minimum safe altitude, or the last acknowledged assigned altitude or flight level, whichever is higher. Descent shall start at the expected approach time last authorized or, if not received and acknowledged, at the estimated time of arrival indicated by the elapsed time specified in the flight plan.

Note: Detailed procedures to be followed by the pilot are contained in the FAA Flight Information Manual, for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

DEFINITIONS

§60.60 Definitions. As used in this part, terms shall be defined as follows:

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 "acrobatic flight" is not intended to include turns or maneuvers necessary to normal flight.

Air traffic. Aircraft in operation anywhere in the airspace and on that area of an airport normally used for the movement of aircraft.

Air traffic clearance. Authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace.

Air traffic control. A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Aircraft. Any contrivance used or designed for navigation of or flight in the air, except a parachute or other contrivance designed for such navigation but used primarily as safety equipment.

Airplane. A mechanically propelled aircraft the support of which in flight is derived dynamically from the reaction on surfaces in a fixed position relative to the aircraft but in motion relative to the air.

Airport. A defined area on land or water, including any buildings and installations, normally used for the take-off and landing of aircraft.

Airship. A mechanically propelled aircraft whose support is derived from lighter-than-air gas.

Alternate airport. An airport specified in the flight plan to which a flight may proceed when a landing at the point of first intended landing becomes inadvisable.

Balloon. An aircraft, excluding moored balloons, without mechanical means of propulsion, the support of which is derived from lighter-than-air gas.

Basic airworthiness. "Basic airworthiness" means the structural integrity and controllability of an aircraft as determined by the pilot in normal flight maneuvering such that there is no reasonable probability of failure which would endanger persons or property.

Ceiling. The height above the ground or water of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

Continental control area. The continental control area is an area designated by the Administrator which includes that airspace within the continental United States at and above 24,000 feet (mean sea level), exclusive of prohibited and restricted areas.

Control area. An airspace of defined dimensions, designated by the Administrator, extending upwards from an altitude of 700 feet above the surface, within which air traffic control is exercised.

Control zone. An airspace of defined dimensions, designated by the Administrator, extending upwards from the surface, to include one or more airports, and within which rules additional to those governing flight in control areas apply for the protection of air traffic.

Controlled airspace. Controlled airspace is that airspace designated by the Administrator as a control zone, control area, or the continental control area, within which air traffic control is exercised.

Cruising altitude. Cruising altitude is a level determined by vertical measurement from mean sea level.

Expected approach time. The time at which it is expected that an arriving aircraft will be cleared to commence approach for a landing.

Flight level. Flight level is a level of constant atmospheric pressure related to a reference datum of 29.92" Hg. For example, flight level 250 is equivalent to an altimeter indication of 25,000 feet, and flight level 265 to 26,500 feet.

Flight plan. Specified information filed either verbally or in writing with air traffic control relative to the intended flight of an aircraft.

Flight test. "Flight test" means flight for the purpose of investigating or checking the operational capabilities of a new type of aircraft, engine, or propeller, the airworthiness of which has not been determined by appropriate military or civil authority; or flights of production aircraft until the basic airworthiness of the aircraft, engine, or propeller contemplated by the appropriate production specification or type certificate is determined by the pilot; or flights involving aircraft, engines, or propellers following major alteration, as defined in Part 18 of the Civil Air Regulations, until the basic airworthiness of the aircraft, engine, or propeller has been determined by the pilot.

Flight visibility. The average horizontal distance that prominent objects may be seen from the cockpit.

Glider. An aircraft without mechanical means of propulsion, the support of which in flight is derived dynamically from the reaction on surfaces in motion relative to the air.

Ground visibility. The average range of vision in the vicinity of an airport as reported by the U. S. Weather Bureau or, if unavailable, by an accredited observer.

Helicopter. A type of rotorcraft the support of which in the air is normally derived from airfoils mechanically rotated about an approximately vertical axis.

IFR. The symbol used to designate instrument flight rules.

IFR conditions. Weather conditions below the minimum prescribed for flights under VFR.

Magnetic course. The true course or track, corrected for magnetic variation, between two points on the surface of the earth.

Prohibited area. Airspace identified by an area on the surface of the earth within which the flight of aircraft is prohibited. A prohibited area may be established by the President of the United States or any State of the United States pursuant to the Air Commerce Act of 1926, or it may be established pursuant to the Civil Aeronautics Act of 1938, as amended.

Reporting point. A geographical location in relation to which the position of an aircraft is reported.

Restricted area. Airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. A restricted area may be

established by the President of the United States or by any State of the United States pursuant to the Air Commerce Act of 1926, or it may be established pursuant to the Civil Aeronautics Act of 1938, as amended, or it may be established by the Administrator of Civil Aeronautics pursuant to the provisions of §60.13a.

Rotorcraft. An aircraft whose support in the air is chiefly derived from the vertical component of the force produced by rotating airfoils.

Sunset and sunrise. Sunset and sunrise are the mean solar times of sunset and sunrise as published in the Nautical Almanac converted to local standard time for the locality concerned, except within the State of Alaska.

Note: The Nautical Almanac containing sunshine tables may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Information is also available from the sunshine tables in the offices of the Federal Aviation Agency or the United States Weather Bureau.

Traffic pattern. The flow of aircraft operating on and in the vicinity of an airport during specified wind conditions as established by appropriate authority.

VFR. The symbol used to designate visual flight rules.

VFR conditions. Weather conditions equal to or above the minimum prescribed for flight under VFR.

BASIC VFR MINIMUMS
AS PROVIDED IN SECTION 60.30

	VISIBILITY	DISTANCE FROM CLOUDS	
CONTROL ZONE	3 miles[1/]	500 feet under[1/] 1,000 feet over[1/] 2,000 feet horizontally[1/] and 1,000-foot ceiling	
CONTROL AREA	3 miles	500 feet under 1,000 feet over 2,000 feet horizontally	
CONTINENTAL CONTROL AREA	5 miles	1,000 feet under 1,000 feet over 1 mile horizontally	
		700 feet or BELOW	ABOVE 700 feet
OUTSIDE CONTROLLED AIRSPACE	1 mile[2/]	clear of clouds	500 feet under 1,000 feet over 2,000 feet horizontally

1/ If traffic conditions permit, air traffic control will issue an air traffic clearance for flight within a control zone when the weather conditions are less than the above. However, no person shall operate an aircraft VFR, irrespective of any clearance, unless the visibility is one mile and the flight can remain clear of clouds.

2/ Helicopters are excepted from the one mile requirement when operated at or below 700 feet and at reduced airspeed, (see §60.30.)

UNITED STATES OF AMERICA
CIVIL AERONAUTICS BOARD
WASHINGTON, D. C.

Civil Air Regulations Amendment 60-14
Effective: January 1, 1960
Adopted: December 29, 1958

AIR TRAFFIC RULES

DEFINITION OF CONTROL AREAS

Part 60 of the Civil Air Regulations comprises the air traffic rules and contains definitions pertaining thereto, one of which is "control area." Currently, the definition of control area specifies that such area extends "...upward from an altitude of 700 feet above the surface...."

In Civil Air Regulations Draft Releases Nos. 57-11 and 57-27 the Bureau of Safety gave notice of proposals to amend the definition of control area by raising the "floor" of such areas above the present 700 feet. The objective of the proposals was to redefine the dimensions of control area so as to provide a more reasonable balance of the airspace requirements of both the IFR and VFR users of the airspace. The notices pointed to the variance of opinions between users of the airspace as to this issue and invited comments on various possibilities. Thus the issue was posed as to whether the floor should remain at or be raised above the 700-foot level up to a fixed level of 3,000 feet, and whether the level should be at one fixed altitude or subject to authority in the Administrator to make specific higher designations.

In light of the comments received the Board has concluded that it should take a middle course and establish the floor at a 1,500-foot minimum with flexible authority in the Administrator to designate higher floors where practicable in light of local conditions.

All the views expressed on this matter have been carefully taken into account and the reasoning for the respective views is understood and appreciated. While it is clear that an increase in the control area floor would create limitations for the IFR user it is equally clear that the minimum of 700 feet no longer provides adequately for the non-IFR user.

The Board is of the opinion that the floor of the control area should be raised to a higher minimum altitude. This floor will be at 1,500 feet; however, in recognition of the fact that the requirements for minimum flight altitudes for use under IFR may be higher than 1,500 feet in certain areas, this new definition permits the Administrator to raise the 1,500-foot floor where practicable to a higher altitude.

Raising the floor of a control area has a serious effect on related controlled airspace, especially in airport terminal areas. The present relationship between "control zones" and "control areas" cannot continue to exist without complementary amendments either to the definition of control zones or the creation of another term to supply the distinction between the en route, terminal maneuvering areas, and landing and take-off areas.

In the past the procedure for designating controlled airspace, other than the continental control area, employed the terms "control area," "control area extensions," and "control zone." Generally speaking, control areas are normally designated along the civil airways. The term control area extension has been used in addition to other applications to encompass all the flight paths of aircraft maneuvering in an airport terminal area. Control zones serve to provide controlled airspace down to the surface for the landing and take-off phase of flight.

A review of all the problems associated with raising the control area floor has led to the conclusion that, insofar as the present application of controlled airspace at the airport and in the terminal area is concerned, no increase in the floor can be made without imposing severe and undue restrictions on IFR traffic. However, flights en route along the airways can absorb the loss of controlled airspace with a less adverse effect on the over-all system capacity.

These factors led to the conclusion that, if control zones remain substantially as they are and specific provision is made to provide for controlled airspace extending upwards from 700 feet to encompass all flight paths of aircraft maneuvering in a terminal area, the 1,500-foot "floor" of control area can be implemented and utilized in the most effective manner.

While the term control area extension has been used in a number of cases so as to provide the controlled airspace requirements in terminal areas, it is not entirely suitable for this particular requirement. It is believed more advisable to prescribe a new controlled airspace term which would serve the sole purpose of providing the terminal area controlled airspace requirements and the descriptive phrase "terminal control area" appears to be most suitable.

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This revised structure will provide essentially for three segments of controlled airspace which can be classified into the en route, the terminal, and the landing and take-off phases of flight. For en route aircraft, the floor of the control area will be 1,500 feet. Additionally, this amendment provides that the Administrator may fix the floor at a higher altitude when he finds such higher altitude will not unduly restrict the flow of IFR air traffic. In an airport terminal area, where aircraft may be maneuvering at the lower altitudes, the floor of a terminal control area will be 700 feet. In the immediate vicinity of particular airports where aircraft will be landing and taking off, the control zone will continue to provide controlled airspace down to the surface. More simply, the floor of the controlled airspace structure will be 1,500 feet (or higher where the Administrator so designates) for the en route phase of flight; 700 feet in terminal areas; and, down to the surface in the vicinity of airports.

These changes when put into effect will provide that uncontrolled VFR traffic may be operated clear of clouds with one mile visibility below 700 feet when operating beneath a terminal control area and below 1,500 feet when operating below a control area when such control area is outside the terminal control area or a control zone. Under current procedure a minimum separation of at least 300 feet is provided between an aircraft operating IFR in a control area and a VFR aircraft operating beneath due to the fact that a VFR flight may be operated at or below 700 feet while an IFR flight must be at least 1,000 feet above the surface. The current minimum vertical separation of 300 feet will continue to exist between an IFR flight in a terminal control area and a VFR flight operating beneath. However, a minimum difference of 500 feet will be provided between such aircraft in control areas or the en route airway phase of flight. This minimum difference of 500 feet will be provided in the establishment of minimum en route altitudes which will not extend below 2,000 feet above the surface along airways or other control areas that are outside terminal control areas and control zones.

Although the changes being made by this amendment have been designed to minimize the impact on our controlled airspace structure, many preparatory modifications remain which have to be completed prior to full implementation of these revised rules.

Among the major projects which these changes will necessitate is the complete analysis of the present system to insure that all minimum IFR en route altitudes in affected control areas are set at or above 2,000 feet. In some cases this will require extensive flight checking and evaluation to adjust the minimum en route altitudes both on and off airways. Another significant consideration is the requirement for adequate terminal control areas around all airports at which instrument approaches are authorized.

The Administrator is of the view that because of the nature and extent of these modifications and the machinery through which they must be processed to insure that the over-all system is properly prepared to accommodate these changes, this amendment cannot become fully effective for one year. The Administrator has advised, however, that it will be feasible to implement these revised rules in part in certain areas at an earlier date. It is clear that early utilization of the provisions of these revised rules will materially aid in providing for the better utilization of airspace.

The problems encountered in developing a segregation of certain military flight activities from routine civil flight operations, for example, would be considerably less difficult if controlled airspace could in certain cases be designated with a fixed upper limit or a higher floor. Further, it is anticipated by the Administrator that along certain airways that have a high minimum reception altitude the floor can be raised almost immediately. This would serve to provide more "elsewhere" or uncontrolled airspace which would otherwise be denied during the one year believed necessary for complete implementation.

While such a progressive implementation plan has considerable merit, it does pose the problem of having two different applications of controlled airspace in effect simultaneously. However, it is expected that the disadvantages of such a procedure can be minimized by proper notice in such publications as the Airman's Guide and by appropriate depiction on aeronautical charts. The advantages to be gained in the better utilization of airspace justify the use of the revised rules as early as the Administrator is able to implement them.

Accordingly, while the effective date of this amendment is set for January 1, 1960, provision is made for earlier implementation by the Administrator of any part of the amendment as soon as he may find such part can be effectively implemented.

These revisions require complementary changes to § 60.30. This section is being amended to include "terminal control area" and to allow flight outside controlled airspace to be conducted "clear of clouds" below 1,500 feet in lieu of the 700-foot floor previously provided.

In cases where the control area floor is raised to 1,500 feet or higher the provisions of § 60.30, "Basic VFR minimum weather conditions," as revised by this amendment shall apply. That is, if the

control area floor in a particular area is raised to 1,500 feet or higher an aircraft may then be operated VFR (outside controlled airspace) in this area "clear of clouds" below 1,500 feet. Of course, in those instances where the Administrator has not taken affirmative action to raise the floor to 1,500 feet or higher the 700-foot floor of control areas shall continue in effect until January 1, 1960.

The Board in redefining the term "controlled airspace" herein does not intend nor should its action be interpreted as intending to supersede the authority of the Administrator to designate "positive control route segments" and the other provisions of Special Civil Air Regulation No. SR-424, adopted May 28, 1958.

Interested persons have been afforded an opportunity to participate in the making of this amendment (22 F.R. 3758 and 9868), and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, the Civil Aeronautics Board hereby amends Part 60 of the Civil Air Regulations (14 CFR Part 60, as amended), effective on and after January 1, 1960, provided, that the Administrator may upon 30 days' notice make this amendment or any part thereof effective in any portion of airspace prior to this date.

1. By amending § 60.30 (a) (2) by changing the phrase "700 feet" in the two places it occurs to read "1,500 feet*".

2. By amending § 60.30 (b) by redesignating subparagraph (3) as subparagraph (4), and by adding a new subparagraph (3) to read as follows:

60.30 Basic VFR minimum weather conditions. * * *

(b) Visibility within controlled airspace. * * *

(3) Terminal control area. When the flight visibility is less than 3 miles, no person shall operate an aircraft VFR within a terminal control area.

3. By amending § 60.30 (c) by changing the phrase "700 feet" in the second sentence to read "1,500 feet*".

4. By adding a note with an asterisk after the current note following § 60.30 to read as follows:

*In those instances where the Administrator has not taken action to raise the floor of control area to 1,500 feet or higher, the 700-foot floor shall continue in effect until January 1, 1960.

5. By amending the "Basic VFR Minimums" chart attached to Amendment 60-11 by adding "AND TERMINAL CONTROL AREA" after the words CONTROL AREA in the first column; by changing the headings "700 feet or BELOW" and "ABOVE 700 feet" in the "Distance from Clouds" column to read "1,500 feet* or BELOW" and "ABOVE 1,500 feet*", respectively; by changing the phrase "700 feet" in footnote 2 to read "1,500 feet*"; and by adding another footnote with an asterisk at the bottom of the chart to read: "*In those instances where the Administrator has not taken action to raise the floor of control area to 1,500 feet or higher, the 700-foot floor shall continue in effect until January 1, 1960."

6. By amending § 60.60 by deleting the definitions "Continental control area," "Control area," "Control zone," and "Controlled airspace" and by adding in proper alphabetical order the following new definition:

60.60 Definitions. * * *

Controlled airspace. Controlled airspace is that airspace, designated by the Administrator as the continental control area, control area, terminal control area, or control zone, within which air traffic control service is provided. In Alaska and areas outside the continental United States, airspace designated as a control area or a terminal control area shall extend upwards without the upper limitation provided by the continental control area:

(1) Continental control area. The continental control area is an area which includes that airspace within the continental United States at and above 24,000 feet (mean sea level), exclusive of prohibited and restricted areas. The continental control area shall not include the airspace over Alaska.

(2) Control area. A control area and any extension thereto is an airspace of defined dimensions extending upwards from an altitude of 1,500 feet* above the surface or higher as designated by the Administrator. A control area shall extend upwards to the base of the continental control area unless otherwise limited by the Administrator. Control areas are normally designated along airways and other segments of airspace required for en route and other traffic control service and protection.

*In those instances where the Administrator has not taken action to raise the floor of control area to 1,500 feet or higher, the 700-foot floor shall continue in effect until January 1, 1960.

(3) Terminal control area. A terminal control area is an airspace of defined dimensions extending upwards from 700 feet above the surface to the base of a control area. In the absence of an overlying control area, a terminal control area shall extend upwards to the base of the continental control area unless otherwise limited by the Administrator. Terminal control areas are intended to encompass the flight paths of aircraft maneuvering in the vicinity of an airport.

(4) Control zone. A control zone is an airspace of defined dimensions extending upwards from the surface to include one or more airports. Control zones are intended to encompass the flight paths of aircraft during take-off and landing and are normally a circular area of 5 miles radius with an extension along the instrument approach path.

(Sec. 205 (a), 52 Stat. 984; 49 U.S.C. 425 (a). Interpret or apply Sec. 601, 52 Stat. 1007, as amended; 49 U.S.C. 551)

By the Civil Aeronautics Board:

/s/ Mabel McCart

Mabel McCart
Acting Secretary

(SEAL)

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