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AIR COMMERCE MANUAL 60

AIR TRAFFIC RULES

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DEPARTMENT OF COMMERCE

BUREAU OF AIR COMMERCE

AIR COMMERCE MANUAL 60

AIR TRAFFIC RULES

The following are explanatory notes as to operating procedures in connection with regulations, together with references and recommendations pertaining to various sections of Part 60 of the Civil Air Regulations "Air Traffic Rules", by numerical reference to such sections. (Cross-reference numbers not prefaced by "Section" pertain to section numbers of the Civil Air Regulations appearing in this manual.)

60.120 The following definitions are utilized in connection with the operation of an airway traffic control station:

(1) Altitude Separation - "Altitude separation" is the primary method of effecting separation of aircraft in flight and is accomplished by the assignment of different altitude levels.

(2) Time Separation - "Time separation" is the secondary method of effecting separation of aircraft in flight and is accomplished by requesting the pilot of an aircraft either to lose time to arrive over a specified fix at a specified time or to hold over a specified fix for a specified time.

(3) Lateral Separation - "Lateral separation" of aircraft in flight is utilized only in effecting separation of aircraft flying in opposite directions, provided that such aircraft are flying along a well defined radio range course, and are on opposite sides of such course.

(4) Landing Sequence - A "landing sequence" is a priority schedule designating the sequence of arrival which may be expected by the pilot of an aircraft.

(5) Traffic Delay - An airway traffic control delay for arriving aircraft is that interval in time between the estimated time of arrival over the radio range station for a normal undelayed flight and the time at which approach clearance is authorized, and for departing aircraft is that interval in time between the time

aircraft would have taken off if undelayed and the time at which departure clearance is authorized.

(6) Essential Traffic - "Essential traffic" information is information on aircraft which are expected to be overtaken, passed, or approached within a distance of less then 15 minutes in actual flying time (or within a distance of less than 10 minutes in actual flying time if aircraft belong to the same operator and are in direct communication with each other), when such aircraft are within a level of 4000 feet vertically above or below the aircraft being cleared.

(7) Approach Clearance - The "approach clearance" is the airway traffic control clearance issued to the pilot of an aircraft making a flight subject to instrument flight rules authorizing an approach for a landing by such aircraft.

(8) Approach Time - The "approach time" is the time of issuance of the approach clearance.

(9) Inner Marker - An "inner marker" for an airport is the last designated radio fix or designated check point on a given airway before reaching the airport.

(10) Station Area - The "station area" of an airway traffic control station is the area within which information on aircraft movements destined for flight within the control area of the airway traffic control station is forwarded to such station.

(11) ATC (Airways) - "ATC", or "Airways", are abbreviations used in interphone or other conversation to mean an airway traffic control station of the Bureau of Air Commerce.

60.122 The following definition is utilized in connection with the operation of an airway communication station:

(1) Communication Operator - A communication operator is an employee of the Bureau assigned to duty at an airway communications station.

60.123 The following abbreviation is utilized in connection with the operation of an airport control tower:

(1) APT (Tower) - "APT", or "Tower", are abbreviations used in interphone or other conversation to mean an airport control tower.

60.133 A. The following definitions are utilized in connection with flight plans:

(1) Contact Flight Plan - A "contact flight plan" is a flight plan containing the information specified in Section 60.133 when filed for a flight in accordance with contact flight rules, except that such flight plan need not contain item (k) alternate airport.

(2) Instrument Flight Plan - An "instrument flight plan" is a flight plan containing the information specified in Section 60.133 when filed for a flight in accordance with instrument flight rules.

B. At an airport at which an airport control tower is in operation, such control tower shall be considered as the official designator for announcing departure times from such airport (as required in item (i) of the flight plan) and arrival times over such airport.

C. Unless otherwise requested by an airway traffic control station, only the components of a flight plan listed below need be specified for a scheduled airline flight, the other components being known by virtue of the fact the flight is a scheduled operation.

(1) Item (a) the airline operator and trip number.

(2) Item (e) the proposed cruising altitude or altitudes, including the altitude over all designated fixes if the proposed altitude over such fixes is other than the cruising altitude.

(3) Item (i) the actual time of departure (time aircraft leaves the ground). This time shall be forwarded to the appropriate airway traffic control station or stations as soon as possible.

60.134 A. Approval of a flight plan by an airway traffic control station will be in the form of a traffic clearance indicating the extent of the control area over which the flight plan is approved, including any necessary amending traffic control instructions, and accompanied by essential traffic information. Prior to or upon reporting over the clearance point to which a traffic clearance has been issued, the pilot of such aircraft will receive further traffic clearance to another point. The pilot of an aircraft leaving a Bureau airway traffic control area will be "Cleared to the _____ Control Area Boundary", indicating that after leaving the control area, flight plan is not approved and pilot shall be governed by the procedures specified in Section 60.531, 60.571 and 60.584.

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

60.135 Flight altitudes shall be measured in feet above sea level, determined from a sensitive type altimeter adjusted to correspond to the nearest sea level barometric pressure.

60.151 Insofar as the weather minimums specified in Section 60.4 and Section 60.5 will apply, aircraft making weather observation flights for the U. S. Weather Bureau may be considered public aircraft while making such flights.

60.430 A. Arrival messages on scheduled airline aircraft need not be forwarded to an airway traffic control station unless specifically requested by such station.

B. If a 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. If the situation demands extended search by the Bureau of Air Commerce, all telephone or telegraph tolls incurred will be charged to the owners or operators of the aircraft.

60.44 Although weather at a control airport in a control zone may be below the minimums specified in Section 60.440 and Section 60.441, flight in accordance with contact flight rules may be made around such control zone, provided, that aircraft alters course to fly wholly outside of the control zone, and provided, further, that no weather will be encountered below the minimums for contact flight outside of control zones, as specified in Section 60.444, 60.445, 60.446 and 60.447

60.470 If an airline or other aircraft making a contact flight within the control area of an airway traffic control station is qualified for instrument flight, is maintaining two-way radio communication, and is operating under a flight plan which has been submitted in the same manner as for an instrument flight, the pilot of such an aircraft upon anticipating a change from flight in contact flight rule weather conditions to flight in instrument flight rule weather conditions need only so advise the airway traffic control station within the control area of which flight is being made.

60.53 The following procedures shall govern the submission of a flight plan concerning a flight to be made within a Bureau Airway Traffic Control Area:

A. Airway Traffic Control Station at Airport of Departure: A pilot of an aircraft filing a flight plan in accordance with Section 60.43 or Section 60.53 at an airport at which is located an airway traffic control station, shall file such flight plan with the airway traffic control station either in person, by telephone, or by radio through the airport control tower.

B. Airway Communications Station at Airport of Departure: A pilot of an aircraft filing a flight plan in accordance with Section 60.43 or Section 60.53 at an airport at which is located an airway communications station but no airway traffic control station, shall file such flight plan with the airway communications station either in person, by telephone, or by radio.

C. Neither Airway Traffic Control Station Nor Airway Communications Station at Airport of Departure: A pilot of an aircraft filing a flight plan in accordance with Section 60.43 or Section 60.53 at an airport at which is located neither an airway traffic control station nor an airway communications station, shall file such flight plan with the nearest airway traffic control station or airway communications station either by telephone, by telegraph, by military teletype facilities or by radio.

60.530 Flight plan approval, traffic control instructions (flight plan amendments), and traffic information will be issued by an airway traffic control station in accordance with the standard procedures and phraseologies described below. Transmission of such information to the pilot of an aircraft concerned shall be in the same standard phraseology.

I. STANDARD TRAFFIC CLEARANCES

(Words capitalized and underscored will be read as written followed by values required by words in parenthesis.)

A. A traffic clearance governing flight to a clearance point on an airway will be in the following form:

(a) (Flight Identification).
(b) CLEARED TO (Specified Fix).
(c) TO CROSS (Specified Fix) AT (Approved Altitude);
TO CRUISE AT (Approved Altitude);
TO DESCEND TO (Approved altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time);
TO MAINTAIN (Approved altitude) UNTIL
FURTHER ADVISED, or
PAST, (Specified Fix), or
(Specified Time);

TO CLIMB TO (Approved altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time).

(d) (Essential Traffic Information - see 60.530-III).

(e) (Any Special Information or Instructions).

B. A traffic clearance governing flight to an airport at which landing is proposed, requiring aircraft to hold over such airport at an assigned altitude, will be in the following form:

(a) (Flight Identification).
(b) CLEARED TO (Name of)RANGE STATION,
(c) TO DESCEND TO (Approved altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time);
TO MAINTAIN (Approved Altitude) UNTIL
FURTHER ADVISED, or
PAST (Specified Fix), or
(Specified Time);
TO CLIMB TO (Approved Altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time).
(d) NUMBER (Landing Sequence Number) TO LAND.
(e) (Any Special Information or Instructions).

C. A traffic clearance governing flight to an airport at which landing is proposed, authorizing either an instrument or contact approach for a landing, will be in the following form:

(a) (Flight Identification).
(b) CLEARED TO (Name of) TOWER.
(c) *
(d) (Essential Traffic Information - see 60.530-III), or
NUMBER (Landing Sequence Number) TO LAND.
(e) (Any Special Information or Instructions).

*The omission of altitude and approach instructions indicates that either a standard instrument approach or a contact approach may be executed depending upon the existing weather conditions, and pilot shall make a radio report as prescribed in 60.571-II E (3).

D. A traffic clearance governing flight to an airport at which landing is proposed, requiring aircraft to maintain a specified altitude until cleared for a landing by the airport control tower, will be in the following form:

(a) (Flight Identification).
(b) CLEARED TO (Name of) TOWER.
(c) TO DESCEND TO (Approved Altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time);
TO MAINTAIN (Approved Altitude) UNTIL
FURTHER ADVISED, or
PAST, (Specified Fix), or
(Specified Time);
TO CLIMB TO (Approved Altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time).
(d) (Essential Traffic Information - see 60.530-III).
(e) (Any Special Information or Instructions).

E. A traffic clearance governing flight to an airport at which landing is proposed, specifying a standard instrument approach for a landing, will be in the following form:

(a) (Flight Identification).
(b) CLEARED TO (Name of) TOWER.
(c) STANDARD INSTRUMENT APPROACH.
(d) NUMBER ONE TO LAND.
(e) (Any Special Information or Instructions).

F. A traffic clearance governing flight to an airport at which landing is proposed, authorizing a contact approach for a landing, will be in the following form:

(a) (Flight Identification)
(b) CLEARED TO (Name of) TOWER.
(c) CONTACT APPROACH, or
CONTACT APPROACH IF CONTACT AT
(Specified Minimum Altitude),
(d) (Essential Traffic Information - see 60.530-III).
or
NUMBER (Landing Sequence Number) TO LAND.
(e) (Any Special Information or Instructions).

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II. STANDARD AIRWAY TRAFFIC CONTROL INSTRUCTIONS

(Words capitalized and underscored will be read as written followed by values required by words in parenthesis.)

A. Instructions requiring that an aircraft be held at a specified fix, will be in the following form:

HOLD AT (Specified Fix) UNTIL
FURTHER ADVISED, or
(Specified Time).

B. Instructions requiring that an aircraft be flown at a specified altitude with no specific time of altitude change, will be in the following form:

TO CROSS (Specified Fix) AT (Approved Altitude),
or
TO CRUISE AT (Approved Altitude).

C. Instructions requiring that an aircraft descend to a specified altitude, will be in the following form:

DESCEND TO (Approved Altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time).

D. Instructions requiring that an aircraft maintain a specified altitude, will be in the following form:

MAINTAIN (Approved Altitude) UNTIL
FURTHER ADVISED, or
PAST (Specified Fix), or
(Specified Time).

E. Instructions requiring that an aircraft climb to a specified altitude, will be in the following form:

CLIMB TO (Approved Altitude)
IMMEDIATELY, or
AFTER PASSING (Specified Fix), or
AT (Specified Time).

F. Instructions requiring an aircraft to proceed on-top or underneath an overcast because of conflicting traffic, shall be in the following form:

REMAIN AT LEAST 500 FEET ABOVE ALL CLOUDS, or

REMAIN AT LEAST 500 FEET BELOW ALL CLOUDS

G. Instructions requiring or authorizing an aircraft to make a descent or climb subject to specified minimum visibility conditions because of conflicting traffic, will be in the following form:

DESCEND IF DESCENT CAN BE MADE WITH HORIZONTAL VISIBILITY AT LEAST (Specified Number) MILES

CLIMB IF CLIMB CAN BE MADE WITH HORIZONTAL VISIBILITY AT LEAST (Specified Number) MILES

H. Instructions relative to approach clearance, will be in the following form:

(1) Delay Expected -

EXPECT APPROACH CLEARANCE AT (Time at which pilot may expect to receive airway traffic control clearance to the airport control tower, authorizing approach to be made for a landing at the airport.)

(2) No Delay Expected -

NO DELAY EXPECTED.

(3) Delay Unknown-clearance time will be forwarded as soon as determination can be made.

DELAY UNKNOWN.

III. TRAFFIC INFORMATION

The manner by which a given traffic condition is described will make no differentiation between various classes of aircraft, and will take the following form:

A. Opposite Directions (Level Flight) - For aircraft travelling in opposite directions in level flight, information will consist of direction of flight and cruising altitude.

Example: A westbound aircraft at cruising altitude of 8000 feet being cleared from Toledo to Goshen would be given the altitudes of any eastbound aircraft between Goshen and Toledo in level flight at cruising altitudes within 4000 feet of the westbound aircraft as "Eastbound at 5000, 9000, and 11, 000.".

B. Same Direction (Different Flight Levels) - For aircraft travelling in the same general direction in level flight where flight levels differ, information will consist of direction of flight and cruising altitude.

Example: The same westbound aircraft would be given the altitudes of any other westbound aircraft between Toledo and Goshen cruising at an altitude other than 8000 feet, but within 4000 feet of 8000 feet, as "Westbound at 4000, 6000, and 10,000."

C. Same Direction (Same Flight Level) - For aircraft travelling in the same general direction where flight levels are the same, information will consist of direction of flight, type of aircraft, and estimated time and altitude over a designated fix nearest to the point at which the aircraft are expected to overtake.

Example: The same westbound aircraft would be given the type of aircraft, estimated time and altitude over a designated fix, concerning any other westbound aircraft between Toledo and Goshen cruising at an altitude of 8000 feet, as "Westbound Douglas estimated Goshen 415 at 8000, westbound Beechcraft estimated Goshen 423 at 8000.".

The above example under paragraph C indicates that the westbound aircraft was expected to overtake the Douglas and Beechcraft between Toledo and Goshen, or to approach them within 15 minutes in actual flying time (or less than 10 minutes in actual flying time if aircraft belong to the same operator and are in direct communication with each other). In actual practice the above would be true only for contact flight rule weather conditions as aircraft travelling in the same general direction under instrument flight rule conditions would automatically be given altitude separation whenever such aircraft were separated by less than 15 minutes in actual flying time (or less than 10 minutes in actual flying time if aircraft belong to the same operator and are in direct communication with each other).

D. Any direction (Variable Flight Levels) - For aircraft travelling in any direction where a variation in altitude is indicated, information will consist of direction of flight, type of aircraft, and estimated time and altitude over a designated fix nearest to the point at which the aircraft are expected to pass or overtake.

Example: The same westbound aircraft being cleared from Goshen to McCool, passing McCool at 4000 feet, would be given the type of aircraft, and estimated time and altitude over McCool, of any aircraft eastbound and westbound of 4000 feet or less altitude separation which it is expected would be overtaken or passed between Goshen and McCool, or approached within a distance of less than 15 minutes in actual flying

time (or less than 10 minutes in actual flying time if aircraft belong to same operator and are in direct communication with each other) as:

"Westbound Douglas estimated McCool 440 at 6000. Westbound Beechcraft estimated McCool 450 at 4000. Eastbound Boeing estimated McCool 448 at 7000."

Again in the above example under paragraph D instrument flight rule conditions would have automatically necessitated altitude separation for flights travelling in the same general direction where time separation was less than 15 minutes in actual flying time (or less than 10 minutes in actual flying time if aircraft belong to the same operator and are in direct communication with each other).

E. Landing Sequence Number - When control procedures are being exercised by an airway traffic control station and a landing sequence number is included in a clearance, such landing sequence numbers will be in lieu of detailed traffic information.

F. No Traffic - When known traffic conditions are such that there is no essential traffic information for a given aircraft, the appropriate clearance will contain the phraseology "No traffic reported"

60.531 The following procedures shall govern the submission of a flight plan concerning a flight to be made outside of a Bureau airway traffic control area:

A. General: No flight plan or approval thereof is required by the Bureau of Air Commerce for any flight made wholly outside an airway traffic control area, except as outlined in paragraphs B, C and D below. An airway communications station will function in the capacity of furnishing and making available to pilots, upon request, information on any known aircraft movement within the control zone of intersection served by such station. All communications with aircraft shall be

in the form of information, advice, and suggestions, unless in the interest of safety it is necessary to issue specific instructions covering the flight of aircraft within the control zone of intersection.

B. Departing Aircraft: Aircraft departing for flight subject to instrument flight rules from a point within a control zone of intersection shall, if such zone is served by a Bureau radio voice communications station, forward to such station prior to departure the expected time of departure, the altitude through such zone, and the course or courses proposed to be followed while within the zone, as prescribed in Section 60.531. The communications operator on duty shall advise all aircraft operators available and the airport control tower, if one is in operation, of the proposed flight and shall examine the communications station file to ascertain whether or not there may be confliction with any other known air traffic. If it appears that the proposed departure may conflict with other aircraft movements within the control zone of intersection, the communications operator shall so advise the pilot submitting the information on the proposed flight. The pilot then should alter the proposed departure so that confliction with other known aircraft movements may be avoided. If it appears that the proposed departure will not conflict with any other known traffic within the control zone of intersection, the communications operator shall advise the pilot accordingly and departure should then be made as soon thereafter as is practicable. When practicable, the communications operator may authorize the issuance of such advices to pilots through available airport control tower radio. A flight plan as defined in Section 60.133 may be filed by the pilot for transmission to the point of first intended landing and to the intermediate airway radio communications stations, and this flight plan will be transmitted by available Bureau facilities with the least delay possible and shall also be forwarded to the local representative of any airline operating over the same airway.

C. Enroute Aircraft: When flying on a civil airway, aircraft making a flight subject to instrument flight rules shall report over designated radio fixes and shall, prior to entering a control zone of intersection served by a Bureau radio voice communications station, forward the expected time of arrival over the center of such zone, the altitude through such zone, and the course or courses proposed to be followed while within such zone, as prescribed in Section 60.531 and Section 60.571. Reports over radio fixes received by airway communications stations will be forwarded to the point of first intended landing and to the intermediate airway communications stations. Upon receipt of a report from an aircraft entering a control zone of intersection, the communications operator on duty at the airway communications station serving such zone shall examine the station files and ascertain from any other sources available whether or not there may be any confliction with other known air traffic. If it appears that flight of the aircraft through the control zone of intersection may conflict with other aircraft movements, the communications operator on duty shall ascertain through consultation with the local representative of any aircraft operator concerned and the airport control tower, if one is in operation, the most practicable procedure to be observed and the pilot of the aircraft concerned shall be advised accordingly. If it appears that the flight through the control zone of intersection will not conflict with other aircraft movements, the communications operator on duty shall so advise the pilot of the aircraft concerned.

D. Arriving Aircraft: Aircraft making a flight subject to instrument flight rules and proposing landing within a control zone of intersection, shall, prior to entering such control zone of intersection if served by a Bureau radio voice communications station, forward the expected time of arrival over the intended point of landing within such zone, the altitude at which control zone of intersection is entered, and the proposed altitude over the radio range station on the initial approach for a landing. Upon receipt of

such a report from an aircraft proposing a landing within a control zone of intersection, the communications operator on duty at the airway communications station serving such zone shall examine the station files and shall ascertain from any other sources available whether or not there may be any confliction with other known air traffic. The communications operator shall consult with the local representatives of aircraft operators and the airport control tower, if one is in operation, determining the most practicable procedure to be followed, and the pilots of the aircraft concerned shall be advised accordingly. When practicable, the communications operator may authorize the issuance of such advices to pilots through available airport control tower radio.

E. Operation Procedure: The following traffic control procedures shall be followed when weather conditions are such as to require the observance of instrument flight rules. When two or more aircraft are within a control zone of intersection at the same time, the pilot of such aircraft shall be advised to establish and maintain a vertical separation of at least 500 feet in altitude if crossing, 1000 feet if passing or holding over a fix and 2000 feet if flight is in same direction. The estimated time of arrival over the cone of silence of the radio range station will normally determine the sequence of arrival. The first aircraft due to approach for a landing shall observe the lowest altitude, the altitude of succeeding aircraft increasing in accordance with sequence of arrival. Under conditions of weather requiring the observance of instrument flight rules, a departing aircraft ordinarily shall not take-off within less than five minutes of the estimated time of arrival on initial approach of an arriving aircraft. Where only airline aircraft are involved, the necessary procedures should be determined by the local representatives of the airlines concerned, and in such cases no action relative to such aircraft will be required by personnel of the Bureau airway communications station.

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F. Communication Procedure: For a control zone of intersection served by a Bureau voice radio communications station which is in direct communication (telephone or interphone) with a ground two-way radio station of an aircraft operator, the aircraft of such operator need not contact the airway communications station directly but may forward the necessary information through the operator's communications facilities or available airport control tower radio, and the communications operator will forward necessary information to the operator's representative for transmission to the aircraft through the operator's communications facilities, or to available airport control tower operator for transmission to the aircraft through the airport control tower radio. Upon departure from the preceding terminal and thereafter, upon any change in proposed flight procedure while enroute, the operator's representative shall forward to such airway communications station the flight plan of the inbound aircraft, indicating cruising altitude and estimated time of arrival over the center of, or over the intended point of landing within such control zone of intersection. If such procedure is followed, it will not be necessary for such aircraft to make a report upon entry to such control zone of intersection.

60.532 A. Arrival messages on scheduled airline aircraft need not be forwarded to an airway traffic control station unless specifically requested by such station.

B. If a 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. If the situation demands extended search by the Bureau of Air Commerce, all telephone or telegraph tolls incurred will be charged to the owners or operators of the aircraft.

60.571 The pilot of an aircraft making reports in accordance with Section 60.571 shall be governed by the following communications procedures:

I. MAINTAINING COMMUNICATION

A. Airline Aircraft: Airline aircraft shall maintain radio communication through airline communication facilities, if available. When such facilities are not available, communication shall be maintained through Bureau of Air Commerce voice communication facilities and available airport control tower radio facilities. Under conditions of instrument approach at an airport, communication shall be maintained through airline communication facilities until aircraft is underneath the overcast and ground contact established, after which subsequent communication shall be obtained through the airport control tower, if one is in operation. If necessary, airline employee may secure airport and landing information from the airport control tower by interphone or telephone and relay to a pilot through the airline communication facilities.
(See note under paragraph B below).

B. Other than Airline Aircraft: Other than airline aircraft maintaining radio communication through Bureau of Air Commerce communication facilities, shall maintain communication with such facilities until aircraft is able to establish two-way communication with the airport control tower at point of intended landing, if one is in operation, after which all subsequent communication shall be maintained through such control tower. Other than airline aircraft maintaining communication through airline or military radio communication facilities shall maintain communication with such facilities in the manner described in 60.571-IA.
(Note: Bureau of Air Commerce communication facilities consist of aircraft-to-ground communication by aircraft transmission on 3105 KC (or other appropriate frequency provided satisfactory arrangements have been made for ground reception) and reception on the range frequency of an Airway Communications Station or, 236 KC or 278 KC depending upon the type of the particular facility with which communication will be established. Point-to-point communication will be provided by means of leased wire teletype facilities, or other established communication channels).

II. PILOT RADIO REPORTS

A. Airline Aircraft Reports: Reports over designated radio fixes made by airline aircraft and forwarded through airline communications facilities in accordance with Section 60.5710, shall be so forwarded to the appropriate airway traffic control station in not more than 5 minutes after such report has been made. Airline aircraft operating within the control area of an airway traffic control station in addition to making reports over designated radio fixes, shall report arrival and departure time (time off the ground) at intermediate stops, and such reports shall be forwarded in the same manner as reports over designated radio fixes.

B. Weather Reports: Weather reports made by the pilot of an airline aircraft need be forwarded to an airway traffic control station only when so requested by such station, or when pilot encounters unanticipated weather conditions.

C. Estimates: Pilots of aircraft making reports as prescribed in Section 60.571 shall, if possible, include in each report an estimated time of arrival over the next designated radio fix, but in any event, shall include in the report over the radio fix preceding the inner marker for the airport of intended landing, if located within an airway traffic control area, an estimated time of arrival and requested altitude over the inner marker for such airport, and an estimated time of arrival over the airport.

> Note: If, after reporting over the inner marker it becomes apparent estimated time of arrival will be in error in excess of two minutes, a corrected estimate shall be made.

D. "Over Airport" Time: The "over airport" time for contact flights shall be considered to be the time the aircraft arrives over any portion of the airport. "Over Airport" time for an instrument flight shall be the time the aircraft arrives over the cone of silence of the radio range station.

E. Altitude Changes: Pilots of aircraft changing altitude shall report the following information:

(1) At all times, immediately upon attaining an assigned altitude level.

(2) At all times, immediately upon attaining initial approach altitude when executing a standard instrument approach.

(3) At all times, upon establishing ground contact after descent down through an overcast, reporting time, altitude, visibility, and approximate position at which ground contact was established, or after reaching the minimum safe altitude (see Section 60.35) if ground contact has not been established.

(4) At the specific request of an airway traffic control station, when passing 1,000 foot levels while descending or climbing.

(5) At the specific request of an airway traffic control station, upon attaining cruising altitude.

(6) At the specific request of an airway traffic control station, when starting descent to an assigned or approved altitude.

(7) If climbing or descending at the time a radio report is being made, the altitude at which level flight will be resumed, such change to be made only if approval therefor has been previously obtained.

F. Instrument Approach: The pilot of an aircraft making an instrument approach for a landing at an airport shall report the time and altitude of passing over the cone of silence of the radio range station at that airport on the initial approach. If an aircraft is held over an airport at an assigned altitude, the pilot of such aircraft shall report each time of passing over the cone of silence of the radio range station, stating the direction of flight of the aircraft.

G. Re-Estimate: When an aircraft has been delayed in flight because of a landing sequence assignment, the pilot, upon receipt of the approach clearance, shall estimate the time expected to complete such approach for a landing at the airport at which landing is proposed.

60.5710 The following procedures shall govern the manner in which airway traffic control information and instructions are exchanged over airway traffic control inter-communicating telephone circuits, and shall further govern the usage of such circuits:

A. General: An airway traffic control station shall not act as a relay point on an interphone circuit for the exchange of information between other parties except on matters of information to airway traffic control operation.

B. Transmission to an Airway Traffic Control Station:

(1) Any person making reference to an aircraft over an inter-phone circuit while in communication with an airway traffic control station, shall make reference in the following manner:

(a) Name or identification of operator of aircraft.

(b) Trip number of an airline aircraft; aircraft identification mark of a non-scheduled civil aircraft; type of aircraft and name of pilot of a military aircraft.

(c) Point of origin of an inbound aircraft and point of destination of an outbound aircraft.

(2) A call made by an airway traffic control station on an inter-phone circuit shall be answered by stating the name or identification of the organization or company at which such call is being answered, followed by the name of the person answering the call.

C. Transmissions from an Airway Traffic Control Station:

(1) Airway traffic control personnel shall observe the following procedure in acknowledging receipt of transmissions over the interphone circuit:

(a) "Airways" (If communication has not been previously established).

(b) Identifying name or initials of the Controller acknowledging receipt of the transmission.

(c) Time of completion of transmission.

(2) Information and instructions as transmitted by an airway traffic control station shall be forwarded verbatim to the pilot of the aircraft concerned. Should the operator of an aircraft desire to change, delete, or add to any information or instructions as transmitted by an airway traffic control station, the airway traffic control station shall be acquainted with such proposed changes, deletions, or additions in information or instructions prior to their transmission to the pilot, if related to air traffic information.

60.572 In the event of temporary failure of the two-way communication system of an aircraft due to atmospheric conditions, the pilot of such aircraft, at his discretion, may elect to return to a point on the course where atmospheric conditions allow the resumption of two-way communication, in which case the turn shall be made in the following manner:

The aircraft shall descend 500 feet from cruising altitude and turn left across the course to a point where, in the pilot's opinion, the aircraft will be out of the line of traffic before assuming cruising altitude for the opposite direction.

60.5721 In the event of failure of the two-way communication equipment of an aircraft and the pilot elects to land at the nearest suitable airport, such airport shall not be one at which an airway

traffic control station is located unless flight can proceed to such airport under contact flight rule weather conditions.

60.5722 In the event of failure of the two-way communication equipment of an aircraft, and the pilot elects to continue flight in accordance with the provisions of Section 60.5722, the following procedures shall govern such flight:

A. Flight in Accordance with Flight Plan:

(1) Pilot shall maintain approved cruising altitude until approaching the inner marker, which shall then be crossed at the altitude as given in the flight plan from point of origin or as subsequently changed and approved by an airway traffic control station. After crossing the inner marker at the approved flight plan altitude, normal descent (300' per minute) shall be made for a standard instrument approach for the particular airport at which landing is proposed. Pilot shall make every effort to complete landing as closely as possible to the last estimated time of arrival transmitted to the airway traffic control station concerned.

(2) The appropriate airway traffic control station shall divert all other known air traffic from that portion of the airway between the inner marker and the airport, from the inner marker altitude (as indicated in the flight plan or as subsequently approved) to the ground, and further, shall divert such known air traffic from that portion of the approach leg of the radio range which may normally be used by an aircraft making an approach, from the initial approach altitude to the ground.

(3) Procedure as indicated in paragraph (1) and paragraph (2) above will not be effective if a pilot has previously received and acknowledged a clearance to the inner marker, flight instructions from the inner marker to the airport, or

clearance to the tower, in which case the procedures specified in paragraphs (4), (5), and (6) below shall apply.

(4) In case a pilot receives and acknowledges a clearance to the inner marker, and two-way communication subsequently fails, aircraft shall proceed from the inner marker to the airport holding the approved altitude at which the inner marker was crossed until such time as further instructions may be received. Such instructions will be broadcast "blind" on airline company frequency (for a scheduled airline aircraft) and/or range frequency. In the event such broadcasts are not received and in the absence of definite instructions, pilot shall maintain the altitude at which the inner marker was passed, up to and while holding over the airport (where necessary), until the approach time last transmitted to, and acknowledged by the pilot, and at approach time will start approach for a landing at the airport.

(5) In the case of a pilot receiving and acknowledging flight instructions from the inner marker to the airport, and two-way communication subsequently fails, aircraft shall proceed from the inner marker to the airport in accordance with the acknowledged instructions. Further instructions will be broadcast "blind" on airline company frequency (for a scheduled airline aircraft) and/or range frequency. In the event such broadcasts are not received and in the absence of definite instructions, pilot shall maintain his acknowledged assigned airport arrival altitude up to and while holding over the airport, until the approach time specified in the last acknowledged instructions and at the approach time will start approach for a landing at the airport.

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(6) In the case of a pilot receiving and acknowledging a clearance to the tower, and two-way communication subsequently fails, aircraft shall proceed in accordance with the acknowledged clearance and make landing.

B. Unreported Aircraft: Unreported aircraft will be maintained on the Flight Progress Boards of an airway traffic control station for a period of thirty minutes after estimated time of arrival over the airport of intended landing, such estimated time of arrival to be based on the longest time estimated to complete the flight either by pilot in original flight plan or enroute, or by the airway traffic control station. If aircraft has not been reported within thirty minutes after estimated time of first arrival on initial approach over the station, and under conditions of active control, all concerned shall be advised of the situation and it will be their responsibility to forward this information as they may deem necessary, and upon resumption of normal traffic such information shall be broadcast on the appropriate radio range frequency. Those previously notified of the unreported aircraft shall be advised upon definite word of the disposition of such aircraft.

60.573 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 Bureau airway traffic control area shall obtain approval from the appropriate airway traffic control station prior to effecting such change in flight plan.

60.59 Until such time as regulations are promulgated governing approach and departure procedures, it is recommended that the following procedures affecting departing and arriving aircraft be observed:

A. Departing: The pilot of an aircraft proposing a flight subject to instrument flight rules from an airport at which an airport control tower is in operation, shall,

prior to taxiing for a take-off, contact such airport control tower for take-off instructions and shall not take off until clearance has been received, and further, shall remain in communication with such airport control tower for at least 5 minutes after take-off unless airport control tower has previously signed off.

B. Arriving:

(1) Instrument Approach - The pilot of an aircraft operating under instrument flight rules and making an instrument approach to an airport at which an airport control tower is in operation, shall contact such control tower for landing instructions in accordance with 60.571-A or B, provided, however, that if such airport is within the control area of an airway traffic control station, a clearance to such airport control tower shall have been previously obtained from such airway traffic control station.

(2) Contact Approach - The pilot of an aircraft operating under instrument flight rules and making a contact approach at an airport at which an airport control tower is in operation, shall contact such control tower for landing instructions at least 10 minutes prior to the estimated time of arrival over such airport, or as early thereafter as is practicable, provided, however, that if such airport is within the control area of an airway traffic control station, a clearance to such airport control tower shall have been previously obtained from such airway traffic control station, and communication shall be maintained in the manner prescribed in 60.571 A or B.

C. Additional Approach Requirements: An airway traffic control station will have available for the pilot of an aircraft a procedure to be followed by the pilot when making an instrument approach to an airport within

the control area of such station, in the event landing is not completed within 15 minutes (or the time allowed for 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 landing sequence assignment. When an airline company's representative anticipates or discovers that more than 15 minutes may be consumed by a pilot in completing landing, it will be his responsibility to obtain from the airway traffic control station further instructions which must be transmitted to the pilot immediately upon consumption of allowable time limit. This, however, will not relieve the pilot of responsibility for obtaining further instructions when it is seen landing will not be completed within the time limit, or on the original final-approach, and if landing is not completed on final-approach, pilot shall observe flight procedure prescribed in the standard instrument approach. If pilot misses first final-approach to a landing, the airway traffic control station shall determine whether pilot will be allowed another immediate attempt or instruct him to stand by on a designated leg of the range at a certain 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. The decision to route an airline flight to an alternate airport will be made by the airline operator involved after conferring with the airway traffic control station concerned.

D. Emergency Descent: Should it become necessary for an aircraft holding over an airport at an assigned altitude to make an emergency descent for a landing through other traffic, the pilot of such aircraft through appropriate communication facilities shall so advise the airway traffic control station within the control area of which landing is proposed.

(1) Upon receipt of advice that an aircraft is making an emergency descent through traffic at assigned altitudes over an airport, the airway traffic control station concerned shall immediately call the airway communication station concerned with an "Emergency to All Concerned" and request an emergency broadcast on the appropriate radio range frequency which shall be transmitted as follows:

"Emergency to all concerned:
All aircraft below _____ thousand feet leave _____ leg/s immediately. Emergency landing at _____ Airport."

Note: Each Airway Traffic Control station shall issue the necessary instructions as dictated by existing circumstances. (The outline of the general procedure to be followed during such emergencies shall be available at each Airway Traffic Control station, copies of which having previously been approved by the Bureau, and each airway traffic control employee shall be examined periodically as to his knowledge of the procedure to be followed.)

(2) Upon receipt of such a broadcast, pilots of aircraft affected will clear specified areas in accordance with emergency instructions, and will as soon as possible through the appropriate communications facility obtain further instructions.

(3) Immediately after such an emergency broadcast has been requested, the airway traffic control station involved shall forward further instructions to the proper communications agency for transmission to aircraft affected by the broadcast.