FEDERAL AVIATION AGENCY

PART 60 · AIR TRAFFIC RULES

CIVIL AIR REGULATIONS

and related

Civil Aeronautics Manual 60

May 15, 1961

FEDERAL AVIATION AGENCY

Introductory Note

Part 60 of the Civil Air Regulations was last reprinted on September 15, 1959. Since that time nine amendments to the Part have been issued. These amendments are incorporated in the text of the Part in this printing and include Amendments 60–16 and 60–17 and Amendments 60–19 through 60–23. Additionally, included as an attachment to the Part are Special Civil Air Regulations Numbers 397, 424C, 437, 438, 442, 444, and 445.

This consolidation of amendments involves no substantive or editorial changes and is intended only to incorporate all outstanding and currently effective amendments affecting Part 60 as of May 15, 1961. This reprint is intended to provide a simplified edition of the Air Traffic Rules during an interim period pending a complete revision and recodification of the Part.

Also contained herein is Civil Aeronautics Manual 60 which includes the rules, policies, and interpretations issued or continued by the Administrator of the Federal Aviation Agency relating to the various sections of the Civil Air Regulations Part 60, Air Traffic Rules.

FAA *rules* are supplementary regulations which are mandatory.

FAA *policies* provide detailed technical information on recommended methods of complying with the Civil Air Regulations. Such policies are for the guidance of the public and are not mandatory in nature.

FAA *interpretations* define or explain words and phrases of the Civil Air Regulations. Such interpretations are for the guidance of the public and will be followed by the Administrator in determining compliance with the regulations.

Additional information of value to the pilot may be found in the FAA Flight Information Manual.

This reprinting of Civil Aeronautics Manual 60 incorporates all amendments as of May 15, 1961. Future amendments to Part 60 or to the Civil Aeronautics Manual 60 will be issued as page revisions for insertion in this publication.

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General

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 section 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.

60.14 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 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 or refueling other aircraft:

Note: In effect, an aircraft will give way to another of a different category which is less maneuverable and is unable to take as effective action to avoid collision. For this reason, aircraft towing or refueling 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 altitude of 1,500 feet above the surface.

Note: Acrobatic maneuvers performed 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 section 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 section 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, U.S. 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 section 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 flights 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. Aircraft shall not be flown VFR in weather conditions below those specified herein except as provided in section 60.31. When VFR flight operations are conducted in accordance with the provisions of section 60.32 at an altitude coincident with the designated base of the continental control area, control area or transition area, the visibility and clearance-from-cloud requirements applicable to the immediately underlying airspace shall govern.

(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 beneath the ceiling when the ceiling is less than 1,000 feet.

(2) *Outside controlled airspace.* When at an altitude of more than 1,200 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 1,200 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) *Transition area.* When the flight visibility is less than three miles, no person shall operate an aircraft VFR within a transition area.

(4) *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 1,200 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 section 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 1 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 section 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.).

Note: When an aircraft is holding in a one or two minute holding pattern or when it is turning, it is not considered to be in level cruising flight.

60.33 VFR flight plan. If a VFR flight plan is filed, it shall contain such of the information listed in section 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, sections 60.30–60.33, aircraft shall be flown in accordance with the rules prescribed in sections 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 section 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 section 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 U.S. 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 section 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.).

Note: When an aircraft is holding in a one or two minute holding pattern or when it is turning, it is not considered to be in level cruising flight.

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 pro-

cedure 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 U.S. 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."

Controlled airspace. Airspace of defined dimensions designated in Part 601 of this title as continental control area, control area, control zone or transition area, within which air traffic control is exercised.

(1) *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.

(2) *Control area.* Unless otherwise provided in appropriate cases, control areas extend upward from 700 feet above the surface until designated from 1,200 feet above the surface or from at least 500 feet below the MEA, whichever is higher, to the base of the continental control area.

(3) *Control zone.* Control zones extend upward from the surface. A control zone may include one or more airports and is normally a circular area of 5 statute miles in radius with extensions where necessary to include instrument approach and departure paths.

(4) *Transition area.* Transition areas extend upward from 1,200 feet or higher above the surface when designated to complement control zones; from 700 feet above the surface when designated in conjunction with an airport with no control zone but for which an instrument approach procedure has been prescribed; or from 1,200 feet or higher above the surface when designated in conjunction with airway route structures or segments. Unless otherwise limited, transition areas terminate at the base of the overlying controlled airspace.

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.

MEA. The minimum en route IFR altitude applicable to a particular route or route segment, from radio fix to radio fix, as specified in Part 610 of this title.

Prohibited area. Airspace identified by an area on the surface of the earth within which the flight of aircraft is prohibited.

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.

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

Special VFR conditions (special VFR minimum weather conditions). Weather conditions which are less than basic VFR weather conditions and which permit flight under Visual Flight Rules as specified in section 60.31.

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, U.S. 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 (VFR minimum weather conditions). Basic weather conditions prescribed in section 60.30 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 and transition 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.	
		1,200 feet or below	Above 1,200 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 above. However, no person shall operate an aircraft VFR, other than a helicopter, irrespective of any clearance, unless the visibility is 1 mile. All flights shall remain clear of clouds.

[2] Helicopters are excepted from the 1 mile requirement when operated at or below 1,200 feet and at reduced airspeed. (See section 60.30.)

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Special Civil Air Regulations Which Affect Part 60

SPECIAL CIVIL AIR REGULATION NO. SR-397

Effective: June 30, 1953
Adopted: June 30, 1953

Authorization for the U.S. Forest Service To Deviate From the Civil Air Regulations

The Forest Service of the U.S. Department of Agriculture uses both public and civil aircraft to carry personnel and equipment to fire areas. The aircraft and pilots are certificated and, where possible, Forest Service operations are conducted in accordance with the Civil Air Regulations. In order to deal effectively with fire control and other Forest Service specialized activities, however, it is often necessary to use uncertificated personnel as parachute riggers during peak-load periods, to remove seats and safety belts from aircraft in which firefighters are carried, to drop equipment and supplies from aircraft, and to deviate from other provisions of the Civil Air Regulations such as minimum altitudes and visibility conditions. Due to the exigencies of the particular situation, it is usually impracticable for the Forest Service to seek authority in each particular instance to deviate from the provisions of the Civil Air Regulations. In view of the public service rendered by this organization and the well organized supervisory control which the Forest Service exercises over its operations, it is considered desirable that the Board authorize the Forest Service to deviate from the Civil Air Regulations and normal practices thereunder when necessary for their operations.

This regulation authorizes the Chief of the Forest Service to permit aircraft and airmen, while engaged in Forest Service operations, to deviate from the Civil Air Regulations to the extent that he finds necessary for the expeditious conduct of such operations. The regulation also provides that the Administrator shall establish a procedure for notification by the Chief of the Forest Service of those deviations which he has authorized.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due consideration has been given to all relevant matter presented. Since this regulation imposes no additional burden on any person, it may be made effective without prior notice.

In consideration of the foregoing the Civil Aeronautics Board hereby makes and promulgates the following Special Civil Air Regulation, effective immediately:

Contrary provisions of the Civil Air Regulations notwithstanding, the Chief, Forest Service, U.S. Department of Agriculture, is authorized to permit aircraft and airmen, while engaged in operations conducted for the U.S. Forest Service, to deviate from the provisions of the Civil Air Regulations to the extent that he finds necessary for the expeditious conduct of such operations. The Chief, Forest Service, shall notify the Administrator of any deviation which he has authorized and the reasons therefor in accordance with a procedure established by the Administrator.

SPECIAL CIVIL AIR REGULATION NO. SR–424C

Effective: August 30, 1960
Issued: July 25, 1960

Positive Air Traffic Control Areas; Positive Air Traffic Control Routes

Draft Release No. 60–9, published in the Federal Register on May 7, 1960 (25 F.R. 4082) gave notice that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation establishing a new and additional application of the positive air traffic control concept. It has been long recognized that there are certain areas wherein the problems of collision avoidance by high-speed flight operations require the application of air traffic control separation standards regardless of the meteorological conditions. While the positive control routes, established in Special Civil Air Regulation series 424, and the civil jet radar flight following and advisory program were designed to reduce the possibility of mid-air collision, these programs were concerned primarily with the requirements of point-to-point flight. It is axiomatic that the next step in the evolution of positive control would be to the provision of such service within a specified "area," while still retaining the "route" concept of positive control and the civil jet advisory service until superseded by the "area" concept.

All comments received in response to Draft Release No. 60–9 have been reviewed and due consideration has been given to their content. While all of the comments endorsed the concept, some did so with certain reservations.

The Department of the Air Force has recommended that a plan for the evaluation of the positive control area concept be developed and that a simulation study and evaluation of the control procedures to be used and the traffic in the affected area be completed prior to the final rule making action. The Agency intends to evaluate and analyze the positive control program and to prepare a report, available to interested persons or agencies, after the implementing phase of the program is accomplished. Knowledge and statistics gathered will provide the Agency with information upon which future expansion of the positive control program and modification of associated control procedures will be based. A simulation study of the procedural and traffic factors contingent with this program has been completed. While a formal report is not yet available, the preliminary evaluation substantiates the ideology of the positive control area concept. Further knowledge must be obtained from a practical application.

The Air Force has also recommended that the positive control routes underlying positive control areas not be expanded vertically to include the airspace between 22,000 and 24,000 feet, m.s.l. This recommendation cannot be accepted. To leave a narrow strata of nonpositive controlled airspace between the positive control route segments and the positive control area would compress nonparticipating flight activities into the airspace between the two positive control systems. This funneling of traffic into a constricted band of

airspace in conjunction with aircraft transiting from one positive control environment to the other, would create a hazardous situation. For this reason it has been concluded that the airspace between 22,000 and 24,000 feet, m.s.l., should be designated as a positive control route segment.

The Air Force has contended that certain military flight operations cannot be satisfactorily conducted within positive control airspace and has enumerated such activities in its comments. The Agency had previously informed the Air Force of its program to integrate these operations into the system in accordance with a three-phase plan. Complete integration was scheduled to be accomplished within an estimated six-month period. The Air Force has stated that a delay in accepting these operations in the system could compromise its operations to the extent that the over-all combat readiness of certain commands and units could not be maintained. The Agency has therefore revised the phasing schedule to shorter periods of time and is, in fact, prepared to accept at the inception of the program, several operations which had been scheduled for later phases. The problems are primarily procedural in nature and resolution lies in increased system capacity. The Agency is confident that most of these problems will be resolved prior to or shortly after the initiation of this positive control program.

One foreign air carrier company expressed concern regarding the requirement for a radar beacon transponder, not wishing to install such equipment in the absence of internationally accepted transponder specifications. Due to the limitations of primary radar, particularly in regard to resolution of target information from certain aircraft types, the use of radar beacon transponders is essential to the success of positive control on an area basis.

Certain language in the proposed rule has been modified to promote clarity. Paragraph 1(d) now states that the Director, Bureau of Air Traffic Management, or his designated air traffic control representative, has the responsibility for the issuance of special authorizations permitting deviations from the requirements of paragraph 1 (b) and (c). As this change is clarifying in nature, makes no substantive change and imposes no additional burden on any person, further rule making procedures thereon are unnecessary.

Draft Release No. 60–9, discussed in considerable detail the airspace within which the proposed implementation of the positive control service would be accomplished. This elaboration was necessary in order to convey to the public a comprehensive understanding of the Agency's intent. Since formal airspace notices of proposed rule making relative to this airspace have been or will be presented for comment, further discussion with respect to the exact dimensions of airspace is not considered pertinent to this document.

In cooperation with all airspace users, the Federal Aviation Agency is making every effort to develop a program for positive control which will best serve the interest of the public. It is believed that with the adoption of this regulation a major advancement in safety will be achieved. It is extremely important that all interested persons exert a concerted effort to promote the success of this endeavor. Through a continuing evaluation and modification of procedures or operations and in close coordination with all users, an orderly and practical expansion of this concept will be accomplished.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective on August 30, 1960.

(1) The special air traffic rules prescribed in this section shall be applicable, except as otherwise provided in paragraph (d), to any operation of

an aircraft in that portion of airspace in the continental control area which has been designated by the Administrator as a "positive control area" in Part 601 of the Administrator's Regulations (14 CFR Part 601):

(a) No person shall operate an aircraft within a positive control area without prior approval of air traffic control.

(b) All VFR flight activities, including VFR on top, irrespective of weather conditions, are prohibited from operating in this designated airspace.

(c) All aircraft operated within positive control areas shall:

(1) Have instruments and equipment required for IFR operations and pilots of such aircraft shall be rated for instrument flight.

(2) Be equipped with a functioning radar beacon transponder which shall be operated to reply on such mode and/or code as may be specified by air traffic control for the area in which flight is conducted.

(3) Be equipped with radio equipment capable of providing direct pilot-controller communications on the frequencies specified by air traffic control for the positive control area in which flight is conducted.

(d) The Director of the Bureau of Air Traffic Management or his designated representative may authorize deviation from the requirements of paragraphs (b) and (c) of this section in accordance with the terms and conditions of such authorization. [1]

(2) The special air traffic rules prescribed in the following paragraphs of this section shall be applicable to any operation of an aircraft in that portion of a federal airway, designated by the Administrator as a "positive control route segment" in Part 601 of the Administrator's Regulations (14 CFR Part 601), between the altitudes of 17,000 and 22,000 feet (m.s.l.); or between the altitudes of 17,000 to 24,000 feet (m.s.l.) for the portion of a "positive control route segment" underlying a "positive control area" with a base of 24,000 feet (m.s.l.).

(a) No person shall operate an aircraft within such designated airspace without prior approval of air traffic control.

(b) All VFR flight activities, including VFR on top, irrespective of weather conditions, are prohibited from operating in this designated airspace.

(c) All aircraft operated within this designated airspace shall have the instruments and equipment currently required for IFR operations and all pilots shall be rated for instrument flight.

SR–424B is hereby rescinded on the effective date of this regulation.

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[1] Requests for such authorization shall be presented, in writing, to the air route traffic control center exercising control over the positive control area within which the deviating flight will be conducted. Such request must reach the center at least 4 days in advance of the proposed operation. Approval will be conveyed in writing and may be granted on a continuing basis or by individual flight, whichever is more appropriate.

SPECIAL CIVIL AIR REGULATION NO. SR-437

Effective: November 4, 1959
Issued: October 30, 1959

Flight Plans for Flight of Civil Aircraft Over Cuba

In order to provide for the proper coordination and clearance of all civil aircraft departing the United States for flight to or over Cuba, this regulation requires the pilot in command of such aircraft to file a flight plan prior to take-off. The DVFR or IFR flight plan required in section 620.11 of the Security Control of Air Traffic Rules may be used for this purpose. Additionally, at least one hour prior to departure a statement in writing with certain supplemental information must be filed with the office of the Immigration and Naturalization Service at the international airport from which such flights will depart.

This regulation does not apply to scheduled air carriers or foreign air carriers conducting flights from a place in the United States over routes authorized in operations specifications issued by the Administrator.

Since a situation exists requiring the immediate adoption of this regulation for the national security and safety in air commerce I find that notice and public procedure hereon are impracticable, and that good cause exists for making this regulation effective on November 4, 1959.

In consideration of the foregoing, the following Special Civil Air Regulation is adopted.

No person shall operate a civil aircraft from the United States for flight over, or landing within Cuba, unless departure is made from an international airport designated as an international airport of entry in section 6.13 of the Air Commerce Regulations of the Bureau of Customs (19 CFR 6.13).

The pilot in command of a civil aircraft departing from the continental United States (excluding Alaska) for flight over, or landing within, Cuba, shall file a DVFR or IFR flight plan in accordance with the requirements prescribed in section 620.11 of the Security Control of Air Traffic Rules (14 CFR 620). In addition, at least one hour prior to the time of departure from such international airport, the pilot in command shall file with the office of the Immigration and Naturalization Service at the airport a written statement containing the information in the flight plan, together with the following further information: Number and names of all persons aboard the aircraft, description of the cargo, if any, carried aboard the aircraft, and the international airport of departure.

This regulation shall not apply to aircraft operated by a scheduled air carrier or foreign air carrier departing from the United States over routes authorized in operations specifications issued by the Administrator.

This regulation shall become effective on November 4, 1959, and remain in effect until superseded, rescinded or revoked.

SPECIAL CIVIL AIR REGULATION NO. SR-438

Effective: April 4, 1960
Issued: February 23, 1960

Los Angeles International Airport Traffic Pattern Area Rules

On October 28, 1959, notice was given in Draft Release No. 59-17 (24 F.R. 9020) that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation establishing special airport traffic pattern rules for the Los Angeles International Airport area. This regulation would establish a specific area of airspace surrounding the Los Angeles International Airport to be designated as an airport traffic pattern area within which special aircraft operating rules would apply. These operating rules were developed in order to enhance the safety of all aircraft operations in this area and to provide for the protection of persons and property on the ground.

The nature of comments received in response to the draft release could be classified in two broad categories; those submitted from aviation community interests which addressed the technical aspects of the proposed aircraft operating rules, and those submitted from other interested persons which addressed the aircraft noise abatement aspects of the proposed rule.

Many of the comments of this latter category contended that the proposed rules did not "go far enough" and urged that much more be done to provide relief to nearby communities from the aircraft noise problem. While comments such as these were prevalent, other comments recognized that the rules, which deal with traffic pattern flight procedures would result in an alleviation of the problem insofar as practical air traffic rules could provide. For example, the comment of the City Council of Inglewood stated, in part, that the proposed regulation "* * * is, and will be, a long step toward the ultimate solution of the critical noise problem in this city; * * *". The City Council urged the early adoption of the proposed regulation.

The Agency would like to emphasize the point that the proposed rules outlined in Draft Release No. 59-17, were not intended to be representative of a complete Agency answer to the aircraft noise problem. These rules are an initial product of an Agency-wide program that seeks the alleviation of aircraft noise through the various areas of purview of each particular Bureau in the Agency. The Agency has been studying the fundamental problems of aircraft noise in airport communities to attack the problem on a broad scale. Basic research is under way on the fundamentals of community objections to aircraft noise to determine how to improve the designs of aircraft and their flight operational techniques to lower noise levels and, where possible, alter the noise characteristics to make them less annoying. As part of this intensive research program, a wide number of community reactions to aircraft noise studies have been made, the results of which are being regularly discussed with the aircraft operators for consideration in the design of new aircraft and engines.

While all jet transport aircraft in civil operation are equipped with engine noise suppressors, which are heavy and costly, the Agency is continuing its studies of jet noise suppression methods to further minimize the noise problem.

Ground engine mufflers are also being analyzed as these devices are particularly pertinent to the engine run-up maintenance procedures employed at airports. Studies of the new turbofan engines are also being made to assure that these engines will produce less noise on both take off and landing.

Studies are also under way to determine the least noisy methods and techniques for the take off and approach to landing of civil jet transport aircraft. Camera studies are being continued to determine the extent of operational variations between operators and pilots along with the accuracy to which the aircraft is flown. Airspeed indicators, artificial horizons, and angle of attack indicators with improved accuracy and readability are being studied to permit jet aircraft to be flown to the optimum performance consistent with safety and noise abatement.

Commercial air carriers based at many major airport terminals have been requested to remove their flight training activities to other airports where such operations may be conducted over less congested areas without creating undue noise annoyance. These requests were made primarily on the basis of safety, in that simulated engine-out maneuvers and the conflict of training flights with normal heavy traffic at such airports constitute an undue hazard as well as an unnecessary source of noise annoyance.

Additional navigation aids for instrument approach procedures at major airport terminals have been established so that approaches during limited weather conditions may be made from more than one direction. This eliminates the necessity for circling approaches around the airport at low altitudes since straight-in approaches to land can be made from more than one direction and is expected to contribute significantly to the further alleviation of the noise problem.

For operations in good weather conditions, considerable attention is being devoted to the development of visual glide path indicators. These devices will provide accurate visual guidance in the landing approach so as to assure that aircraft which create a difficult noise problem will not be flown at an altitude lower than that deemed acceptable throughout the approach. Five types of visual glide indicators are being installed at the National Aviation Facilities Experimental Center for testing and evaluation. One system is currently under active test and one will soon be ready for actual test. Within a few months, all five systems will be under simultaneous evaluation.

Studies are also under way by the Agency to determine the practicability of expanding the scope of airport master plans to include buffer zones designed to cushion the effects of aircraft noise. Consideration is also being given to recommending to airport owners and other public agencies, the utilization by them of local zoning powers to encourage land uses of areas contiguous to airports in a manner mutually beneficial to the community and airport activities.

The diligent pursuit of these and other noise alleviation projects within the Agency coupled with the continued and conscientious efforts of the aviation community, particularly the aircraft operators and local airport authorities, justify a confidence that significant progress will be made in the alleviation of the aircraft noise problem.

With respect to the comments received from the aviation community which addressed the technical operating provisions of the proposed rules, the consensus indicated an opposition to the principle of establishing separate Special Civil Air Regulations for each airport that may have a noise problem. It was contended that the inflexibility inherent in the establishment of manda-

tory operating procedures in a Civil Air Regulation could compound the complexities involved in further developing and revising noise abatement flight techniques. It was held that the establishment of detailed procedures designed to minimize the noise problem at particular airports could best be devised and more readily improved if developed on a local basis. The Agency finds merit in this proposition and consideration is being given to drafting an air traffic rule of general applicability which will standardize all controlled airport traffic pattern rules to the extent practicable and provide for the establishment of detailed airport procedures on a local basis.

Many comments were directed to the proposed provision which would require jet aircraft to maintain an altitude at or above the ILS glide path. The view was expressed that the precise 3° angle should not be specified and should not apply to the point of touchdown. Further, the approach altitude requirement ought to be applicable to piston engine aircraft as well as jet aircraft. The proposal has been modified in light of these comments and the rule is phrased to require descent at or above the glide path setting by all large aircraft equipped with ILS instrumentation. The rule applies only until the aircraft reaches the middle marker so as to provide for a safe "flare-out" for a landing by the pilot.

The proposed restriction on the use of the airport by jet aircraft between the hours of 10 p.m. and 7 a.m. under certain surface wind conditions has also been revaluated and this provision has been omitted from the rule. The practice of prohibiting the use of various airports during certain specific hours could create critically serious problems to all air transportation patterns. The network of airports throughout the United States and the constant availability of these airports are essential to the maintenance of a sound air transportation system. The continuing growth of public acceptance of aviation as a major force in passenger transportation and the increasingly significant role of commercial aviation in the nation's economy are accomplishments which cannot be inhibited if the best interest of the public is to be served. It was concluded therefore that the extent of relief from the noise problem which this provision might have achieved would not have compensated the degree of restriction it would have imposed on domestic and foreign Air Commerce.

Recommendations were received from aircraft operators at Hughes, Hawthorne and Santa Monica Airports for modifications to the proposed rules which would provide for a more flexible operation to and from those airports. Some of these recommendations indicated a misunderstanding of the proposed rules, especially the applicability of the two-way radio requirement. The proposal did not provide that two way communication had to be established with the Los Angeles tower if an aircraft were being flown to or from any airport other than Los Angeles International Airport within the Los Angeles traffic pattern area provided the appropriate entry and departure areas were utilized. For example, aircraft may enter the southeast sector of the Los Angeles traffic pattern area and land at Hawthorne Airport without communicating with the Los Angeles tower. Likewise aircraft may depart Hawthorne to the south without communicating with the Los Angeles tower. It will also be noted that the proposed departure procedure from Hawthorne has been modified to permit turns as early as practicable after a take-off to the west.

It should also be made clear that all the required traffic pattern area entry and departure procedures, altitudes as well as routes, may be superseded by authorization of the control tower. The principal purpose in adopting these procedures is to establish a standardized, segregated flow of air traffic at these

various airports which would promote the controllers capability to provide for a safe and expeditious movement of traffic in the area. The rules intend that the controller be provided the flexibility to authorize flight operations in such manner as is best suited to the instant state of the traffic situation.

Recommendations for a re-designation of the traffic pattern area to exclude the downwind leg portion of the Santa Monica traffic pattern were also received. However, the advantages of a standardized dimension of the traffic pattern area are considered more significant than locally different dimensions especially since national application of the concept is being considered. Further, the rules herein adopted do not contemplate the imposition of a radio requirement or any other restriction to Santa Monica Airport traffic other than that which provides a degree of segregation between Hughes Airport traffic and traffic on the downwind leg of the Santa Monica Airport.

As stated above, consideration is being given to the development of an amendment to the Air Traffic Rules, Part 60, of the Civil Air Regulations, which would provide for a national application of standardized controlled airport traffic pattern rules. It is expected that this proposed amendment would accommodate locally developed detailed airport procedures and provide for the ready implementation of revisions to these local procedures. Further, such a general rule would minimize a requirement for several special rules at individual airports.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective April 4, 1960.

LOS ANGELES INTERNATIONAL AIRPORT TRAFFIC PATTERN AREA RULES

Scope and applicability. All aircraft operating within the airspace of the Los Angeles International Airport Traffic Pattern Area shall be operated in accordance with the following rules unless otherwise authorized by air traffic control. As used in these rules, the Los Angeles International Airport Traffic Pattern Area shall include the airspace described by a five mile horizontal radius from the geographical center of that airport and extending upwards from the surface to, but not including 2,000 feet. Additionally, large aircraft as used in this regulation shall mean those aircraft of 12,500 pounds or more maximum certificated take-off weight.

(a) *General rules—*

(1) *Avoidance of Traffic Pattern Area.* En route aircraft shall be flown so as to avoid the Los Angeles International Airport Traffic Pattern Area.

(2) *Communications.* Two-way radio communication shall be established with the Los Angeles International airport traffic control tower prior to entering the traffic pattern area for a landing at Los Angeles International Airport and prior to take off from that airport, except that an aircraft not equipped with functioning two-way radio may take off or land at the Los Angeles International Airport if prior authorization from the Los Angeles International Airport traffic control tower has been obtained.

(3) *Aircraft Operating Within the Traffic Pattern Area.* All aircraft taking off from or landing at the Los Angeles International, Hawthorne or Santa Monica Airports shall be operated within the Los Angeles Airport

Traffic Pattern Area in conformance with the traffic pattern rules as prescribed herein, including the altitudes and directions of flight therefor.

Note: For the convenient reference of the pilot, there is attached to this regulation a chart which depicts approximate flight paths of the traffic patterns for such airports.

(b) *Traffic pattern rules for Los Angeles International Airport—*

(1) *Traffic pattern entry.* All fixed-wing aircraft, except those operating on IFR flight plans, landing at the Los Angeles International Airport, shall enter the traffic pattern area in the northeast, southeast or southwest sectors of that area and at an angle of approximately 45 degrees to the downwind leg of the runway in use, and unless the VFR distance-from-cloud criteria require otherwise, at the following altitudes:

(i) Large aircraft shall enter the traffic pattern area at an altitude of at least 1,500 feet above the surface. After entry, an altitude of at least 1,500 feet shall be maintained as long as practicable prior to landing.

(ii) Small aircraft shall enter the traffic pattern area at an altitude below 1,200 feet but not less than 1,000 feet above the surface. After entry, an altitude between 800 and 1,000 feet shall be maintained as long as practicable prior to landing.

(2) *Helicopters.* Helicopters shall cross the traffic pattern at approximate right angles to the upwind or downwind leg of the Los Angeles Airport traffic pattern at an altitude below that being utilized by fixed-wing aircraft in the pattern. Thereafter, approach to land shall be made in a manner which will avoid the flow of fixed-wing aircraft.

(3) *Departures.* Unless the VFR distance-from-cloud criteria require otherwise, fixed-wing aircraft shall be flown, so as to conform to the following:

(i) Aircraft taking off to the West shall climb as rapidly as practicable on the departure runway heading until past the shore line. Such aircraft shall not recross the shore line at less than 1,500 feet.

(ii) Aircraft taking off to the East shall climb to at least 1,500 feet as rapidly as practicable.

(iii) Aircraft taking off to the North or South shall climb straight ahead to 1,500 feet as rapidly as practicable before proceeding on course.

(4) *Special operating rules for large fixed-wing aircraft.* When the applicable aircraft performance limitations permit, all landings and takeoffs shall be made in a westerly direction when the surface wind velocity is less than five knots and the runways are dry. If this direction of takeoff or landing is not considered by a pilot to be suitable for the safety of the particular flight operation involved, the pilot may use another direction for takeoff or landing. In such case, a written report of the reasons for such operation shall be forwarded within 48 hours to the Chief, Flight Standards Division, Federal Aviation Agency, Region Four, Los Angeles, Calif.

(i) *Final approach.* When approaching to land on a runway served by a functioning instrument landing system, large aircraft equipped with functioning instrument landing system equipment shall remain at or above the glide slope altitude between the outer marker and the middle marker.

Note: Precision radar advisory service is available to assist pilots to conform with this requirement.

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(c) *Traffic pattern rules for Hawthorne Airport*—

(1) *Entry.* All fixed-wing aircraft landing at Hawthorne Airport shall enter the Los Angeles International Airport Traffic Pattern Area in the southeast sector of that area and at an angle of approximately 45 degrees to the downwind leg of the Hawthorne traffic pattern. Helicopters shall be flown in a manner which avoids the flow of fixed-wing aircraft. Unless the VFR distance-from-cloud criteria require otherwise, fixed-wing aircraft shall be flown at the following altitudes:

(i) Large aircraft shall enter the traffic pattern area at an altitude of at least 1,200 feet above the surface. After entry, an altitude of at least 1,000 feet shall be maintained as long as practicable prior to landing.

(ii) Small aircraft shall enter the traffic pattern area at an altitude of at least 1,000 feet above the surface. After entry, an altitude of at least 600 feet shall be maintained as long as practicable prior to landing.

(2) *Departures.* Aircraft departing from the Hawthorne Airport shall climb as rapidly as practicable to at least 600 feet unless the VFR distance-from-cloud criteria require otherwise, and shall depart the traffic pattern area to the South.

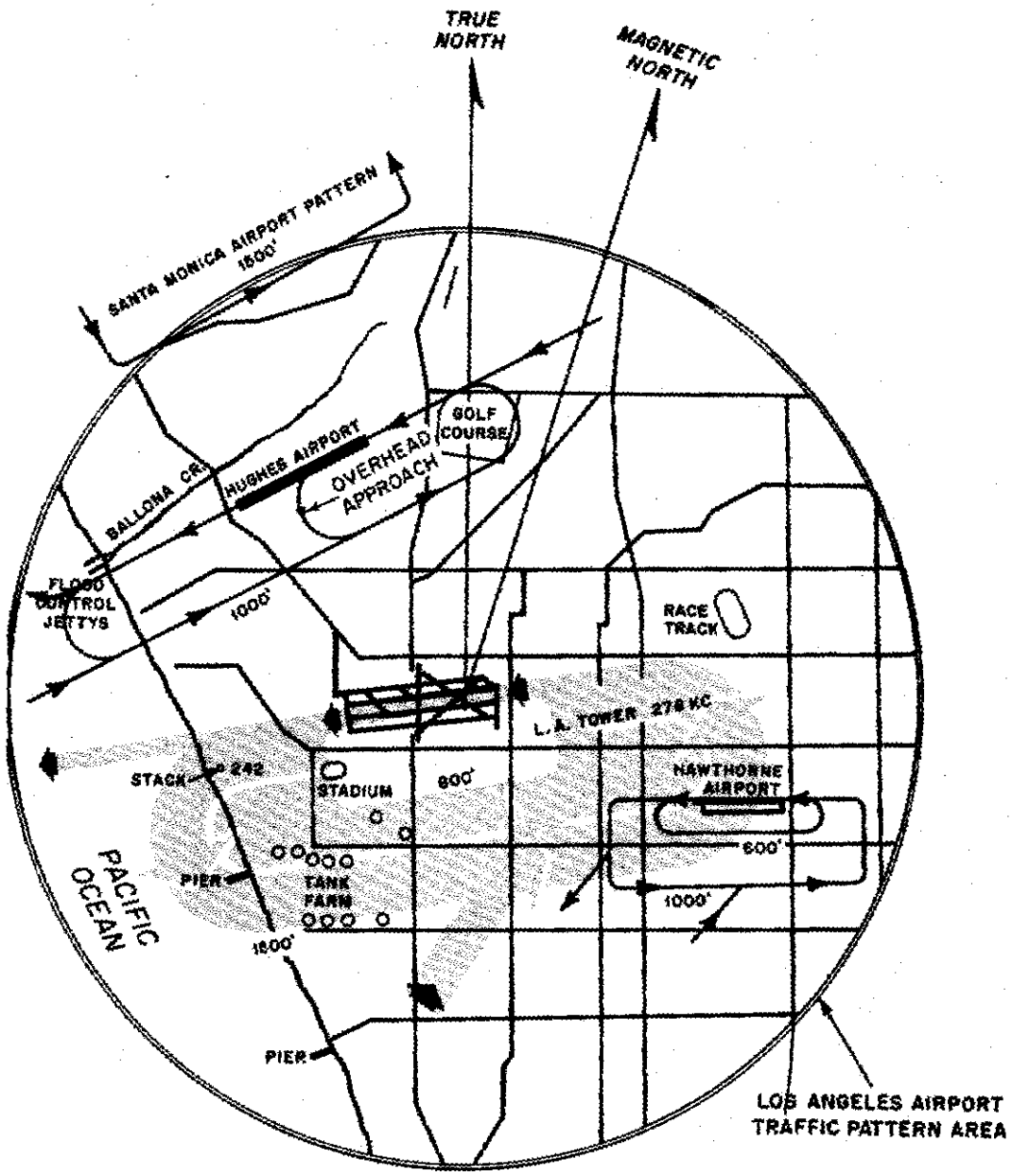
(d) *Traffic pattern rules for Hughes Airport*—

(1) *Entry.* All aircraft landing at Hughes Airport shall enter the Los Angles International Airport Traffic Pattern Area in the northeast or northwest sectors of that area. Fixed-wing aircraft shall enter traffic on a flight path parallel to the Hughes Airport runway. Helicopters shall be flown in a manner that avoids the flow of fixed-wing aircraft. Unless the VFR distance-from-cloud criteria require otherwise, fixed-wing aircraft shall enter traffic at an altitude of at least 1,000 feet. When entry is made at 1,000 feet the altitude of 1,000 feet shall be maintained as long as practicable.

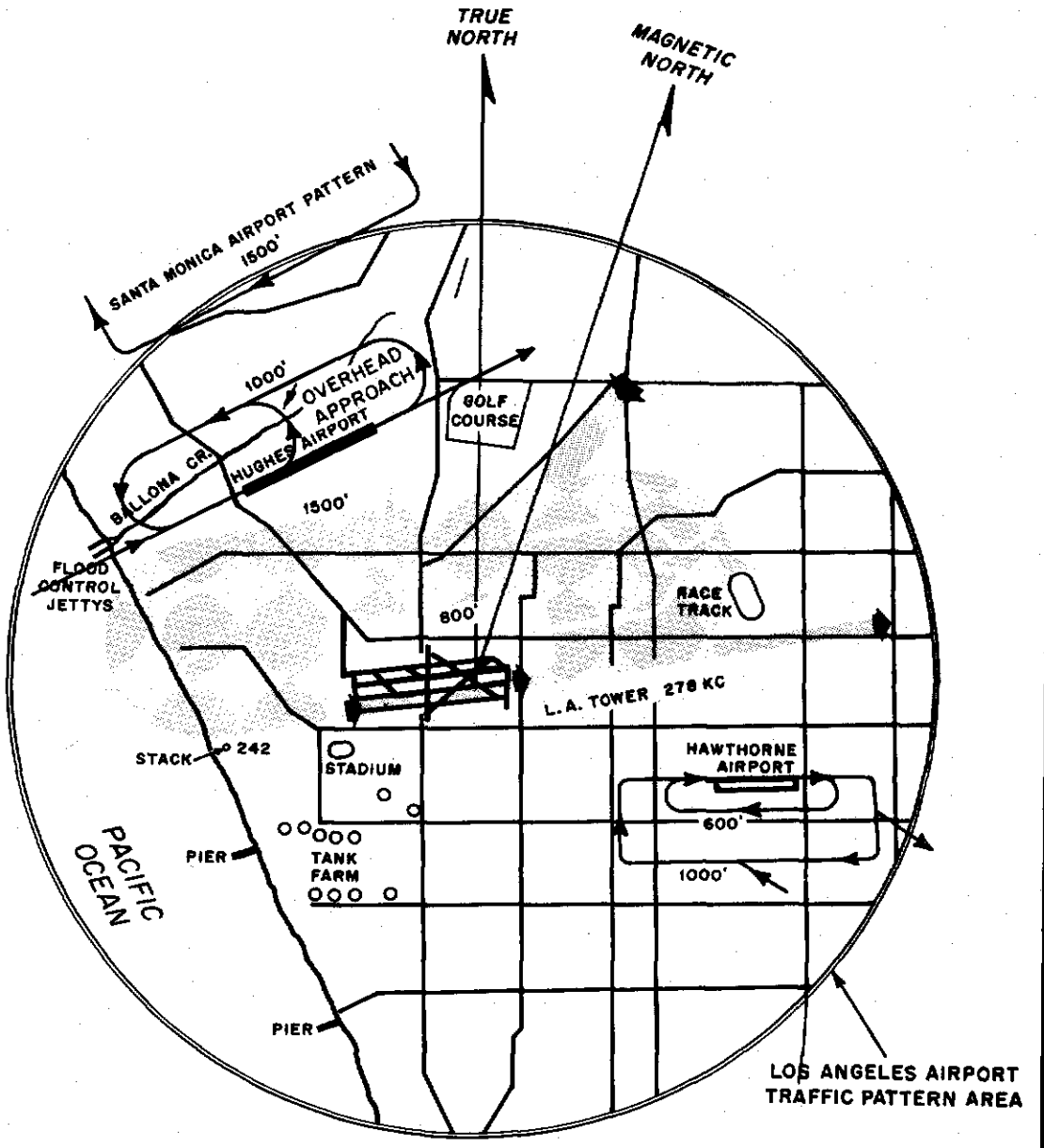
(2) *Departures.* Aircraft departing from the Hughes Airport shall climb as rapidly as practicable to 1,000 feet.

(e) *Traffic pattern rules for Santa Monica Airport.* Aircraft operating in that portion (downwind leg) of the Santa Monica Airport traffic pattern which may extend into the Los Angeles traffic pattern area shall be flown so as to remain within one and one-half miles of the Santa Monica Airport.

This Special Civil Air Regulation shall remain in effect until superseded or rescinded by the Administrator.



APPROXIMATE FLIGHT PATHS
TRAFFIC PATTERN NO. 25 L / 25 R



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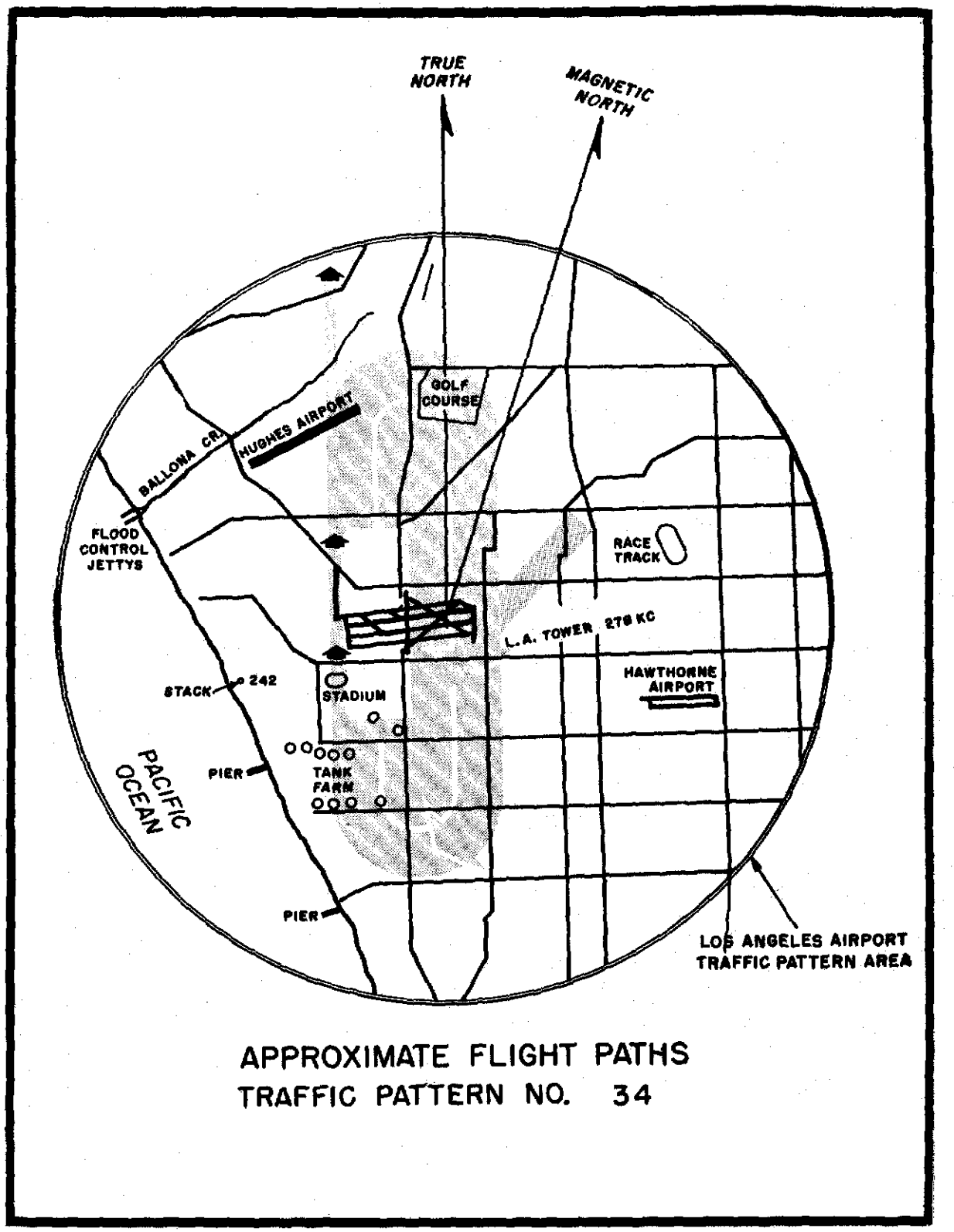

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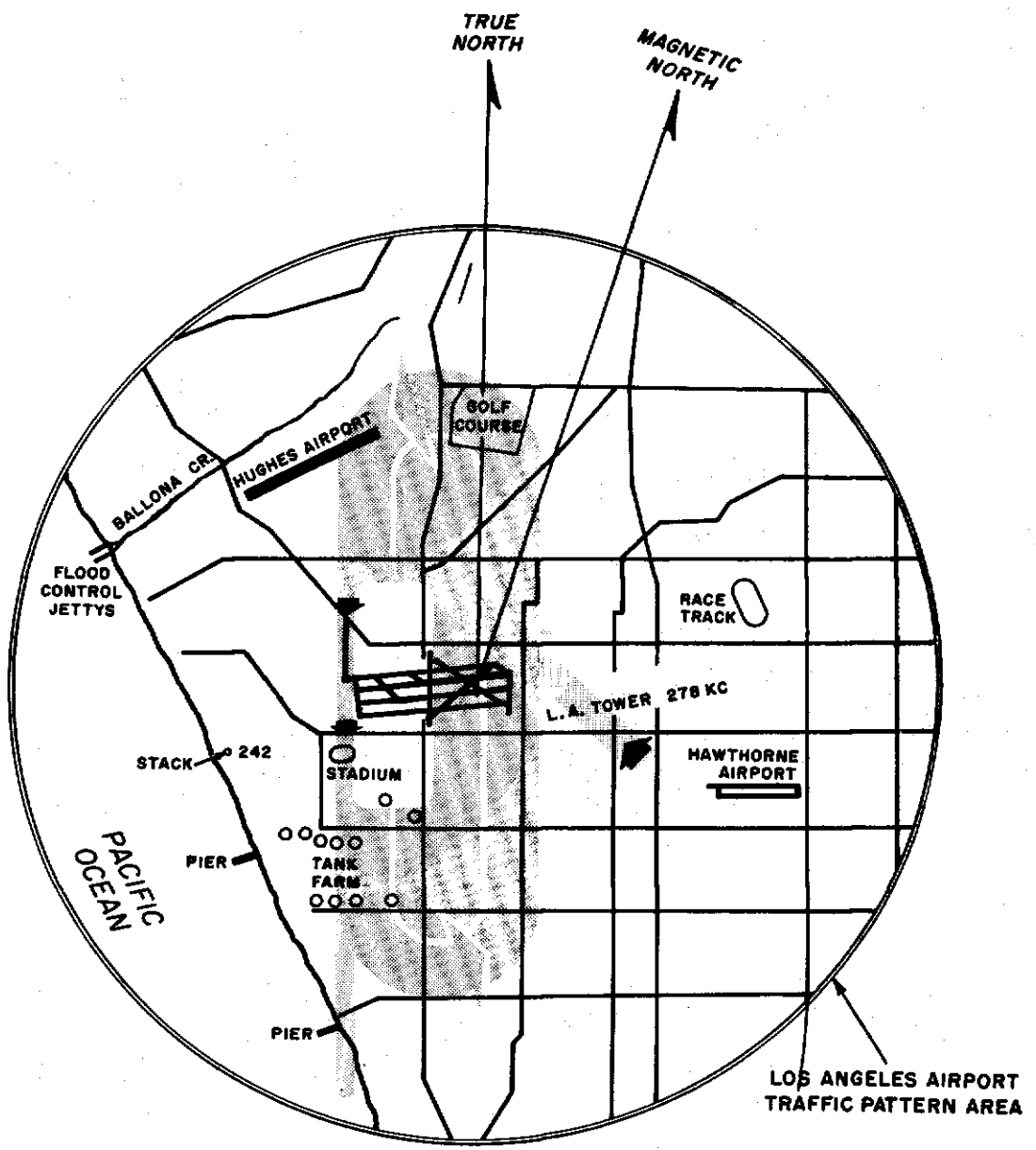

APPROXIMATE FLIGHT PATHS
TRAFFIC PATTERN NO. 16

SPECIAL CIVIL AIR REGULATION NO. SR–442

Effective: October 15, 1960
Issued: August 31, 1960

New York International Airport Traffic Area Rules

Draft Release No. 60–10 (25 F.R. 4202), dated May 5, 1960, gave public notice that the Federal Aviation Agency had under consideration the adoption of a Special Civil Air Regulation which would designate certain airspace around the New York International Airport as an airport traffic area and establish special air traffic rules applicable to this area.

A major purpose of this regulation is to reduce the aircraft noise disturbance to persons on the ground, recognizing that all aircraft noise cannot be eliminated and that safety of aircraft must be a primary consideration. The most direct solutions presently feasible include rearrangement of local traffic flow, use of prescribed preferential runways and traffic rules to establish the maximum altitudes of flight near airports consistent with safe landings and take-offs.

The degree to which aircraft noise may be reduced by regulating flight operations is limited to a great extent by the requirements of flight safety. The Agency must weigh all safety factors and consider the public interest with respect to a requirement for adequate air transportation against the problems which arise from aircraft noise in affected areas. For example, the Agency cannot prescribe regulations, simply to achieve some noise abatement, which would require an aircraft approaching to land to maintain a high altitude so close to the point of landing as to require descent at an angle too steep for safety.

Suggestions were made to prohibit the operation of jet aircraft during nighttime hours and to require the offloading of passengers and cargo to permit use of preferential runways. Such curtailment is not compatible with the critical need in the New York area for air transportation services. Moreover, bearing in mind that this is an initial attempt to provide noise relief in the New York area by regulation, there has not been sufficient experience for determining whether the noise benefits which might be derived would justify the resulting penalties upon the air transportation services required.

Although one of the primary objectives of this special regulation is to reduce aircraft noise, it is recognized that the preferential runway system, revised routings and minimum descent angles and altitudes set forth in this regulation will not completely eliminate the problem.

In developing a regulatory policy to resolve the problem of aircraft noise, the Agency has adopted certain basic concepts, previously incorporated in regulatory form in Special Civil Air Regulation SR–438, Los Angeles International Airport Traffic Pattern Area Rules. These concepts include the establishment of an airport traffic area for 5 statute miles around an airport within which special operating rules would apply. Such rules in turn would provide for use of preferential runways, prescribe altitudes for flight within the area

which would reduce noise, require entry and departure in specified directions where possible, and exclude en route traffic from the area to the maximum extent. A requirement for radio communication between aircraft and the controlling facility is also included as essential to the safe and expeditious movement of traffic within the area.

The primary source of aircraft noise is the large jet transport aircraft. The Agency currently requires that such aircraft be equipped with engine noise suppressors which effect a significant reduction of engine noise. Further studies of jet noise suppression methods are under way in an effort to obtain additional reduction of aircraft noise. Development and use of ground engine mufflers may result in the reduction of noise during the period of ground engine run-up.

In addition to those comments discussing the general aspects of the noise problem there were also a large number of comments relative to the operational contents of the proposal. To promote clarity and continuity, these comments will be considered jointly as portions of each apply to the sequence of the rule.

The term "airport traffic pattern area" appearing in Draft Release 60–10 has been replaced by the term "airport traffic area" in both the preamble and the rule adopted herein. This change was accomplished in order to provide a clear distinction between the airport traffic area which encompasses airspace within a 5 statute mile radius of the airport, and the airport traffic pattern which refers to the flow of traffic operating on and in the vicinity of an airport during specified wind conditions. In addition, the description of the horizontal radius of the airport traffic area has been revised by adding the word "statute" to make it clear that the measurement is not based upon nautical miles.

Comments received from the Air Line Pilots Association (ALPA) recommended raising the ceiling of the airport traffic area to 3,000 feet to avoid the mingling of VFR/IFR air traffic in the vicinity of the airport. Conversely, general aviation groups recommended the establishment of a corridor to permit VFR traffic to fly through the area. Each of these proposals has been carefully considered and it has been concluded that one counterbalances the other. While it is considered desirable to segregate en route traffic from terminal traffic, such action should be taken in a manner imposing no undue burden upon either type of operation. In a large measure, the rule proposed herein reduces the probability of incidents resulting from the intrusion of an en route aircraft into or through the airport traffic area. At the same time, it permits en route aircraft to proceed over the airport traffic area at an altitude compatible with the operational characteristics of such aircraft. The establishment of an en route VFR corridor is not considered feasible since such action would derogate the benefits intended by the rule. Moreover, in this particular case, it does not appear that an appreciable hardship is imposed upon en route traffic due to their requirement to comply with Section 60.17 of Part 60.

The proposed rule was designed to prohibit all flight training activities within the New York International Airport Traffic Area with the exception of necessary airport qualification flights. It was not intended to prohibit pilots who intended to conduct training activities outside such area from utilizing the airport as a base for such operations. The rule has been modified accordingly.

The rule, as adopted herein, will require that all large aircraft be operated at altitudes of 1,500 feet or more except when maneuvering for landing or in flight following departures. Draft Release No. 60–10 proposed that small air-

craft be required to enter the airport traffic area between the altitudes of 1,000 and 1,200 feet and, after entry, operate at altitudes between 800 and 1,000 feet until maneuvering for a landing requires otherwise. Several of the comments recommended that the traffic area entry and operating altitudes be revised to require all aircraft to operate at or above 2,000 feet except as required for take-off and landing, while other comments voiced objection to the stipulation of a maximum operating altitude for small aircraft. A basic concept of aircraft separation by reason of performance is practically expressed in the rule by the segregation of large and small aircraft operations into different altitude strata. Inherent separation, as provided by this rule, is designed to reduce the probability of mid-air collision and it is, therefore, deemed advisable to require its retention. In addition to the benefits accruing to safety, the requirement that small, less noisy aircraft operate in the lower strata of airspace and the larger and more noisy aircraft at the higher altitudes will serve to relieve the problems resulting from aircraft noise. In recognition of problems involved in flight by small aircraft over congested areas and in the interest of noise reduction, the altitude requirements for small aircraft have been modified to permit their entry at 1,200 feet or higher and to require that flight within the area be conducted between 1,000 and 1,200 feet until maneuvering for landing requires further descent.

The provisions of the rule adopted herein relative to the maintenance of an altitude at or above the glide slope angle are designed to provide a measure of relief from aircraft noise to those areas underlying the final approach path. It was not the intent of the proposal that compliance with the regulation for the purpose of noise relief should be carried to the point of compromising safety. For clarification, the final rule states that requirements for flight at or above the glide slope are applicable only when the VFR distance-from-cloud criteria will permit.

The Agency recognizes the validity of those comments suggesting that, under certain conditions, a climb to 1,500 feet, as rapidly as practicable, will generate more noise than a climb under reduced power. Also, it recognizes that a turn executed as soon after take-off as safety will permit may alleviate noise in certain areas. The rule adopted herein is designed to provide the necessary flexibility to accommodate such techniques. The Administrator may authorize a slower rate of climb in the interest of noise abatement, either by directive or through authorizations by the airport traffic control tower.

Several comments recommended elimination of the restriction prohibiting the use of runways 4L, 4R, 13L and 31R for take-off by turbojet aircraft, contending that flight safety and efficiency of operation require the availability of these runways. Prohibition of the use of these runways is a measure designed to reduce aircraft noise and the action was taken only after due consideration of safety requirements. The Agency realizes that under certain conditions, it may be necessary to utilize these runways; therefore, this rule provides the New York International Airport Traffic Control Tower the necessary flexibility to authorize deviations when necessary. However, it is emphasized that such authority will be used sparingly.

Several comments urged revision of the proposed rule to distinguish between the "heavy" turbojet (for example, 150,000 or more pounds maximum certificated take-off weight) and the "light" turbojet aircraft. These comments contended that "light" turbojet aircraft, with higher performance capability and a lesser aircraft noise output, would not significantly contribute to the

noise problem in critical areas regardless of the runway used for take-off. Although recognizing the logic of some of these arguments, it has been decided that modification of the rule is not currently warranted since the rule provides differentiation at the discretion of ATC authorities.

Many and varied recommendations were received relative to the system of preferential runways. After carefully considering these comments, the system has been revised to the maximum extent possible considering the requirements of safety and of noise abatement. Some questions were raised regarding the report required from the pilot of a large fixed-wing aircraft who, for safety reasons, elects to use a runway other than the preferential or alternate runway assigned by air traffic control. It is not intended that this rule, in any way, abrogate the authority and responsibility of the pilot in command to assure the safe operation of his aircraft. It is intended that such reports of deviation from the preferential runway system be prepared either by the pilot or by a responsible official of the company concerned and that the report be in transit to the appropriate FAA Regional Office within the prescribed time. Inasmuch as provision is made to permit filing of such reports by company officials in lieu of the pilot, it is not considered necessary to revise the 48-hour time limit provisions.

This rule provides that helicopters shall be operated as authorized by the New York International Airport Traffic Control Tower. Such authorization may be contained in air traffic control clearances or in formal agreements between the helicopter operator and the control tower.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective October 15, 1960.

NEW YORK INTERNATIONAL AIRPORT TRAFFIC AREA RULES

Scope and applicability. All aircraft operating within the New York International Airport Traffic Area shall be operated in accordance with the following rules unless otherwise authorized by the New York International Airport Traffic Control Tower. As used in this regulation, the New York International Airport Traffic Area shall include the airspace within a five statute mile horizontal radius from the geographical center of that airport and extending upward from the surface to but not including, 2,000 feet above the surface. Additionally, the term "large aircraft," as used herein, shall mean those aircraft of 12,500 or more pounds maximum certificated take-off weight. The term "small aircraft" shall mean all others.

(a) *General rules.*

(1) *Avoidance of Airport Traffic Area.* En route aircraft shall not be flown within the New York International Airport Traffic Area, and aircraft while engaged in training flights shall not be flown within such area except to the extent necessary for take-off from and landing at that airport. This restriction shall not apply to required airport qualification flights.

(2) *Communications.* Two-way radio communications shall be established with the New York International Airport Traffic Control Tower prior to entering the airport traffic area for a landing at that airport and prior to take-off from that airport unless prior authorization is obtained from the airport traffic control tower.

(b) *Airport traffic area entry.* Unless the VFR distance-from-cloud criteria requires otherwise, all fixed-wing aircraft landing at the New York International Airport shall enter the airport traffic area at the following altitudes:

(1) *Large aircraft.* Large aircraft shall enter the airport traffic area at an altitude of at least 1,500 feet above the surface. After entry, an altitude of at least 1,500 feet shall be maintained until maneuvering for a landing requires further descent.

(2) *Small aircraft.* Small aircraft shall enter the airport traffic area at an altitude of at least 1,200 feet above the surface. After entry, an altitude between 1,000 and 1,200 feet shall be maintained until maneuvering for landing requires further descent.

(c) *Final approach.* When approaching to land at the New York International Airport on a runway served by a functioning instrument landing system (ILS), large fixed-wing aircraft equipped with functioning ILS instrumentation shall be flown so as to remain at or above the glide slope altitude between the outer marker and the middle marker: *Provided,* That when the VFR distance-from-cloud criteria requires interception of the glide slope between the outer marker and the middle marker, large fixed-wing aircraft shall be flown so as to remain at or above the glide slope altitude between the point of interception and the middle marker.

(d) *Departures*

(1) *Rate of climb.* Unless the VFR distance-from-cloud criteria requires otherwise, all fixed-wing aircraft taking off from the New York International Airport shall climb to at least 1,500 feet above the surface as rapidly as practicable: *Provided,* That the Administrator will specify a different rate of climb for a particular type of aircraft should he find that greater advantages in noise reduction can thereby be achieved.

(2) *Take-off runway restrictions.* Pilots of turbojet aircraft shall not use runways 4 Left, 4 Right, 13 Left or 31 Right for take-off.

(e) *New York International Airport preferential runway system.*

(1) *Large fixed-wing propeller-driven aircraft.* When applicable aircraft performance limitations permit; when the ceiling and visibility are equal to or greater than 1,000 feet and 3 miles, respectively, and when the runway to be used is dry, pilots of large fixed-wing propeller-driven aircraft shall use the following preferential runway system unless the surface wind at the time of take-off or landing exceeds a velocity of 15 knots:

Wind direction	Take-off runway	Landing runway
N	31L	4R/L
NNE	31L	4R/L
NE	7R	4R/L
ENE	13L/R	13R/L, 4R/L, 7R
E	13L/R	13R/L, 4R/L, 7R
ESE	13L/R	13R/L, 4R/L
SE	13L/R	13R/L, 4R/L
SSE	13L/R, 22R/L	13R/L, 22L/R
S	22R/L, 25L	22L/R, 25L
SSW	22R/L, 25L	22L/R, 25L
SW	22R/L, 25L	22L/R, 25L
WSW	22R/L, 25L	22L/R, 25L
W	22R/L, 25L	22L/R, 25L
WNW	22R/L, 25L	22L/R, 25L
NW	31L/R, 25L	31R/L
NNW	31L/R	4R/L
Calm (0–5 knots)	22R/L, 25L, 31L	22R/L, 4L/R

(2) *All turbojet aircraft.* When the applicable aircraft performance limitations permit; when the ceiling and visibility are equal to or greater than 1,000 feet and 3 miles, respectively; and when the runway to be used is dry, pilots of turbojet aircraft shall use the following preferential runway system unless the surface wind at the time of take-off or landing exceeds a velocity of 15 knots:

Wind direction	Take-off runway	Landing runway
N	31L	4R/L
NNE	31L	4R/L
NE	7R, 13R	4R/L
ENE	13R	13R/L, 4R/L
E	13R	13R/L, 4R/L
ESE	13R	13R/L, 4R/L
SE	13R	13R/L, 4R/L
SSE	13R	13R/L, 22L/R
S	25L	22L/R, 25L
SSW	25L	22L/R, 25L
SW	25L	22L/R, 25L
WSW	25L	22L/R, 25L
W	25L	22L/R, 25L
WNW	25L	22L/R, 25L
NW	31L, 25L	31R/L
NNW	31L	4R/L
Calm (0–5 knots)	25L, 31L	22R/L, 4L/R

(3) *Alternate runway.* In the event the preferential runway is closed for take-off or landing, the pilot of an aircraft subject to the requirements of this section shall use an alternate runway for take-off or landing as assigned by the airport traffic control tower.

(4) *Use of other runways.* If the pilot of an aircraft subject to the requirements of this regulation determines that use of either the preferential or alternate runway assigned by air traffic control is unsafe for the operation of his aircraft he may use another runway of his choice, subject to other air traffic. If the pilot makes such a choice, a written report of the reasons therefor shall be forwarded within 48 hours to the Chief, Flight Standards Division, Federal Aviation Agency, Region One, Jamaica, N.Y.

Note: In determining the safety factor for total required runway length for take-off, the pilot's calculation may include an additional 1 percent of runway length for each 3 knots of cross-wind component over and above the minimum required take-off runway length.

(f) *Helicopters.* Helicopters shall be operated as authorized, by the New York International Airport Traffic Control Tower and in such a manner as to avoid the flow of fixed-wing aircraft. Such authorization may be contained in air traffic control clearances or established in formal agreements between helicopter operators and the control tower.

(g) *Traffic pattern rules for Floyd Bennett Naval Air Station.* All aircraft operating in that portion of the Floyd Bennett Naval Air Station traffic pattern which may extend into the New York International Airport Traffic Area

shall be flown so that traffic landing on runways 19 or 24 will remain at or below 800 feet until clear of the New York International Airport Traffic Area. Departures on runways 6 or 1 shall execute the first turn after take-off so as to remain clear of the New York International Airport Traffic Area.

This Special Civil Air Regulation shall remain in effect until superseded or rescinded by the Administrator.

SPECIAL CIVIL AIR REGULATION NO. SR-444

Effective: February 14, 1961
Issued: January 9, 1961

Jet Advisory Areas

Draft Release No. 60-2, published in the Federal Register on January 15, 1960 (25 F.R. 610) gave notice that the Federal Aviation Agency proposed the adoption of a Special Civil Air Regulation establishing jet advisory areas and certain requirements for flight therein.

With the advent of commercial turbojet air carrier operations in the United States, procedures were adopted to provide an increased measure of flight safety for such operations. Through the cooperation of the Air Defense Command of the Department of the Air Force, selected long-range radar facilities of that Command were jointly used and the Federal Aviation Agency provides flight following and traffic advisory service to United States turbojet air carrier flights as well as to some aircraft of foreign registry. This service does not provide positive separation. It does, however, provide an increased degree of safety by advising pilots of the presence of other aircraft and by providing guidance with respect to the most effective manner to avoid collision.

Comments received in response to the draft release reflected general endorsement of the principles of the proposal, but recommended some modifications.

The proposal would require that air carrier turbojet aircraft operating within the continental control area and engaged in the carriage of passengers in scheduled air transportation be flown within airspace designated as a "jet advisory area." A jet advisory area would be a designated area of airspace within which special operating rules apply to enhance the safety of air carrier turbojet flight. Such rules would require that air carrier turbojet aircraft be operated in accordance with the Instrument Flight Rules of Part 60 of the Civil Air Regulations during all flight above 24,000 feet within the continental control area. They would also require that all air carrier turbojet aircraft be equipped with a functioning radar beacon transponder. It has since been determined that these provisions, bearing solely upon scheduled air carrier operations, should not be made a part of the Air Traffic Rules but should become a part of the regulations governing air carrier operations. For this reason, the proposed more restrictive operating rules, applicable solely to air carrier operations, do not appear in the final rule.

The International Air Transport Association (IATA) supported the proposed amendment but expressed concern with respect to the effective date of the requirement for a radar beacon transponder. Their problem stems from contemplated changes in internationally acceptable equipment specifications for the radar beacon transponders. The IATA has recommended that the effective date of the radar transponder equipment requirement for foreign air carrier turbojet aircraft be established at a date sufficiently in the future to permit international agreement on the matter as well as to provide an adequate period of time for installation of equipment after such agreement is reached. The

Agency has concluded that the IATA recommendation is reasonable and valid and any future regulation will provide a reasonable period of time for equipment installation after international radar beacon transponder equipment specifications are resolved.

The Department of the Air Force acknowledged the necessity of the proposed rules, but did not concur with the proposed lateral dimensions of the jet advisory areas or with the extension of the nonradar jet advisory areas. In its comment, the Department of the Air Force contended that the establishment of jet advisory areas, 32 miles in width, would result "in a 60 percent increase in separation criteria." It states that no formal agreement to increase the current standards with respect to the jet routes has been reached, nor have statistics been developed to establish that such an increase is either necessary or desirable. The Department of the Navy also objected to expansion of nonradar jet advisory areas to flight levels 370–390.

Radar advisory areas, which comprise 90 percent of the airspace affected, are now 40 miles wide and such width will be reduced a minimum of 8 miles by the implementation of the rule. With regard to the expansion of nonradar advisory areas, which are presently 20 miles wide and exist only at flight levels 270–310, inclusive, the Agency recognizes that the number of such areas should be reduced insofar as possible. It is anticipated that such a reduction will result from the utilization of new flight checking procedures which will permit the establishment of radar advisory areas with a floor in excess of 24,000 feet. Thus, the overall effect will be to reduce the airspace within which the new rules will apply.

Certain language contained in the proposal has been modified to more clearly state the intent of the rule. Paragraphs 2 (a) and (b) now clearly state that radar and nonradar jet advisory areas will not have dimensions in excess of 16 statute miles on either side of specified jet routes. The applicability paragraph has been revised to more clearly indicate the scope of the rule. It is emphasized that this regulation does not affect flight advisory areas located outside the continental control area.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective on February 14, 1961.

JET ADVISORY AREA RULES

1. *Applicability.* The air traffic rules contained in this regulation shall apply to the operation of all aircraft in jet advisory areas located within the continental control area.

2. *Jet advisory areas.* As used in this regulation, the term "jet advisory areas" means airspace so designated in the Regulations of the Administrator, within which the air traffic rules contained in this Special Civil Air Regulation apply for the purpose of providing additional traffic advisory service for U.S. and foreign scheduled air carrier aircraft.[1]

(a) Nonradar jet advisory areas have a lateral dimension of not more than 16 statute miles on either side of specified jet routes between flight levels 2 0 and 310, inclusive, and 370 and 390, inclusive.

[1] Jet advisory areas (radar and nonradar) are also depicted on Flight Information Publication—"En Route—High Altitude (U.S.)" published by the Aeronautical Chart and Information Center, Air Photographic and Charting Service (MATS), USAF, Second and Arsenal Streets, St Louis 18, Missouri, and on the U.S. Coast and Geodetic Survey Radio Facility Chart entitled—"High Altitude—En Route," compiled and printed in Washington, D.C., by the U.S. Department of Commerce.

(b) Radar jet advisory areas have a lateral dimension of not more than 16 statute miles on either side of specified jet routes between 24,000 feet mean sea level and flight level 390, inclusive.

(c) Terminal radar jet advisory areas are those areas between 24,000 feet mean sea level and flight level 390, inclusive, designated to provide for the arrival and departure requirements of major air terminals.

3. *Operating rules.* In addition to the air traffic rules of Part 60, the following rules apply to any aircraft when operated within jet advisory areas in accordance with VFR, or in accordance with IFR, when cleared to maintain "VFR conditions" or "VFR conditions on top."

(a) *In radar jet advisory areas.*

(i) Aircraft equipped with a functioning radar beacon transponder shall operate the transponder to reply on such mode and/or code as may be specified by air traffic control for the area in which flight is conducted.[2]

(ii) Aircraft not equipped with a functioning radar beacon transponder shall obtain specific prior authorization from air traffic control, except that in the event of radio failure precluding the obtaining of authorization, such flights may transit jet advisory areas by maintaining the appropriate VFR cruising flight level specified in section 60.32 of the Civil Air Regulations.

(b) *In nonradar jet advisory areas.* All aircraft, including those equipped with a functioning radar beacon transponder, shall obtain specific authorization from air traffic control prior to operating within the area of nonradar coverage of a jet advisory area.

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[2] Mode and/or code requirements and other detailed operational procedures for the radar beacon transponder are published in the Airman's Guide and are also depicted on Flight Information Publication—"En Route—High Altitude (U.S.)" and U.S. Coast and Geodetic Survey Radio Facility Chart—"High Altitude—En Route."

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SPECIAL CIVIL AIR REGULATION NO. SR-445

Effective: February 17, 1961
Issued: February 13, 1961

Reports of Navigation and Communications Equipment Malfunctions

Under this special regulation, pilots in command of aircraft being operated in controlled airspace under the instrument flight rules (IFR) must report immediately any malfunctions of navigation or communications equipment to Air Traffic Control.

Part 60 of the Civil Air Regulations contains the Air Traffic Rules and prescribes in section 60.2 that the pilot in command of an aircraft is directly responsible for that aircraft and "shall have final authority" as to its operation. This authority includes the responsibility to utilize available facilities at his disposal when a malfunction occurs which curtails the pilot's ability to navigate by reference to ground radio aids or communicate with ground facilities while operating under instrument flight rules.

Information regarding the airborne malfunction of a component which may affect the ability to navigate or communicate should be made available immediately to Air Traffic Control in order that the system will be alerted to the fact that the pilot may not be able to fully comply with the requirements of the system, or that an emergency situation may develop. Such immediate notification will permit a more complete utilization of the resources of the system.

For many years, it has been a common practice for pilots to report malfunctions of communications or navigation equipment to Air Traffic Control. However, there have been instances wherein an equipment malfunction has not been communicated to Air Traffic Control and where subsequent handling of the aircraft might conceivably have been more effective if the circumstances had been properly reported. It is, therefore, no longer feasible to continue the reporting relationship on a voluntary basis for IFR operations in controlled airspace. Accordingly, this regulation is being promulgated.

The exact nature and degree of assistance available and appropriate from the air traffic control system will vary considerably. In areas where extensive ATC radar surveillance capability exists, it will be possible to provide greater assistance than in areas with little or no radar coverage. The volume of IFR traffic under ATC jurisdiction will also be a factor in the handling of the reporting aircraft. It should be emphasized that the efficient provision of ATC assistance is dependent upon a complete understanding between the pilot and the controller as to the nature and extent of the assistance needed, as well as the nature and extent of the service available. If it is possible to maintain radar and communications contact with the pilot, the controller can render considerable assistance during en route operations, during entry into holding patterns, during holding, and during the approach and landing.

It is important that the distinction between the ATC "special handling" of aircraft with malfunctioning equipment and the "priority handling" of aircraft

in emergencies be noted. "Special handling" means that the air traffic controller will provide the maximum amount of assistance, consistent with the equipment at his disposal and the proper performance of his control functions with respect to other IFR aircraft. Should the circumstances warrant greater attention and priority handling with respect to other IFR aircraft, the pilot should declare an emergency in accordance with section 60.2 of Part 60.

This regulation requires reports concerning the loss or malfunction of VOR, TACAN, ADF, or low frequency navigation receivers, the total or partial loss of ILS receiver capability, and any malfunction affecting air/ground communications capability.

The application and results obtained from this regulation will be closely monitored and its benefits evaluated. After a reasonable period, a notice of proposed rule making will be issued, proposing an amendment to Part 60 to incorporate the salient points of this special regulation, as modified in the light of experience gained.

Since events have recently occurred which establish a requirement for the immediate adoption of this regulation for the safety of air commerce, I find it contrary to the public interest to comply with the notice and public procedure provisions of the Administrative Procedure Act and that good cause exists for making this special regulation effective immediately.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted and is effective February 17, 1961:

1. *Applicability.* This Special Civil Air Regulation applies to the operation of aircraft within controlled airspace under the Instrument Flight Rules of Part 60 of the Civil Air Regulations.

2. *Malfunction reports.* The pilot in command shall report immediately to Air Traffic Control any inflight malfunction of navigation or air/ground communications equipment as listed below:

(a) Loss of VOR, TACAN, ADF, or low frequency navigation receiver capability; or

(b) Complete or partial loss of ILS receiver capability; or

(c) Impairment of air/ground communications capability.

3. *Substance of reports.* Each report required under paragraph 2 hereof shall include the following:

(a) Aircraft identification;

(b) The equipment affected;

(c) The degree to which the capability of the pilot to operate IFR in the air traffic control system is impaired; and

(d) The nature and extent of assistance desired from Air Traffic Control.

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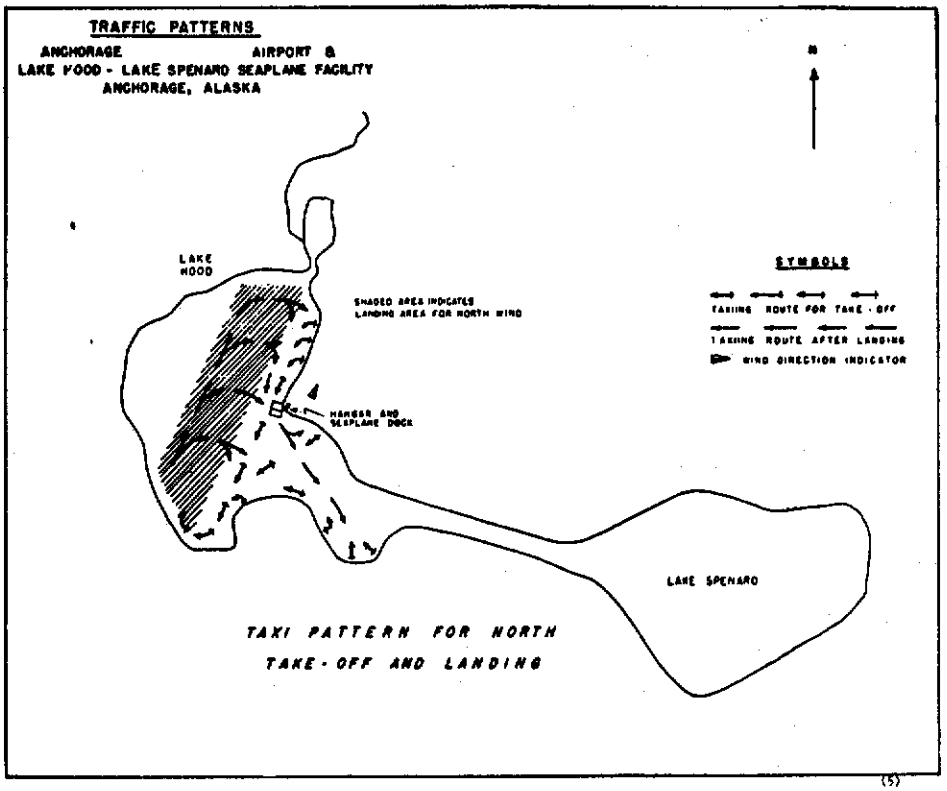
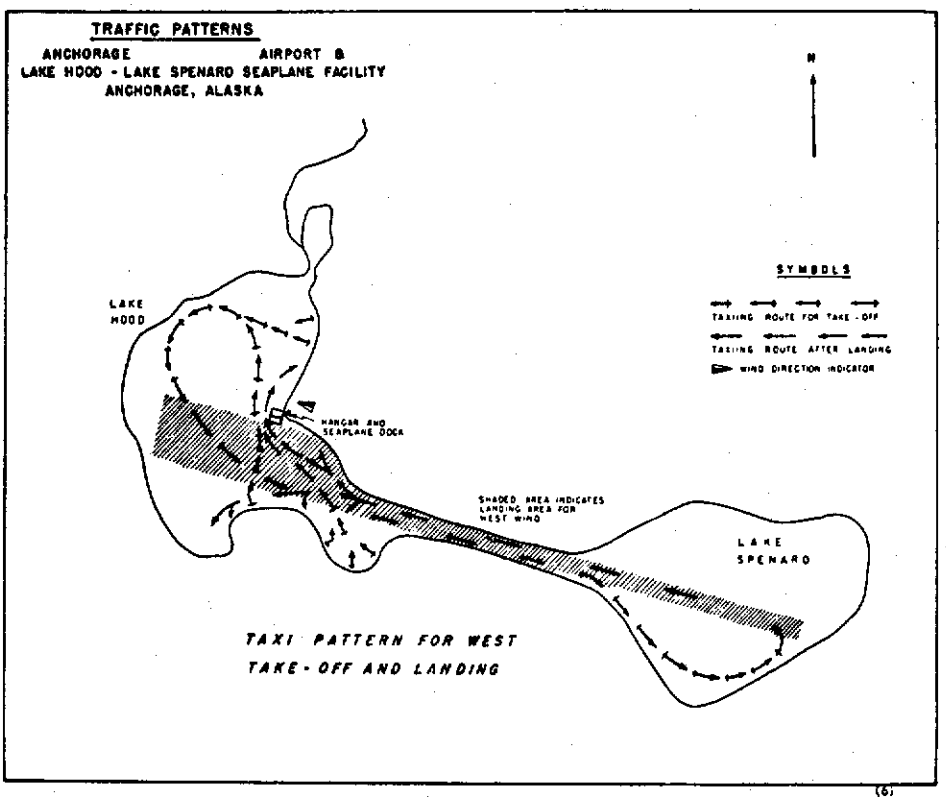

TRAFFIC PATTERNS
ANCHORAGE AIRPORT &
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
N
LAKE HOOD
SHADED AREA INDICATES LANDING AREA FOR NORTH WIND
HANGAR AND SEAPLANE DOCK
LAKE SPENARD
SYMBOLS
TAXIING ROUTE FOR TAKE - OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TAXI PATTERN FOR NORTH
TAKE - OFF AND LANDING
(5)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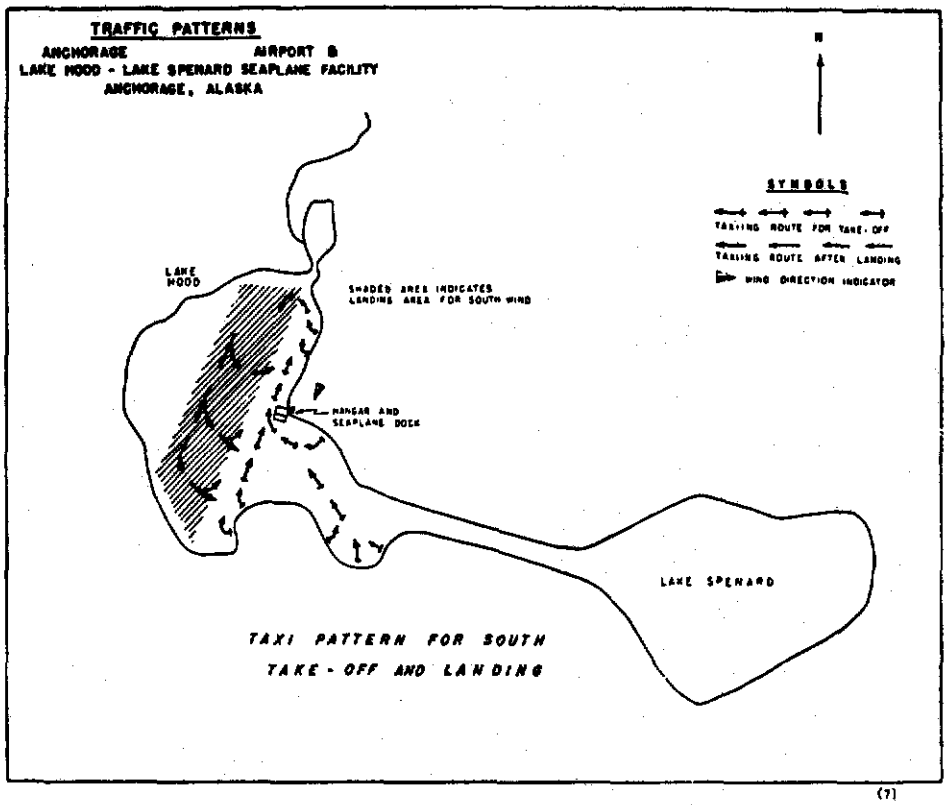
HANGAR AND SEAPLANE DOCK
SHADED AREA INDICATES LANDING AREA FOR WEST WIND
LAKE SPENARD
SYMBOLS
TAXIING ROUTE FOR TAKE - OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TAXI PATTERN FOR WEST
TAKE - OFF AND LANDING
(6)


TRAFFIC PATTERNS
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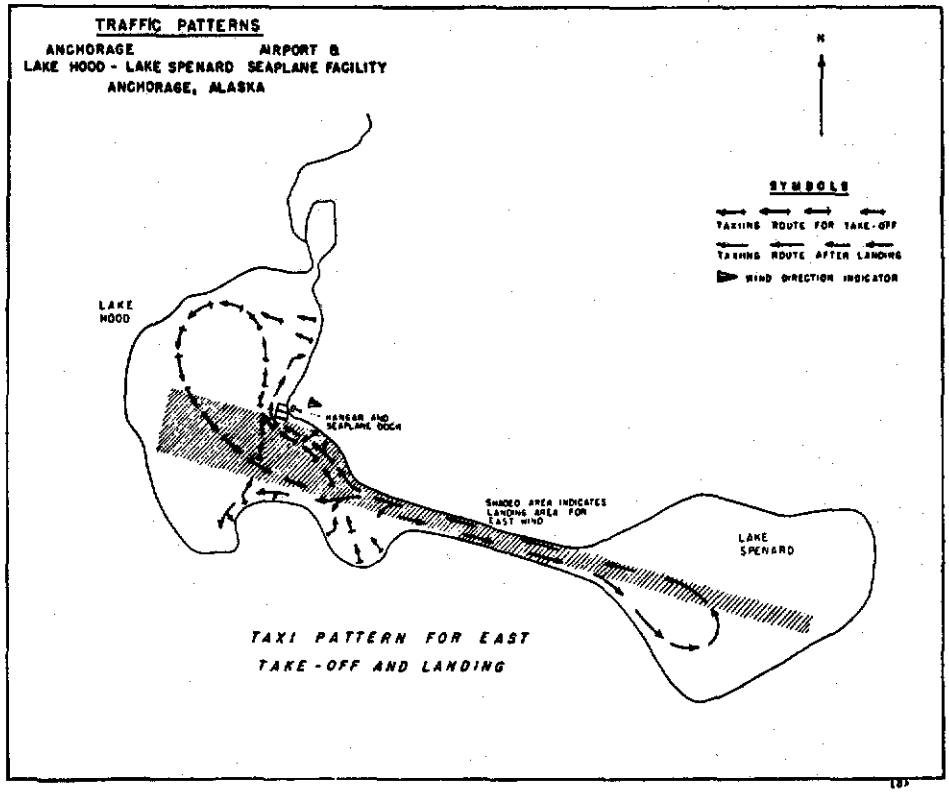
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
N
SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
LAKE HOOD
SHADED AREA INDICATES LANDING AREA FOR SOUTH WIND
HANGAR AND SEAPLANE DOCK
LAKE SPENARD
TAXI PATTERN FOR SOUTH TAKE-OFF AND LANDING

(7)


TRAFFIC PATTERNS
ANCHORAGE AIRPORT &
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
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SYMBOLS
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
LAKE HOOD
HANGAR AND SEAPLANE DOCK
SHADED AREA INDICATES LANDING AREA FOR EAST WIND
LAKE SPENARD
TAXI PATTERN FOR EAST TAKE-OFF AND LANDING

(8)

(iii) *Taxiing after landing to the east on Lake Hood.*

(*a*) If the landing run is completed prior to entering the canal, the aircraft may be taxied direct to the aircraft parking area.

(*b*) If the landing run continues into the canal, proceed through the canal in an expeditious manner, following a counter-clockwise flow of traffic in Lake Spenard until it has been determined that the landing approach and the canal are clear of traffic, then proceed expeditiously through the canal to the aircraft parking area.

(iv) *Taxiing after landing to the west on Lake Spenard or Canal.* At the completion of the landing run, proceed expeditiously through the canal and direct to the aircraft parking area.

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T., July 14, 1951.)

60.18–6 *Traffic patterns for Fairbanks Airport and Chena River Landing Area (FAA rules which apply to sec. 60.18 (d)).* Aircraft taking off from or landing at the Fairbanks Airport or the Chena River Landing Area shall adhere to the following traffic patterns and altitudes made a part thereof, unless otherwise authorized by Air Traffic Control. The subject traffic patterns shall be contained within the air space described by a 3-mile horizontal radius of the Fairbanks Airport and extending vertically to 2,500 feet mean sea level.

(a) *Fairbanks International Airport.*

(1) *General.*

(i) Traffic patterns at the Fairbanks Airport shall be rectangular, extending east of the FAA road and for each runway the traffic pattern shall be to the east side of the runway.

(ii) Light and heavy aircraft shall follow their respective patterns as indicated by the diagrams set forth below. The differentiation between light and heavy aircraft shall be:

(*a*) *Light aircraft.* Aircraft which normally use a final approach true air speed of 100 m. p. h. or less.

(*b*) *Heavy aircraft.* Aircraft which normally use a final approach true air speed greater than 100 m. p. h.

(2) *Takeoff.*

(i) *Aircraft remaining in the traffic pattern.*

(*a*) *Runway 1.*

(*1*) *Light aircraft.* Aircraft remaining in the traffic pattern shall execute a 90° turn to the right at an altitude of at least 800 feet mean sea level, climbing to a traffic altitude of 1,100 feet mean sea level following the rectangular pattern for runway 1.

(*2*) *Heavy aircraft.* Aircraft remaining in the traffic pattern shall execute a 90° turn to the right at an altitude of at least 800 feet mean sea level climbing to a traffic altitude of 1,600 feet mean sea level following the rectangular pattern for runway 1.

(*b*) *Runway 19.*

(*1*) *Light aircraft.* Aircraft remaining in the traffic pattern shall execute a 90° turn to the left at an altitude of at least 800 feet mean sea level climbing to a traffic altitude of 1,100 feet mean sea level following the rectangular pattern for runway 19.

(*2*) *Heavy aircraft.* Aircraft remaining in the traffic pattern shall execute a 90° turn to the left at an altitude of at least 800 feet mean sea level climbing to a traffic altitude of 1,600 feet mean sea level following the rectangular pattern for runway 19.

(ii) *Departing aircraft.*

(*a*) *Runway 1.*

(*1*) *Light aircraft.* Aircraft shall execute a 90° turn to the right at an altitude of at least 800 feet mean sea level, and at the approximate midpoint of the initial crosswind leg execute a turn of 45° to the left.

(*2*) *Heavy aircraft.* Aircraft shall execute a 45° turn to the right from the takeoff leg at an altitude of at least 800 feet mean sea level.

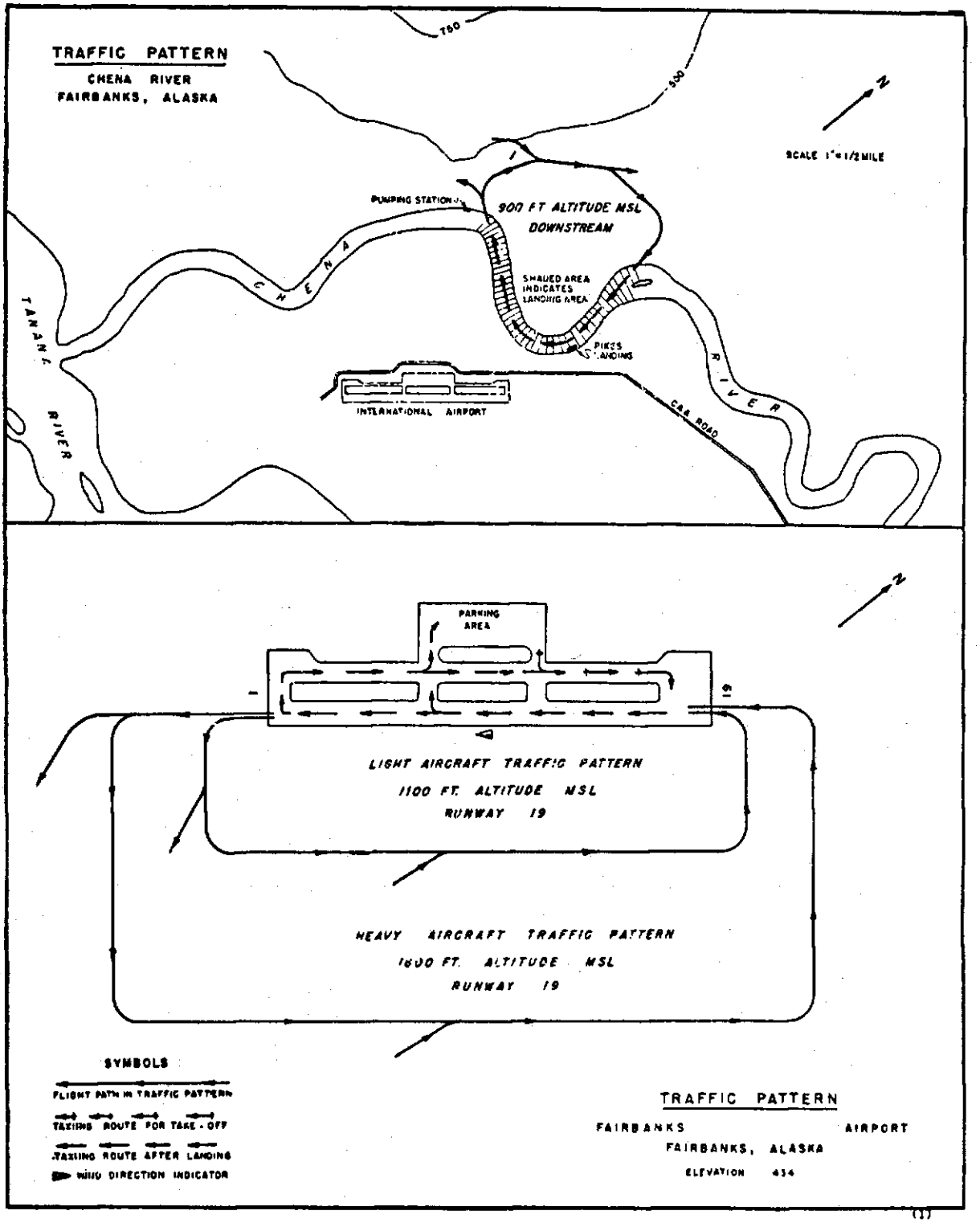
(*b*) *Runway 19.*

(*1*) *Light aircraft.* Aircraft shall execute a 90° turn to the left at an altitude of at least 800 feet mean sea level, and at the approximate midpoint of the initial crosswind leg execute a turn of 45° to the right.

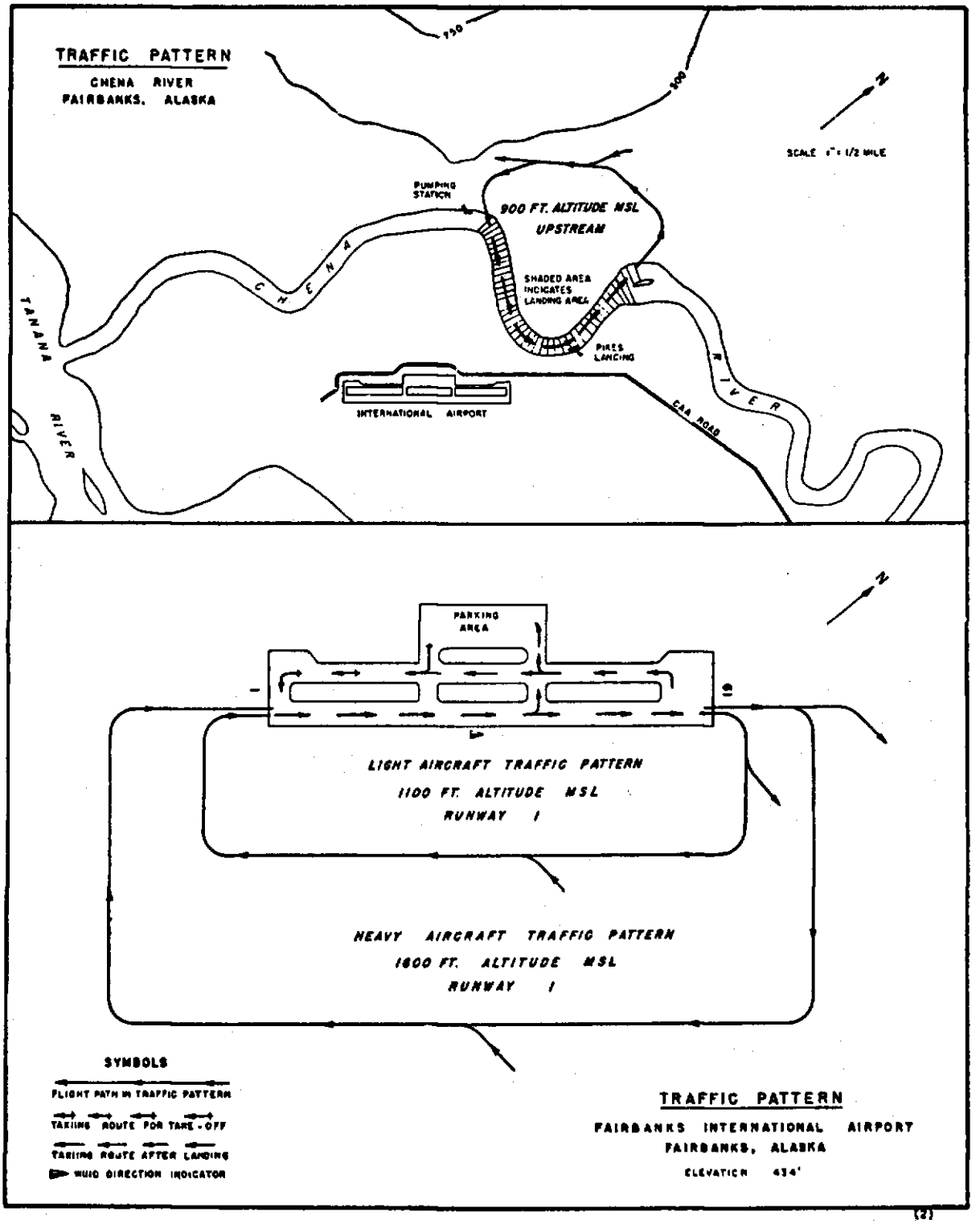
(*2*) *Heavy aircraft.* Aircraft shall execute a 45° turn to the left from the takeoff leg at an altitude of at least 800 feet mean sea level.

(*3*) *Traffic pattern entry.*

(*i*) Light aircraft shall enter the traffic pattern at an altitude of 1,100 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.


TRAFFIC PATTERN
CHENA RIVER
FAIRBANKS, ALASKA
750
500
N
SCALE 1"=1/2 MILE
PUMPING STATION
900 FT ALTITUDE MSL
DOWNSTREAM
SHADED AREA
INDICATES
LANDING AREA
PIKES
LANDING
CHENA
TANANA
RIVER
INTERNATIONAL AIRPORT
C&A ROAD
RIVER
PARKING
AREA
19
LIGHT AIRCRAFT TRAFFIC PATTERN
1100 FT. ALTITUDE MSL
RUNWAY 19
HEAVY AIRCRAFT TRAFFIC PATTERN
1600 FT. ALTITUDE MSL
RUNWAY 19
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TRAFFIC PATTERN
FAIRBANKS AIRPORT
FAIRBANKS, ALASKA
ELEVATION 434

(1)


TRAFFIC PATTERN
CHENA RIVER
FAIRBANKS, ALASKA
750
500
N
SCALE 1" = 1/2 MILE
PUMPING STATION
900 FT. ALTITUDE MSL
UPSTREAM
SHADED AREA INDICATES LANDING AREA
PIRES LANDING
CHENA
TANANA RIVER
INTERNATIONAL AIRPORT
CAR ROAD
RIVER
N
PARKING AREA
LIGHT AIRCRAFT TRAFFIC PATTERN
1100 FT. ALTITUDE MSL
RUNWAY 1
HEAVY AIRCRAFT TRAFFIC PATTERN
1800 FT. ALTITUDE MSL
RUNWAY 1
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE-OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
TRAFFIC PATTERN
FAIRBANKS INTERNATIONAL AIRPORT
FAIRBANKS, ALASKA
ELEVATION 434'

(2)

(*ii*) Heavy aircraft shall enter the traffic pattern at an altitude of 1,600 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(*4*) *Landing.*

(*i*) Light aircraft shall be operated so as to enter the final approach at a distance of at least 1,000 feet from the approach end of the runway.

(*ii*) Heavy aircraft shall be operated so as to enter the final approach at a distance of at least 1,500 feet from the approach end of the runway.

(b) *Chena River Landing Area.*

(1) *Landing area.* The landing area shall be defined as those portions of the Chena River upstream and downstream from a place on the river commonly known and identified as Pike's Landing, and extending downstream to the pumping station and upstream to the first right turn from Pike's Landing.

(2) *Traffic control.*

(i) Aircraft operating in the traffic patterns defined in this chapter will not normally be controlled by the Fairbanks Control Tower.

(ii) Any traffic control instructions issued by the Fairbanks Tower to aircraft landing at or taking off from the defined landing area on the Chena River will be issued only with respect to existing traffic at the Fairbanks Airport. Separation of surface traffic, therefore, will be the responsibility of the aircraft operator.

(3) *Traffic patterns.*

(i) Traffic patterns for the defined landing area on the Chena River shall be circular, shall lie to the west side of the river, and shall not extend east of the defined landing area on the Chena River as illustrated on the diagram set forth below.

(ii) Landing or takeoff upstream (north or east) shall be to the left.

(iii) Landing or takeoff downstream (south or west) shall be to the right.

(4) *Departure from traffic pattern.* Aircraft shall depart from the traffic pattern on a westerly heading.

(5) *Entrance to traffic pattern.* Aircraft shall enter the traffic pattern on an easterly heading at an altitude of 900 feet mean sea level.

(Published in 16 F. R. 6831, July 17, 1951, effective 0001 A. S. T., July 14, 1951, and amended in 20 F. R. 5676, Aug. 6, 1955, effective Sept. 1, 1955.)

60.18–7 Deleted

(Deletion published in 25 F. R. 10342, Oct. 28, 1960, effective Nov. 29, 1960.)

60.18–8 *Traffic patterns for Teterboro Airport, New Jersey (FAA rules which apply to sec. 60.18 (d)).* Operators of aircraft taking off from or landing at Teterboro Airport, New Jersey, under VFR shall adhere to the following traffic patterns and altitudes made a part thereof unless otherwise authorized or directed by Air Traffic Control. Heavy or fast aircraft, and light and slow aircraft shall follow their respective patterns as indicated by the diagrams in this section.[5a]

(a) *Definitions.*

(1) *"Heavy" or "fast" aircraft.* "Heavy" or "fast" aircraft shall mean those aircraft with a maximum certificated takeoff weight of more than 12,500 pounds, or a stall speed of more than 60 miles per hour (52.1 knots).

(2) *"Light" and "slow" aircraft.* "Light" and "slow" aircraft shall mean those aircraft with a maximum certificated takeoff weight of 12,500 pounds or less, and a stall speed of 60 miles per hour (52.1 knots) or less.

(b) *General rules.*

(1) Flights over populated areas shall be at an altitude of 1,200 feet or above whenever practicable.

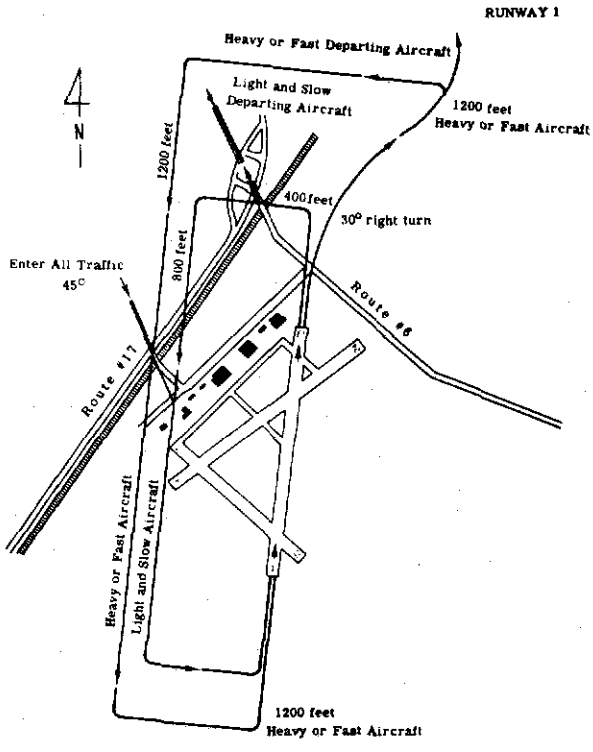
(2) Safe distances shall be maintained from all buildings, radio towers, and obstacles as well as from all other aircraft.

(3) The minimum traffic pattern altitudes shall be: (i) 800 feet for light and slow aircraft and, (ii) 1,200 feet for heavy or fast aircraft.

(4) Extreme caution shall be exercised in conforming to the flow of traffic as indicated by the diagrams set forth in paragraphs (c) through (h) of this section because of seaplane bases, obstacles, and high radio towers.

[5a] Flight paths as shown on traffic pattern diagrams show flow of traffic only and have not been drawn to scale.

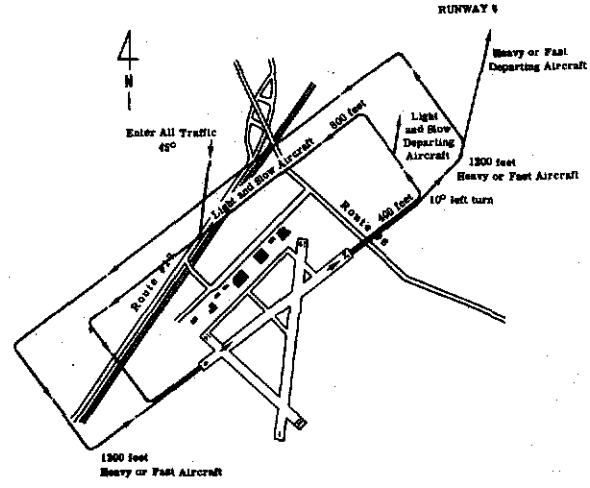
(c) The traffic pattern for runway 1 shall be:



(1) Heavy or fast aircraft shall make a 30° turn to the right as soon as practicable after takeoff and follow the Hackensack River until an altitude of 1,200 feet is reached.

(2) Any aircraft authorized by the Teterboro tower to make a straight-in approach shall maintain an altitude of 1,200 feet as long as possible and consistent with good operational practices.

(d) The traffic pattern for runway 6 shall be:

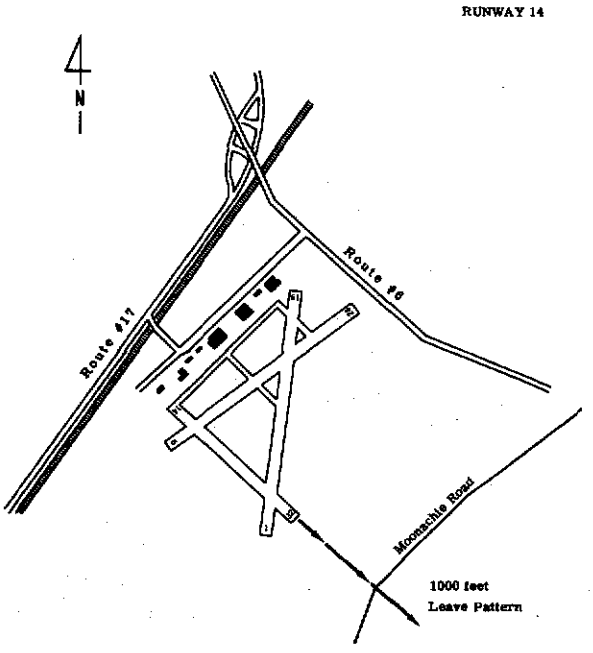


(1) Heavy or fast aircraft shall make a 10° turn to the left as soon as practicable after takeoff and follow the Hackensack River until an altitude of 1,200 feet is reached.

(2) Any aircraft authorized by the Teterboro tower to make a straight-in approach shall maintain an altitude of 1,200 feet as long as possible and consistent with good operational practices.

(3) Heavy or fast aircraft shall maintain an altitude of 1,200 feet until east of Route 17 on base leg.

(e) The traffic pattern for *all* aircraft using runway 14 shall be:

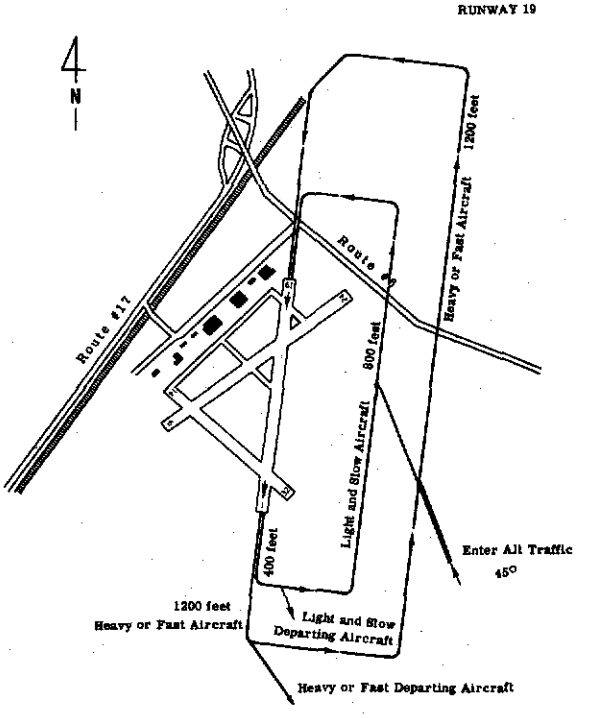


(1) All aircraft shall climb straight out until an altitude of 1,000 feet is reached before proceeding on course.

(2) No landing authorized. *CAUTION:* Use of runway for night takeoff is restricted by airport operator (see Airman's Guide [5b]). Extreme caution shall be exercised because of seaplane operations at 500 feet, east of Moonachie Road.

[5b] The Airman's Guide may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., annual subscription $3.00 domestic; $5.25 foreign. Individual copy price varies.

(f) The traffic pattern for runway 19 shall be:

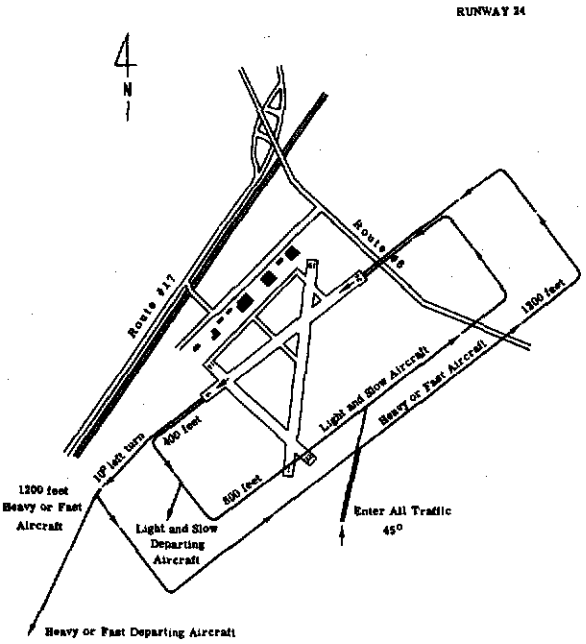


(1) Heavy or fast aircraft shall climb straight out until an altitude of 1,200 feet is reached.

(2) Any aircraft, when authorized by the Teterboro tower to make a straight-in approach, shall maintain an altitude of 1,200 feet as long as possible and consistent with good operational practices.

(3) All aircraft shall avoid direct flight over hospital area 2 miles north of airport.

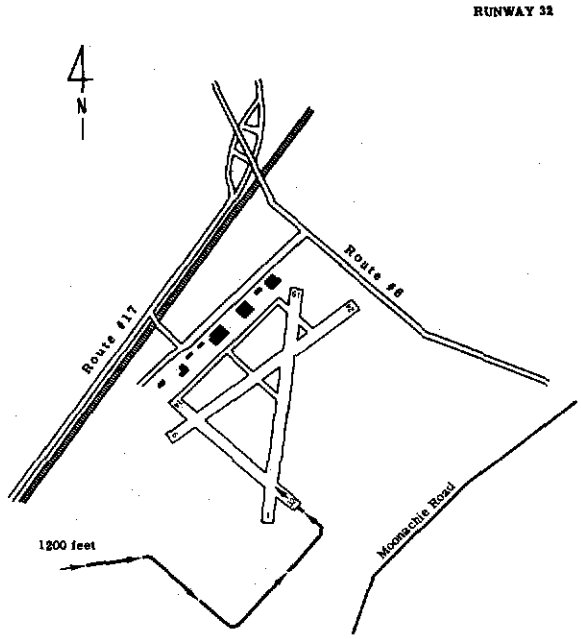
(g) The traffic pattern for runway 24 shall be:



(1) Heavy or fast aircraft shall make a 10° turn to the left as soon as practicable after takeoff and remain east of the ridge until an altitude of 1,200 feet is reached.

(2) Any aircraft, when authorized by the Teterboro tower to make a straight-in approach, shall maintain an altitude of 1,200 feet as long as possible and consistent with good operational practices.

(h) The traffic pattern for *all* aircraft using runway 32 shall be:



(1) Aircraft on base leg shall remain west of Moonachie Road.

(2) Aircraft shall maintain an altitude of 1,200 feet until east of Route 17 on downwind leg of pattern.

(3) No takeoff authorized. *CAUTION:* Use of runway for night landing is restricted by airport operator (see Airman's Guide [5b]).

[5b] (See footnote page 70.)

Extreme caution shall be exercised because of seaplane operations at 500 feet, east of Moonachie Road.

(Published in 21 F. R. 6087, Aug. 15, 1956, effective upon publication.)

60.21–1 *Air traffic clearance* [6] *(FAA policies which apply to sec. 60.21).* When an air traffic clearance has been obtained under either VFR or IFR rules, the pilot in command may not deviate from the provisions thereof unless an amended clearance is obtained or an emergency exists. Pilots desiring to make a change in altitude, route, or destination should request the change from an appropriate communications facility and receive Air Traffic Control approval prior to making the change.

In case emergency authority is used to deviate from provisions of an air traffic clearance, the pilot in command should notify Air Traffic Control as soon as possible and obtain an amended clearance.

In an emergency situation which results in no deviation from the rules prescribed in Part 60, but which requires Air Traffic Control to give priority to an aircraft, the pilot of such aircraft should make a report within 48 hours of such emergency to the nearest regional office of the Administrator.

An amendment to the initial clearance may be issued to a flight at any time Air Traffic Control deems such action necessary to avoid possible conflict between en route, landing, or departing aircraft.

A flight is always cleared to a specific point or location (radio or visual reporting point), defined as a clearance limit. When two-way radio failure is experienced and the pilot proceeds according to the latest traffic clearance, he is expected to observe the following, unless other instructions to the contrary are received:

(a) If the pilot has received and acknowledged a clearance to the destination airport or the radio facility serving that point, he should continue flight at the altitude(s) last assigned by Air Traffic Control, or the minimum instrument altitude,[7] whichever is the higher, to the radio facility servicing the destination airport.

(b) If the pilot has received and acknowledged a clearance to a point other than the destination airport or the radio facility serving the destination airport, he should continue flight at the altitude(s) last assigned by Air Traffic Control or the minimum instrument altitude, whichever is the higher, to the radio facility serving the destination airport.

(c) If holding instructions have been received, the pilot should comply with these instructions until such time as it will be necessary to continue flight so as to arrive at the radio facility serving the destination airport at the expected approach time last received and acknowledged, maintaining the last assigned altitude or the minimum instrument altitude, whichever is the higher.

(d) If holding instructions have been received, but no expected approach time has been received, the pilot should comply with these instructions until the time Air Traffic Control has specified that further clearance may be expected. He should then continue, maintaining the last assigned altitude or the minimum instrument altitude, whichever is the higher.

60.21–2 *Emergency descent (FAA policies which apply to sec. 60.21).* Upon receipt of

[6] An air traffic clearance is an authorization by Air Traffic Control for an aircraft to proceed under specified traffic conditions within a control zone or control area. It is issued for the purpose of preventing collision between aircraft known to Air Traffic Control and does not constitute authority to violate any provision of the CAR. A traffic clearance issued by a center and relayed through a communications facility is prefixed by "ATC clears." Other Air Traffic Control messages originated by a center for relay to a pilot will be prefixed by "ATC advises," or "ATC requests," as appropriate. Traffic clearances are issued to flights through ground-air radio communication facilities, such as radio range stations, airport traffic control towers, and air carrier and military communications stations, or on direct communications channels.

An air traffic clearance provides separation from other aircraft only during that portion of a flight conducted in weather conditions less than VFR minimums. It is the direct responsibility of the pilot to avoid other aircraft when flying in VFR conditions even with a traffic clearance. The initial traffic clearance issued to an aircraft prior to departure will normally authorize flight to the point of first intended landing, with instructions to maintain the altitude at which the aircraft enters the next control area. The pilot should request any desired altitude changes en route.

Air Traffic Control normally attempts to issue a traffic clearance specifying the altitude and route proposed in the flight plan. However, due to traffic conditions, it is frequently necessary that Air Traffic Control specify an altitude or route different from that requested by the pilot. It is important that pilots pay particular attention to the air traffic clearance and not assume that the route and altitude are the same as requested in the flight plan. It is suggested that pilots make a written record of clearances at the time they are received, and verify the clearance with Air Traffic Control if any doubt exists.

[7] The minimum instrument altitude referred to is the minimum established for that portion of the route over which the operation is conducted, regardless of the direction of flight. If deviation from the altitude assigned by Air Traffic Control is necessary in order to comply with a higher minimum instrument altitude, any subsequent descent required in order to comply with a lower minimum instrument altitude should not be made below the altitude last assigned by Air Traffic Control.

advice that an aircraft in flight within a control area or control zone has encountered an emergency which may affect other air traffic, Air Traffic Control will act to give the aircraft encountering the emergency priority over any other aircraft involved. Should it become necessary for an aircraft holding to make an emergency descent for a landing through other traffic, the pilot of that aircraft should so advise Air Traffic Control through appropriate communications facilities.

Upon receipt of advice that an aircraft is making an emergency descent through traffic assigned altitudes over the airport, Air Traffic Control will immediately broadcast, or cause to be broadcast, on radio range frequency the following:

EMERGENCY TO ALL CONCERNED ------
EMERGENCY LANDING AT ------ AIRPORT
ALL AIRCRAFT BELOW ------ THOUSAND FEET
WITHIN ------ MILES OF ------ RADIO RANGE/OMNI
LEAVE ------ COURSES/RADIALS IMMEDIATELY

Upon receipt of such a broadcast, pilots of aircraft affected should clear specified areas in accordance with the emergency instructions. Air Traffic Control will issue further directions through appropriate communications facilities immediately following the emergency broadcast. When terrain or other factors make it impractical for an aircraft to maintain the last assigned altitude, Air Traffic Control will issue specific directions to the aircraft.

60.23–1 *Aircraft lights in Alaska (FAA rules which apply to sec. 60.23).* In Alaska the lights required by this section shall be displayed when any unlighted aircraft or other unlighted prominent objects cannot readily be seen beyond a distance of 3 miles, or when the sun is more than 6° below the horizon.[8]

(Published in 14 F. R. 38, Jan. 5, 1949, effective upon publication.)

[8] The duration of civil twilight is the interval in the evening from sun set until the time when the center of the sun is 6° below the horizon; or the corresponding interval in the morning between sunrise and the time at which the sun was still 6° below the horizon. "Tables of Sunrise, Sunset, and Twilight," United States Naval Observatory, 1946, p. 9.

60.23–2 *Operations before sunrise and after sunset (FAA policies which apply to sec. 60.23).* It is the policy of the Administrator to issue a Certificate of Waiver or Authorization for operation before sunrise and after sunset without lights only for agricultural or industrial operations, in accordance with section 60.1–2(b).

60.24–1 *Approval of flight test areas (FAA policies which apply to sec. 60.24).* Flight test areas will be approved only over open water or sparsely populated areas where the conduct of tests will be a minimum hazard to persons or property. In approving a flight test area, consideration will be given to such factors as the type of flying, air speeds, altitudes involved, the amount of traffic being operated in the area and any other factors essential to safety.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957.)

60.24–2 *Application for approval of flight test area (FAA policies which apply to sec. 60.24).* Any person may apply for approval of a test area[8a] by making application in triplicate by letter addressed to the local district office. The application is to contain the following information:

(a) Aeronautical chart showing geographical boundaries of the area to be used (latitude, longitude, highways, railroads, or similar landmarks, readily discernible from operating altitudes).

(b) Hours during which operations are to be conducted.

(c) Conditions for operating: VFR, ceiling, visibility, altitudes, etc.

(d) Nature of flight tests to be performed (production, experimental, prototype, etc.).

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957; amended in 22 F. R. 5541, effective Aug. 1, 1957.)

60.24–3 *Duration and renewal of test area approval (FAA policies which apply to sec. 60.24).*

(a) Approval of a flight test area will be given for a period not to exceed 24 months subject to earlier cancellation where the Administrator finds that changed conditions would not justify original approval. Can-

[8a] Aircraft having experimental airworthiness certificates shall operate in accordance with the area limitations prescribed within their respective airworthiness certificates.

cellation will be effective upon receipt of written notice from the Administrator or his representatives.

(b) Approval of a flight test area may be renewed by making application in the form prescribed in section 60.24–2. The renewal request need contain only changes made in the original application. Items unchanged should be incorporated by reference.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957; amended in 22 F. R. 5541, effective Aug. 1, 1957.)

60.24–4 *Traffic rules for flight test areas designated by the Administrator (FAA rules which apply to sec. 60.24).* No person shall flight test an aircraft within an area *designated* [8b] by the Administrator for such purposes except in accordance with the following:

(a) *Filing of flight plan.* A flight plan shall be filed with Air Traffic Control and shall contain at least the following information:

(1) Aircraft identification and type.

(2) Proposed departure time.

(3) Estimated duration of flight.

(4) Altitude or altitudes to be used within the test area.

(5) Proposed time of entry into and egress from test area.

(b) *Filing of position reports.* IFR flights (in addition to those reports normally required of IFR operations within controlled airspace), and VFR flights with a functioning two-way radio, shall report actual time of entry and egress of the test area.

(c) *Deviations from flight plan.* No person shall deviate from the provisions of his flight plan unless Air Traffic Control is advised in advance.

NOTE: In addition to special traffic rules or procedures prescribed for operations within approved or designated flight test areas, the provisions of CAR 60 are applicable.

(Published in 22 F. R., Mar. 1, 1957, effective Mar. 1, 1957.)

60.24–5 *Sparsely populated areas having light air traffic (FAA policies which apply to sec. 60.24 (a) (1)).*

(a) For the purpose of approving flight test areas, sparsely populated areas are areas in which cities, towns, and villages are sufficiently widely scattered to permit the users to avoid all congested areas when conducting flight test operations; and light air traffic areas [8c] are those areas not located within (1) main arterial airways (colored and VOR), (2) control zones, (3) high density traffic zones, and (4) portions of control areas used for VFR departures and arrivals, such as areas used for noise abatement procedures.

(Published in 22 F. R. 5541, effective Aug. 1, 1957.

Visual Flight Rules (VFR)

60.30–1 *Authorization by Air Traffic Control (FAA policies which apply to sec. 60.30).* Authorization by Air Traffic Control to enter or depart control zones under VFR when the ceiling is less than 1,000 feet, and to fly closer to clouds than 500 feet vertically below, 1,000 feet vertically above, and 2,000 feet horizontally within a control zone will be issued in the form of an air traffic clearance. This clearance may be obtained by contacting the Flight Service Station or airport control tower in the control zone concerned. An appropriate clearance for such flight should conform closely to the following example:

> ATC clears (aircraft ident.) out of/to enter control zone (number of) miles (direction) of (airport) cruise not above (altitude) while in control zone.

60.31–1 *Air traffic clearance for takeoff or landing (FAA policies which apply to sec. 60.31).* A VFR takeoff or landing may be made at an airport within a control zone when the flight or ground visibility is less than 3 miles only if an air traffic clearance has been received. A takeoff or departure clearance will normally contain specific instructions as to the direction of takeoff, turn after takeoff, track and altitude to be maintained, and any other necessary maneuver.

60.32–1 Deleted

(Deletion published in 24, F. R. 7253, Sept. 9, 1959, effective Sept. 9, 1959.)

[8b] Designated flight test areas are those areas, other than approved flight test areas, which are designated after appropriate hearings are conducted through the Airspace Subcommittee of the Air Coordinating Committee, and may be used by any person in accordance with the rules set forth herein.

[8c] Areas above 25,000 feet above the surface under certain stipulated circumstances, dictated by local conditions, may be considered as being light traffic areas.

60.32–2 Deleted

(Deletion published in 24, F. R. 7253, Sept. 9, 1959, effective Sept. 9, 1959.)

60.33–1 *VFR flight plans (FAA policies which apply to sec. 60.33).* VFR flight plans may be filed in person or by telephone or radio with any Flight Service Station or control tower operator.

Good operating practices in connection with planning a flight, filing flight plan, flying the flight plan, carrying out radio communications procedures for all purposes can be found in the FAA Technical Manual No. 102, "Pilots' Radio Handbook."[9]

Instrument Flight Rules (IFR)[10]

60.46–1 *Standard instrument approach procedures (FAA rules which apply to sec. 60.46).* Standard instrument approach procedures prescribed by the Administrator are published in Part 609 of Regulations of the Administrator.

(Published in 16 F. R. 7351, July 27, 1951, effective upon publication.)

60.46–2 *Instrument approach ceiling and visibility minimums (FAA policies which apply to sec. 60.46).* Authorization for lower instrument approach ceiling and visibility minimums than those prescribed by the Administrator in Part 609 of the Regulations of the Administrator may be issued for approaches at those airports where the minimums have not been revised in accordance with the new policy.[11] The issuance of an authorization is subject to the following conditions:

(a) *Application.*

(1) Application will be made on Form ACA–400, Application for Certificate of Waiver. The application, in triplicate, will be submitted to any local Bureau of Flight Standards District Office.

(2) Arrange with Bureau of Flight Standards District Office for inspection of the aircraft equipment and instrument competency flight test for each pilot in command who will operate the aircraft under the lower ceiling and visibility minimums.

(b) *Issuance requirements.* The authorization for lower minimums may be issued to the owner of the aircraft, the operator, individual pilot, or pilots employed by the owner or operator, upon compliance with the following:

(1) *Aircraft.* Aircraft must be equipped with approved type radio equipment appropriate for the types of approaches requested.

(2) *Pilots.* Each pilot-in-command will be properly certificated, hold a currently valid instrument rating, and demonstrate to an inspector his competency to execute safely the approach procedures for each type of approach to the minimums requested. This flight test will be conducted by an inspector and will include pertinent items of the standard instrument rating test on the systems to be used.

(3) *Aircraft more than 12,500 pounds.* When aircraft of more than 12,500 pounds are used, each pilot-in-command and copilot will be required to successfully complete an equipment check to determine his familiarity with the aircraft. The equipment check is to be conducted by a representative of the Administrator, and based on the aircraft manufacturer's specifications.

(4) *Pilot training program.* The applicant should provide a pilot training program which should include training on instrument approach procedures, air traffic control procedures, and other subjects deemed necessary by the inspector to assure continuing proficiency on the types of instrument approaches involved; and at least two instrument approaches, actual or hooded flight, every 30-day period on each type of approach for which authority is requested.

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[9] For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The price of the manual is 60 cents.

[10] For information concerning instrument flight operations, see the following:

(1) The Flight Information Manual which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

(2) Instrument Approach and Landing Charts which may be purchased from the U.S. Coast and Geodetic Survey, Department of Commerce, Washington 25, D.C., at 10 cents each.

(3) Air Traffic Control Procedures, ATM–2–A, November 1, 1960, may be purchased from the Superinterdent of Documents, U.S. Government Printing Office, Washington 25, D.C. The price including supplementary revision service is $2.00 domestic; $2.75 foreign.

[11] In accordance with the present policy, ceiling and visibility minimums for approaches are being revised for all airports. Such minimums are based on obstruction clearance criteria and are the lowest minimums which can be used by anyone. Ultimately all airports will have the revised minimums in effect. During the interim period minimums established under the old policy will exist at some airports. Authorization to use lower minimums may be granted for these airports.

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Approaches made to the minimums authorized during the course of regular trips can be counted toward meeting these requirements.

(c) *Operational requirements.*

(1) Instrument approach may not be conducted below the minimums established for air carrier use, and never lower than the minimums to which the pilots have demonstrated their competency.

(2) Current information on scheduled air carrier minimums for the airports into which operations are to be conducted are to be readily available in the cockpit at all times during flight.

(3) Each pilot-in-command is expected to successfully complete requalifying instrument competency checks within 6 months prior to exercising the authority for lower minimums. The recheck is to be conducted by a representative of the Administrator. When aircraft of over 12,500 pounds are utilized, each pilot in command and copilot is expected to successfully complete an equipment check each 6 months prior to exercising authority for lower minimums.

(4) There is expected to be available in the cockpit at all times during flight, current flight information data, such as Radio Facility Guide, Airman's Guide, Approach Procedures, and maps.

(5) Special provisions applicable to the type of operation and aircraft equipment may be entered on and become a part of the authorization. These may include any or all, but are not limited to, those listed in appendix C.

(d) *Duration.*

(1) The authorization is valid for a period of 12 months, but may be surrendered by the holder or terminated by the Administrator at any time.

(2) Failure to comply with any of the conditions under section 60.46–1 (b) and (c), or the Special Provisions appended to the authorization, is considered sufficient grounds for terminating the authorization for lower minimums.

(e) *Reissuance.*

(1) The authorization may be reissued for a period of 12 months, upon application.

(2) Requirements for reissuance are identical to those for original issuance.

60.47–1 *Route of flight and communications procedures (FAA policies which apply to sec. 60.47).*

(a) *Off-airway operation.* If a flight is to be conducted over an off-airway route which joins or crosses federal airways, or terminates within federal airways, the route of flight should be indicated, and check points within control zones or areas over which the flight will pass are to be selected. The check points selected are to be points over which the position of the aircraft can be accurately determined or regularly designated reporting points.

(b) *Change of flight plan.* Any change of altitude or route of flight from that specified in the traffic clearance, should be reported to the air traffic control center or flight advisory area before the change is made. A change of flight plan should be reported and approval received before the change is made while operating within a control area; or, if outside of control area, prior to entering a control area.

60.49–1 *Two-way radio failure procedures (FAA policies which apply to sec. 60.49 (b)).*

(a) *General.* In the event of two-way radio communication failure, air traffic control will be accomplished in accordance with the following procedures.

(b) *En route procedure.* When the aircraft is proceeding in accordance with the latest traffic clearance but the pilot has not received and acknowledged a clearance for an instrument approach, the following procedures apply:

(1) If the pilot has received and acknowledged a clearance to the destination airport or the radio facility serving that airport, he will continue flight at the altitude(s) last assigned by Air Traffic Control, or the minimum instrument altitude,[12] whichever is higher, to the radio facility serving the destination airport;

(2) If the pilot has received and acknowledged a clearance to an en route point other than the destination airport or the radio facility serving that airport and—

[12] The minimum instrument altitude referred to is the minimum en route IFR altitude established in Part 610 of the Regulations of the Administrator for that portion of the route over which the operation is conducted, regardless of the direction of flight. If deviation from the altitude assigned by Air Traffic Control is necessary in order to comply with a higher minimum instrument altitude, any subsequent descent required by a lower minimum instrument altitude shall not be made below the altitude last assigned by Air Traffic Control.

(i) Holding instructions for the en route point have not been received, he will continue flight at the altitude(s) last assigned by Air Traffic Control or the minimum instrument altitude,[12] whichever is higher, to the radio facility serving the destination airport; or

(ii) Holding instructions for the en route point and expected approach time for the airport of destination have been received, the pilot will comply with such instructions and continue flight to arrive at the radio facility serving the destination airport at the expected approach time last received and acknowledged, maintaining the last assigned altitude or the minimum instrument altitude,[12] whichever is higher; or

(iii) Holding instructions for the en route point have been received but no expected approach time for the airport of destination has been received, the pilot will comply with such instructions until the time Air Traffic Control has specified that further clearance may be expected. He shall then continue flight to the radio facility serving the destination airport maintaining the last assigned altitude or the minimum instrument altitude [12] whichever is higher.

Example: A flight is cruising at 8,000 feet (last assigned altitude) on an IFR flight plan when radio failure occurs. After passing the next fix, the minimum en route altitude is 10,000 feet and climb is made to that altitude. On the last leg of the flight the minimum en route altitude is 3,500 feet. The flight descends back to 8,000 feet after passing the fix defining the termination of the 10,000-foot minimum en route altitude segment since the last assigned altitude (8,000 feet) is higher than the MEA (3,500 feet).

(3) If holding is necessary at the radio facility serving the destination airport and no holding clearance has been received and acknowledged:

(i) Holding will be accomplished on the side of the final approach course on which the procedure turn is prescribed; or

(ii) Where approved military jet penetration procedures have been published for the airport of destination, holding by military jet aircraft will be accomplished at the last assigned altitude or flight level in accordance with the holding procedure depicted on the jet approach and landing chart for that airport.

NOTE: Detailed approach and landing procedures, approved for military jet aircraft, are published in the U. S. Air Force–U. S. Navy "Flight Information Publication—Terminal—High Altitude" by the Aeronautical Chart and Information Center, St. Louis, Missouri.

(c) *Instrument letdown.*

(1) If a clearance for an approach has not been received and acknowledged, descent from the altitude maintained to the radio facility serving the destination airport will start at the expected approach time last received and acknowledged, or if no expected approach time was received and acknowledged, descent will be started at the estimated time of arrival indicated by the elapsed time specified in the flight time or as soon as possible thereafter. A full approved instrument approach procedure will be executed unless VFR conditions are encountered and the pilot elects to continue descent and approach in accordance with VFR.

(2) If a clearance for an approach at the airport of intended landing has been received and acknowledged, comply with the clearance or other instructions [13] and make normal descent for landing.

(3) *Shuttle.*

(i) Descent to the appropriate altitude for the execution of the instrument approach on the radio facility serving the destination airport will be accomplished by a holding pattern on the side of the final approach course on which the procedure turn is prescribed; or

(ii) Where approved military jet penetration procedures have been published for the airport of destination, military jet aircraft will descend to initial penetration altitude or flight level while executing the holding procedure depicted on the jet approach and landing chart for that airport.

(Published in 22 F. R. 9046, Nov. 14, 1957, effective Dec. 11, 1957; as amended in 22 F. R. 10304, Dec. 20, 1957, effective Dec. 20, 1957; amended in 24 F. R. 6388, Aug. 8, 1959, effective Aug. 8, 1959.)

[12] See footnote on page 76.

[13] Air Traffic Control may issue appropriate instructions by means of "blind" transmissions on radio frequencies directly available or may authorize "blind" transmissions of appropriate instructions over air carrier radio facilities (for air carrier aircraft), and/or over suitable radio range facilities. Instructions should not be broadcast unless authorized by Air Traffic Control.

Appendix A

Bureau of Flight Standards Field Offices

Region 1

FAA Regional Office: New York International Airport
Jamaica, Long Island, N.Y.
Telephone: OLympia 9–7000

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Albany, N.Y.	Albany Airport, Watervliet P.O. Box 577, Latham, N.Y.	UNion (Colonie) 9–7411.
2	Washington, D.C.	West Lab, Public Roads Building, Rm. 157, Washington National Airport, Washington 1, D.C.	MEtropolitan [illegible]
3	Allentown, Pa.	Allentown-Bethlehem-Easton Airport, Allentown, Pa.	COngress (C[illegible] 4–2431, 4–[illegible]
4	Charleston, W. Va.	P.O. Box 5275, Capitol Station, Kanowha County Airport, Charleston 1, W. Va.	DIckens 3–8[illegible]
5	Cincinnati, Ohio	Lunken Airport, Administration Building, Cincinnati 26, Ohio.	EAst 1–7171.
6	Cleveland, Ohio	Cleveland-Hopkins Airport, S–21, Cleveland 35, Ohio.	WInton 1–3[illegible]
7	Columbus, Ohio	Box 214, Administration Building, Port Columbus Airport, 4600 E. 17th Ave., Columbus 19, Ohio.	BElmont 7–3741.
9	Philadelphia, Pa.	Administration Building, North Philadelphia Airport, 1st Floor, Philadelphia 36, Pa.	ORchard 3–0250.
10	Harrisburg, Pa.	Harrisburg-York State Airport, P.O. Box 508, New Cumberland, Pa.	CEdar 4–0193.
11	Lindenhurst, N.Y.	Zahns Airport, North Wellwood Ave., Lindenhurst, N.Y.	TUrner 8–1440.
12	Louisville, Ky.	Administration Building, Bowman Field, Louisville 5, Ky.	GLendale 8–1314.
13	Norwood, Mass.	Municipal Airport, Norwood, Mass.	NOrwood 7–2436.
14	Pittsburgh, Pa.	Allegheny County Airport, Dravosburg, Pa.	HOmestead 1–2726, 1–7800.
15	Portland, Me.	Municipal Airport, Portland, Me.	SPruce 4–1452.
16	Richmond, Va.	Byrd Field, Sandston, Va.	REpublic 7–8256, 7–0891.
17	Rochester, N.Y.	Municipal Airport, Rochester, N.Y.	BEverly 5–3438.
18	Teterboro, N.J.	Teterboro Air Terminal, Teterboro, N.J.	ATlas 8–1745, 6, 7.
19	Westfield, Mass.	Barnes-Westfield Municipal Airport, P.O. Box 544, 1st Floor, Terminal Building, Westfield, Mass.	LOgan 8–8691.
21	Baltimore, Md.	Pier "C" Terminal Building, Friendship International Airport, Baltimore, Md.	SOuthfield 1–2610.
		AIR CARRIER DISTRICT OFFICES	
31	Jamaica (Idlewild), N.Y.	Federal Bldg., N.Y., International Airport, Jamaica 30, Long Island, N.Y.	OLympia 9–7000, Ext. 423, 424, 309.
32	Utica, N.Y.	Oneida County Airport, R.F.D., Oriskany, N.Y.	REdwood 6–6981.
33	Boston, Mass.	161 Prescott St., East Boston 28, Mass.	LOgan 7–1224.
34	Flushing (LaGuardia), N.Y.	TWA Hangar No. 4, Box 575, New York. Airport Station, Flushing, 71, N.Y.	HAvenmeyer 6–9729.
35	Newark, N.J.	Room 221 Airmail and Express Terminal, Newark Airport, Newark 5, N.J.	MItchell 2–3730
37	Washington, D.C.	West Lab., Public Roads Bldg., Washington National Airport, Washington 1, D.C.	NAtional 8–1076, 8–0774; REpublic 7–6131, Ext 296, 297.
38	Pittsburgh, Pa.	Room M–165, Administration Building, Greater Pittsburgh Airport, Pittsburgh, Pa.	SPaulding 1–2868.
39	Tulsa, Okla.	7809 E. Admiral Pl., Tulsa, Okla.	TEmple 5–2378.

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No.	City	Address	Telephone
		ENGINEERING AND MANUFACTURING DISTRICT OFFICES	
4	Stratford, Conn	Sikorsky Aircraft Div., Stratford, Conn	DRexel 8-6361, Ext. 437-439.
42	Windsor, Conn	181 Broad St., Windsor, Conn	MUrdock 8-9902.
43	Williamsport, Pa	Lycoming Div., AVCO Mfg. Corp., Box 928, Williamsport, Pa.	WIlliamsport 2-8241.
44	Hagerstown, Md	P.O. Box 1036, Hagerstown, Md	REgent 9-3295.
45	Teterboro, N.J	Teterboro Airport, Control, Tower, 4th Floor, Teterboro, N.J.	ATlas 8-4180.
46	Bethpage, L.I., N.Y	Grumman Aircraft Engineering Corp., Plant 1, Bethpage Long Island, N.Y.	WElls 8-2277; OLympia 8-5300, Ext. 3640.
48	Vandalia, Ohio	P.O. Box 385, Dayton Municipal Airport, Vandalia, Ohio.	TWinoaks 8-6931.

City	Address	Telephone
	FACILITIES FLIGHT CHECK DISTRICT OFFICES	
Bedford, Mass	P.O. Box 271, Lexington 73, Mass	CRestview 4-6247, 4-9375.
Columbus, Ohio	Room P-10 New Terminal Area, Port Columbus Airport, Columbus, Ohio.	BElmont 5-7106, 1-3045.
Richmond, Va	Room 202 Municipal Building, Byrd Field, P.O. Box 146, Sandston, Va.	REpublic 7-4829, 7-1845.
New York, N.Y	Seaboard and Western Building No. 178, New York International Airport, Jamaica, Long Island, N.Y.	OLympia 9-7000; Ext. 437, 438, 328, 329, 567, 568.
	FAA AIRCRAFT MAINTENANCE BASES	
Columbus, Ohio	Lane Memorial Hangar, Port Columbus, Columbus, Ohio.	
Jamaica, N.Y	New York International Airport, Hangar 11, Jamaica, Long Island, N.Y.	OLympia 6-5548.

Region 2

FAA Regional Office: P.O. Box 1689, Ft. Worth 1, Tex.

Telephone: MArket 6-8221

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Amarillo, Tex	P.O. Box 2306 (Tradewind Airport), Amarillo, Tex	DRake 6-9481.
2	Atlanta, Ga	Federal Aviation Bldg., Fulton Co. Airport, Atlanta 11, Ga.	DIamond 4-8933, 4-3034.
3	Birmingham, Ala	Muncipal Airport, Birmingham, Ala	LYric 2-6371.
4	Brownsville, Tex	Admin. Bldg., Rio Grande Valley International Airport, Brownsville, Tex.	LIncoln 2-5681.
5	Charlotte, N.C	Municipal Airport Branch, P.O. Charlotte, N.C	EXpress 2-3214.
6	Columbia, S.C	P.O. Box 368, Columbia Airport, W. Columbia, S.C	SWift 4-3789.
7	Dallas, Tex	c/o Southwest Airmotive, Inc., Love Field, 7515 Lemmon Ave., Dallas 9, Tex.	FLeetwood 2-8453.
8	Fort Worth, Tex	P.O. Box 1689, Meacham Field, Fort Worth, Tex	MArket 4-1184
9	Houston, Tex	P.O. Box 60158, International Airport, Houston 17, Tex.	OLive 4-6557.
10	Jackson, Miss	P.O. Box 1727 (Woodrow Wilson Ave. West), Jackson 5, Miss.	FLeetwood 3-4429.
11	Jacksonville, Fla	P.O. Box 1504, Jacksonville 1, Fla	ELgin 4-7111.
12	Little Rock, Ark	Terminal Annex Bldg., Adams Field, Little Rock, Ark.	FRanklin 2-5930.
13	Miami, Fla	P.O. Box 59-2014, AMF Branch, Miami 59, Fla	NEwton 4-4511.
14	Midland, Tex	(Midland Air Terminal), P.O. Box 198, Terminal, Tex.	MUtual 2-3338.
15	Nashville, Tenn	Berry Field, Nashville 10, Tenn	ALpine 5-7791.
16	New Orleans, La	(New Orleans Airport), P.O. Box 26428, CHEF Menteur Br., New Orleans, La.	WHitehall 4-6706.
17	Oklahoma City, Okla	Tulakes Airport, Terminal Bldg., Bethany, Okla	WHitney 9-5684.
18	Raleigh, N.C	Raleigh Durham Airport, P.O. Box 1858, Admin. Bldg., Raleigh, N.C.	TEmple 2-6160.
19	San Antonio, Tex	371 N. Terminal Dr., Rm. 2, International Airport, San Antonio 9, Tex.	TAylor 6-2355.
20	Shreveport, La	Downtown Airport, Shreveport 194, La	2-6919.
21	St. Petersburg, Fla	Pinellas County International Airport, St. Petersburg, Fla.	HEmlock 6-9072.
22	Tulsa, Okla	Administration Building, Room 107, Municipal Airport, Tulsa, Okla.	TEmple 5-4429.
23	Memphis, Tenn	(Municipal Airport), P.O. Box 7097, Memphis 18, Tenn.	WHitehall 8-3919.
		AIR CARRIER DISTRICT OFFICES	
31	Atlanta, Ga	Municipal Airport, P.O. Box 738, Atlanta 20, Ga	POplar 7-1512.
32	Dallas, Tex	c/o Southwest Airmotive, Inc., 7515 Lemmon Ave., Love Field, Dallas 9, Tex.	FLeetwood 7-8297.
33	Ft. Worth, Tex	P.O. Box 2506, Amon Carter Field, Ft. Worth, Tex	ATlas 4-6775.
34	Houston, Tex	8345 Telephone Rd., P.O. Box 60158, International Airport, Houston, Tex.	OLive 4-6557.
35	Nashville, Tenn	Berry Field, Nashville 10, Tenn	ALpine 5-7791.
36	Miami, Fla	P.O. Box 59-2014, AMF Branch, International Airport, Miami 59, Fla.	NEwton 4-4511.
37	San Antonio, Tex	371 N. Terminal Drive, Room 3, International Airport, San Antonio 12, Tex.	TAylor 4-6373.
38	Winston-Salem, N.C	Terminal Bldg., Smith-Reynolds Airport, Winston-Salem, N.C.	PArk 5-0601, 2.
40	San Juan, P.R	Puerto Rico International Airport, San Juan, P.R	9-0374.

No.	City	Address	Telephone
		ENGINEERING AND MANUFACTURING DISTRICT OFFICES	
41	Bethany, Okla	Aero Design & Engr. Co., P.O. Box 118, Tulakes Airport, Bethany, Okla.	WHitney 9–5404; WHitney 9–5674, Ext. 213.
42	Ft. Worth 1, Tex	c/o Bell Helicopter Corp., P.O. Box 482, Ft. Worth 1, Tex.	ATlas 4–2625; ATlas 4–3434, Ext. 521.
43	Miami 59, Fla	P.O. Box 59–2014, AMF Branch, Miami 59, Fla	NEwton 4–4511.
44	Dallas, Tex. (Garland)	P.O. Box 6191 c/o TEMCO, Garland Plant, Dallas, Tex.	BRoadway 6–6848, Ext. 3247.
45	Marietta, Ga	c/o Lockheed Aircraft Corp., Ga. Div., Marietta 12, Ga.	MArietta 8–1712; JA 3–1411, Ext. 4245.
46	San Antonio, Tex	371 N. Terminal Dr., Room 1, San Antonio International Airport, San Antonio, Tex.	TAylor 6–2355

City	Address	Telephone
	FACILITIES FLIGHT CHECK DISTRICT OFFICES	
Fort Worth, Tex	P.O. Box 1689, Fort Worth, Tex	MArket 4–7263, MArket 6–1191.
Atlanta, Ga	3999 Gordon Road, S.W., Atlanta, Ga	DIamond 4–3220, DIamond 4–3221.
Orlando, Fla	P.O. Box 672, Orlando, Fla	GArden 5–5465.
	FAA AIRCRAFT MAINTENANCE BASES	
Atlanta, Ga	Fulton County Airport, 4165 Gordon Road, S.W., Atlanta, Ga.	PLaza 3–2171.
Fort Worth, Tex	FAA Hangar Meacham Field, Fort Worth, Tex	MArket 4–8708.

Region 3

FAA Regional Office: 4825 Troost Ave., Kansas City 10, Mo.

Telephone: PLaza 3-4900

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Bismarck, N. Dak	Box 805, Municipal Airport, Bismarck, N. Dak	CApitol 3-3414.
2	Cedar Rapids, Iowa	Administration Building, Municipal Airport, P.O. Box 1907, Cedar Rapids, Iowa.	EMpire 3-5872.
3	Chicago, Ill	P.O. Box 337, DuPage Co. Airport, West Chicago, Ill.	Area Code 312, JUno 4-4490.
4	Des Moines, Iowa	Air National Guard, Administration Building, 4200 S.W. 34th St., Des Moines, Iowa.	CHerry 4-6133.
5	Detroit, Mich	Old Administration Building, Metropolitan Airport, Mich.	WHitney 1-1000.
6	Dodge City, Kans	Municipal Airport, P.O. Box 550, Dodge City, Kans	HU 3-4021
7	Fargo, N. Dak	Administration Building, Hector Field, P.O. Box 1756, Fargo, N. Dak.	AD 5-5032
8	Grand Rapids, Mich	Kent Co. Airport, Grand Rapids 8, Mich	CHerry 1-0155
9	Sioux Falls, S. Dak	Foss Field Tower Building, Sioux Falls, S. Dak	ED 8-2381
10	Indianapolis, Ind	Administration Building, Weir Cook Municipal Airport, Indianapolis, Ind.	CHapel 4-2473
11	Kansas City, Kans	Second Floor Administration Building, Fairfax Airport, Kansas City, Kans.	ATwater 1-3491
12	Lincoln, Nebr	P.O. Box 1748 Municipal Airport (Union), Lincoln 1, Nebr.	INgersoll 6-5164.
13	Milwaukee, Wis	General Mitchell Field Milwaukee 7, Wis	SHeridan 4-9202.
14	Minneapolis, Minn	2721 E. 42d St., Minneapolis, Minn	PArkway 9-7301.
15	North Platte, Nebr	128 Administration Building, Municipal Airport, P.O. Box 581, North Platte, Nebr.	LEnox 2-4533.
16	Rapid City, S. Dak	P.O. Box 27, Rapid City, S. Dak	FIllmore 2-3738
17	St. Louis, Mo	Box 6127, St. Louis-Lambert Airport, St. Louis 21, Mo.	PErshing 1-0930
18	South Bend, Ind	St. Joseph Co. Airport, South Bend, Ind	CEntral 2-5843
19	Springfield, Ill	Box 197, Capital Airport, Springfield, Ill	LA 3-3657
20	Springfield, Mo	Municipal Airport, Rt. 6, Box 502A, Springfield, Mo	UNiversity 4-9933
21	Wausau, Wis	Municipal Airport, Wausau, Wis	3901
22	Wichita, Kans	Room 210, Terminal Building, Municipal Airport, Wichita 9, Kans.	WHitehall 3-3244
		AIR CARRIER DISTRICT OFFICES	
31	Chicago, Ill	5448, S. Kildare Ave., Chicago 32, Ill	LUdlow 1-2626,7,8,9.
32	Indianapolis, Ind	Administration Bldg., Weir Cook Municipal Airport, Indianapolis 47, Ind.	CHapel 1-9296.
33	Kansas City, Kans	Third Floor Administration Building, Fairfax Airport, Kansas City, Kans.	ATwater 1-3493.
34	Minneapolis, Minn	6301-34th Ave., South, Wold Chamberlin Field, Box I, Minneapolis 50, Minn.	PArkway 1-1653.
35	St. Louis, Mo	P.O. Box 6127, Lambert Field, St. Louis 34, Mo	PErshing 1-6800.
36	Ypsilanti, Mich	Terminal Bldg., Willow Run Airport, Ypsilanti, Mich.	HU 2-7725.
		ENGINEERING AND MANUFACTURING DISTRICT OFFICES	
41	Muskegon, Mich	P.O. Box 538, Muskegon, Mich	PArkway 2-6370.
42	Indianapolis, Ind	c/o Allison Division GMC: Plant 5, P.O. Box 894, Indianapolis 6, Ind.	CHapel 1-2134.
43	Wichita 9, Kans	Third Floor, Control Tower Bldg., Municipal Airport Wichita 9, Kans.	WHitehall 3-1225.

City	Address	Telephone
FACILITIES FLIGHT CHECK DISTRICT OFFICES		
Minneapolis, Minn	Fleming Field, South St. Paul, Minn	GLenview 1–2281.
Kansas City, Kans	450 E. Donovan Rd., Kansas City 15, Kans	ATwater 1–0440, 1–3025.
Battle Creek, Mich	P.O. Box 1110 Battle Creek, Mich	WOodward 3–1513.
FAA AIRCRAFT MAINTENANCE BASES		
Kansas City, Kans	410 E. Donovan Rd., Fairfax Airport, Kansas City 15, Kans.	DRexel 1–2877.
South St. Paul, Minn	c/o Facilities Flight Check District Office No. 2, Fleming Field, South St. Paul, Minn.	

REGION 4

FAA Regional Office: 5651 W. Manchester Ave., Los Angeles, Calif.
Mailing address: P.O. Box 90007, Airport Station, Los Angeles 45, Calif.
Telephone: ORchard 2–5041

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Los Angeles, Calif	3308 Airport Ave., Santa Monica, Calif	EXmont 1–5753.
2	Oakland, Calif	Municipal Airport, Box 2397, Oakland, Calif	NEptune 8–5711.
3	Seattle, Wash	Box 18, Boeing Field, Seattle, Wash	PArkway 3–5600.
4	Portland, Oreg	5410 NE. Marine Dr., Portland, Oreg	ATlantic 8–5846.
5	Denver, Colo	District Office Bldg., Stapleton Airfield, Denver 7, Colo.	DExter 3–5473.
6	Phoenix, Ariz	2800 Sky Harbor Blvd., Sky Harbor Airport, Phoenix, Ariz.	BRidge 5–6276.
7	Salt Lake City, Utah	Municipal Airport No. 1, Salt Lake City, Utah	ELgin 5–2951.
8	Boise, Idaho	1412 Idaho St., Boise, Idaho	2–2861.
9	Albuquerque, N. Mex	225 San Pedro Dr. NE., Albuquerque, N. Mex	AMherst 5–1539.
10	Helena, Mont	Municipal Airport, Box 1167, Helena, Mont	HIckory 2–4230.
11	Reno, Nev	Room 9, Savier Bldg., Box 499, 210 W. 2d St., Reno, Nev.	FAirview 2–3790.
12	Cheyenne, Wyo	Municipal Airport, Box 2166, 4101 Evans Ave., Cheyenne, Wyo.	6–6037.
13	Van Nuys, Calif	Van Nuys Airport, 7550 Hayvenhurst Ave., Van Nuys, Calif.	STate 5–8624.
14	Spokane, Wash	Box 247, Parkwater Station, Spokane, Wash	KEystone 5–1601.
15	Fresno, Calif	5444 Perimeter Rd., Fresno 27, Calif	CLinton 1–6056.
16	San Diego, Calif	3110 Goddard Ways, Lindbergh Field, San Diego 1, Calif.	CYpress 5–3112.
17	Sacramento, Calif	Municipal Airport, Sacramento, Calif	GArden 8–9614.
18	Ontario, Calif	Admin. Bldg., International Airport, Ontario, Calif	YUkon 4–2411.
19	Yakima, Wash	2300 W. Washington Ave., Yakima, Wash	GLencourt 2–8523.
20	Long Beach, Calif	Admin. Bldg., Municipal Airport, Long Beach, Calif	HArrison 1–8287.
21	Palo Alto, Calif	1901 Embarcadero Rd., Palo Alto, Calif	DAvenport 6–5880.
22	Medford, Oreg	Municipal Airport, Box 832, Medford, Oreg	SPring 3–4033.
23	Billings, Mont	Municipal Airport, Box 2078, Billings, Mont	CHerry 5–7910.
		AIR CARRIER DISTRICT OFFICES	
31	Los Angeles, Calif	9205 Sepulveda Blvd., Los Angeles 45, Calif	ORchard 1–7543, 1–7544, ORegon 8–7875, 8–7876.
32	Burbank, Calif	Hangar No. 4, Lockheed Air Terminal, 2761 N. Hollywood Way, Burbank, Calif.	TRiangle 7–3317, THornwall 8–0845.
33	San Francisco, Calif	Rm. 404 Main Terminal Bldg., San Francisco International Airport, San Francisco 28, Calif.	JUno 8–3827.
34	Denver, Colo	FAA District Office Bldg., Stapleton Field, Denver 7, Colo.	DExter 3–5475.
35	Seattle, Wash	P.O. Box 17, FAA Bldg., Boeing Field, Seattle, Wash	PArk 3–5604.

No.	City	Address	Telephone
		ENGINEERING AND MANUFACTURING DISTRICT OFFICES	
41	San Diego, Calif	c/o Convair, Bldg. 33, Lindbergh Field, San Diego 12, Calif.	CYpress 6–6611, Ext. 669 or 245.
42	Santa Monica, Calif	c/o Douglas Aircraft Co., Inc., 3009 Ocean Park Blvd., Santa Monica, Calif.	EXbrook 6–8719, UPton 0–1211, Ext. 3821.
43	Burbank, Calif	c/o Lockheed Aircraft Corp., Plant A–1, Bldg. 19, Burbank, Calif.	TRiangle 7–3614, TRiangle 7–2711, Ext. 1324.
46	Seattle, Wash	Box 17, Boeing Field, Seattle 8, Wash	PArkway 3–2564
48	Long Beach, Calif	c/o Douglas Aircraft Co., Inc., Location C–8, Bldg. 83, 3855 Lakewood Blvd., Long Beach, Calif.	HArrison 1–2494.

City	Address	Telephone
	FACILITIES FLIGHT CHECK DISTRICT OFFICES	
Santa Monica, Calif	Room 202, 710 Wilshire Blvd., Santa Monica, Calif	EXbrook 3–0276.
Oakland, Calif	Hangar 27, c/o Lockheed Aircraft Service, Oakland Municipal Airport, Oakland 14, Calif.	LOckhaven 8–8981.
Seattle, Wash	P.O. Box 18, Boeing Field Seattle 8, Wash	PArkway 3–8440.
Spokane, Wash	S. 3905 Davidson Blvd., Spokane 82, Wash	TEmple 8–8092.
Denver, Colo	FAA District Office Building, Stapleton Airfield, Denver, Colo.	FLorida 5–0765.
Salt Lake City, Utah	P.O. Box 22, Airport Station, Salt Lake City 16, Utah	EMpire 4–7641.
Phoenix, Ariz	Sky Harbor Airport, 2800 Sky Harbor Blvd., Phoenix, Ariz.	BRidge 5–6701
	FAA AIRCRAFT MAINTENANCE BASES	
Santa Monica, Calif	FAA Hangar, 3219 Airport Ave., Santa Monica Airport, Santa Monica, Calif.	EXmont 8–5727.
Salt Lake City, Utah	P.O. Box 1, Airport Station, Salt Lake City, Utah	EMpire 4–1126.

REGION 5

FAA Regional Office: P.O. Box 440, Anchorage, Alaska

Telephone: BRoadway 7–1401

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Anchorage, Alaska	Communications Building, Merrill Field, P.O. Box 440, Anchorage, Alaska.	BR 7–1401, Ext. 215, 213, or BR 2–4611.
		AIR CARRIER DISTRICT OFFICES	
31	Anchorage, Alaska	P.N.A. Building, International Airport, P.O. Box 6261, Anchorage, Alaska.	BR 7–1401, Ext. 218 or BR 4–1965.
		COMBINED AIR CARRIER AND GENERAL SAFETY DISTRICT OFFICES	
2	Fairbanks, Alaska	Arctic Airways Hangar, International Airport, Fairbanks, Alaska.	GL 6–5122, GL 6–7901, or GL 6–7902.
3	Juneau, Alaska	Juneau Airport, P.O. Box 2449, Juneau, Alaska	6–3755 (General), 6–3700 (Air Carrier).
		FAA AIRCRAFT MAINTENANCE BASE	
	Anchorage, Alaska	International Airport, P.O. Box 440, Anchorage, Alaska.	MAin 2–6001.

REGION 6

FAA Regional Office: P.O. Box 4009, 645 Halekauwila St., Honolulu 12, Hawaii

Telephone: 58831 LOC–560

No.	City	Address	Telephone
		GENERAL AVIATION DISTRICT OFFICES	
1	Honolulu, Hawaii	P.O. Box 4009, Honolulu Airport, Honolulu 12, Hawaii.	813–305.
		AIR CARRIER DISTRICT OFFICES	
31	Honolulu, Hawaii	P.O. Box 4009, Honolulu Airport, Honolulu 12, Hawaii.	813–305.
		FAA AIRCRAFT MAINTENANCE BASE	
	Honolulu, Hawaii	FAA Regional Warehouse, P.O. Box 4009, Honolulu, Hawaii.	58831.

Location	Mail	Telephone
	WASHINGTON AIRCRAFT FIELD OFFICE	
Washington, D.C.	Washington Aircraft Field Office, Hangar 6, Washington National Airport, Washington, D.C.	ST 3–9200, Ext. 3600; Tieline Code 1222 or RE 7–6131, Ext. 252.
	FACILITIES FLIGHT CHECK FIELD OFFICES	
Washington, D.C.	Intermediate Altitude Inspection and Procedures Field Office, FAA, Hangar 8, Room 206, Washington National Airport, Washington, D.C.	ST 3–2100, Ext. 674.
Oklahoma City, Okla.	Intermediate Altitude Inspection and Procedures Field Office, FAA Aeronautical Center, P.O. Box 1082, Oklahoma City, Okla.	MUtual 1–2311, Ext. 512.
Oklahoma City, Okla.	Intermediate Altitude Operations Office, FAA Aeronautical Center, P.O. Box 1082, Oklahoma City, Okla.	MUtual 1–2311, Ext. 511.
Los Angeles 64, Calif.	Intermediate Altitude Inspection and Procedures Field Office, Federal Aviation Agency, 11624 West Pico Blvd., Los Angeles, Calif.	GRanite 8–0567.
Oklahoma City, Okla.	High Altitude Inspection and Procedures Field Office, Flight Inspection, FAA Aeronautical Center, P.O. Box 1082, Oklahoma City, Okla.	MUtual 1–2311, Ext. 527.

Appendix B

Agricultural and Industrial Operations

1. Dusting.
2. Spraying.
3. Seeding.
4. Fertilizing.
5. Defoliation.
6. Grasshopper baiting.
7. Spraying towns—pest control.
8. Agitating cherry trees.
9. Antifrost agitation.
10. Knocking ripe fruit from trees.
11. Checking fallow land.
12. Chasing birds from rice fields.
13. Checking crops.
14. Powerline patrol.
15. Pipeline patrol.
16. Telephone line patrol.
17. Fence patrol.
18. Border patrol.
19. Highway patrol.
20. Forestry patrol.
21. Truckline patrol.
22. Log patrol.
23. Game and fish patrol.
24. Game survey.
25. Hunting predatory animals.
26. Hunting eagles.
27. Hunting lost persons.
28. Herding wild game.
29. Herding livestock.
30. Checking livestock.
31. Mapping and survey.
32. Aerial photography.
33. Sign towing (see CAM 43).
34. Glider towing (see CAM 43).
35. Skywriting.
36. Aerial advertising (neon lights).
37. Aerial advertising (loudspeaker).
38. Dropping leaflets.
39. Operation of moored balloons (see CAM 48).
40. Sailplane and water-ski towing (see CAM 43).
41. Transportation of explosives (see CAM 49).
42. Transportation of serum and medical supplies.
43. Transportation of fur.
44. Transportation of food in emergency.
45. Transportation of fishing/hunting parties.
46. Transportation of artificial insemination.
47. Transportation of baby chicks.
48. Transportation of feed and equipment.
49. Oil company transportation.
50. Ambulance service.
51. Air police.
52. Oil well service.
53. Mineral prospecting.
54. Oil research (radar-magnetometer).
55. Range survey.
56. Rainmaking.
57. Determining snowfall, high/low water.
58. Spotting schools of fish.
59. Stocking lakes and streams with fish.
60. Dropping beaver and pheasant.
61. Checking windmills/water holes.
62. Locating dam sites and checking irrigation.
63. Forest fire fighting.
64. Appraising and showing farms/ranches.
65. Radio and TV transmitting.
66. Delivery of mail and newspapers.

Appendix C

Special Provisions

Any or all of the following provisions may be made a part of the waiver issued for instrument approach ceiling and visibility minimums lower than those prescribed in Regulations of the Administrator, Part 609.

I. *Navigation and approach information*

(a) It will be the responsibility of the holder of this authorization to obtain from any recognized source all the pertinent information concerning air carrier minimums for all airports at which instrument approaches will be made under the privileges granted by this waiver.

(b) It will be the responsibility of the holder of this waiver to make arrangements through any recognized source that will assure him that all additions, deletions, or amendments to the air carrier minimums will be furnished immediately.

(c) It will be the responsibility of the holder of this waiver to determine that the information referred to in I. (a) and (b) above is readily available in the cockpit at all times during flight.

(d) It will be the responsibility of the holder of this waiver to determine that there is available in the cockpit at all times during flight, current flight information data such as Radio Facility Guide, Airman's Guide, Approach Procedures, maps, etc. These items must be either the official Government publication, or from some recognized and approved source.

(e) (Types of approaches covered by this waiver will be listed.)

II. *Weather minimums*

(a) Authorization is limited to the lowest ceiling and visibility minimums meeting the obstruction clearance criteria, but in no case lower than the minimums to which the pilot has demonstrated competency.

(b) No instrument approach to an airport shall be started where the reported ceiling and/or visibility is below those published in Regulations of the Administrator, Part 609 unless the pilot in command has the latest air carrier information for the airport to which the approach is being made.

III. *ILS minimums.*

ILS minimums above apply only when it has been determined that all units of the ILS, both ground and airborne, are fully functioning and only when the landing can be made straight-in on the designated ILS runway following an ILS standard approach procedure for that airport. Circling is permitted only when existing weather is at or above regular minimums. When the use of automatic approach equipment for ILS is desired, the Special Provision should read as follows:

ILS minimums above apply only when it has been determined that all units of the ILS, both ground and airborne, are fully functioning and only when the landing can be made straight-in on the designated ILS runway using the Sperry A–12 automatic approach equipment throughout the ILS standard approach procedure for that airport. Circling approach is permitted only when the existing weather is at or above regular minimums.

IV. *Radio equipment*

No ILS approaches shall be executed unless the airborne equipment is type certificated and has been calibrated within the last 120 days to the standards prescribed by the Radio Technical Committee for Aeronautics. Where instrument approaches are made, using visual courses of VHF range or instrument landing system facilities, descent below the approved

initial approach altitude is not authorized unless the airborne equipment utilized for the reception of navigational signals is equipped with an approved device to automatically indicate failure or malfunctioning of the system.

V. *Pilots and copilots*

This certificate is valid only when the members of the flight crew are properly certificated. Type rating will also be required for the pilot in command of aircraft certificated for a maximum takeoff weight of 12,500 pounds or more. In addition, the pilot in command shall have successfully accomplished an instrument competency check within the preceding 6 months on the same category and class (and type if over 12,500 lbs.) equipment to be flown, using minimums granted in the waiver. In aircraft over 12,500 pounds, when the aircraft specifications require a copilot, both the pilot in command and the copilot shall have accomplished an equipment check on the aircraft being flown.

VI. *Aircraft*

This certificate is valid only for the operation of the following aircraft: (List pertinent information.)

Aircraft make and model.
Registration number.
Registered owner's name and address.

VII. *Weather report*

No instrument approach procedure shall be executed, or landing made, when the latest U. S. Weather Bureau report for that airport indicates the ceiling or visibility is less than that prescribed in Special Provisions.

VIII. *Checklists*

When operating under the terms of this certificate, a cockpit checklist acceptable to the Administrator shall be appropriately used by physical reference by the flight crews on each flight.

IX. *Training*

An adequate training program must be provided by the holder of this certificate of waiver. Such training program must provide for at least two instrument approaches, actual or hooded, every 30-day period on each type of approach approved, using the facilities at and of the airports covered by this authorization. These approaches shall be flown down to the minimums granted in this certificate of waiver. Approaches made to the minimum granted during the course of regular trips can be counted in meeting these minimum training program requirements.

X. *List of pilots*

(Pilots will be listed by name, certificate number, and ratings.)

U. S. GOVERNMENT PRINTING OFFICE: 1961 O—595003

Air Traffic Rules

General

60.1–1 *Conditions for issuance of a certificate of waiver (FAA policies which apply to sec. 60.1 (b)).*

(a) *General.* A Certificate of Waiver or Authorization, Form FAA–663, will be issued to authorize noncompliance with any section of this part for a special flight operation when the operation can be conducted under the terms and conditions of a certificate which will provide a reasonable degree of safety to other air traffic and to persons and property on the ground. Deviations from the following sections of this part for special flight operations are considered routine and generally require the approval of only the local Bureau of Flight Standards Inspector:

(1) Section 60.16 *Acrobatic flight.*
(2) Section 60.17 *Minimum safe altitudes.*
(3) Section 60.18 *Operation on and in the vicinity of an airport.*
(4) Section 60.23 *Aircraft lights.*

Deviations from other sections of this part are normally not considered routine and may require consideration and approval of authority higher than the local Bureau of Flight Standards Inspector. The application for deviations should be submitted sufficiently in advance of the contemplated operation to allow time for the approval procedure to be completed. Normally, 10 days is sufficient advance time to complete the approval procedure for issuance of a certificate of waiver, but requests for deviation from sections not listed above may require a longer period of time.

(b) *Application for waiver.* An applicant for a Certificate of Waiver or Authorization for any special flight operation should comply with the following Procedure:

(1) Obtain three copies of an Application for Certificate of Waiver, Form FAA–400 (see pages 51 and 52) from the local Bureau of Flight Standards District Office.[1]

(2) Fill out copies of the application, as follows:

(i) Type or print in ink.

(ii) Give complete information on all applicable items 1 through 13.

(iii) In item 1, fill in complete name and name of company, if operations has a company name, e. g., John B. Jones d/b/a Jones Dusting Service.

(iv) List, under item 3, all sections of this Part for which a waiver is requested.

(v) Sign all copies of the completed application on the reverse side in the space provided for the applicant's signature.

(3) Submit all copies of the application to the local Bureau of Flight Standards Inspector.

(4) Arrange with the local Bureau of Flight Standards Inspector for inspection of aircraft, aircraft records, personnel, etc., as appropriate for the operation involved.

(c) *Authorization.* The certificate will authorize noncompliance with only those sections of the Air Traffic Rules listed on the certificate. It will not relieve the holder from compliance with any State, or local law or ordinance which may apply to the operation, or from obtaining prior permission from owners over whose property the operation may be conducted.

(d) *Duration.* The certificate will contain an expiration date to allow ample time for completion of the operation, not to exceed 1 year. It may be surrendered by the holder or cancelled by the Administrator at any time for noncompliance with provisions of the Certificate of Waiver or Authorization, for operation in a careless or reckless manner, or at any time a need no longer exists for the certificate.

(e) *Special provisions.* The certificate will contain such special provisions or conditions as

[1] See Appendix A.

the approving inspector may deem necessary in the interest of safety or appropriate to good operating practices.

In addition, specific instructions or precautions will be required where they are deemed necessary to insure safety during the use of special equipment, or are necessary for the particular areas or types of operation involved.

(f) *Operation outside the United States.* A Certificate of Waiver or Authorization is valid only within the continental limits of the United States, its Territories and possessions. It is the responsibility of the holder to obtain prior clearance from the foreign country for operation within that country.

(Published in 20 F. R. 2513, Apr. 16, 1955, effective Apr. 15, 1955.)

60.1–2 *Certificate of waiver or authorization for aerial application and industrial operations (FAA policies which apply to sec. 60.1 (b)).* Operators or individuals engaging in agricultural (aerial application operations) or in industrial operations [2] may obtain a certificate of waiver or authorization, when such operations involve noncompliance with provisions of this part. However, private pilots will be issued such certificate of waiver or authorization only if the operation is to be conducted over his own property, when such property is located in a noncongested area, and subject to the conditions listed in section 60.1–2 (a). Application for a certificate of waiver or authorization should be made in accordance with section 60.1–1 (b).

(a) *Aerial application and industrial operations over other than congested areas.*

(1) *Conditions of waiver.* A certificate of waiver or authorization issued to operators or individuals to permit aerial application and industrial operations in a noncongested area will contain the following conditions:

(i) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and shall give way to, other aircraft in the pattern.

(ii) *Operations on and in the vicinity of an airport.* Notwithstanding the waiver of section 60.18, when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(iii) *Pilot qualifications.* Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating, except that a private pilot may be issued a waiver if the operation will be conducted over his own property and he meets the flight experience and skill requirements of a commercial pilot.

(iv) *Record of pilots and aircraft used.* The holder of this waiver shall establish and maintain at the home base a current list of pilots and aircraft authorized under the terms of this certificate of waiver.

(2) *Operations before sunrise and after sunset.* When early morning and late evening aerial application operations are to be conducted without navigation lights, the following special provisions will apply:

(i) Prominent unlighted objects must be visible for a distance of 3 miles.

(ii) All flights are to be restricted to local areas where the dusting or spraying is to be performed.

(iii) Landings and takeoffs being made at uncontrolled airports must have the prior consent of the airport manager.

(iv) Takeoffs and landings shall not be conducted when other types of operations which require position lights are in progress.

(v) Clearance from Air Traffic Control must be obtained before taking off and landing at controlled airports.

(vi) No other aerial applicator aircraft is to be operated in the immediate area.

(b) *Aerial application operations over congested areas.* A certificate of waiver or authorization issued to operators to permit aerial application over congested areas will contain the

[2] When practicable, aircraft should be plainly marked "survey," "patrol," etc., appropriate to the operation conducted. See appendix B for list of various types of operations.

FEDERAL AVIATION AGENCY

APPLICATION FOR CERTIFICATE OF WAIVER

FORM APPROVED
BUDGET BUREAU NO. 04-R078

APPLICANTS—DO NOT USE THESE SPACES

REGION NO.	DATE

ACTION

☐ APPROVED ☐ DISAPPROVED *(Explain under "Remarks")*

SIGNATURE OF AUTHORIZED FAA REPRESENTATIVE

To: FEDERAL AVIATION AGENCY.

INSTRUCTIONS

Submit this application in triplicate (3) to your local FAA General Aviation District Office.

Applicants requesting a Certificate of Waiver for an air meet will complete all items and certification on this form and will attach a properly marked map or diagram of the operations area. This map or diagram must be to scale, and distances must be shown. It must include race courses, obstructions, grandstands; congested areas, parking areas, dead lines, police stations; ambulance, fire-truck, crash-wagon, and control stations.

Applicants requesting a Certificate of Waiver, for activities other than an air meet, will complete items 1 through 7 only and the certification on the reverse.

1. NAME (FIRST, MIDDLE, AND LAST)

2. PERMANENT MAILING ADDRESS	HOUSE NUMBER AND STREET, OR ROUTE NUMBER	POST OFFICE	STATE	TELEPHONE

3. TO AUTHORIZE NONOBSERVANCE OF CIVIL AIR REGULATIONS, SECTION (INDICATE SECTIONS WHICH PROHIBIT PROPOSED OPERATION)

4. IN PERFORMANCE OF (DESCRIBE PROPOSED OPERATION AND PURPOSE THEREOF IN DETAIL)

(IF NECESSARY, ATTACH SUPPLEMENT TO CONTINUE)

5. AREA OF OPERATION

6. FOR THE PERIOD OF—				BEGINNING *(Date)*	ENDING *(Date)*	BETWEEN THE HOURS OF—
HOURS	DAYS	WEEKS	MONTHS			

7. AIRCRAFT MAKE AND MODEL	IDENTIFICATION MARK	OWNER	ADDRESS (STREET, CITY, STATE)

WHILE BEING FLOWN BY THE FOLLOWING PILOTS:

NAME	ADDRESS (STREET, CITY, STATE)	CERTIFICATE NUMBER AND RATING

Form FAA-400 (1-48)

Sample Form FAA–400, Application for Certificate of Waiver.

8. THE AIR MEET WILL BE SPONSORED BY—

9. PERMANENT MAILING ADDRESS	HOUSE NUMBER AND STREET OR ROUTE NUMBER	POST OFFICE	CITY	STATE

10. POLICING (WHAT PROVISION WILL BE MADE FOR POLICING THE MEET?)

11. EMERGENCY FACILITIES

☐ PHYSICIAN ☐ AMBULANCE ☐ FIRE TRUCK ☐ CRASH WAGON

☐ OTHER (*Specify*) _____

12. AIR TRAFFIC CONTROL (DESCRIBE METHOD OF CONTROLLING TRAFFIC, INCLUDING PROVISION FOR ARRIVAL AND DEPARTURE OF SCHEDULED AIRCRAFT)

13. SCHEDULE OF EVENTS (INCLUDE ARRIVAL AND DEPARTURE OF SCHEDULED AIRCRAFT AND OTHER OPEN PORT PERIODS; UNFORESEEN CHANGES AND REVISIONS TO BE SUBJECT TO APPROVAL OF LOCAL INSPECTOR)

HOUR	DATE	EVENT	PILOT RATING

(If sufficient space is not available, the entire schedule of events may be submitted on separate sheets, in the order and manner indicated above.)

The undersigned applicant accepts full responsibility for the strict observance of the terms of the Certificate of Waiver, and understands that the authorization contained in such certificate will be strictly limited to the above-described operations.

I CERTIFY that the foregoing statements are true.

_____ (DATE) _____ (SIGNATURE OF APPLICANT)

REMARKS:

Form FAA-400 (1-48)

Sample Form FAA–400, Application for Certificate of Waiver (reverse).

following conditions, appropriate to the particular operations:

(1) *Aircraft airworthiness.* No aircraft shall be operated except in accordance with the operating limitations prescribed for the aircraft. Certificated aircraft whose operating limitations state that the aircraft is not eligible for a waiver under section 8.31 cannot be used.

(2) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and give way to, other aircraft in the pattern.

(3) *Operations on and in the vicinity of an airport.*

(i) Notwithstanding the waiver of section 60.18 when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(ii) *Two-way radio.* No swath runs or turnarounds shall be flown within a mile of the boundary of an airport having an operating control tower unless the aircraft is equipped with a functioning two-way radio capable of communicating with the appropriate airport traffic control tower. Prior to entering such an area, the pilot of the aircraft shall notify the control tower of his proposed operation and thereafter he shall maintain a continuous listening watch on the appropriate radio frequency of such tower to receive any pertinent air traffic control information or instructions which may be issued.

(4) *Operations.* Notwithstanding the waiver of the area operating limitations of section 8.31, the operator shall comply with the following operating limitations in addition to those prescribed in special provisions (1) through (3) above:

(i) Prior to commencing any spraying or dusting operation over a congested area the operator shall:

(*a*) Contact an inspector of the FAA district in the area involved or the Bureau of Flight Standards Inspector responsible for the operation to present this waiver. The inspector will be apprised in detail of the intended operation. Written clearance must be obtained for the proposed operation from an inspector;

(*b*) Submit a written statement from the appropriate officials of the political subdivision of the area involved that such operation is in the public interest and is authorized by such officials; and

(*c*) Give public notice of the operation to the persons residing in such area by an appropriate notice in a local daily newspaper; if there is no local newspaper, other equivalent publicity media shall be used.

(ii) *Aircraft.* No aircraft other than those listed in the application for this waiver shall be used.

(iii) *Single-engine aircraft.* Single-engine aircraft shall not take off nor make turnarounds over congested areas. Swath runs may be flown over congested areas if they are traversed in a manner so that at all times the aircraft, in the event of an emergency, can land without jeopardy to persons or property on the ground. However, before the operation can start, the operator must present satisfactory evidence to the inspector that he can comply with the above.

(iv) *Equipment—Emergency load-dumping equipment.* All aircraft shall be equipped with operational nonleaking emergency dump valves having not greater than a 10 to 1 ratio between the total tank capacity in gallons and the cross sectional area of the dump valves in square inches.

Such emergency systems shall have vents that satisfy the formulated dump ratio, and be so installed as to prevent blowback into the fuselage area, or spillage in normal flight conditions.

$$\text{Vent size in sq. in.} = \frac{\text{the dump rate in GPM}}{150}$$

(v) *Daily aircraft inspections.*

(*a*) The pilot-in-command of the aircraft or a certificated A and P mechanic will conduct a thorough visual inspection of the

aircraft and its components for general safe flight operations, its chemical-carrying and dispensing equipment, and make a functional check of all controls, powerplants, propellers, instruments, and emergency-dumping equipment to determine that the aircraft is in condition for safe flight operations prior to commencing each day's operation.

(*b*) The person making this inspection shall record the results of his inspection in the permanent aircraft records, stating whether or not the aircraft and equipment is in condition for safe flight operations, and sign his name, placing date and certificate number after this entry.

(vi) *Operations procedures.* Prior to commencing any spraying or dusting operation, the operator shall prepare, and secure the issuing inspector's approval of, an overall basic operational procedure for the use and guidance of the flight crews. Such procedure shall include basic emergency situations which may occur during the spraying or dusting operations. The flight crews shall be trained in the use of such procedures and shall utilize them under the appropriate circumstances.

(vii) *Pilot qualifications.*

(*a*) *Certificate and rating.*

(*1*) Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating. In the case of aircraft exceeding 12,500 lbs. maximum certificate weight, he shall also hold a type rating for the aircraft.

(*2*) No pilots will be used except those listed in the application for certificate of waiver.

(*b*) *Experience.* In addition to the requirements of subparagraph (*1*) above, each pilot shall meet the following experience requirements:

(*1*) *Single-engine aircraft.* Each pilot-in-command shall have logged at least 100 hours as pilot-in-command of aircraft engaged in aerial application, and have at least 25 hours as pilot-in-command in the type of aircraft to be used.

(*2*) *Multiengine aircraft.* Each pilot-in-command shall have logged at least 100 hours of pilot-in-command time in multiengine aircraft which shall include 100 hours as pilot-in-command in aircraft engaged in aerial application. In lieu of the 100 hours of aerial application experience such pilot may substitute an additional 25 hours of pilot-in-command time on the type of aircraft to be used and at least 5 hours of dual flight instructions as pilot in actual or simulated aerial application in the type of aircraft to be used.

(viii) *Weight and balance data for all multiengine aircraft.*

(*a*) Current weight and balance data shall be provided for each multiengine aircraft used. Such data shall include:

(*1*) Basic empty weight of the aircraft, including chemical-dispensing equipment, the residual oil and fuel tanks empty;

(*2*) Maintenance of a continuous and current record of all changes affecting the basic weight and c. g. of the aircraft; and

(*3*) A means of determining various operating gross weights and corresponding c. g. ranges of the aircraft for all operating weights authorized.

(ix) *Gross weight limitations over congested areas.*

(*a*) The gross weight limitations imposed by the FAA on multiengine and large single-engine aircraft for operations over congested areas will not be exceeded.

(*b*) Only those single-engine aircraft which can operate at a weight which will permit the aircraft to climb at a rate of at least 300 feet per minute under existing conditions will be authorized by the inspector in the area involved to operate over the congested areas.

(c) *Industrial operations*[3] *over congested areas.* A certificate of waiver or authorization issued to operators to permit industrial operations over congested areas will contain the following conditions, appropriate to the particular operation:

(1) *Aircraft airworthiness.* No aircraft shall be operated except in accordance with the operating limitations prescribed for the aircraft. Certificated aircraft whose operating limitations state that the aircraft is not eligible for a waiver under section 8.31 cannot be used.

[3] A waiver will not be issued for a photographic operation when it can be satisfactorily accomplished by the use of a telescopic lens at the altitude required by Part 60 or by the use of a telescopic lens while flying over sparsely populated areas.

(2) *Right-of-way rules.* Operations shall be conducted in accordance with the right-of-way rules of Part 60, except that any operation conducted under a waiver authorizing a deviation from the traffic pattern for an airport shall remain clear of, and give way to other aircraft in the pattern.

(3) *Operations on and in the vicinity of an airport.*

(i) Notwithstanding the waiver of section 60.18 when operating on or near an airport within a control zone, the operator of the aircraft shall give prior notice of the proposed operations to Air Traffic Control; operations on or near a military airport shall be coordinated with the appropriate military authority; and, when operating on or near other airports, prior written permission shall be obtained from the authorized official of the airport for any deviation from the traffic pattern for the airport.

(ii) *Two-way radio.* The aircraft will not be operated within a mile of the boundary of an airport having an operating control tower unless the aircraft is equipped with a functioning two-way radio capable of communicating with the appropriate airport traffic control tower. Prior to entering such an area, the pilot of the aircraft shall notify the control tower of his proposed operation and thereafter he shall maintain a continuous listening watch on the appropriate radio frequency of such tower to receive any pertinent air traffic control information or instructions which may be issued.

(4) *Operations.* Notwithstanding the waiver of the area operating limitations of section 8.31, the operator shall comply with the following operating limitations in addition to those prescribed in special provisions (1) through (3) above:

(i) Prior to commencing any industrial operation over a congested area the operator shall:

(*a*) Contact an inspector of the FAA district in the area involved or the Bureau of Flight Standards Inspector responsible for the operation to present this waiver. The Bureau of Flight Standards Inspector will be apprised in detail of the intended operation. Written clearance must be obtained for the proposed operation from an inspector;

(*b*) Submit a written statement from the appropriate officials of the political subdivision of the area involved that such operation is in the public interest and is authorized by such officials; and

(*c*) Give public notice of the operation to the persons residing in such area by an appropriate notice in a local daily newspaper; if there is no local newspaper, other equivalent publicity media shall be used.

(ii) *Aircraft.* No aircraft other than those listed in the application for this waiver shall be used.

(iii) *Single-engine aircraft.* Single-engine aircraft shall not take off over congested areas. They may be flown over congested areas if they are traversed in a manner so that at all times the aircraft, in the event of an emergency, can land without jeopardy to persons or property on the ground. However, before the operation can start, the operator must present satisfactory evidence to the inspector that he can comply with the above.

(iv) *Daily aircraft inspections.*

(*a*) The pilot-in-command of the aircraft or a certificated A and P mechanic will conduct a thorough visual inspection of the aircraft and its components for general safe flight operations, and make a functional check of controls, powerplants, propellers, and instruments to determine that the aircraft is in condition for safe flight operations prior to commencing each day's operation.

(*b*) The person making this inspection shall record the results of his inspection in the aircraft's permanent records, stating whether or not the aircraft and equipment is in condition for safe flight operations, and sign his name, placing date and certificate number after this entry.

(v) *Operations procedures.* Prior to commencing any operation, the operator shall prepare, and secure the issuing inspector's approval of, an overall basic operational procedure for the use and guidance of the flight crews. Such procedure shall include basic emergency situations which may occur. The flight crews shall be trained in the use of such procedures and shall utilize them under the appropriate circumstances.

(vi) *Pilot qualifications.*

(*a*) *Certificate and rating.*

(*1*) Each pilot-in-command shall hold at least a commercial pilot certificate with the appropriate category and class rating. In the case of aircraft exceeding 12,500 lbs. maximum certificate weight, he shall also hold a type rating for the aircraft.

(*2*) No pilots will be used except those listed in the application for certificate of waiver.

(vii) *Weight and balance data for all multiengine aircraft.*

(*a*) Current weight and balance data shall be provided for each multiengine aircraft used. Such data shall include:

(*1*) Basic empty weight of the aircraft, including permanent special equipment, the residual oil and fuel tanks empty.

(*2*) Maintenance of a continuous and current record of all changes affecting the basic weight and c. g. of the aircraft; and

(*3*) A means of determining various operating gross weights and corresponding c. g. ranges of the aircraft for all operating weights authorized.

(viii) *Gross weight limitations over congested areas.*

(*a*) The gross weight limitations imposed by the FAA on multiengine and large single-engine aircraft for operations over congested areas will not be exceeded.

(*b*) Only those single-engine aircraft which can operate at a weight which will permit the aircraft to climb at a rate of at least 300 feet per minute under existing conditions will be authorized by the inspector in the area involved to operate over congested areas.

(Published in 20 F. R. 2513, Apr. 16, 1955, effective Apr. 15, 1955; amended in 22 F. R. 2312-14, Apr. 6, 1957, effective Apr. 6, 1957.)

60.1-3 *Certificate of waiver for an air show, meet, race, etc. (FAA policies which apply to sec. 60.1 (b)).* A Certificate of Waiver or Authorization is issued only when the air show, meet, race, or other aeronautical demonstration can be conducted in a manner which will not subject spectators and other nonparticipating persons or property in the air or on the ground to aircraft hazards. The certificate is issued to the person or persons directly in charge of the conduct of the show and who are responsible for compliance with all applicable portions of the waiver.

All acrobatics as well as other potentially hazardous acts are to be conducted at a distance of not less than 500 feet from the grandstand or spectators. Such acts may be required to be performed at greater distances when the experience of the pilot, the terrain, location, or type of act require a greater distance for reasons of safety. Applicants for a specific act may be required to demonstrate the act, or maneuvers, to the satisfaction of the agent issuing the certificate, so that a proper determination of the safe distance from the grandstand or spectators can be made.

Where a demonstration is required, it will conform as closely as possible to the act which will be performed at the air show. Demonstration of normal flying acts which do not constitute a potential hazard are not usually required.

The demonstration of an act may be waived when a performer has been actively engaged in performing at air shows during the previous year and can present evidence of previous authorization. This may be a copy of the most recent certificate of waiver issued by the FAA which indicates the names of the performers and the minimum distances authorized, or it may be a letter from an inspector who authorized the most recent performance of the act.

Acrobatic flights are expected to be under direct control provided by the holder of the certificate of waiver. The method of communication should insure that the pilot can be informed of any hazardous situation which may occur during the flight, or informed that the air show or his act has been stopped.

The Certificate of Waiver or Authorization may contain any or all of the following provisions:

(a) All acts shall be approved in writing by the local inspector before they may be performed.

(b) Participants in a specific act shall, if required by the local inspector, demonstrate competency to perform the act prior to approval.

(c) First-aid and fire-fighting equipment shall be immediately available at the location of the demonstration.

(d) Provisions shall be made for control of spectators.

(e) The applicant shall establish a central operations point from which activities will be directed, and he or his representatives shall be immediately available at this point during activities.

(f) The applicant shall provide means to advise all participants that an activity has been halted.

(g) An activity shall be halted when unauthorized persons enter the operations area, or for any other reason in the interest of safety.

(h) No aircraft will be flown closer than (specified distance) horizontally to spectators.

(i) Acrobatics or inverted flight will not be demonstrated lower than (specified altitude).

(j) No object will be dropped from an aircraft if the object will land within (specified distance) from spectators.

(k) A closed field signal, readily seen from an altitude of 3,000 feet (large white "X"), shall be displayed on the landing area when the activities are in progress.

(l) A physical barrier shall be provided to confine spectators to designated areas.

(m) A deadline readily visible to the participants shall be provided to insure that aircraft will maintain the approved horizontal distance from the spectators.

(n) The holder shall notify the nearest FAA Flight Service Station of the date, time, place, nature, and duration of the operations and request that an appropriate Notice to Airmen be disseminated.

(o) The course and pylons for races shall be located and spaced to provide protection to persons and property on the ground.

(p) The holder shall, prior to beginning activities, submit to the approving agent a written statement, signed by all participants that they have read and understand the conditions of the certificate of waiver.

(q) All participants shall be briefed on special field rules, and the manner and order of events before beginning activities.

(r) Clearance for all participating pilots and aircraft shall be obtained from the approving inspector before beginning activities.

(s) All aircraft and special equipment shall be inspected prior to each day's operation.

(t) Any other special provisions which the approving inspector may deem necessary in the interest of safety.

(Published in 20 F. R. 2513, on Apr. 16, 1955, effective Apr. 15, 1955.)

60.2–1 *Emergency situation, report required within 48 hours (FAA policies which apply to sec. 60.2).* When a pilot has been involved in a situation for which a report must be submitted within 48 hours to the nearest regional office of the Administrator, he should describe the incident in detail and forward the report to the regional office [4] having jurisdiction over the area in which the incident occurred.

(Published in 20 F. R. 2514, on Apr. 16, 1955, effective Apr. 15, 1955.)

General Flight Rules (GFR)

60.13–1 *Appropriate authority (FAA interpretations which apply to sec. 60.13).*

(a) Appropriate authority to issue permission for aircraft operation within a Prohibited or Restricted Area will mean the "Using Agency" (Controlling Agency) as shown on radio facility charts and sectional and world aeronautical charts published by the U.S. Coast and Geodetic Survey.

(b) Application for permission to operate aircraft within a Prohibited or Restricted Area will be made to the "Using Agency" (Controlling Agency).

(c) Application for permission to operate within the Washington, D. C., prohibited area will be made to the Federal Aviation Agency, Bureau of Flight Standards, Washington 25, D.C.

(Published in 20 F. R. 5676 on Aug. 6, 1955, effective Sept. 1, 1955.)

60.16–1 *Issuance of a waiver or authorization (FAA policies which apply to sec. 60.16).*

(a) No Certificate of Waiver or Authorization will be issued for acrobatic flights over congested areas, cities, towns, settlements, or open air assembly of persons.

(b) A waiver may be issued for acrobatic flight within a civil airway premised on a satisfactory showing by the applicant that the flight or flights will be conducted at such altitudes, locations, and times as not to be a hazard to other traffic using the airway.

A waiver may be issued for acrobatic flight within a control zone only after concurrence of

[4] See appendix A.

the appropriate traffic control authority, and on a showing by the applicant that the flight or flights will be conducted at such altitudes, locations, and times as not to be a hazard to other known traffic. Any waiver issued for such flight will stipulate ceiling and visibility minimums to insure safety to air traffic.

(c) A Certificate of Waiver or Authorization for acrobatic flight under 1,500 feet altitude will be restricted to air meets, air shows, and related activities.

(d) The policies and procedures of section 60.1–1 apply to an application for a Certificate of Waiver or Authorization.

60.17–1 *Minimum en route instrument altitudes (FAA rules which apply to sec. 60.17 (d)).* Minimum en route instrument altitudes prescribed by the Administrator are published in Part 610 of Regulations of the Administrator.

(Published in 16 F. R. 7351, July 27, 1951, effective upon publication.)

60.18–1 Vacant.

60.18–2 *Right-turn indicators (FAA rules which apply to sec. 60.18 (a)).* (a) Daytime operations. The L-shaped marker described in this paragraph is approved as a standard visual marker which indicates that turns are to be made to the right.[5] The marker shall be prepared in such size and color, and located in such area, that when displayed between sunrise and sunset it will be readily visible to pilots using the airport. The marker shall be placed in such position that the short member of the L will show the direction of the traffic in the air, the long member of the L will point out the landing strip to be used, and the entire L will indicate the course of the turn to be executed by pilots using the landing strip.

(b) *Night-time operation.* A flashing amber light shall mean that a clockwise flow of traffic around the airport is required unless otherwise authorized by the control tower operator.

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T. July 14, 1951.)

60.18–3 *Light signals (FAA rules which apply to sec. 60.18 (e)).* Light signals used for the control of air traffic shall be of the color and shall mean the following:

Color and type of signal	On the ground	In flight
Steady green	Cleared for take-off.	Cleared to land.
Flashing green	Cleared to taxi	Return for landing (to be followed by steady green at proper time).
Steady red	Stop	Give way to other aircraft and continue circling.
Flashing red	Taxi clear of landing area (runway) in use.	Airport unsafe—do not land.
Flashing white	Return to starting point on airport.	
Alternating red and green.	General warning signal—exercise extreme caution.	

(Published in 16 F. R. 6829, July 17, 1951, effective 0001 A. S. T., July 14, 1951.)

60.18–4 *Traffic patterns for LaGuardia and Newark Airports (FAA rules which apply to sec. 60.18 (d)).* Operators of aircraft taking off from or landing at LaGuardia Airport, New York, or Newark Airport, N.J., shall adhere to the following traffic patterns and altitudes made a part thereof, unless otherwise authorized or directed by air traffic control:

(a) All aircraft shall be operated to follow a standard left-hand rectangular traffic pattern which, for each runway, is contained within a 5-mile radius of the center of the airport.

(b) Landing aircraft shall be operated so as to join the traffic pattern at or above an altitude of 1,200 feet mean sea level, weather permitting.

(Published in 16 F.R. 6829, July 17, 1951, effective 0001 A.S.T., July 14, 1951; amended in 25 F.R. 9846, October 14, 1960, effective October 15, 1960.)

60.18–5 *Traffic patterns for Anchorage Airport and Lake Hood-Lake Spenard Landing Area (FAA rules which apply to sec. 60.18 (d)).* Aircraft taking off from or landing at the Anchorage Airport or the Lake Hood-Lake Spenard Landing Area, shall adhere to the following traffic patterns and the altitudes made a part thereof, unless otherwise author-

[5] The L-shaped marker is applied to the Segmented Circle Airport Marker System in Technical Standard Order TSO-N5, available free of charge from Aeronautical Reference Branch, Washington 25, D.C.

ized by Air Traffic Control. The subject traffic patterns shall be contained within the air space described by a 5-mile horizontal radius of the Anchorage Airport and extending vertically to 2,000 feet mean sea level.

(a) *Anchorage Airport.*

(1) *General.*

(i) Traffic patterns at the Anchorage Airport shall be rectangular and, for each runway, the traffic pattern shall lie to the side of the runway opposite Lake Hood and Lake Spenard.

(ii) Light and heavy aircraft shall follow their respective patterns as indicated by the diagrams set forth below. The differentiation between light and heavy aircraft shall be:

(*a*) *Light aircraft.* Aircraft which normally use a final approach true air speed of 100 m. p. h. or less.

(*b*) *Heavy aircraft.* Aircraft which normally use a final approach true air speed greater than 100 m. p. h.

(2) *Takeoff.*

(i) *Aircraft remaining in the traffic pattern*—(*a*) *Runway 6 and 13.* Aircraft remaining in the traffic pattern shall execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level, and follow the rectangular patterns for runways 6 and 13 respectively.

(*b*) *Runway 24 and 31.* Aircraft remaining in the traffic pattern shall execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level and follow the rectangular patterns for runways 24 and 31 respectively.

(ii) *Departing aircraft.*

(*a*) *Runway 6 and 13.*

(*1*) *Light aircraft.* Execute a turn of 90° to the right at or before reaching 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the left.

(*2*) *Heavy aircraft.* Execute a turn of 45° to the right from the takeoff leg at or before reaching an altitude of 500 feet mean sea level.

(*b*) *Runway 24 and 31.*

(*1*) *Light aircraft.* Execute a turn of 90° to the left at or before reaching 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the right.

(*2*) *Heavy aircraft.* Execute a turn of 45° to the left from the takeoff leg at or before reaching an altitude of 500 feet mean sea level.

(3) *Traffic pattern entry.*

(i) *Light aircraft.* Enter the traffic pattern at an altitude of 900 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(ii) *Heavy Aircraft.* Enter the traffic pattern at an altitude of 1,400 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(4) *Landing.*

(i) *Light aircraft.* Aircraft shall be operated so as to enter the final approach at a distance of at least 1,000 feet from the approach end of the runway.

(ii) *Heavy aircraft.* Aircraft shall be operated so as to enter the final approach at a distance of at least 1,500 feet from the approach end of the runway.

(b) *Lake Hood-Lake Spenard Landing Area.*

(1) *Landing area.*

(i) *East or west wind.* The landing area shall be defined by the projection of the shore lines of the canal through Lake Spenard and a projection of the south shore line of the canal through Lake Hood and a parallel projection from Sea Airmotive Hangar extending to the west shore line of Lake Hood as shown by the diagrams set forth below.

(ii) *North or south wind.* The landing area shall be defined as the area extending 500 feet west of a line connecting the most northern and most southern points of the Lake Hood shore line as shown by the diagrams set forth below.

(2) *Traffic control.*

(i) Traffic control instructions issued by the Anchorage Tower to aircraft landing at or taking off from the Lake Hood-Lake Spenard Landing Area will be issued only with respect to existing traffic at the Anchorage Airport. Separation of surface traffic, therefore, will be the responsibility of the aircraft operator.

(ii) In the absence of an air traffic control facility at Lake Hood or Lake Spenard, aircraft shall be operated so as to conform to

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the taxiing routes as shown by the diagrams set forth below.

(3) *Traffic patterns.*

(i) *East or west takeoff or landing.* The traffic pattern shall lie to the side of the Lake Hood-Lake Spenard canal opposite the Anchorage Airport.

(ii) *North or south takeoff or landing.* The traffic pattern shall lie to the side of the east side of Lake Hood.

(4) *Limitations.*

(i) Only aircraft equipped with fully functioning two-way radio will be authorized to make a south takeoff from Lake Hood or to enter the traffic pattern for a north landing on Lake Hood.

(ii) No aircraft shall make a takeoff to the south from Lake Hood or enter traffic for a landing to the north at Lake Hood without having received a traffic clearance by radio from the Anchorage tower.

(iii) No aircraft shall enter the landing area in use while taxiing "on the step."

(5) *Takeoff.*

(i) A pilot shall not begin a takeoff run until he has determined that the landing area and the final approach are clear of traffic.

(ii) Aircraft remaining in the traffic pattern:

(*a*) *East or south takeoff.* Execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level, and follow the rectangular pattern for an east or south wind respectively.

(*b*) *West or north takeoff.* Execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level and follow the rectangular pattern for a west or north wind respectively.

(iii) Departing aircraft:

(*a*) *East takeoff.* Execute a turn of 90° to the left at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the right.

(*b*) *South takeoff.* Execute a turn of 180° to the left at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the downwind leg, execute a turn of 45° to the right.

(*c*) *West or north takeoff.* Execute a turn of 90° to the right at or before reaching an altitude of 500 feet mean sea level, and at the approximate midpoint of the initial crosswind leg, execute a turn of 45° to the left.

(6) *Landing.*

(i) *Traffic pattern entry.* Enter the traffic pattern at an altitude of 600 feet mean sea level and at an angle of 45° to the approximate midpoint of the downwind leg.

(7) *Taxiing route for takeoff.*

(i) *Taxiing for a west takeoff from Lake Spenard.* All aircraft maneuvering from parking areas in Lake Hood for a west takeoff from Lake Spenard shall follow a counter-clockwise flow of taxiing traffic in Lake Hood until the pilot has determined that the canal, landing approach, and landing area is clear of traffic, then proceed through the canal in an expeditious manner. All taxiing in Lake Spenard shall be confined to the area south of a projection of the north shore line of the canal.

(ii) *Taxiing for an east takeoff from Lake Hood.* Aircraft maneuvering from parking areas for an east takeoff from Lake Hood through the canal, shall follow a counter-clockwise flow of taxiing traffic in Lake Hood until the pilot has determined that the canal is clear of all taxiing traffic.

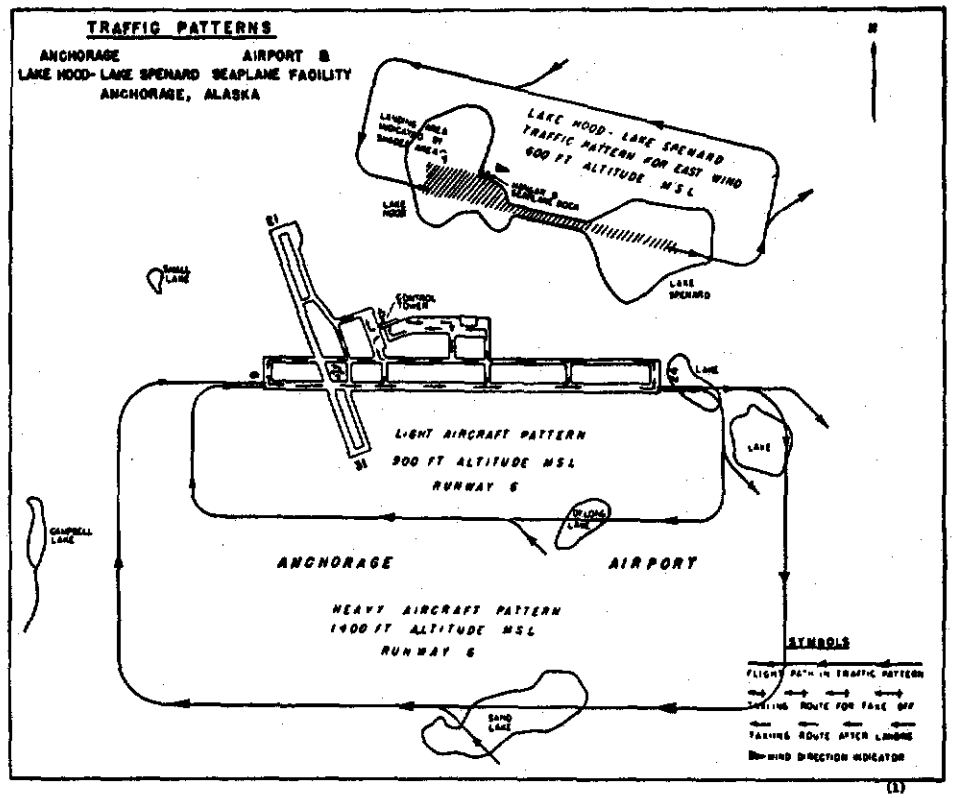
(iii) *Taxiing for a south takeoff from Lake Hood.* Aircraft maneuvering from parking areas for a south takeoff from Lake Hood shall follow a counter-clockwise flow of taxiing traffic in Lake Hood to a takeoff position near the north shore of Lake Hood.

(iv) *Taxiing for a north takeoff from Lake Hood.* Aircraft maneuvering from parking areas for a north takeoff from Lake Hood shall follow a clockwise flow of taxiing traffic in Lake Hood to a takeoff position near the south shore of Lake Hood.

(8) *Taxiing route following landing.*

(i) *Taxiing route after landing to the south on Lake Hood.* At the completion of the landing run, the aircraft shall be operated so as to join a counter-clockwise flow of traffic to the aircraft parking area.

(ii) *Taxiing route after landing to the north on Lake Hood.* At the completion of the landing run, the aircraft shall be operated so as to join a clockwise flow of traffic to the aircraft parking area.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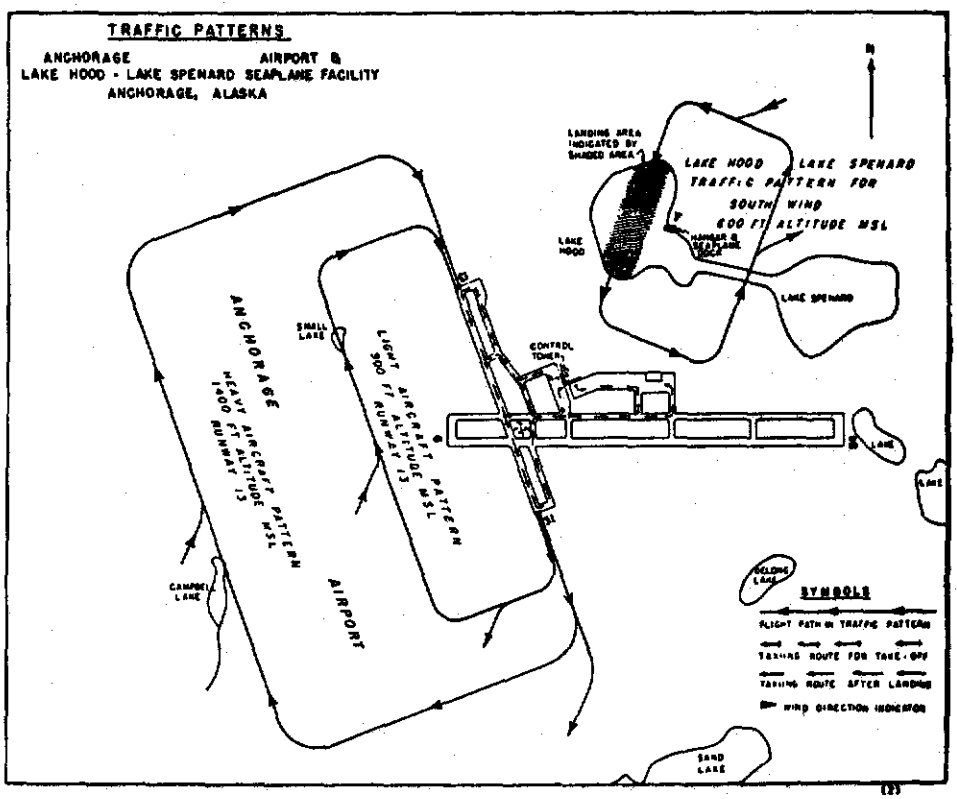
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LIGHT AIRCRAFT PATTERN
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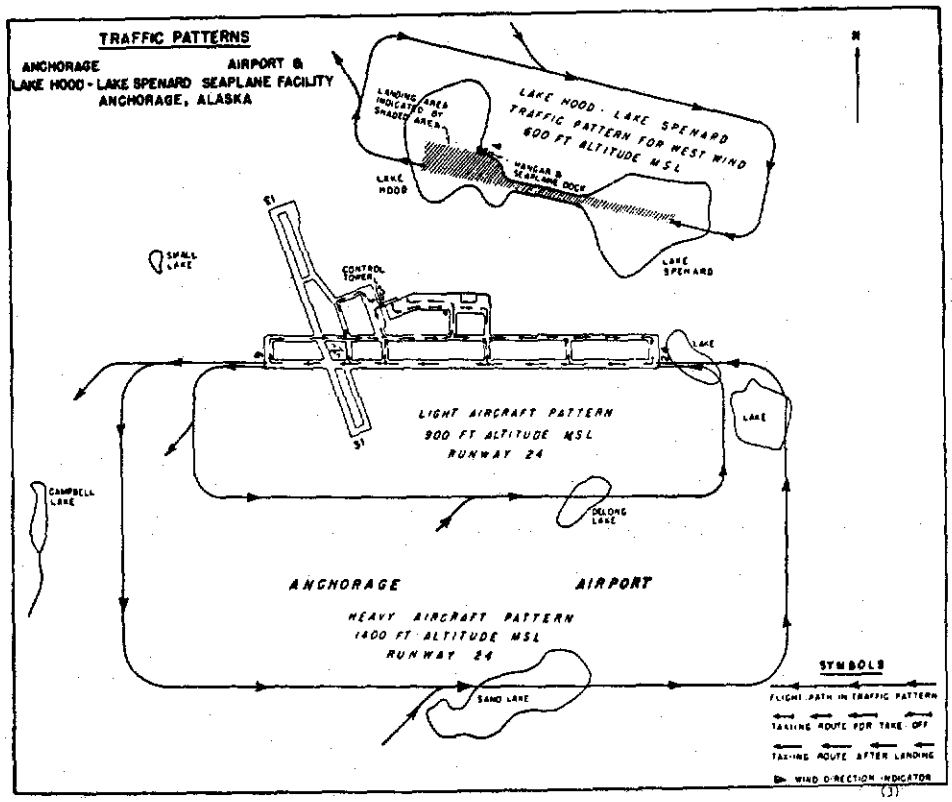
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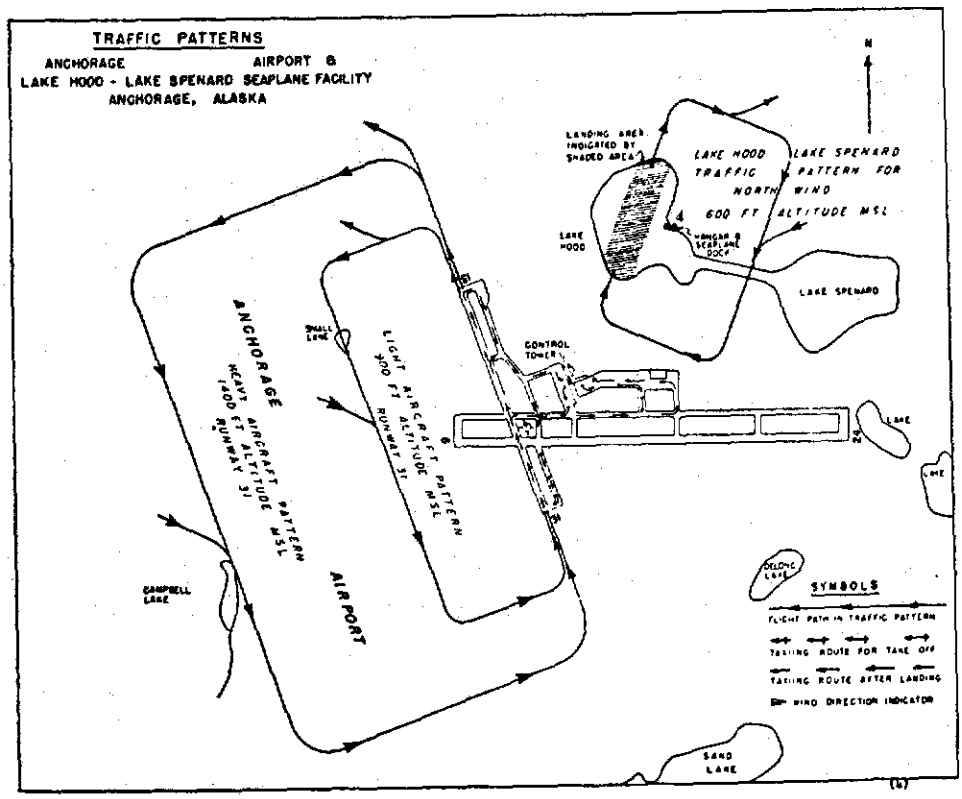
TRAFFIC PATTERNS
ANCHORAGE AIRPORT &
LAKE HOOD - LAKE SPENARD SEAPLANE FACILITY
ANCHORAGE, ALASKA
LANDING AREA INDICATED BY SHADED AREA
LAKE HOOD - LAKE SPENARD TRAFFIC PATTERN FOR NORTH WIND 600 FT ALTITUDE MSL
HANGAR & SEAPLANE DOCK
LAKE HOOD
LAKE SPENARD
SMALL LAKE
CONTROL TOWER
LIGHT AIRCRAFT PATTERN 900 FT ALTITUDE MSL RUNWAY 31
ANCHORAGE AIRPORT
HEAVY AIRCRAFT PATTERN 1400 FT ALTITUDE MSL RUNWAY 31
CAMPBELL LAKE
DELONG LAKE
SAND LAKE
SYMBOLS
FLIGHT PATH IN TRAFFIC PATTERN
TAXIING ROUTE FOR TAKE OFF
TAXIING ROUTE AFTER LANDING
WIND DIRECTION INDICATOR
(4)