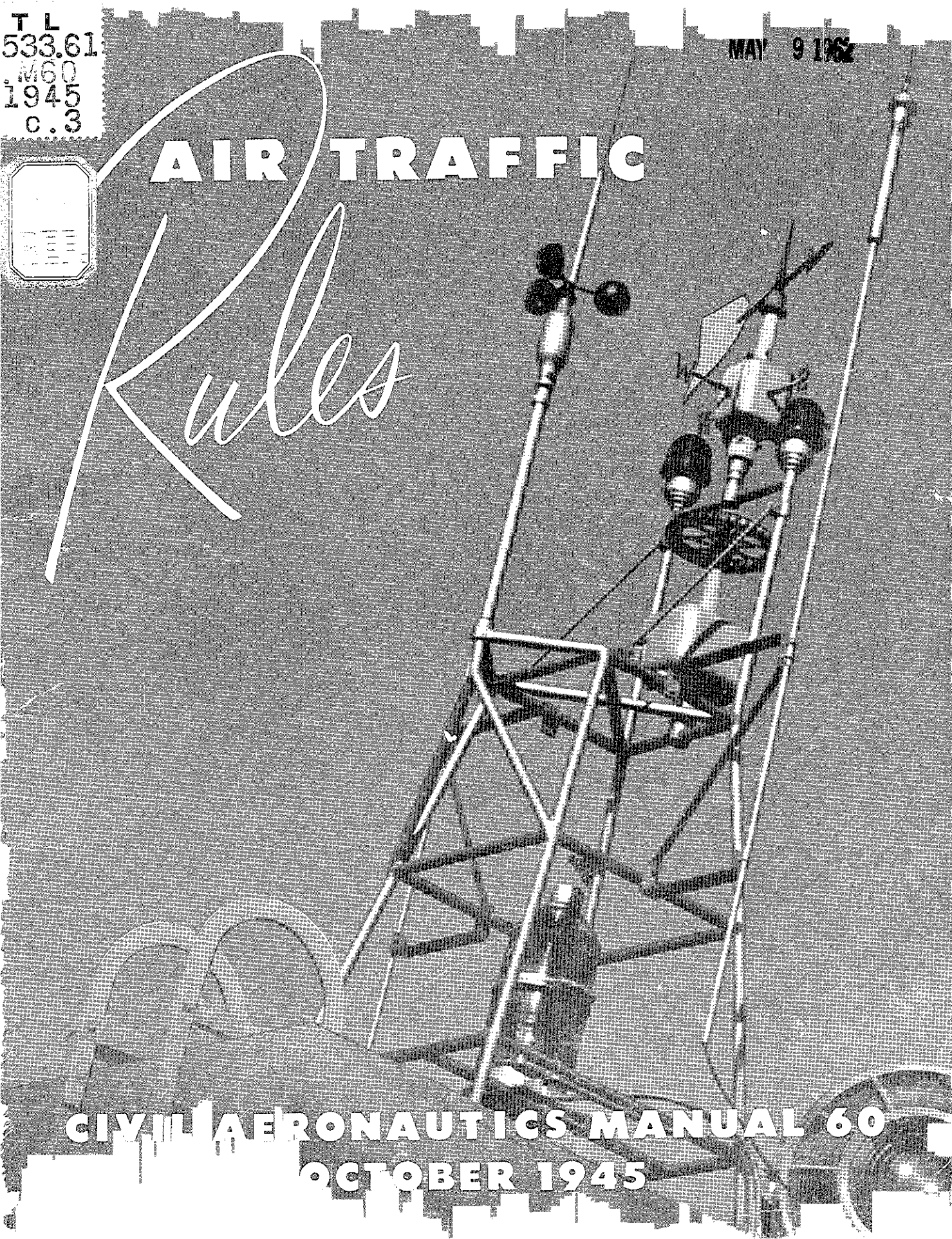
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AIR TRAFFIC Rules



CIVIL AERONAUTICS MANUAL 60

OCTOBER 1945

U. S. DEPARTMENT OF COMMERCE
HENRY A. WALLACE, Secretary

CIVIL AERONAUTICS ADMINISTRATION
T. P. WRIGHT, Administrator

AIR TRAFFIC RULES



October 1945

Civil Aeronautics Manual 60

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. Price 15 cents

Introductory Note

Manual 60 has been issued as a supplement to Part 60 of the Civil Air Regulations. This manual deals only with those sections of Part 60 which pertain directly to air traffic control. It outlines, in easily understandable form, the procedures and phraseologies for both airport and airway traffic control.

It should be understood that while the procedures and phraseologies in this manual are not regulations in themselves, they have been set up as recommended practices which will provide for safety in the operation of aircraft.

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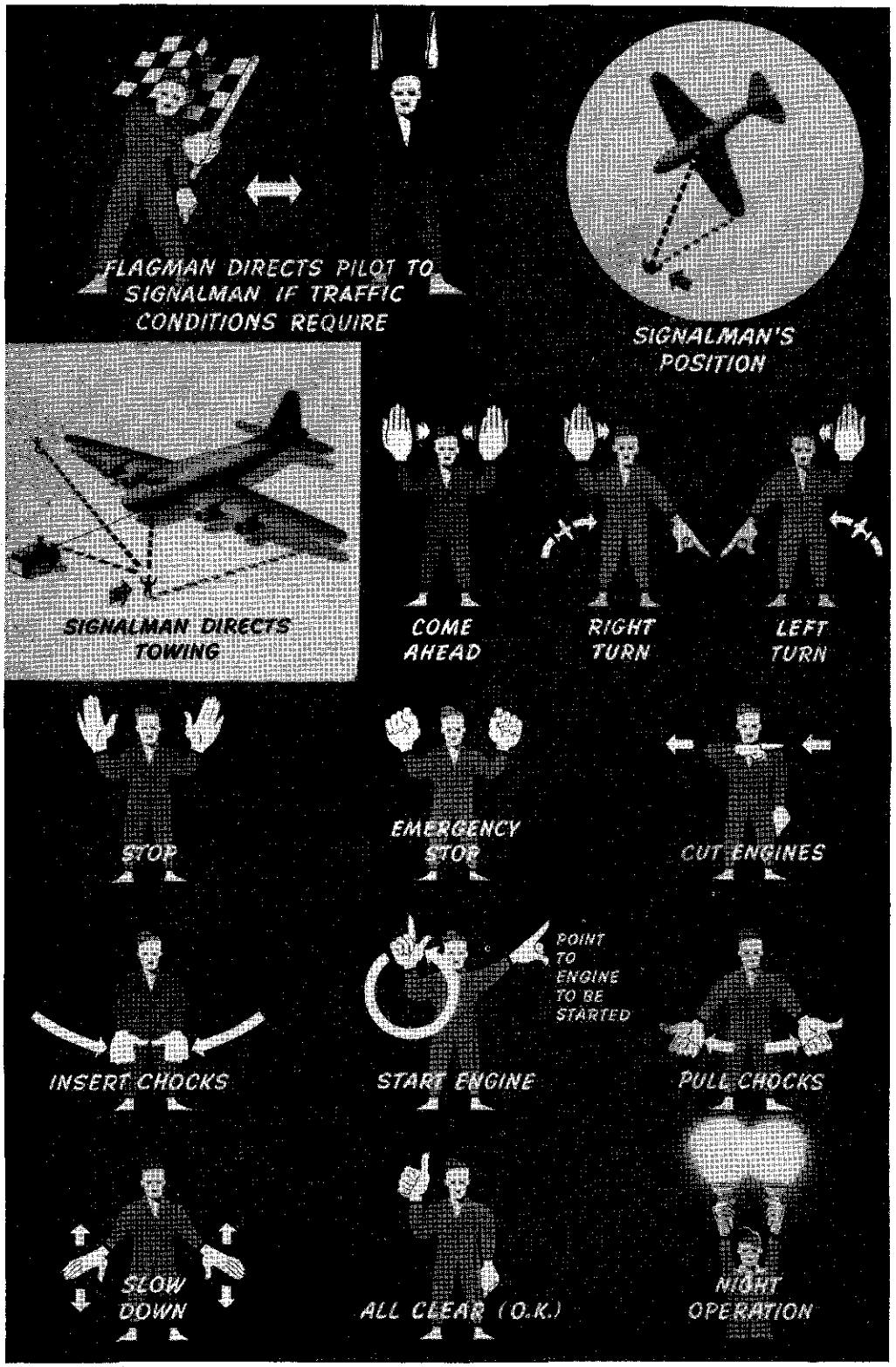
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Uniform System of Hand Signals

ERRATA

The following is to be substituted for text which appears on page 16 of Air Traffic Rules, Civil Aeronautics Manual 60.

Within Airport Traffic Zone.—Aircraft may be operated in an airport traffic zone at all altitudes if visibility is at least 3 miles and clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally. A control center or tower may approve flight within airport traffic zones at less than these minimums provided such flights remain "clear of clouds." (See Section III.)

Within Control Area.—Aircraft may be operated in a control area at altitudes above 700 feet if the visibility is at least 3 miles and clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally. A control center or tower may approve flight above 700 feet within control areas with 1 mile visibility but cloud separation minimums must be maintained. (See Section III.) Flight at altitudes below 700 feet may be conducted with visibility down to 1 mile and need only remain "clear of clouds" (no specified distance).

Within Airport Approach Zone.—Aircraft may be operated *at all altitudes* in an airport approach zone, outside airport traffic zones and control areas, with visibility down to 1 mile and if clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally. Within airport traffic zones and control areas aircraft may be operated in airport approach zones if clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally with visibility down to 1 mile at altitudes of 700 feet or less and with 3 or more miles visibility at altitudes above 700 feet. A control center or tower may approve flight at all altitudes in that portion of an airport approach zone which is in an *airport traffic zone* regardless of visibility provided such flights remain "clear of clouds." A control center or tower may approve flight above 700 feet in that portion of an airport approach zone which is in a *control area* with visibility down to 1 mile but cloud separation minimums must be maintained. Below 700 feet, 1-mile visibility is required and flight must be made "clear of clouds." (See Section III.)

Elsewhere.—Aircraft may be operated outside airport traffic zones, control areas, and airport approach zones at all altitudes if visibility is at least 1 mile. At altitudes of more than 700 feet above the surface, aircraft are required to remain at least 500 feet vertically and 2,000 feet horizontally from all clouds. Below 700 feet, aircraft must remain "clear of clouds."

Flight Altitudes

It is recommended that CFR flights operating at altitudes more than 700 feet above the surface be conducted at flight levels specified for IFR in Section III of this manual, except for such deviation as may be required for maintenance of minimum clearance from clouds.

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AIR TRAFFIC RULES

Section I—Airport Traffic Control

General

All aeronautical activities at any airport, or landing area, and all flying of aircraft departing from or arriving at an airport in the air space which constitutes an airport approach zone or airport traffic zone, shall be conducted in conformity with the current pertinent provisions of the Civil Air Regulations.

Pilots should bear in mind that they have the privilege of asking for a change in instructions if they believe another course of action will be safer than the one requested by an airport traffic control tower.

When flying in contact flight rule weather conditions, it is considered the direct responsibility of the pilot to avoid collision with other aircraft. Under such conditions, the information and instructions issued by the control tower are intended to aid pilots to the fullest extent in avoiding collisions. In this connection a clearance issued by a tower (such as "CLEARED TO LAND") by either radio or visual signal is permissive in nature and does not relieve the pilot from exercising a reasonable degree of caution in executing the provisions of the clearance. However, such clearances will not be issued unless, in the opinion of the tower, the anticipated action can be safely completed from a collision hazard standpoint *if reasonable caution is exercised by the pilot.*

Taxiing

No person should taxi an aircraft until he has ascertained through information furnished by airport attendants, or otherwise, that there will be no danger of collision with any person or object in the immediate area.

Aircraft not equipped with adequate brakes should not be taxied near buildings or parked aircraft unless an attendant is in a position near the aircraft to assist the pilot.

At airports where a control tower is in operation, it is the duty of a pilot to obtain clearance before taxiing onto or across any runway.

A uniform system of hand signals covering operation and movement of aircraft on the ground is illustrated on the opposite page.

Landing and Take-off

Pilots of aircraft shall not land or take off at a landing area, where an airport traffic control tower is in operation, contrary to instructions received by radio or visual signals from the tower. If a pilot does not receive either radio or visual signal from

the tower when approaching for a landing, he shall make at least one complete circle of the airport, conforming to the traffic pattern, and then start approach for a landing. The pilot should be on the alert for a signal from the tower and maintain a watch for other aircraft.

Aircraft approaching for a landing should, unless impracticable, maintain a straight approach course for the last 1,000 feet before crossing the airport boundary.

Landings and take-offs should be made on the runway most nearly aligned with the wind or, when winds are light, in the direction indicated by a controlled T or similar device unless otherwise authorized by an airport traffic control tower.

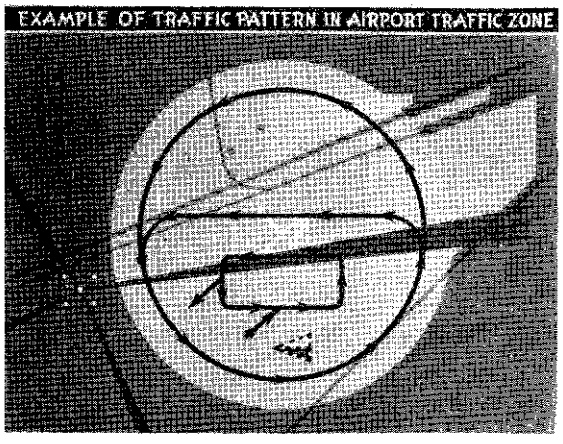
No turn should be made after take-off until the airport boundary has been reached and the pilot has attained an altitude of at least 500 feet and has ascertained that there will be no danger in turning into the path of a following aircraft, unless exceptions are authorized by an airport traffic control tower.

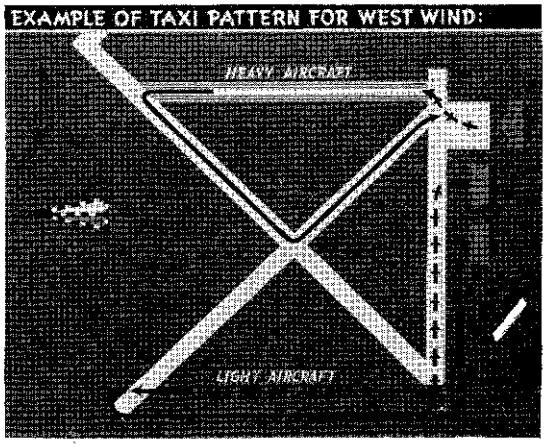
Aircraft departing from or arriving at a controlled airport will take precedence over other air traffic within the airport traffic zone of such airport.

Traffic and Taxi Patterns

Airport traffic control tower personnel are guided by certain standards in the control of air traffic to insure the orderly flow of traffic on the landing area and in the airspace surrounding the landing area. These standards take the form of definite patterns for the landing area concerned, and follow the same general pattern. Airport traffic controllers issue such specific instructions to individual aircraft as are necessary to insure that the aircraft generally follow the desired flight path (traffic patterns) when flying in the airport traffic zone and the proper taxi route (taxi pattern) when on the ground.

For uniformity of interpretation, the symbols illustrated below are used on all Civil Aeronautics Administration charts of traffic and taxi patterns.





taxi route for initial take-off

taxi route for series of landings

taxi route after final landing

flight path in traffic pattern

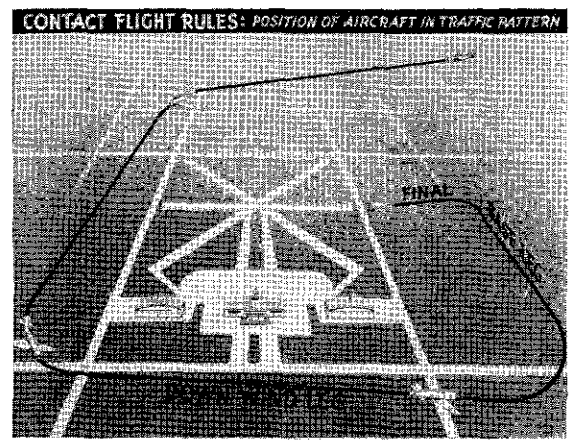
wind direction indicator

runway reserved for heavy craft

Traffic and taxi patterns are prepared by the Civil Aeronautics Administration in collaboration with local representatives of the airport management, military service air carriers, and any other aircraft operator concerned. The controller will base his instructions on these patterns to obtain the desired flow of traffic in the vicinity of the airport.

Itinerant pilots are not expected to be fully familiar with all the details of the traffic patterns at each individual airport, and every effort is made to eliminate instructions to itinerant aircraft which would require unusual procedures.

The following terminology for the portions of a visual approach to a landing has been adopted as standard for use by control towers and pilots:



1. Downwind leg—that portion of the approach parallel to but in the opposite direction to the landing.

2. Base leg—that portion of the approach at a right angle to the landing direction on the downwind side of the airport.

3. Final approach—that portion of the approach from the last turn into the landing direction until contact is made with the airport.

Light Signal Procedures for Airport Traffic Control

The following procedures are used by airport traffic control towers in the control of aircraft not equipped with radio. These same procedures will be used to control aircraft equipped with radio if radio contacts cannot be established.

(NOTE: It should be understood that pilots may proceed in a conventional manner if no signals are displayed.)

Airport traffic control personnel use a directive traffic control signal which emits an intense narrow beam of a selected color (either red or green) when controlling traffic by light signals. The normal range of the signal in good weather is 10 miles in daytime and 15 miles at night and is readily discernible to the pilot of any aircraft that is visible to the controller.

Although the traffic signal light offers the advantage that some control may be exercised over nonradio equipped aircraft, all pilots should be cognizant of the disadvantages which are:

1. The pilot may not be looking at the control tower at the time a signal is directed toward him.

2. The instructions transmitted by a light signal are very limited since only approval or disapproval of a pilot's anticipated actions may be transmitted. No

supplementary or explanatory information may be transmitted except by the use of the "General Warning Signal" which advises the pilot to be on the alert.

Aircraft In-bound

When an aircraft is in flight:

A green light from a directed traffic control light will mean, "CLEARED TO LAND."

A red light from a directed traffic control light will mean, "GIVE WAY TO OTHER AIRCRAFT AND CONTINUE CIRCLING."

A series of red flashes from a directed traffic control light will mean, "RETURN AND LAND."

(Light signal to indicate clearance to land must also be received when aircraft is in proper position.)

During the hours of darkness, a pilot wishing to land should turn on a landing light as he approaches the airport unless he has already been given a green light.

A series of flashes of a landing light by a pilot intending to land will mean—

(a) If the floodlight is on, the pilot wants it turned off.

(b) If the floodlight is off, the pilot wants it turned on.

Pilots should acknowledge light signals by rocking their wings during the hours of daylight or by blinking their landing lights during the hours of darkness.

Aircraft on the Airport

During the hours of darkness, a pilot wishing to attract the attention of the air traffic control tower operator should turn on a landing light and taxi the aircraft in position so that light is visible to the tower operator. The landing light should remain on until appropriate signals are received from the tower.

When a pilot is taxiing:

A red light from a directed traffic control light will mean, "STOP."

A series of red flashes from a directed traffic control light will mean, "TAXI BACK TO HANGAR LINE."

A series of green flashes from a directed traffic control light will mean, "CLEARED TO CONTINUE TAXIING."

When a pilot is in position for take-off:

A red light from a directed traffic control light will mean, "CLEAR THE RUNWAY IMMEDIATELY, AND WAIT."

A green light from a directed traffic control light will mean, "CLEARED FOR TAKE-OFF."

Pilots should acknowledge light signals by moving the ailerons or rudder during the hours of daylight or by blinking the landing lights during the hours of darkness.

General Warning Signal

A series of alternating red and green flashes from a directed traffic control light will be used as a general warning signal to advise a pilot to be on the alert for hazardous or unusual conditions.

Suspension of Contact Flight Rule Operations

During the hours of daylight the lighting of the rotating beacon will mean that flying in accordance with contact flight rules has been suspended. During the hours of darkness, flashing lights outlining the traffic direction indicator (tetrahedron, wind tee or other device) will mean that flying in accordance with contact flight rules has been suspended.

Clockwise (to the Right) Flow of Traffic in the Airport Zone

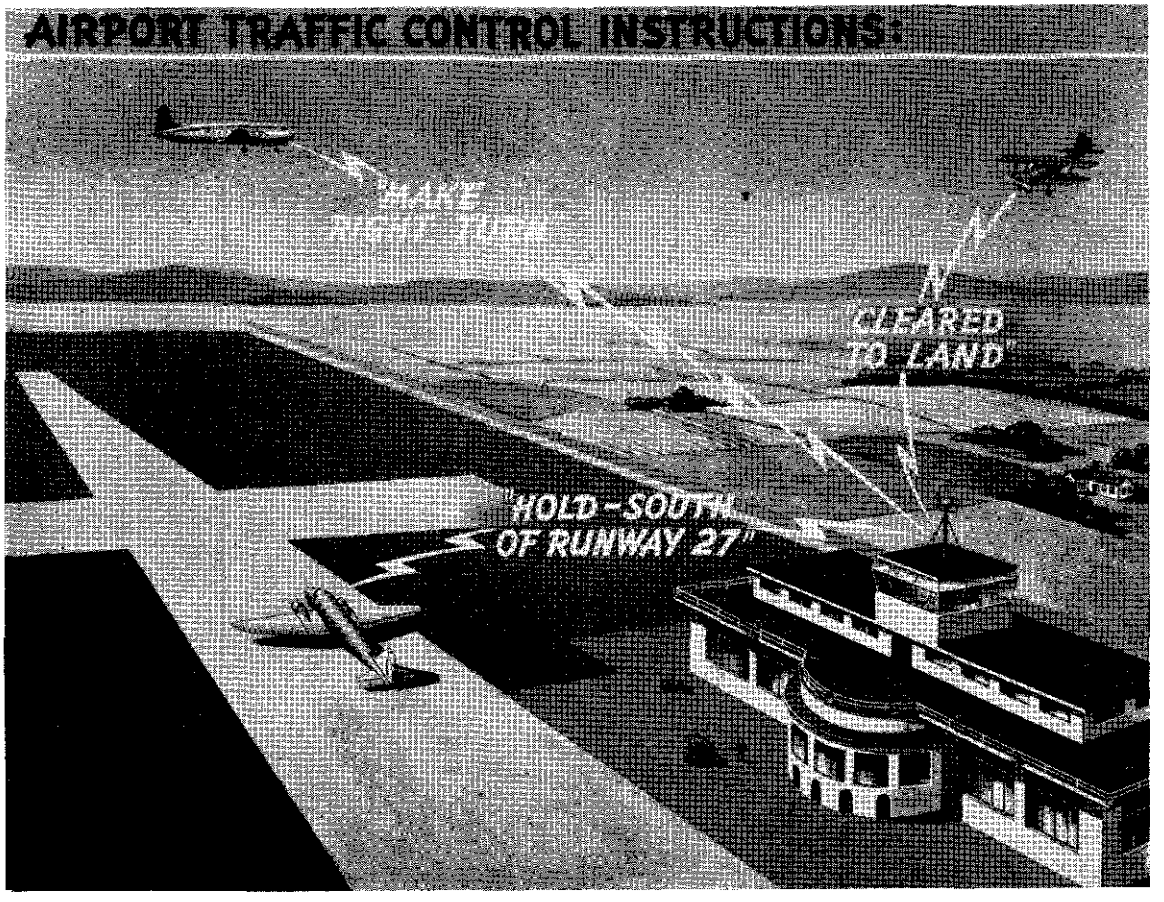
A flashing amber light on the control tower will mean that a clockwise flow of traffic is required.

Radiotelephone Communication Procedure and Technique

The following phraseologies and procedures shall be used in all radiotelephone communications with aeronautical ground stations:

Identification of Ground Stations

Control towers shall be identified during radiotelephone communications by the name of the airport followed by the word "TOWER" as, for example, "CHICAGO TOWER," "WASHINGTON TOWER," etc. Towers operating approach control service



will be identified as: "CHICAGO APPROACH CONTROL," "WASHINGTON APPROACH CONTROL," etc., when issuing clearances over the voice feature of the radio range or other approach control channel.

Civil Aeronautics Administration airways communications stations shall be identified by the name of the station followed by the word "RADIO" as, for example, "CLEVELAND RADIO," "PITTSBURGH RADIO," etc.

United States Army airways communications stations shall be identified by the name of the station followed by the term "ARMY AIRWAYS" as, for example, "PORTLAND ARMY AIRWAYS," "LANGLEY ARMY AIRWAYS," etc., to avoid confusion with civil airway stations.

Identification of Aircraft

Aircraft shall be identified during radiotelephone communications in the following manner:

Itinerant civil: (make)—(certificate number) e. g., "STINSON ONE, TWO, THREE, SIX, FIVE"; "WACO SIX, EIGHT, FOUR, SEVEN, FOUR."

Air carrier: (abbreviated name of company)—(flight or trip number) e. g., "UNITED FIFTEEN"; "AMERICAN SIX"; "EASTERN TWENTY-FIVE."

(NOTE: Air carrier flight or trip numbers are spoken as a group figure instead of a serial number as in the case of other aircraft identification numbers.)

Army: (Army)—(Army serial number) e. g., "ARMY SIX SEVEN TWO THREE"; "ARMY EIGHT ONE FIVE NINE."

Navy: (Navy)—(Navy serial number) e. g., "NAVY EIGHT, THREE, FOUR, FIVE"; "NAVY ZERO, FOUR, TWO, ONE."

(NOTE: The name of the pilot should not ordinarily be utilized in routine two-way communication.)

Call-up and Replies

The call-up procedure to be used in radiotelephone communications shall consist of the following:

Item	*Example*
(a) Designation of the station called.	WACO ONE EIGHT ONE FOUR THREE.
(b) THIS IS.	THIS IS.
(c) Designation of the calling station.	CLEVELAND TOWER.
(d) Invitation to reply.	OVER.

The reply to an initial call-up shall consist of:

Item	*Example*
(a) Designation of the station called.	CLEVELAND TOWER.
(b) THIS IS.	THIS IS.
(c) Designation of the answering station.	WACO ONE EIGHT ONE FOUR THREE.
(d) Invitation to reply.	OVER.

Communication shall be initiated by call-up and reply when:

(a) Communication has not been established.

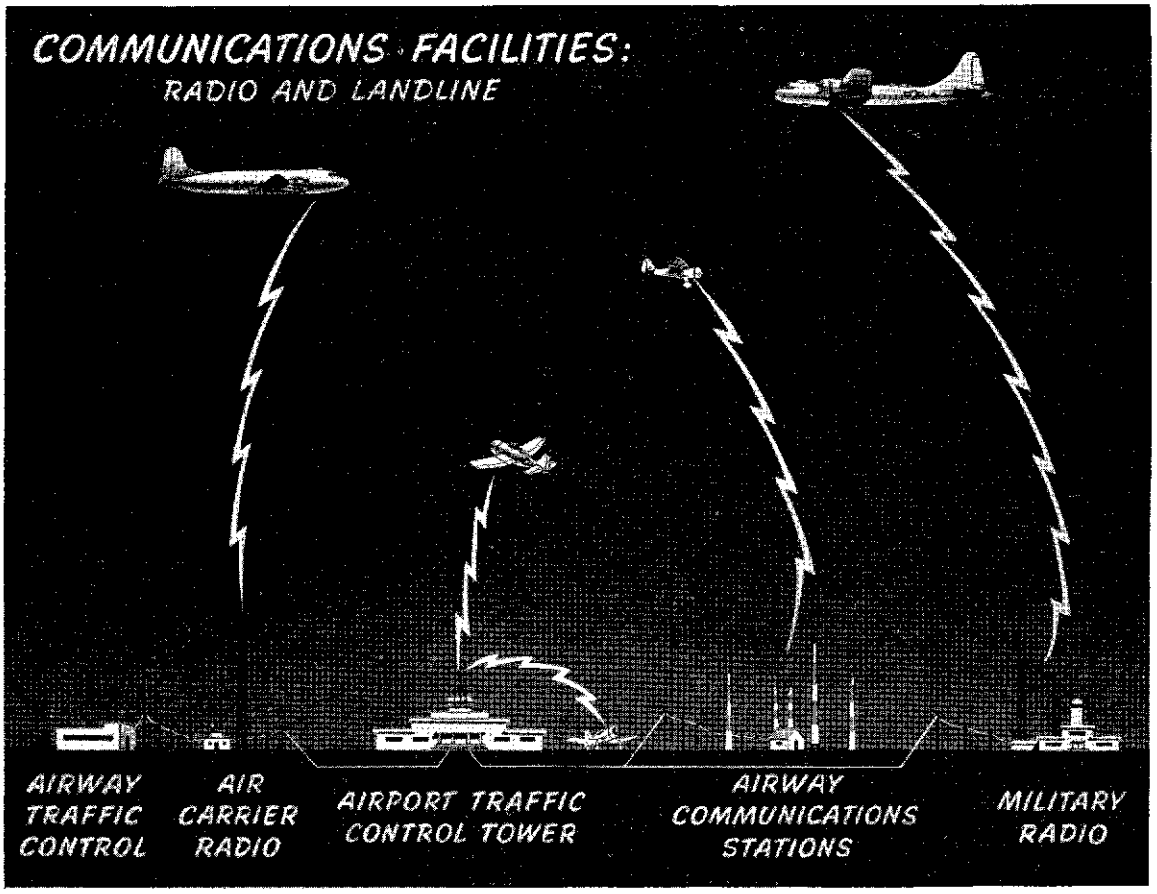
(b) Previous contact has been terminated.

After contact has been established in accordance with the above, a second call-up followed immediately by the message should be made in accordance with the following:

Item	*Example*
(a) Designation of the station called.	WACO ONE EIGHT ONE FOUR THREE.
(b) THIS IS.	THIS IS.
(c) Designation of the calling station.	CLEVELAND TOWER.
(d) Body of the communication.	(Message.)
(e) Invitation to reply.	OVER.

(NOTE.—When no chance of mistaking the identity of the ground station is likely, the "THIS IS" and the name of the ground station may be omitted after the original contact has been made.)

If it is reasonably certain that the aircraft will receive the initial call-up, an airport traffic control tower may follow the first call-up with the message without waiting



for a reply from the aircraft. However, pilots of aircraft should remember that an airport traffic control tower may be receiving messages from several aircraft simultaneously, and therefore the pilot should always receive an "invitation to reply" (OVER) from the tower before proceeding with a message.

After communication has been definitely established, continuous intercommunication may be conducted without further call-up or identification other than preceding message with the aircraft identification of the aircraft concerned until termination of the contact.

Termination of Communication

An aircraft shall acknowledge receipt of a radiotelephone message by transmitting the AIRCRAFT IDENTIFICATION followed by the word "ROGER." The word "OUT" shall also be used when a conversation is ended and no response is expected.

Examples: "STINSON FOUR TWO THREE ONE FIVE, ROGER, OUT."
"ARMY SIX SEVEN TWO FIVE, ROGER, OUT."

(NOTE.—It is usually unnecessary to identify the ground station concerned as no mistake in ground station identity is likely, but the aircraft concerned should be identified in every instance to prevent any possible mistake in aircraft identity.)

The phrase "SAY AGAIN," to indicate that instructions or information should be repeated, and the word "WAIT," to indicate that a return call will be made as soon as practicable, may be utilized instead of the word "ROGER" when appropriate.

Statement of Figures in Radiotelephone Transmissions

Figures utilized to indicate ceiling heights, flight levels, and upper air levels in numbers smaller than 12,000 shall be spoken in even hundreds and thousands of feet. These figures in the number 13,000 and larger numbers shall be spoken as, for example, "ONE THREE THOUSAND."

Number	*Statement*
500	FIVE HUNDRED
1,300	ONE THOUSAND THREE HUNDRED
4,500	FOUR THOUSAND FIVE HUNDRED
10,000	TEN THOUSAND
12,000	TWELVE THOUSAND
13,000	ONE THREE THOUSAND

All serial figures, such as aircraft identification numbers (except air carrier flight numbers), shall be spoken individually as follows:

Number	*Statement*
18143	ONE EIGHT ONE FOUR THREE
26075	TWO SIX ZERO SEVEN FIVE

The figure "0" shall be spoken "ZERO" when it occurs alone or in a group of serial figures.

Statement of Time

Time shall be stated in exactly four figures utilizing the 24-hour clock basis. The hour shall be stated by the first two figures and the minutes by the last two figures as follows:

Time	*Statement*
0000 (Midnight)	ZERO ZERO ZERO ZERO
0920 (9:20 AM)	ZERO NINE TWO ZERO
1200 (Noon)	ONE TWO ZERO ZERO
1643 (4:43 PM)	ONE SIX FOUR THREE

Time may be stated in minutes only (two figures) in radiotelephone communications when no misunderstanding of the hour is likely to occur.

The 24-hour clock day begins and ends at 0000 (midnight). The last minute of the last hour begins at 2359 and ends at 0000, which is the beginning of the first minute ending at 0001 of the first hour of the next day.

Statement of Field Elevations

Field elevations shall be stated in feet in accordance with the following examples:

10 ft.—FIELD ELEVATION ONE ZERO
75 ft.—FIELD ELEVATION SEVEN FIVE
583 ft.—FIELD ELEVATION FIVE EIGHT THREE
600 ft.—FIELD ELEVATION SIX HUNDRED
1,850 ft.—FIELD ELEVATION ONE EIGHT FIVE ZERO
2,500 ft.—FIELD ELEVATION TWO THOUSAND FIVE HUNDRED

Aircraft Departing

The pilot shall call the control tower when ready to taxi out. The body of this message should include:

"(LOCATION) READY TO TAXI."

Example:

Aircraft: "TULSA TOWER THIS IS WACO ONE, THREE, ONE, FIVE, NINE. ON WEST RAMP READY TO TAXI, OVER."

Tower: "WACO ONE, THREE, ONE, FIVE, NINE, CLEARED TO RUNWAY THREE SIX. WIND NORTH EIGHT. ALTIMETER THREE, ZERO ZERO, FOUR. TIME ZERO NINE FIVE SIX."

Pilots desiring to file flight plans should do so in person or by telephone or interphone. To avoid a radio congestion, pilots should not file flight plans by radio when other means are available.

If an airway traffic control clearance is necessary, the airport traffic controller will relay the clearance to the pilot as follows:

Tower: "WACO ONE, THREE, ONE, FIVE, NINE, ATC CLEARS YOU TO NEOSHO TO CRUISE AT FIVE THOUSAND. OVER."

Aircraft: "WACO ONE, THREE, ONE, FIVE, NINE, CLEARED TO NEOSHO TO CRUISE AT FIVE THOUSAND. OVER."

Tower: "WACO ONE, THREE, ONE, FIVE, NINE, ROGER."

After the airway traffic control clearance has been issued and acknowledged, and the aircraft is ready to take off, the airport traffic controller will issue the take-off clearance:

Tower: "WACO ONE, THREE, ONE, FIVE, NINE, LOCAL TRAFFIC AMERICAN DOUGLAS THREE MILES EAST AT SEVEN HUNDRED LANDING TULSA. CLEARED FOR TAKE-OFF. OVER."

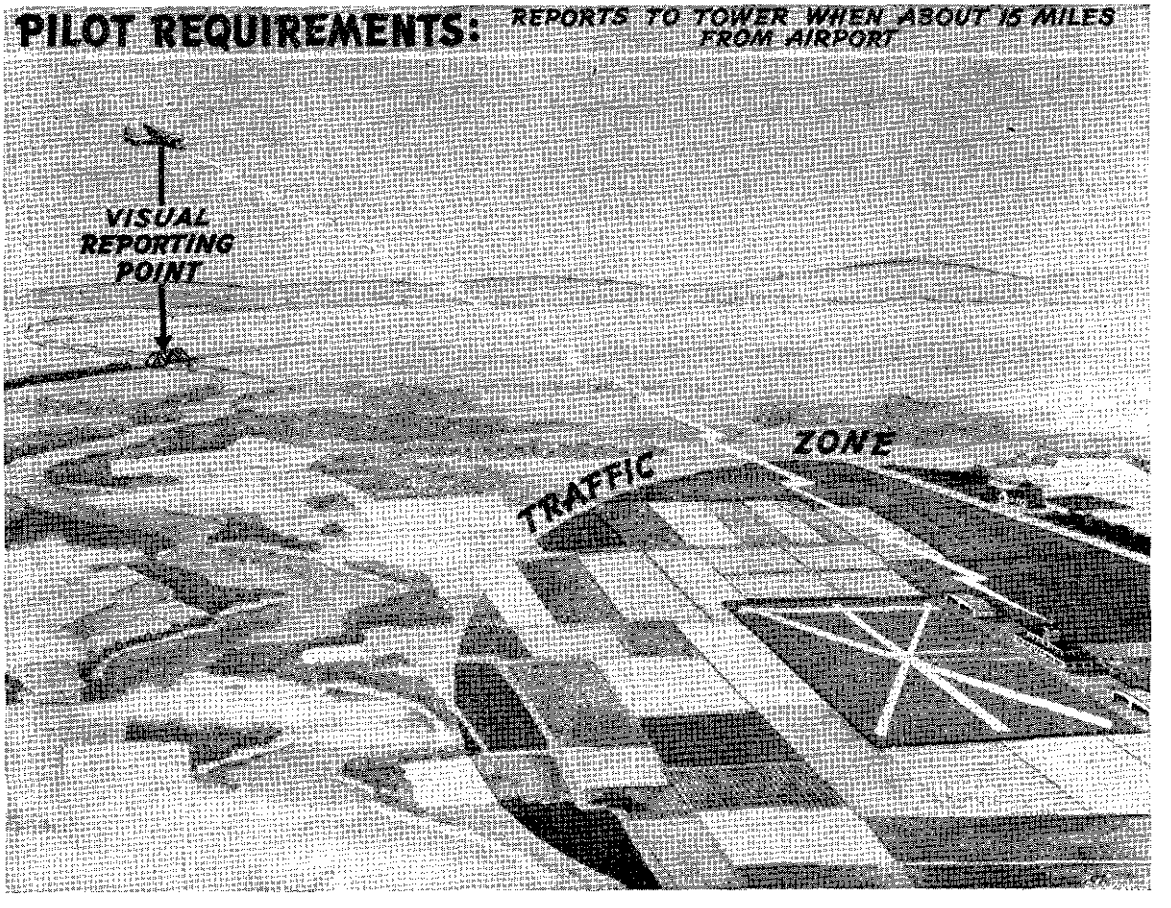
Aircraft: "WACO ONE, THREE, ONE, FIVE, NINE, ROGER. OUT."

After the take-off the pilot normally has no occasion to use his transmitter again except to acknowledge receipt of further information or instructions from the control tower.

The pilot should continue to guard the control tower frequency until he leaves the airport traffic zone, or airport approach zone. When the pilot must use the navigational feature of the radio range immediately after take-off, the control tower will clear him to leave tower frequency as soon as possible.

Aircraft Arriving

A pilot flying under contact flight rule conditions should call the control tower for local traffic information and landing instructions when approximately 15 miles



from the airport of destination. A pilot flying under instrument flight rule conditions should not call the control tower until an appropriate clearance has been received from Air Traffic Control.

The body of the message should include:

(a) Geographical position.
(b) Time (optional).
(c) Flight altitude of the aircraft.
(d) Request for information or instructions—if pertinent.

Example:

Aircraft: "CLEVELAND TOWER THIS IS STINSON ONE, FOUR, ONE, FIVE, SEVEN, ELYRIA TWO FIVE AT THREE THOUSAND LANDING AT CLEVELAND. OVER."

The airport traffic control tower will then acknowledge this message and issue an appropriate clearance such as "cleared to enter traffic pattern." Clearance to enter traffic pattern informs the pilot that traffic exists in the traffic pattern and authorizes entry into the traffic pattern, but does not constitute landing authority. Wind information and number of runway in use is included in this clearance to assist the pilot in making his approach for entry into the traffic pattern, but clearance to land is ordinarily withheld until the aircraft is in sight of the control tower and no conflicting traffic will interfere with the landing.

Example:

Tower: "STINSON ONE, FOUR, ONE, FIVE, SEVEN, ELYRIA TWO FIVE AT THREE THOUSAND. CLEARED TO ENTER TRAFFIC PATTERN. WIND SOUTH ONE FOUR, RUNWAY ONE EIGHT. OVER."

Aircraft: "STINSON ONE, FOUR, ONE, FIVE, SEVEN, ROGER."

A clearance to land is given after a pilot reports in the airport traffic zone or when he is sighted from the control tower. The pilot should report to the control tower immediately on entry into the traffic pattern if the control tower has not previously sighted the aircraft and issued landing instructions. The pilot reports:

"CLEVELAND TOWER THIS IS STINSON ONE, FOUR, ONE, FIVE, SEVEN, THREE MILES WEST OF FIELD AT EIGHT HUNDRED, OVER."

The tower replies by issuing landing clearance, if practicable, or suitable instructions:

"STINSON ONE, FOUR, ONE, FIVE, SEVEN, THREE MILES WEST OF FIELD AT EIGHT HUNDRED. CLEARED TO LAND. MAKE RIGHT TURN IN."

Wind information and runway number will again be supplied if a revision to the information previously given is necessary. The pilot should acknowledge and indicate compliance with instructions to make right turn by:

"STINSON ONE, FOUR, ONE, FIVE, SEVEN, ROGER."

If one or more preceding aircraft are approaching for a landing, or are in the

traffic pattern waiting for landing instructions, the airport traffic controller wil issue a landing sequence number as follows:

"STINSON ONE, FOUR, ONE, FIVE, SEVEN, THREE MILES WEST OF FIELD AT EIGHT HUNDRED. NUMBER TWO TO LAND. MAKE RIGHT TURN IN. FOLLOW ARMY TRANSPORT MAKING RIGHT TURN IN FROM NORTHWEST."

After the preceding aircraft completes landing, the airport traffic controller will then issue clearance to land, as follows:

"STINSON ONE, FOUR, ONE, FIVE, SEVEN, CLEARED TO LAND."

After a pilot has landed, the airport traffic controller will furnish any necessary information on other aircraft landing or taking off and will issue any necessary instructions relative to taxiing. This control will be continued until the pilot has parked his aircraft.

Example:

Tower: "STINSON ONE, FOUR, ONE, FIVE, SEVEN, CLEARED TO GATE THREE."

Aircraft: "STINSON ONE, FOUR, ONE, FIVE, SEVEN, ROGER."

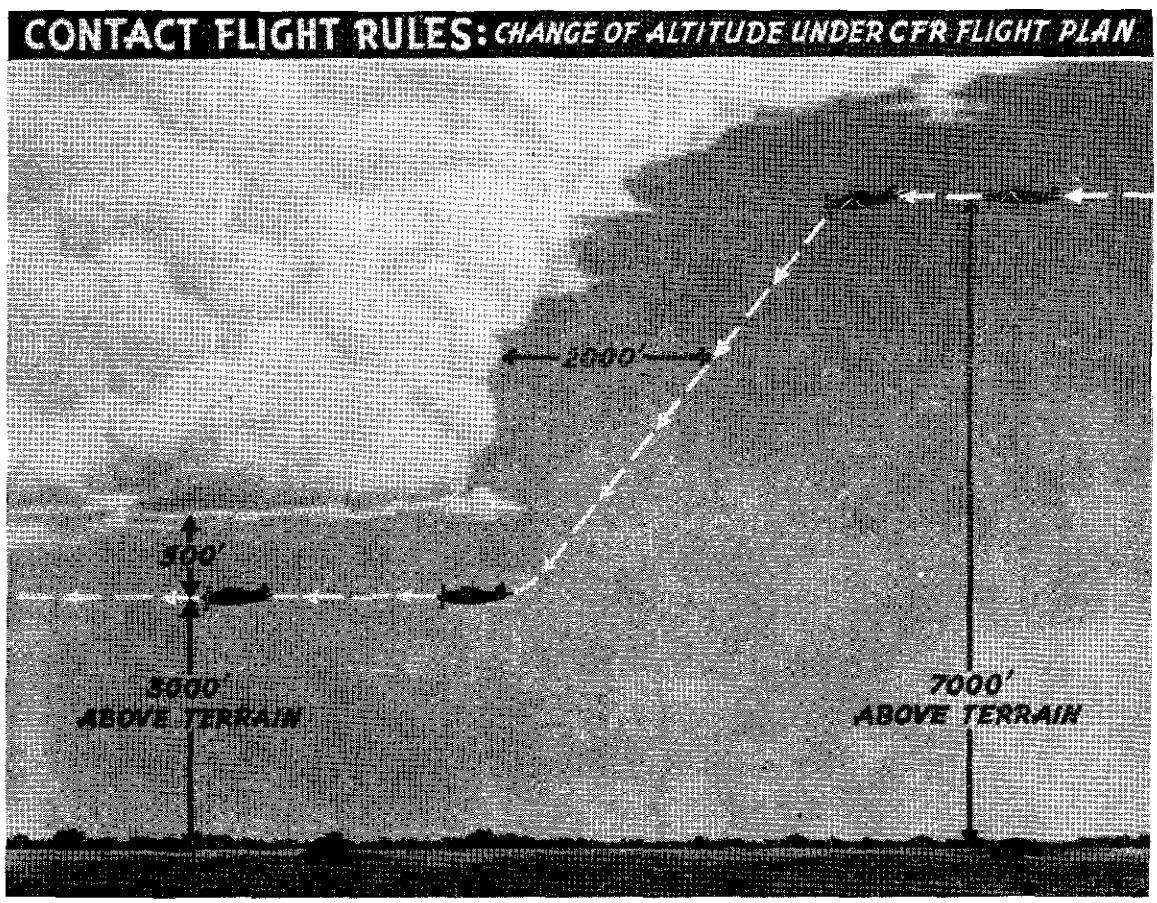
The control tower operator will initiate calls to in-bound aircraft which have not called the tower as soon as such aircraft are observed.

Pilots who have filed a flight plan should file an arrival report preferably by telephone, interphone, or in person upon completion of the flight. If this is not practicable, the pilot may, by radio, request the tower to file his arrival report. The point of departure must be stated.

The control tower does not automatically file an arrival report, since many of the landing aircraft are not operating on flight plans. It remains the responsibility of a pilot who has filed a flight plan to file his arrival report.

Section II—Contact Flight Rules

Whenever an aircraft is being operated in weather conditions equal to or better than the *basic minimums* specified in Paragraph 60.110 of Part 60, Civil Air Regulations, such condition of flight shall be known as "Contact Flight Rules", abbreviated CFR. The entire responsibility of avoiding other aircraft under these conditions



rests with the pilot who is required to maintain at least those basic minimums specified in the Civil Air Regulations (*not including the exceptions which may be authorized by Air Traffic Control*).

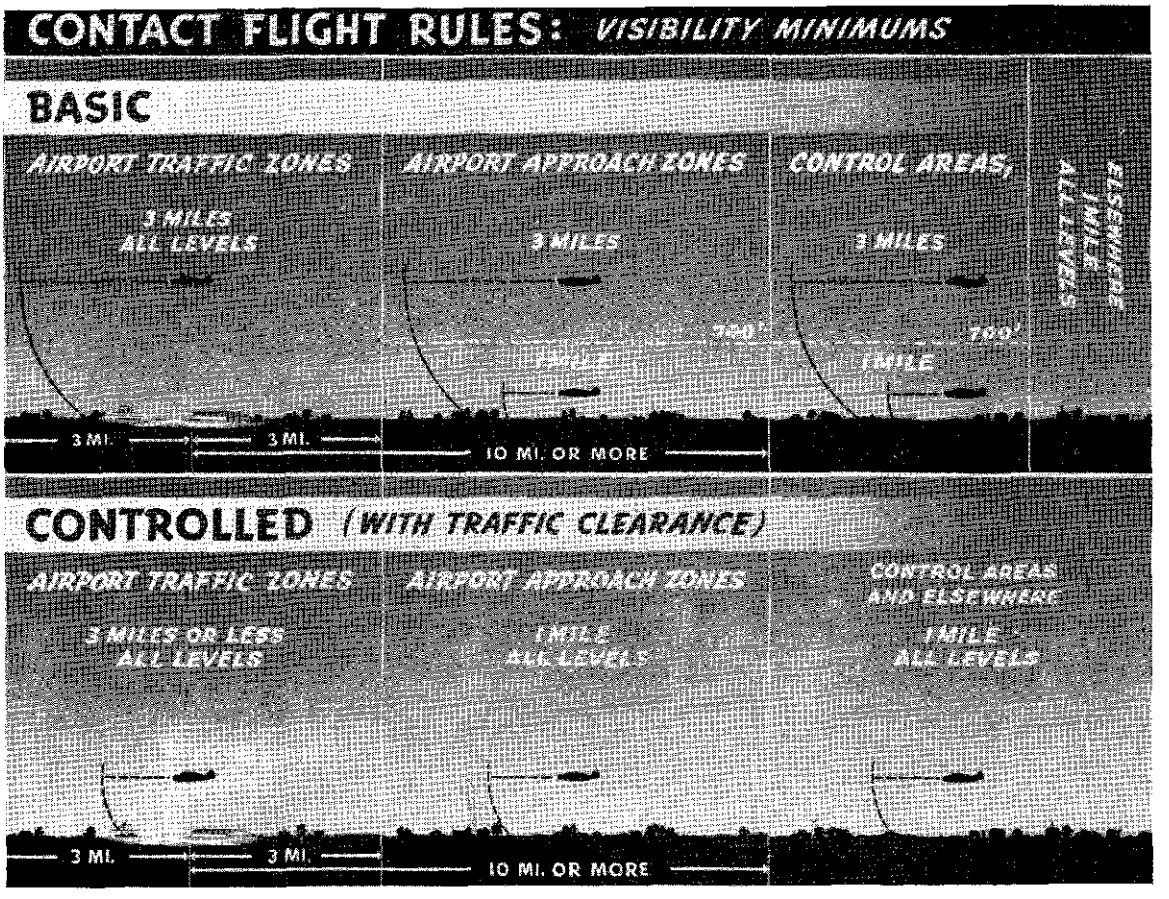
Flight in accordance with Contact Flight Rules in weather conditions less than the basic minimums (but not less than the reductions to those minimums which may be authorized by Air Traffic Control) is known as "Controlled Contact Flight Rule Flight." These flights will be individually authorized in the same manner as Instrument Flight Rule Flights as explained in a later section.

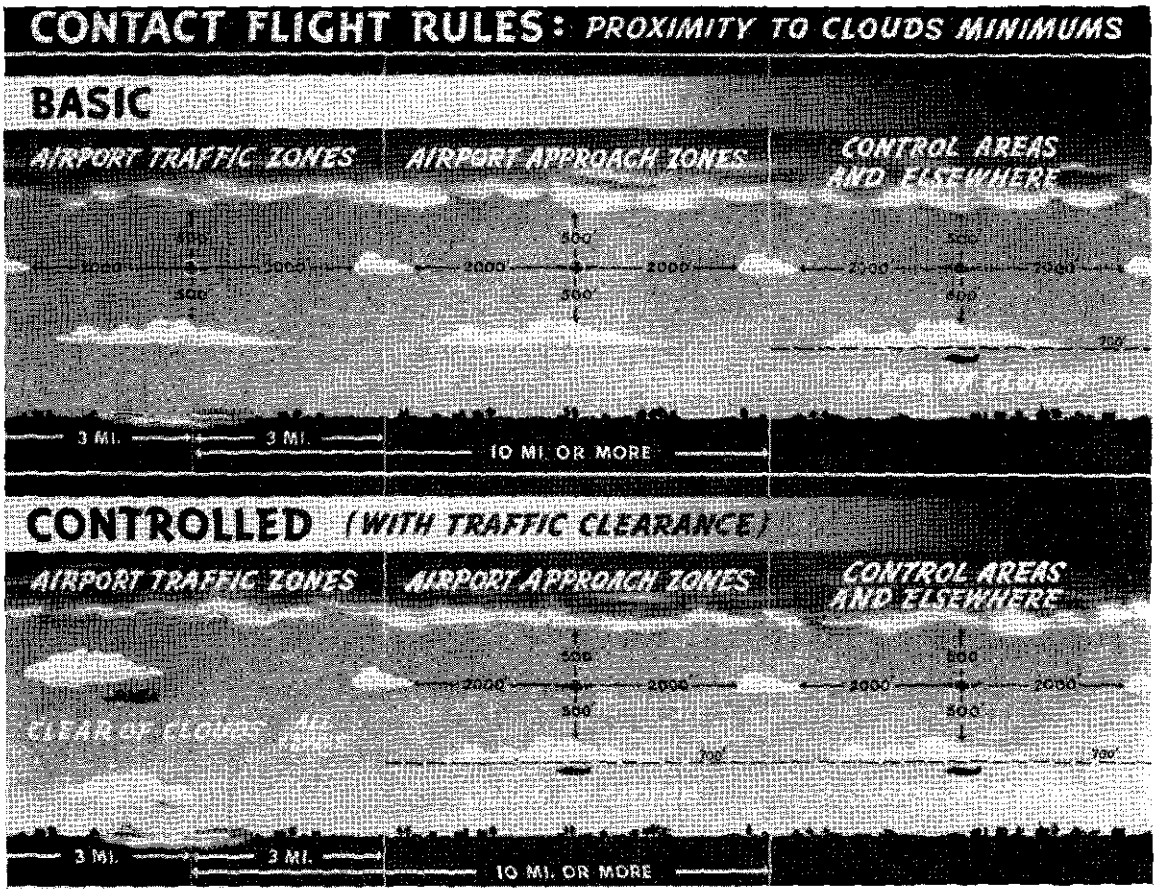
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Flight Plan

A flight plan is not normally required for CFR flight, but if desired or if required by defense regulations, may be submitted to the nearest airway traffic control center, airport traffic control tower or airway communications station either in person or by telephone. Flight plans may be filed by radio if no other means are available but this practice should be avoided whenever possible to reduce congestion of radio channels. The flight plan shall contain the following items:

1. Identification of aircraft and pilot.
   Example: WACO NC1234; Pilot Smith.
2. Number of aircraft if a formation flight.
   Example: Three Stinson.
3. Point of departure, proposed cruising altitude, route of flight and point of first intended landing.
   Example: St. Louis, Contact Flight Rules (CFR), via Kansas City to Wichita.
4. Proposed indicated airspeed.
   Example: 140 (miles per hour).





5. Usable radio equipment carried in aircraft.
   Example: 3105 (transmitter frequency); receiver only; no radio.
6. Proposed time of departure.
   Example: Departing St. Louis 1405.
7. Estimated elapsed time in hours and minutes.

In connection with item (3) of the flight plan, a contact flight rule flight plan may specify "CFR" only as a cruising altitude. The use of this term in lieu of an actual altitude indicates that no traffic control clearance is desired and that the pilot intends to fly in weather conditions equal to the *basic minimums* in Civil Air Regulations 60.110. The only report required of a pilot submitting this type flight plan is an arrival report, unless the pilot indicates at the time of filing the flight plan that no arrival report will be filed.

Basic Contact Flight Rule Minimums

Flight may be conducted without a traffic control clearance (i. e., on a CFR flight plan or with no flight plan) under flight conditions better than the following minimums.

Within Airport Traffic Zone.—Aircraft may be operated in an airport traffic zone at all altitudes if visibility is at least 3 miles and clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally.

Within Airport Approach Zone.—Aircraft may be operated in an airport approach zone but outside of an airport traffic zone at altitudes above 700 feet if visibility is at least 3 miles and clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally. Flight at altitudes below 700 feet may be conducted with visibility down to 1 mile.

Within Airway Traffic Control Area.—Aircraft may be operated in a control area but outside of an airport approach zone at altitudes above 700 feet if the visibility is at least 3 miles and clouds are avoided by at least 500 feet vertically and 2,000 feet horizontally. Flight at altitudes below 700 feet may be conducted with visibility down to 1 mile and need only remain clear of clouds (no specified distance).

Aircraft may be operated outside of Airport Traffic Zones, Airway Traffic Control Areas, Airport Approach Zones and outside of those portions of Airport Approach Zones lying within control areas at any altitude if visibility is at least 1 mile. Aircraft operating at an altitude more than 700 feet above the surface are required to maintain at least 500 feet vertical and 2,000 feet horizontal separation from all clouds; however, aircraft below 700 feet need only remain clear of clouds.

Flight Altitudes

It is recommended that CFR flights operating at altitudes more than 700 feet above the surface be conducted at flight levels specified for IFR in Section III of this manual, except for such deviation as may be required for maintenance of minimum clearance from clouds.

Section III—Controlled Flight

The rules and procedures applying to all flights, and in particular to CFR flights, in weather conditions equal to or better than the basic CFR weather minimums are outlined in preceding sections of this manual. These apply to flights in which pilots can see other aircraft and can be seen in sufficient time to avoid collision. The responsibility for separation of aircraft in those weather conditions rests solely upon the pilots, although they may be assisted in congested areas around airports by airport traffic control towers.

This section explains the rules and procedures of "Controlled Flight" under both Contact and Instrument Flight Rules wherein a pilot cannot "see or be seen" sufficiently to permit safe separation of two or more aircraft in that manner. Flights under these conditions within control areas, approach zones, and traffic zones are provided separation from other traffic by Air Traffic Control.

Controlled CFR Flight

Traffic conditions permitting, Air Traffic Control will authorize contact flight rule flight in weather conditions less than the basic CFR minimums. The exceptions permitted include controlled CFR flight within airport traffic zones at all altitudes with less than the specified visibility and cloud clearance minimums; within control areas at altitudes above 700 feet above the surface with less than 3 miles visibility, but not less than 1 mile; within airport approach zones below 700 feet at less than the cloud clearance minimums. All contact flight rule flights must remain "*clear of clouds*" regardless of authorization received from Air Traffic Control.

Controlled CFR flights will be authorized by Air Traffic Control at the specific request of the pilot concerned, *provided actual and anticipated traffic conditions permit.* Clearance of each such flight will depend entirely upon local traffic conditions, whether the aircraft is equipped with functioning two-way radio, and/or the extent of the flight proposed. For example, an aircraft equipped with two-way radio may be authorized to enter the airport traffic zone when the visibility is less than 1 mile; or, when the restricting weather element is known to be a local condition, an aircraft without radio may be authorized to depart from the zone. In many cases, approval of controlled CFR flights of long duration may not be possible unless the aircraft is equipped with two-way radio, particularly if other traffic is operating or is expected to operate simultaneously over the same route.

The procedures used in obtaining approval for controlled CFR flight or changes of flight plan are the same as those for instrument flight rule flight. A pilot must receive a traffic clearance before entering or leaving a control area, approach zone, or traffic zone, or prior to flying into weather conditions requiring approval in such areas.

While in flight, the pilot may request approval through a CAA communications

station by radio, stating that he desires a CFR clearance below a specified altitude to a specified point or airport, or whatever other approval he desires. He should give his present position and altitude with the request. If the aircraft is not radio equipped, he will have to proceed to the nearest airport (flying only in weather conditions equal to or better than the basic CFR minimums) and land. He may then obtain approval by telephone through the nearest CAA communications station, airport traffic control tower, or airway traffic control center.

A traffic control clearance authorizing controlled CFR flight, like other traffic clearances, does not relieve the pilot of the responsibility of complying with all applicable Civil Air Regulations. Such clearances are merely authority to proceed along an agreed-upon course at or below a specified altitude with proper separation from all clouds. If the pilot follows the clearance carefully, he will be safely separated from other aircraft flying under controlled CFR or instrument flight rule approved flight plans. A pilot is not relieved of the responsibility of avoiding weather conditions beyond his own flying capability or that of the aircraft and a CFR clearance does not authorize flight in weather conditions less than those minimums established for controlled CFR flight in CAR 60 (i. e., flight visibility less than 1 mile outside of airport traffic zones or flight within clouds).

When conducting flight under a CFR clearance and proceeding toward an area where weather conditions are lower than the minimums prescribed, it is the responsibility of the pilot to obtain approval for change of flight plan, or approval of an instrument flight plan, prior to entering such weather conditions. If this is not possible it is the responsibility of the pilot to conduct flight in weather conditions not requiring approval (basic CFR minimums or better) to his destination or to another airport.

Instrument Flight Rules

There are no prescribed weather minimums for flight subject to instrument flight Rules, abbreviated IFR; however, the pilot and aircraft must be properly rated and equipped for flight by instruments—one of those requirements being that the aircraft must be equipped with properly functioning two-way radio. (For complete requirements, see Part 43 of the Civil Air Regulations.)

Flight Plan

Prior to departure from within, or prior to entering an airway traffic control area, airport approach zone, or airport traffic zone, a pilot must submit a complete flight plan.

The filing of an instrument flight plan indicates that the pilot is qualified and the aircraft equipped for flight as prescribed in Parts 20 and 43 of the Civil Air Regulations, and further, that the pilot will conform to all provisions of the instrument flight rules. Instrument flight plans may be submitted to the nearest airway traffic control center, airport traffic control tower or airway communications station either in person or by telephone (or by radio if no other means are available), and shall contain the following items:

1. The aircraft identification mark, or name of governmental service and

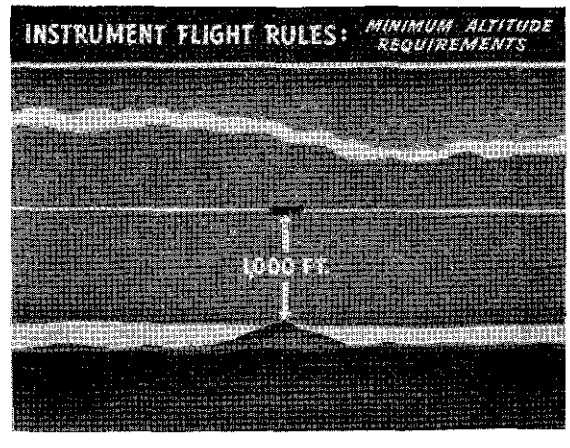
call numbers of aircraft, or name of air carrier operator and trip number. When one flight plan is being filed for a formation flight, the flight commander's aircraft identification only is required.
Example: "NC12345"; "Army 8386"; "United 7."

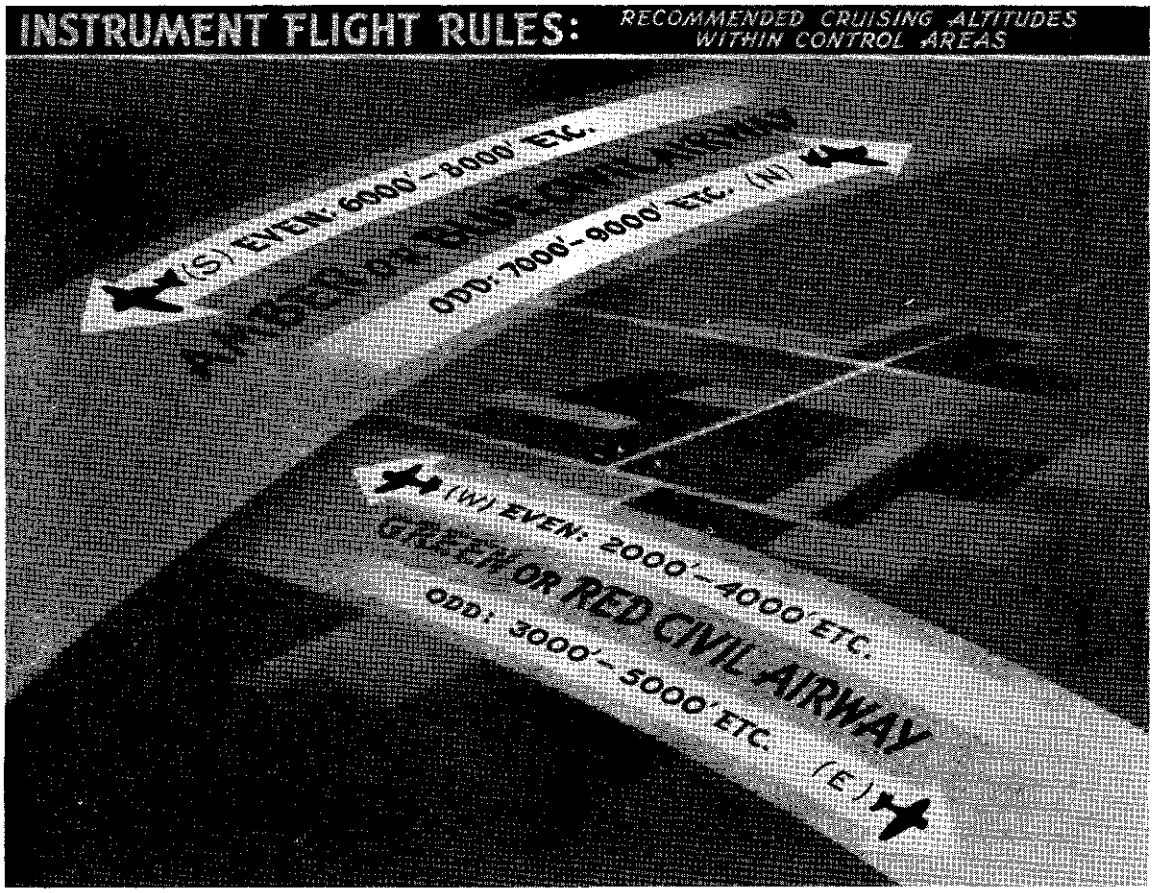
2. Type of aircraft; and number of aircraft if a formation flight.
Example: "Stinson"; "3 B29."
3. The name of the pilot, or of the flight commander if aircraft are in formation.
Example: "Jones"; "Smith."
4. Point of departure, or position of aircraft if flight plan is filed en route.
5. The proposed cruising altitude or altitudes above sea level and route of flight. When altitude over a fix will be different than the cruising altitude, such information also should be included.
Example: "Cruising 5,000 via Philadelphia, crossing Newark at 2,000."
6. Point of first intended landing.
7. The proposed indicated airspeed (the speed of the aircraft without reference to wind conditions and not corrected for temperature or altitude) in miles per hour.
8. Radio transmitting frequency to be used on the flight.
Example: "3105"; "4495."
9. The proposed time of departure. (The time of departure shall be considered as the time when the aircraft leaves the ground.)
10. The estimated elapsed flying time in hours and minutes until arrival on the ground at the point of first intended landing.
Example: "Estimated elapsed time 3 hours 35 minutes."
11. The alternate airport, if the operation is to involve instrument flight.
12. The amount of fuel aboard in hours of normal cruising consumption.
13. Any other pertinent information which the pilot deems useful for control purposes or which may be requested by an airway traffic control center or airport traffic control tower.

Altitude Requirements

Aircraft on instruments (visibility below 1 mile) must be flown at least 1,000 feet above the surface.

Within control areas, aircraft should be flown at even or odd thousand-foot levels above sea level depending upon the direction of flight as indicated by odd or even minimum altitudes shown in Air Navigation Radio Aids (airway and radio facility charts), unless other altitudes are assigned or approved by an airway traffic control center. (See illustration on p. 20.)





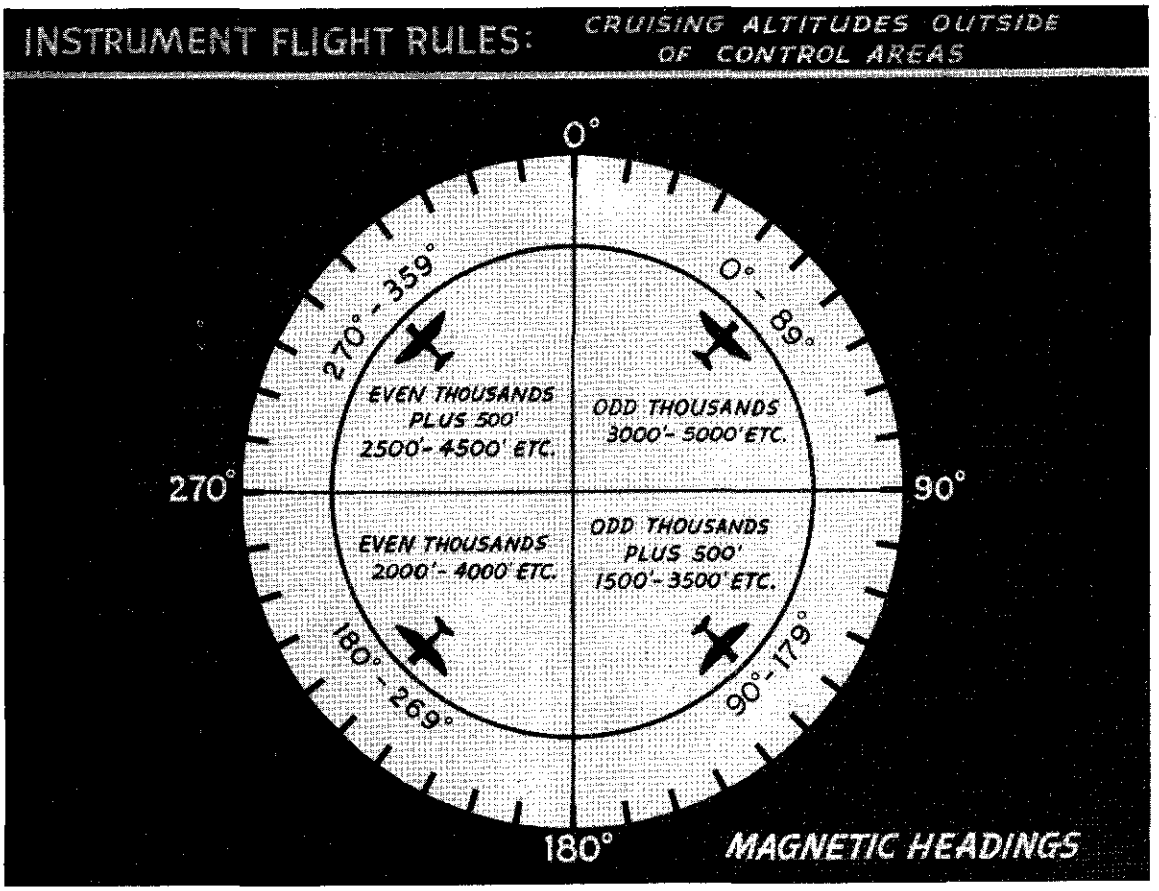
Cruising altitudes outside of control areas shall correspond to the direction of flight as indicated below:

Magnetic Heading	*Indicated Altitude (feet above sea level)*
0°—89°, inclusive	Odd thousands, 1,000, 3,000, etc.
90°—179°, inclusive	Odd thousands plus 500 feet, 1,500, 3,500, etc.
180°—269°, inclusive	Even thousands, 2,000, 4,000, etc.
270°—359°, inclusive	Even thousands plus 500 feet, 2,500, 4,500, etc.

Air Traffic Clearance

A flight plan approval, flight plan amendment or traffic control instructions are issued as a traffic clearance. A traffic clearance is prefixed by the phrase "ATC clears you," or "ATC instructs you," or other pertinent phrases which are always prefixed by "ATC." Traffic clearances are issued to flights through ground-air radio communication facilities, such as radio range stations, airport traffic control towers, air carrier and military communication stations.

The initial traffic clearance issued to an aircraft prior to departure will normally authorize flight to the point of first intended landing, and will deviate from the original flight plan only to the extent required to avoid confliction with other aircraft. An amendment to the initial clearance may be issued to a flight at any time



an air traffic controller deems such action necessary to avoid possible confliction between en route, landing, or departing aircraft. A flight is always cleared to a specific point or location (radio fix or visual reporting point), defined as a clearance limit. Flight should not be conducted beyond a clearance limit until an amended traffic clearance specifying a new clearance limit is received.

A traffic clearance may specify a change of altitude level, time over fixes, or track, to prevent confliction between aircraft. In addition, a clearance may contain the expected approach time (see Two-way Radio Failure), pertinent approach instructions and traffic information concerning aircraft in close proximity to aircraft receiving a traffic clearance. Traffic information is included in a clearance when deemed necessary by an air traffic controller to insure safe separation between aircraft, or at any time when requested by the pilot or aircraft operator.

An approach clearance issued to an aircraft is approval for one approach only. If the first approach is missed a new traffic clearance will be required prior to commencing an additional approach.

A traffic clearance specifying that a portion of a flight is to be conducted in accordance with contact flight rules (CFR) will require that the pilot maintain, without reduction, the basic contact flight rule minimums as specified in CAR 60 and assume the responsibility for avoiding other aircraft during the portion of the flight specified.

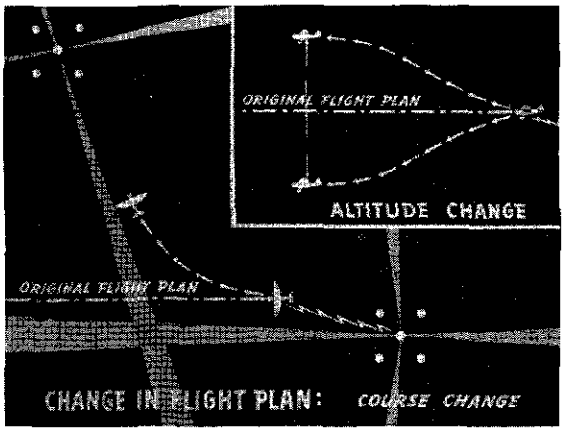
To expedite the movement of arriving and departing aircraft, Air Traffic Control will, when necessary, request that aircraft make a "CFR Approach." This request will require that the pilot maintain visibility of 3 miles and remain 500 feet vertically and 2,000 feet horizontally from all clouds during the entire approach. The pilot will then be responsible for avoiding other aircraft. He shall advise Air Traffic Control if he cannot make this type of approach.

Air Traffic Control approval of a flight plan is an approval only insofar as known air traffic conditions are concerned, and such approval does not constitute authority to violate any provision of the Civil Air Regulations. A flight plan implying a violation of the Civil Air Regulations may be approved by Air Traffic Control if warranted by existing traffic conditions, but the pilot submitting the flight plan will be responsible for any violation subsequently committed.

Air Traffic Control approves flight *within control areas only;* no responsibility for separation of aircraft outside of control areas is accepted.

Flight Plan Change

Pilots must keep in mind the fact that once a flight has entered a control area or approach zone, no change can be made in the approved flight plan, unless an emergency exists, without first obtaining approval for such change through appropriate communication facilities.



In addition to the altitude and route changes, increasing or decreasing the speed of an aircraft by increasing or decreasing power constitutes a change in flight plan, and the pilot of an aircraft making a flight subject to instrument flight rules within a control area or approach zone shall obtain Air Traffic Control approval prior to effecting such change in flight plan.

Altimeter Settings

Part 60 of the Civil Air Regulations prescribes that flight altitudes shall be in feet above sea level. Accordingly, altimeters should be set to the current setting of the nearest station reporting official altimeter settings along the route of flight. All sea-level altitudes used in connection with the control of air traffic are based on the *indicated altitude*, since any temperature error will affect all altimeters in the same vicinity to the same extent, and relative separation between aircraft will be maintained. Pilots should consider temperature error only with respect to insuring that actual altitude of the aircraft permits ample clearance of terrain and obstructions.

Altimeter setting is defined as the setting to be made to the barometric scale of an altimeter, such that upon landing, the pointers of the instrument will indicate very closely the actual elevation of the airport above sea level.

Airway Communications

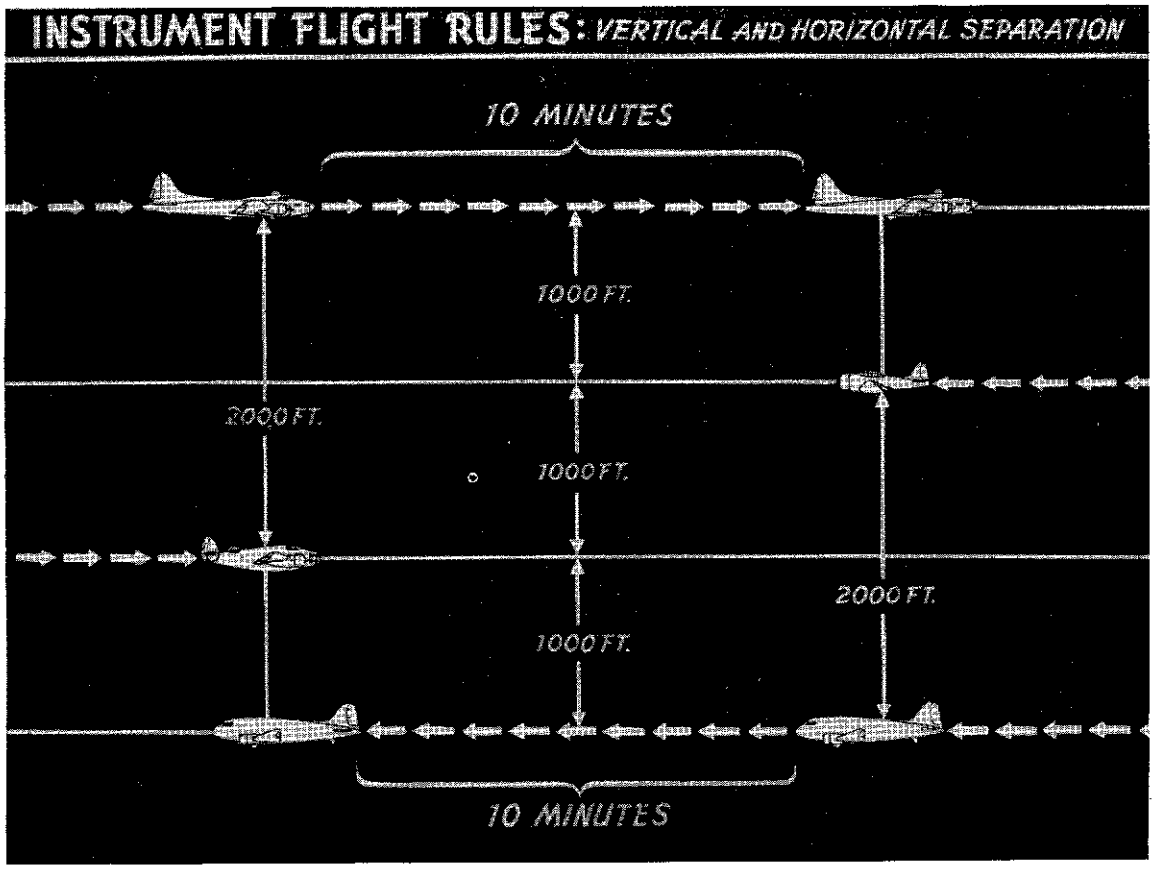
All aircraft (including any air carrier aircraft) maintaining communication through airway communications stations of the Administration are required to maintain continuous listening watch on the voice channel of the simultaneous radio range feature of such stations.

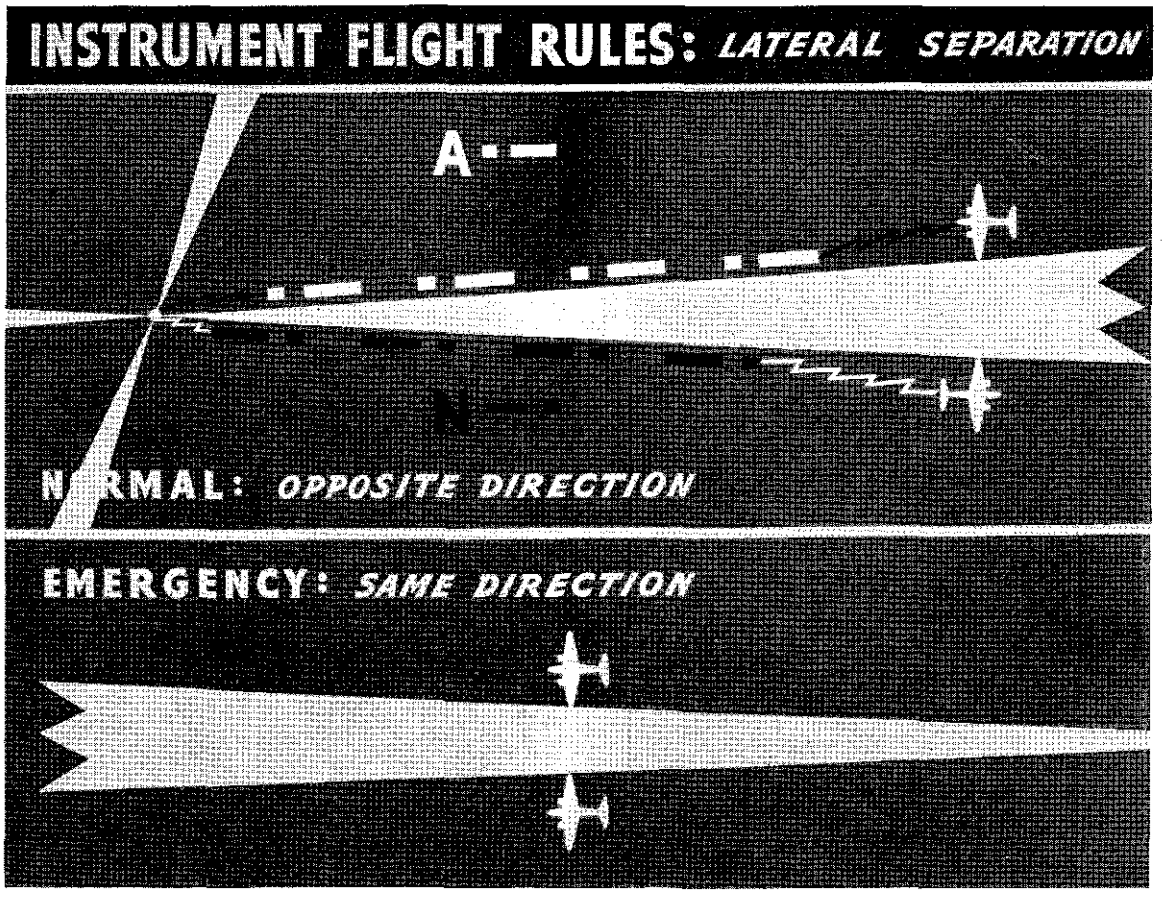
Aircraft maintaining communication through air transport company radio or military radio are required to maintain a continuous listening watch on such radio facilities.

The aircraft operator handling communications through its facilities is considered to be responsible for advising Air Traffic Control promptly if it has been unable to deliver a message within 5 minutes of the expected delivery time. Unless specific acknowledgment of receipt by the pilot has been requested by Air Traffic Control, it is assumed that the message has been delivered satisfactorily to the pilot unless the aircraft operator otherwise advises. Furthermore, it is considered the responsibility of an aircraft operator to advise Air Traffic Control promptly in the event of two-way communication failure with one of its aircraft.

Control Procedures

Air Traffic Control effects separation of aircraft, vertically, by assigning different altitude levels; horizontally, by prescribing a minimum flying time between aircraft; and laterally, by providing different flight paths.





The pilot has the privilege of requesting control procedures other than those which may be imposed by a center if he feels that he has information available which would make such other procedures more practicable. Air Traffic Control provides alternate procedures whenever possible and will give consideration to a pilot's request for a change in control procedures.

En Route Reports

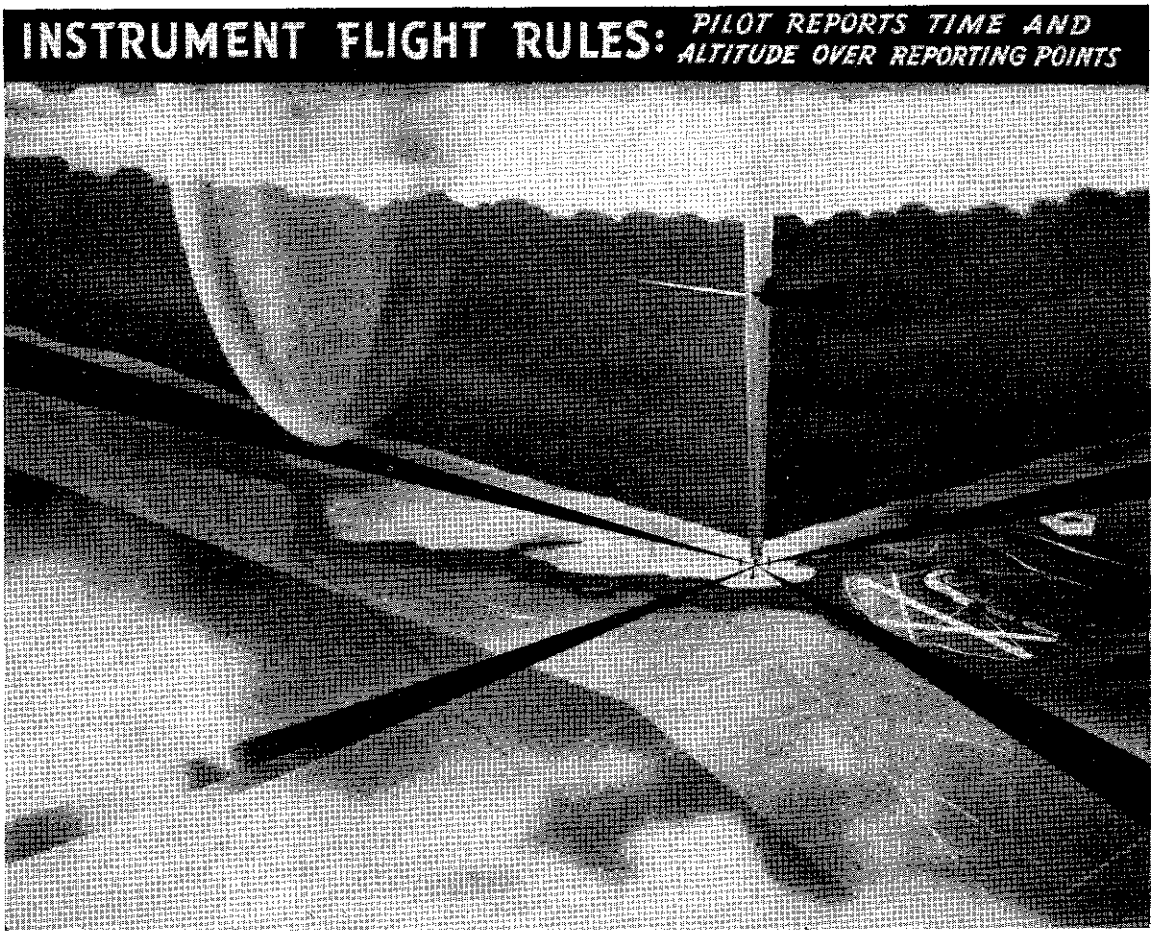
During the course of a flight, pilots are required to make "flight progress reports" which include time and altitude of the aircraft over each designated radio fix on the route being flown. These reports should be made as soon as possible after the aircraft has passed the fix. (See airway and radio facility charts contained in current tabulation of Air Navigation Radio Aids.)

In addition to the flight progress reports, pilots are required to observe the following reporting procedures when flying within a control area or approach zone:

Estimates.—Pilots should, if possible, include in each report an estimated time of arrival over the next designated radio fix. In any event, pilots should forward an estimated time of arrival and requested altitude over the radio fix preceding the airport of intended landing if an altitude has not been assigned, and an estimated time of arrival over such airport when reporting over the second fix preceding such airport.

(NOTE.—If, after reporting over a radio fix, it becomes apparent that the estimate as previously submitted for time of arrival at the airport of intended landing, or the estimated time over the next fix is in error in excess of 3 minutes, a corrected estimate should be made and forwarded to Air Traffic Control.)

It is not necessary for pilots of scheduled air carrier aircraft to forward estimates; it is only required that the estimated time of arrival over the airport of intended landing



be immediately available when requested of the air carrier operator. However, if cruising airspeed is changed, a corrected estimate should be forwarded.

Weather Reports.—Weather reports made by the pilot of an aircraft need be forwarded to Air Traffic Control only when required, or when the pilot encounters unanticipated or unusual weather conditions, such as icing conditions, turbulence, etc.

Other Communications Reports.—The following communications contacts are required by the pilot under instrument flight rule conditions in addition to en route reports:

1. Report the time and altitude of reaching a specified holding point or fix to which cleared.
2. Report when vacating any previously assigned flight level for a new assigned level.

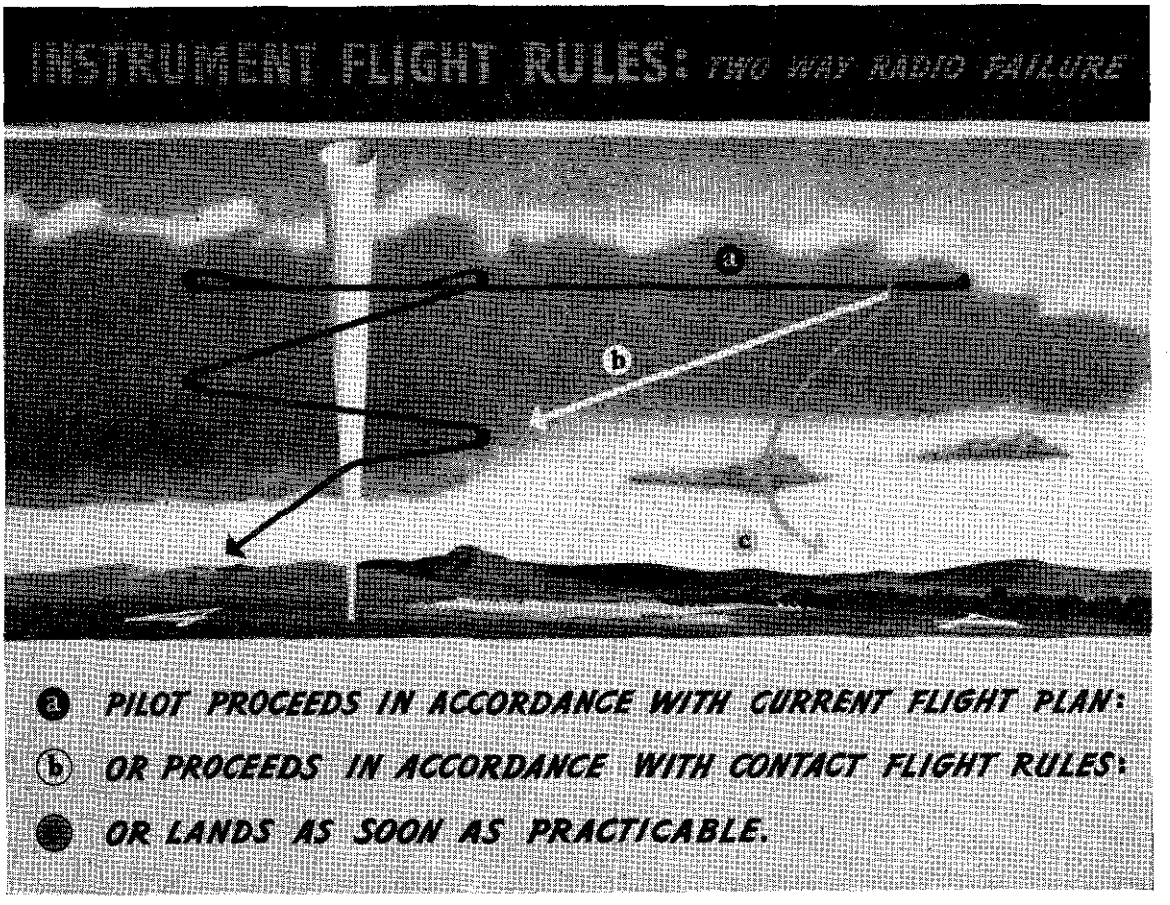
3. Report when leaving any assigned holding point.
4. Report, on request, when making procedure turn on final approach.
5. Report, on request, when over range station on final approach.
6. Report, on request, when visual reference to the ground is established.
7. Report when an approach for landing has been missed; advise that landing has been missed; and request further instructions.
8. Report, on request, when descending or climbing through 1,000-foot levels.
9. Report, on request, when attaining cruising altitude.

Two-way Radio Failure

In the event of failure of two-way radio communication between an aircraft and the ground, the pilot will observe one of the following procedures in the order listed:

(a) Proceed according to current flight plan; or
(b) proceed in accordance with contact flight rules; or
(c) land as soon as practicable.

Air Traffic Control will issue appropriate instructions to be broadcast "blind" over air carrier radio facilities (for air carrier aircraft), over military radio facilities (for military aircraft), and over suitable radio range facilities.



(NOTE.—Instructions shall not be broadcast unless Air Traffic Control authorizes such broadcast.)

If the aircraft is operating in contact flight rule weather conditions at the time the radio failure is discovered, the pilot is expected to proceed in accordance with contact flight rules to the airport of first intended landing or to the nearest suitable airport. If this is not possible, the pilot will proceed according to current flight plan.

If the pilot proceeds according to current flight plan and any amending instructions received and if instructions to the contrary are not received, the following procedures shall govern such flight:

1. If the pilot has received and acknowledged a clearance to the destination airport, he shall continue flight at the altitude/s last approved by the center or the minimum instrument altitude, whichever is the higher, to the radio facility serving the destination airport.
2. If the pilot has received and acknowledged a clearance to the radio facility serving the destination airport, specifying the expected approach time, he shall continue flight at the altitude/s last approved by the center or the minimum instrument altitude, whichever is the higher, to the radio facility specified.
3. 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 shall continue flight at the altitude/s last approved by the center or the minimum instrument altitude, whichever is the higher, to the radio facility serving the destination airport.
4. If holding instructions have been received, the pilot will comply with those 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, maintaining the last assigned altitude or the minimum safe altitude, whichever is the higher.

Approach.—Descent from the altitude maintained to the radio facility serving the destination airport shall be made on the final approach course, and shall start at the expected approach time last received. If no expected approach time was received, descent shall be started at the last estimated arrival time specified by the pilot. A full standard instrument approach should be executed unless a CFR approach is made.

Emergency Descent

Upon receipt of advice that an aircraft in flight within a control area or approach 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.

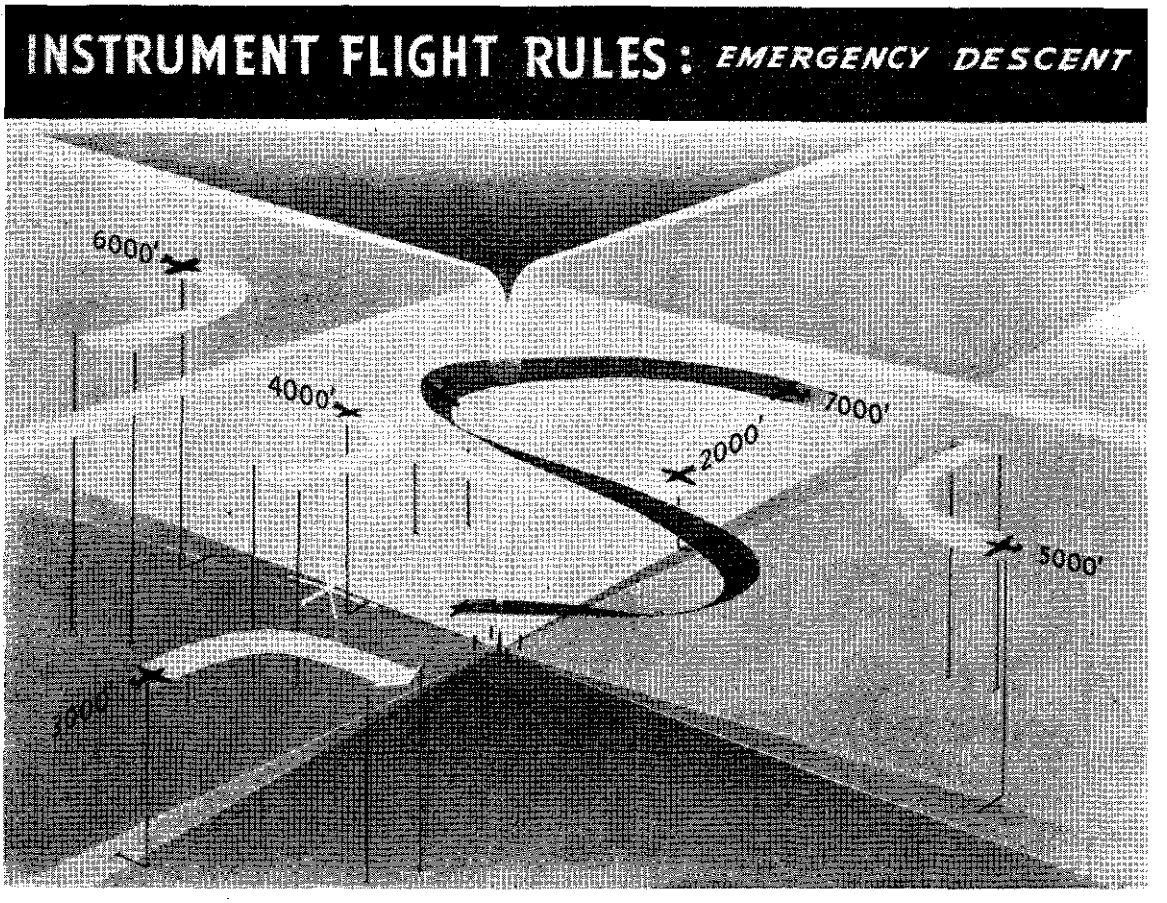
Should it become necessary for an aircraft holding to make an emergency descent for a landing through other traffic, the pilot of that aircraft should so advise Air Traffic Control through appropriate communications facilities.

Upon receipt of advice that an aircraft is making an emergency descent through traffic at assigned altitudes over the airport, the control personnel concerned 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
LEAVE ..... COURSE(S) 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



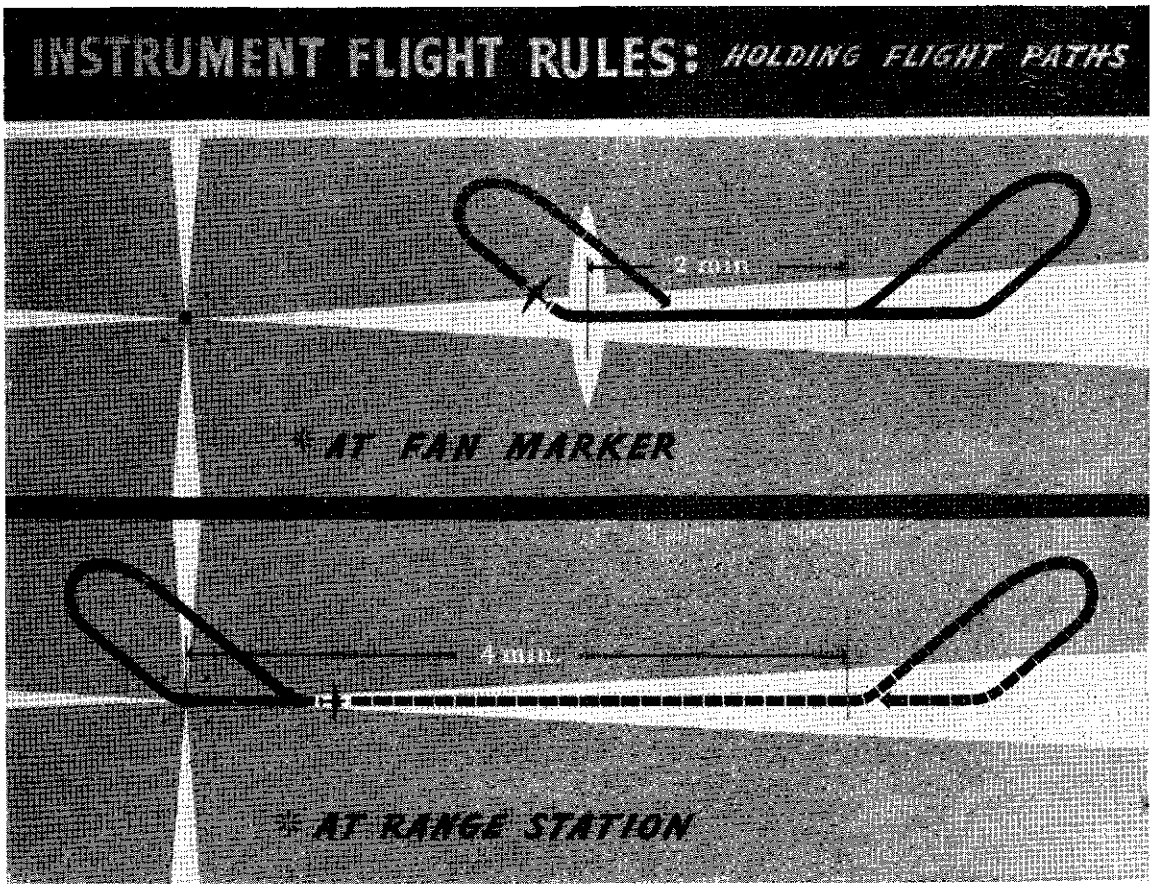
further instructions through appropriate communications facilities immediately following the emergency broadcast.

When terrain, traffic, or other factors make it impractical for an aircraft to maintain the last assigned altitude, Air Traffic Control will issue specific instructions to the aircraft.

Aircraft Holding

The standard holding flight path of an aircraft is to follow the right edge of the specified radio range on-course signal between the specified holding point and a point 4 minutes' flying time therefrom in the direction specified. Procedure turns are started at these points. Unless prevented by obstructions or otherwise instructed

by a center or tower, procedure turns are made to the left when flying away from the range station and to the right when flying toward the station. When holding at an approach control marker the holding flight path will extend from the specified holding point to a point not to exceed 2 minutes' flying time therefrom. When instruc-



tions are received giving the time of departure from the holding point, the pilot may shorten the flight path in order to leave the marker at the exact time specified.

Aircraft Landing

In the event landing is not completed within 15 minutes (or the time allowed for a standard instrument approach) after passing over the radio range station on the initial approach, or within 15 minutes after being issued approach clearance under conditions of approach sequence assignment, a pilot shall report this information and obtain further instructions from Air Traffic Control. Air Traffic Control then will determine whether the pilot will be allowed another immediate attempt or instruct him to stand by on a designated leg of the range at an assigned altitude until other aircraft in line have landed or taken off. This decision will be based upon existing conditions such as remaining fuel, weather trend, etc. A decision to route an aircraft to an alternate airport will be made by the pilot or aircraft operator involved after conferring with the Air Traffic Control personnel concerned.

Standard Instrument Approach

An aircraft instructed to make a STANDARD INSTRUMENT APPROACH on a specified radio range shall cross the range station at the approved INITIAL APPROACH ALTITUDE, proceed out the APPROACH course of the radio range for a period of *4 minutes*, make procedure turn and descend to cross the range station at the approved FINAL APPROACH ALTITUDE. Descent shall then be made to the MINIMUM ALTITUDE and if the ground is sufficiently visible, landing may be made. If the ground is not visible, the aircraft shall proceed in accordance with the established MISSED APPROACH PROCEDURE or as directed by Air Traffic Control. The approved INITIAL and FINAL APPROACH ALTITUDES, unless otherwise specified by Air Traffic Control, shall be those specified by an air carrier operator for air carrier aircraft, those specified by military authority for military aircraft and those specified in Coast and Geodetic Survey Instrument Approach Charts or CAA Instrument Approach Procedures publication for all other aircraft.

If visual reference to the ground is established before completion of the approach procedure, the entire procedure must nevertheless be executed unless the pilot requests and is granted clearance to proceed to the airport.

Recommended Landing Minimums

The minimum safe let-down altitude and visibility requirements recommended for civil pilots (other than air carrier) landing at civil airports will be included in the Civil Aeronautics Administration Instrument Approach Procedures publication. The recommended let-down altitude will be shown on Coast and Geodetic Survey Instrument Approach Charts. These recommendations are based on a minimum altitude of 500 feet and minimum visibility of 1 mile.

Arrival Report

As specified in Part 60 of the Civil Air Regulations, the pilot is responsible for filing an arrival report on a flight for which a flight plan has been filed. The arrival report should be filed with the communications station at point of landing. If Civil Aeronautics Administration facilities are not available, an arrival report should be forwarded through commercial telegraph or telephone facilities to the nearest CAA communications station or airway traffic control center.

If a required report of the arrival of an aircraft or of cancellation of the flight at an intermediate point has not been received within a reasonable time after the estimated time of arrival of the aircraft, steps will be taken to trace the aircraft by inquiry of intermediate stations. Information regarding an unreported aircraft is maintained on Air Traffic Control flight progress records for a period of at least 30 minutes after estimated time of arrival at point of destination, during which time other aircraft movements may be restricted or suspended in an effort to prevent possibility of collision between the unreported aircraft and other air traffic. Should the aircraft still be unreported after the 30-minute period, Air Traffic Control may resume normal traffic after all concerned have been appropriately notified. Failure to complete flight plan with an arrival report may subject the pilot to a civil penalty.

DEFINITIONS

AIRPORT APPROACH ZONE.—A zone designated by the Administrator to include the airspace above that area on the surface within 10 miles of an airport where adequate radio facilities are provided for instrument approach procedures, unless other dimensions are specified by the Administrator.

AIRPORT TRAFFIC ZONE.—A zone designated by the Administrator to include the airspace above that area on the surface of the earth within 3 miles of the center of an airport, unless other dimensions are specified by the Administrator.

AIR TRAFFIC.—Aircraft in motion on the usable surface of an airport and in the airspace.

AIR TRAFFIC CONTROL.—A service provided by the Administrator for supervision of air traffic, administered by airway traffic control centers and airport traffic control towers.

AIRWAY COMMUNICATIONS STATION.—An airway radio, teletype, or other communications station operated by the Administrator.

APPROACH CLEARANCE.—The clearance issued to the pilot of an aircraft making a flight subject to instrument flight rules authorizing an approach for landing by such aircraft.

APPROACH SEQUENCE.—A priority schedule specifying the sequence of approach of aircraft at a given point.

APPROACH TIME.—The time at which the approach may be commenced.

ATC.—An abbreviation used in radiotelephone, interphone, or other conversation to mean the air traffic control service of the Administrator of Civil Aeronautics.

CIVIL AIRWAY.—A path through the navigable airspace of the United States, identified by an area on the surface of the earth, designated or approved by the Administrator as suitable for interstate, overseas, or foreign air commerce.

CONTROL AREA.—A specified area within which a control center or tower provides for supervision of air traffic.

CONTROL CENTER.—A facility operated by the Administrator to provide supervision of air traffic within a specified control area.

CONTROL TOWER.—A facility to provide for the supervision of air traffic directed by personnel holding an air traffic control tower operator certificate.

CFR.—Contact Flight Rules as contained in CAR 60 without reduction of basic weather minimums.

ESSENTIAL TRAFFIC INFORMATION.—Information on aircraft which are expected to be overtaken, passed, or approached within a distance of less than 10 minutes in actual flying time when such aircraft are within a level of 1,000 feet or less vertically above or below the aircraft being cleared or aircraft are operating at variable altitudes.

IFR.—Instrument Flight Rules as contained in CAR 60.

LOCAL TRAFFIC.—Aircraft operating in the traffic pattern of the landing area concerned.

RADIO RANGE.—A form of radio facility the emissions of which are controlled to provide definite track guidance to aircraft in flight.

RUNWAY IN USE.—The runway currently in use by aircraft landing and taking off with the existing wind conditions, or as indicated by the airport traffic controller if calm wind conditions exist.

SEPARATION, ALTITUDE.—The method of effecting separation of aircraft in flight, accomplished by the assignment of different altitude levels.

SEPARATION, LATERAL.—The method of effecting separation of aircraft flying in opposite directions, along a well-defined radio range course, and on opposite sides of such course.

SEPARATION TIME.—The method of effecting separation of aircraft in flight, accomplished by requesting the pilot of aircraft either to lose time so that he will arrive over a specified fix at a specified time or to hold over a specified fix for a specified time.

TAXI PATTERNS.—The desired movement of aircraft on the ground at the landing area during specified wind conditions.

TRAFFIC CLEARANCE.—An approval of a flight or portion thereof by a control center or control tower with regard only to prevention of collision between known aircraft.

TRAFFIC PATTERNS.—The desired flow of aircraft flying in accordance with contact flight rules in the vicinity of an airport, or other landing area, during specified wind conditions.

VISIBILITY.—The official visibility reported by the United States Weather Bureau, when available, for a particular location; otherwise the average range of vision toward at least one-half the horizon at which conspicuous objects can be readily identified.

AVIATION INFORMATION