CIVIL AERONAUTICS BOARD

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CIVIL AIR REGULATIONS

PART 61

SCHEDULED AIR CARRIER RULES

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CIVIL AIR REGULATIONS

PART 61—SCHEDULED AIR CARRIER RULES

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61.0 Provision for issuance. Pursuant to the provisions of the Civil Aeronautics Act of 1938, as amended, empowering the Administrator of Civil Aeronautics to issue air carrier operating certificates and the Board to establish minimum safety standards for the operation of air carriers to whom such certificates are issued, and for prohibiting the operation or navigation of aircraft of such air carriers in violation thereof, the following rules and regulations for the operation of scheduled air carriers engaged in interstate air transportation within the continental limits of the United States, in addition to those prescribed elsewhere in the Civil Air Regulations, are hereby prescribed.

61.00 Certificate required. No air carrier shall operate aircraft in scheduled interstate air transportation within the continental limits of the United States carrying mail, goods, or persons, or any combination thereof unless such air carrier is possessed of a valid air carrier operating certificate issued by the Administrator of Civil Aeronautics.

61.01 (Unassigned).

61.1 Service.

61.10 Service performed. No scheduled air carrier shall perform or render any service, as related to the carriage of mail, goods, or persons, or to day or night operation, until rated competent to render such service in the air carrier operating certificate issued by the Administrator.

61.11 Schedules.

61.110 Operations schedules. Shall be set up with due regard to sufficient time for the adequate servicing with fuel and oil at intermediate stops and to prevailing winds, and on the basis of a cruising speed of the aircraft at not to exceed the specified cruising power output of the engines as operated in the aircraft. All air carrier aircraft when being tested for ratings will be checked to determine cruising speeds that are to be approved. Block-to-block time shall be used in establishing time from stop to stop.

61.2 Route.

61.20 *Route operation.* *No air carrier shall operate aircraft in scheduled air transportation* over any route or part thereof until rated competent to operate thereover in its air carrier operating certificate except as provided by § 61.200.

61.200. Off-route operation. An air carrier may operate aircraft in scheduled air transportation from any alternate airport where such procedure is not specifically forbidden by the Administrator *via a route not included in its air carrier operating certificate to* a scheduled stop on its regular route, and in making such flight need not comply with those requirements of the Civil Air Regulations pertaining to (1) pilot route competency, (2) adherence to lighted airways, and (3) the provisions relating to radio range courses if the flight can be conducted under contact flight rules. No such flight shall be made, except along a civil airway, unless the aircraft is equipped with a fully functioning automatic radio direction finder. When a flight is made over an unauthorized route the air carrier shall make a written report to the Administrator within seven days after the completion of such flight setting forth full details with respect to such flight.

61.21 Regular route. The conduct of operations by a scheduled air carrier shall at all times be in strict accordance with the terms of its air carrier operating certificate.

61.22 Regular stops. Regular terminals and intermediate stops shall be used only as specified in the air carrier operating certificate.

61.23 Alternate airports. Regular terminals, intermediate stops, or other adequate airports, may be used as alternates when used for the purpose of complying with clearance requirements, provided such alternates are listed as such in the air carrier operating certificate.

61.24 Alternate route. No scheduled air carrier shall operate over any alternate route until rated competent to operate thereover in the air carrier operating certificate issued by the Administrator, and the conduct of operations by such air carrier shall at all times be in strict accordance with the terms of its air carrier operating certificate.

61.3 Aircraft.

61.30 Aircraft operation. No scheduled air carrier shall operate any aircraft until rated competent with respect thereto in the air carrier operating certificate issued by the Administrator.

61.31 Single-engine aircraft.

61.310 Day operation over land. No single-engine seaplane shall be operated over land with passengers unless such aircraft can, at all times, reach open water suitable for a landing in the event of complete power failure.

61.311 Night operation over land. No single-engine aircraft shall be operated at night with passengers.

61.312 Day operation over water. The following rules shall govern the operation of single-engine aircraft in day operation over water:

61.3120 (*a*) No single-engine land aircraft shall be operated over water unless such aircraft can at all times reach land suitable for a landing in the event of a complete power failure.

61.3121 (*b*) No single-engine water aircraft may be operated over water unless a landing may be effected at all times within a distance of eight miles from shore, in the event of a complete power failure.

61.3122 (*c*) No single-engine water aircraft shall be operated over water, except during such time and seasons as permit the use of such water for landing without any hazard from floating ice or freezing water spray.

61.313 Night operation over water. No single-engine aircraft shall be operated at night with passengers.

61.32 Multi-engine aircraft.

61.320 Day operation over land. No multi-engine seaplane shall be operated over land more than 50 miles from open water suitable for a landing.

61.321 Night operation over land. No multi-engine seaplane shall be operated at night over land with passengers, nor shall any such seaplane be operated at night over land with goods more than 50 miles from open water suitable for a landing.

61.322 Day and night operation over water. The following rules will govern the operation of multi-engine aircraft in day or night operation over water:

61.3220 (*a*) No multi-engine land aircraft shall be operated over water, beyond gliding distance from shore without the aid of power, unless completely equipped for overwater flying, as provided in § 40.233.

61.3221 (*b*) No multi-engine aircraft shall be operated over water unless such aircraft can, at all times, maintain an altitude of at least 1,000 feet above the water, with any one engine inoperative and with the authorized load for the route or part thereof.

61.3222 (*c*) No multi-engine seaplane shall be operated over water except during such time and seasons as permit take-off and landing without any hazard from floating ice or freezing water spray, at terminals and intermediate stops.

61.3223 (*d*) When one engine fails in a twin-engine land aircraft operating over water, the aircraft shall be headed toward, and thereafter continuously flown toward, a point on the nearest shore in terms of time where a safe landing may be made.

61.33 **Instruments.** No aircraft shall be operated in scheduled air transportation service unless such aircraft is possessed of all instruments required by the provisions of §§ 04.52 and 04.53 for the particular flight dispatched.

61.34 **Equipment.** No aircraft shall be operated in scheduled air transportation service unless such aircraft is possessed of all equipment required by the provisions of §§ 04.52 and 04.53 for the particular flight dispatched, and required by other applicable provisions of the Civil Air Regulations.

61.340 **First-aid equipment.** No aircraft shall be operated in scheduled air transportation unless equipped with a conveniently accessible first-aid kit adequate for proper first-aid treatment of passengers and crew which shall contain certain medical equipment and supplies approved by the Administrator as suitable and sufficient for the type of operation involved.

61.341 **Altitude recording device.** No aircraft with gross weight in excess of 10,000 pounds shall be operated in scheduled air transportation of passengers after November 1, 1943, unless it is equipped with a device or devices which make a record of the altitude of the aircraft and the use of the aircraft's radio transmitter at all times during flight. This device shall be so constructed and installed as to afford substantial protection of the record in the event of an accident to the aircraft.

61.342 **Seat belt sign.** An aircraft shall not be operated in scheduled air transportation unless a suitable means for warning passengers to fasten seat belts is provided.

61.35 **Maintenance.**

61.3500 **General.** Each aircraft operated by a scheduled air carrier shall be maintained in a continuous condition of airworthiness, in accordance with accepted standards and practices, and the terms of the air carrier operating certificate.

61.3501 **Organization.** A maintenance organization shall be set up by the air carrier and it shall be responsible for the continuous airworthiness of all aircraft, engines, propellers, accessories, and instruments, for the proper maintenance of adequate facilities, for the adequacy and competence of maintenance personnel, and for the preparation and dissemination of such maintenance reports as are required by the Administrator.

61.3502 **Supervision.** All phases of maintenance duties shall be adequately supervised by qualified mechanics, mechanics in charge, crew chiefs, or foremen.

61.3503 **Inspection.** An adequate inspection organization shall be set up by the air carrier and it shall be responsible for determining that all maintenance work conforms to minimum standards prescribed by the Civil Aeronautics Board as to workmanship, methods employed, and materials used, as provided in § 61.35. Each inspector shall hold valid mechanic's certificate for the type of inspection involved.

61.3504 **Workmanship.** Workmanship shall be at least equivalent to that generally accepted as conforming to good practice as related to the airworthiness of the aircraft or auxiliary equipment.

61.3505 **Methods.** Methods employed shall conform to those generally accepted as good practice. Insofar as they apply, the methods provided for in Part 18 shall be utilized.

61.3506 **Materials.** Materials used shall conform, when possible, to Army, Navy, or Part 18 specifications. In no case shall materials be used of physical properties less than those of the material used by the manufacturer of the equipment or component in question insofar as the airworthiness of such equipment or component is affected.

61.3507 **Mechanics.** An adequate staff of qualified mechanics and experienced artisans shall be employed by the air carrier and kept available for the performance of functions of maintenance and other duties which are reasonable and necessary to the safe and orderly operation involved. Each such mechanic and artisan shall be relieved of all air carrier duties for a period of at least 24 consecutive hours during each week of duty or equivalent thereof.

61.3508 Training program. A training program shall be maintained so that maintenance personnel may at all times be familiar with the duties required, with particular reference to the introduction into air transportation service of a new or unfamiliar equipment.

61.3509 Distribution of personnel. Sufficient maintenance personnel shall be stationed or provided for along the air carrier route and at such scheduled stops as may be deemed necessary by the Administrator to provide proper service to flight equipment and auxiliaries thereto.

61.3510 Shops and facilities. At least one general overhaul and maintenance shop containing adequate working space and facilities shall be provided for by the operator. Such shop shall be properly lighted, ventilated, and heated.

61.3511 Stock. An adequate quantity of spare parts and supplies shall be kept on hand or readily available at all times.

61.3512 Adequate facilities. Adequate facilities for the proper servicing, maintenance, and repair of air carrier aircraft and auxiliary equipment shall be available at all points along the air carrier's route deemed necessary or advisable by the Administrator.

61.3513 Inflammable material. Including dope, gasoline, etc., shall be kept remote from that portion of shops where sparks or open flames present fire hazards, by their proximity.

61.3514 Refueling requirements. The following rules will govern the operations incident to the refueling of air carrier aircraft:

61.35140 (*a*) Water elimination facilities shall be provided at all refueling points.

61.35141 (*b*) A daily check for the presence of water in fuel and storage and dispensing tanks shall be made and a record of such water checks shall be kept, unless such tanks are equipped with an automatic water eliminator deemed satisfactory by the Administrator.

61.35142 (*c*) Where refueling is accomplished during conditions of rain or snow, precautions shall be taken to prevent the entrance of moisture into the fuel tanks of the aircraft.

61.35143 (*d*) During refueling the aircraft and the fuel dispensing apparatus shall both be grounded to a point or to points of zero electrical potential.

61.35144 (*e*) When refueling is accomplished at night, adequate lights shall be provided to insure proper servicing.

61.35145 (*f*) No smoking and no fires or flames shall be permitted in the immediate vicinity of an aircraft while refueling is being accomplished.

61.35146 (*g*) When practicable, the aircraft electrical switches shall not be switched on or switched off while refueling is being accomplished.

61.35147 (*h*) When passengers are permitted to remain in the cabin while refueling is being accomplished, a responsible cabin attendant shall remain in the cabin at or near the cabin door.

61.3515 Alteration and repairs. Air carrier aircraft, including training aircraft, aircraft engines, propellers, and approved components thereof, shall be altered or repaired only in conformity to the procedures provided in Part 18. Reports of such alterations or repairs shall be submitted promptly to the Administrator through the air carrier maintenance inspector having supervision of the operation involved.

61.3516 Records. Current records shall be kept of the total time of service, the time since last overhaul, and time since last inspection, on all aircraft, engines, propellers and where practicable on instruments, equipment, and accessories. Current records shall be kept of all instrument and equipment failures, including partial ones, which occur to the aircraft after it has departed from the block until it has reached the next block.

61.4 Maintenance manual.

61.40 Necessity for. In order to properly maintain flight equipment, each operator of a scheduled air carrier shall prepare and maintain a maintenance manual for the use and guidance of the maintenance personnel.

61.41 Contents. Each maintenance manual shall outline instructions for operations covering the overhaul, check, inspection, and servicing of flight equipment and other equipment auxiliary thereto, and shall also contain a copy of that portion of the air carrier operating certificate pertaining to maintenance. The responsibilities of each mechanic in charge, crew chief, foreman, and inspector shall be clearly outlined.

61.42 Form. The maintenance manual shall be loose-leaf in form, and each page therein shall be numbered and dated to show the currency of all material contained therein. All copies of such manual shall at all times be kept up to date.

61.43 Delivery of copies. A copy of the maintenance manual shall be furnished to at least the following persons:

61.430 (*a*) the Administrator of Civil Aeronautics,

61.431 (*b*) the Chief, Air Carrier Service, Civil Aeronautics Administration,

61.432 (*c*) each air carrier maintenance inspector of the Administrator in charge of inspection of any part of the air carrier,

61.433 (*d*) each chief of maintenance of the air carrier,

61.434 (*e*) each chief inspector of the air carrier, and

61.435 (*f*) each mechanic of the air carrier in charge at each station where servicing, inspection, checks, or overhauls is or are done.

61.44 Record of copies. Each air carrier shall keep a complete record of all persons to whom copies of its maintenance manual have been supplied.

61.45 Changes. The following rules will govern changes made in the maintenance manual:

61.450 (*a*) Any change issuing from the Administrator pertaining to the maintenance manual shall be promptly incorporated in the maintenance manual and copy thereof sent, in the form of a new page of such manual, to each person required to hold a copy of the manual. Each amended page of the manual shall be properly dated.

61.451 (*b*) Upon receipt of such amended page or pages the recipient shall insert the current information in the manual.

61.452 (*c*) No change shall be made in any overhaul, check or inspection periods without the approval in writing of the Administrator. Pages of the manual shall be changed accordingly. Notice of such changes shall be promptly given in accordance with § 61.450.

61.453 (*d*) Any data not issuing from the Administrator may be changed by the operator without the approval of the Administrator, provided such change is not inconsistent with any Federal regulation, the air carrier operating certificate, or safe maintenance practice. Notice of such change shall be promptly given in accordance with § 61.450.

61.46 Retirement of parts program. A retirement of parts program shall be set up by the operator based upon the experience of the operator and the best information available including recommendations from the original manufacturer of the equipment.

61.5 Airmen.

61.50 Airmen utilization and changes. No scheduled air carrier shall utilize any pilot or dispatcher until such airman has been rated competent for the particular air carrier operation by the Administrator.

61.51 First pilot.

61.510 Aircraft commander. The first pilot shall be in command of the aircraft at all times during flight, and shall be responsible for the safety of persons and goods carried, and for the conduct and safety of the members of the crew.

61.511 Aircraft competency. The first pilot shall meet the appropriate minimum requirements of Part 40 and be listed in the air carrier operating certificate as approved for service to be performed.

61.512 Instrument competency. The first pilot, in addition to meeting the minimum requirements for an instrument rating provided for in § 20.44 and appropriate provisions of Part 21, as the case may be, must prove satisfactorily to the operator's check

pilot, within 45 days prior to the end of every 6-month period after entry into the service in accordance with the training program required by § 61.53, his ability to pilot and navigate by instruments an aircraft of a make and model to be flown by him in the air carrier service. Additional checks may be required by the Administrator at his discretion.

61.513 Route competency. Except as provided in § 61.5130 no first pilot shall be deemed competent over any route or part thereof unless he has met the appropriate minimum requirements of Part 40 and is listed in the air carrier operating certificate as approved for the route or part thereof.

61.5130 Adjacent routes. The first pilot may be deemed competent over any route adjacent to a regular route on which he is presently listed as competent in the air carrier operating certificate if the Administrator finds that:

(1) no part of the center line of the adjacent route is located more than 50 miles from the center line of the regular route,

(2) the terrain along the adjacent route is similar to terrain on the regular route,

(3) Such pilot has a thorough knowledge of the air navigation facilities located on the adjacent route, and

(4) such pilot has complied with the provisions of § 40.2611 (*b*) before effecting landings along such adjacent routes.

61.514 Route competency expiration. Except as provided in § 61.5130 the following rules will govern conditions of route competency expiration, as related to first pilots.

61.5140 (*a*) Regular route. After 12 consecutive months' absence from flight duty over a regular route, or part thereof, a first pilot will no longer be deemed competent for the carriage of persons in air transportation service over such route or part thereof.

61.5141 (*b*) Alternate route. After 24 consecutive months' absence from flight duty over an alternate route, a first pilot will no longer be deemed competent for the carriage of persons in air transportation service over such route.

61.515 Route competency renewal. Except as provided in § 61.5130 the following rules will govern conditions of route competency renewal, as related to first pilots.

61.5150 (*a*) Regular route renewal. A first pilot who has been absent from flight duty over a regular route or part thereof for a period of less than 18 consecutive months and whose route competency has expired in accordance with the provisions of § 61.5140 (*a*) will be deemed competent for such route or part thereof upon completion of 2 one-way trips over the route or part thereof as pilot without passengers or as second pilot with or without passengers. During such trips the pilot shall be able at least once to observe every part of the route for which renewal of competency is sought, when the visibility is not less than 5 miles as observed from the cockpit.

61.5151 (*b*) Alternate route renewal. A first pilot who has been absent from flight duty over an alternate route for a period of more than 24 consecutive months and whose competency has expired in accordance with the provisions of § 61.5141 (*b*) will be deemed competent for such alternate route upon completion of 1 one-way trip over the route as pilot without passcngers or as second pilot with or without passengers.

61.516 Logging flight time. A first pilot shall log the total actual flight time elapsing during his command of the aircraft.

61.517 Logging instrument flight time. Instrument flight time may be logged as such only when the aircraft is flown solely by reference to instruments either under actual or properly simulated flight conditions. (Over-the-top flying shall not be logged as instrument flight time.)

61.518 Flight time limitations. The following rules prescribe the flight time limitations for all pilots in scheduled air transportation:

(*a*) A pilot may be scheduled to fly 8 hours or less during any 24 consecutive hours, without a rest period during such 8 hours. If such pilot be scheduled to fly in excess of 8 hours during any 24 consecutive hours, he shall be given an intervening rest period at or before the termination of 8 scheduled hours of flight duty. Such rest period shall equal at least twice the number of hours flown since the last preceding rest period and in no case shall such rest period be less than 8 hours. During such rest period, the pilot shall be relieved of all duty with the air carrier.

(*b*) When a pilot has flown in scheduled air transportation service in excess of 8 hours during any 24 consecutive hours, he shall receive 24 hours of rest before being assigned any duty with the air carrier. Time spent in dead-head transportation to duty assignment shall not be considered part of such rest period.

(*c*) A pilot shall not fly in excess of 30 hours during any 7 consecutive days. Relief from all duty for not less than 24 consecutive hours shall be provided for and given to such pilot at least once during any 7 consecutive days.

(*d*) A pilot shall not fly in scheduled air transportation service as a member of the crew more than 100 hours in any one month: *Provided,* That the Administrator is authorized, during the present war and until 6 months after the termination thereof, to permit the maximum of 100 hours to be exceeded to the extent necessary to complete a particular flight for military purposes.

(e) A pilot shall not fly in scheduled air transportation service as a member of the crew more than 1,000 hours in any one calendar year: *Provided,* That this limitation shall not be effective during the present war and until 6 months after the termination thereof, and that during this period the maximum flying hours permitted in any one calendar year shall be controlled by the provisions of subsection (*d*) of this section.

(*f*) The foregoing flight time limitations shall not be applicable when a pilot is qualifying on a regular route, or alternate route, over which such pilot is not qualified.

(*g*) A pilot shall not do other commercial flying while employed by an air carrier when such flying, in addition to that in scheduled air transportation service, will exceed any flight time limitations specified herein.

61.52 Second pilot.

61.520 When required. A second pilot will be required in the following cases when passengers are carried:

61.5200 (*a*) when the aircraft used is of a design incorporating multi-engine features, combined with retractable landing gear or wing flaps or of a single-engine design incorporating both retractable landing gear and wing flaps, or

61.5201 (*b*) when the first pilot is required to fly 5 or more hours during any 24 consecutive hours without an intervening rest period equal to at least 2 hours for each hour flown since the last preceding rest period. Such rest period, when required, shall not be less than 8 hours, or

61.5202 (*c*) when the operation authorized permits instrument flying, or

61.5203 (*d*) when, in the opinion of the Administrator, the usual and customary duties of a first pilot in the navigation and conduct of a flight would be unduly interfered with through the necessity of performing other duties usually performed by a second pilot.

61.521 Aircraft competency. A second pilot shall meet the minimum requirements prescribed in § 40.262.

61.522 Instrument competency. At least once each 6 months after entry into service as a second pilot, each second pilot shall have his log-book certified to the effect that he is capable of flying by instruments and has demonstrated such fact to a first pilot, check pilot, or to the chief pilot of the air carrier, which person shall so certify.

61.523 Logging flight time. (*a*) A second pilot possessed of an airline transport pilot certificate and a type and, in case of an airplane, the airplane class and horsepower rating for the aircraft flown may log the total flight time during which he is on duty as second pilot. In addition, he may log all such flight time not logged previously which he acquired since May 5, 1932, during the period he held an aircraft rating for the aircraft flown, and either an airline transport pilot certificate, an airline pilot certificate, or a scheduled air transport rating;

(*b*) A second pilot not possessed of an airline transport pilot certificate and a type and, in case of an airplane, the airplane class and horsepower rating for the aircraft flown may log 50% of the total actual flight time or he may log the full flight time during which he was the sole manipulator of the controls: *Provided,* That if such time be in excess of 50% of the total flight time, the time so flown by the second pilot shall be certified by the first pilot.

61.524 (Unassigned).

61.53 Pilot technique maintenance.

61.530 Responsibility of operator. In order to maintain a high standard of pilot technique, the air carrier shall be responsible for proper and periodic instruction, in their respective duties, of all first and second pilots employed by such operator. The instruction so given to first pilots shall at least include operation and approach for landing with one engine fully throttled with maximum load authorized for the route or portion thereof, in each type of aircraft to be used by the pilot in scheduled air transportation service, and instrument approach procedures.

61.531 Continuance of pilot competency. If, within any 90-day period, a first or second pilot has not made at least two take-offs and landings in scheduled air transportation in aircraft of a particular make and model, such person shall not thereafter serve or be employed to serve as a first or second pilot in aircraft of that make and model in such transportation without having made at least three take-offs and landings in such aircraft with one-half to three-fourths useful load, and, if he is to serve in such transportation at night, without having made at least one of the three take-offs and landings at night. No persons shall be carried during such three take-offs and landings other than personnel of the air carrier or other air carriers and inspectors of the administrator.

61.532 (Unassigned).

61.533 Pilot certification for equipment. When such tests are not conducted by an Administrator of Civil Aeronautics air carrier inspector, an authorized check pilot shall certify to the pilot's capabilities on the equipment involved.

61.534 Check pilots. Each air carrier shall provide a sufficient number of check pilots to insure that each pilot constantly meets and complies with the minimum pilot requirements pertaining to scheduled air transportation service. No check pilot so provided by the operator shall check any first pilots for the air carrier until such check pilot has been approved therefor by the Administrator. No check of pilot capabilities made in behalf of the air carrier abrogates the authority of the Administrator to make whatever pilot checks are deemed by him to be necessary in the interests of safe air carrier operation.

61.535 Training program. A pilot training and instruction program satisfactory to the Administrator shall be maintained by the air carrier. The operator shall submit it to the Administrator within 60 days after certification of the air carrier.

61.54 Radio operator.

61.540 Pilot as operator. The first or second pilot may serve in the capacity of a radio operator, subject to the rules of the Federal Communications Commission in respect to the grade of operator's license required.

61.55 Dispatchers.

61.550 Number required. The air carrier shall provide an adequate number of certificated aircraft dispatchers, necessary for the type of operation involved, for the purpose of dispatching air carrier aircraft.

61.551 Location. One or more aircraft dispatchers shall be located at such points as may be deemed necessary by the Administrator to insure the safe operation of the air carrier.

61.552 Dispatcher competency certificate. Each dispatcher used by the air carrier for the purpose of dispatching air carrier aircraft shall be possessed of a valid dispatcher certificate, in accordance with the provisions of Part 27, and shall be listed in the air carrier operating certificate as approved for the route or routes, or parts thereof.

61.553 Qualification for route. The following rules shall govern the qualification of a dispatcher for a particular route:

61.55300 (*a*) He shall have made at least one round trip over the route, or part thereof, on which he is to serve during the previous 90 days prior to dispatching any airplane over such route or part thereof.

61.55301 (*b*) He shall observe and be familiar with the prevailing weather phenomena peculiar to the route, or part thereof, for which qualification is sought.

61.55302 (*c*) He shall be familiar with the air carrier operation over the route, or part thereof, for which qualification is sought.

61.55303 (*d*) He shall be familiar with the contents of the air carrier operations manual.

61.55304 (*e*) He shall be familiar with all portions of the air carrier operating certificate pertaining to en route operations and airport specifications for the route or part thereof for which qualification is sought.

61.55305 (*f*) He shall be familiar with the general and special rules of the air carrier concerning dispatch of aircraft in scheduled operations.

61.55306 (*g*) He shall be familiar with the aircraft used by the air carrier.

61.55307 (*h*) He shall be familiar with the provisions of the aircraft certificates and with the loading charts for the equipment used.

61.55308 (*i*) He shall be familiar with the maximum authorized loads, with respect to the route or part thereof, for the aircraft to be used.

61.55309 (*j*) He shall be familiar with the fuel and oil consumption of the aircraft, with respect to the air carrier operating conditions.

61.55310 (*k*) He shall be familiar with the available charts used to compute the air speed of the aircraft and the fuel consumption, at various altitudes and power outputs of the aircraft engines.

61.55311 (*l*) He shall be familiar with the local United States Weather Bureau and Civil Aeronautics Authority personnel.

61.55312 (*m*) He shall be familiar with the radio facilities in the aircraft used.

61.55313 (*n*) He shall be familiar with the peculiarities and limitations of each radio range and radio marker station over the route, or part thereof, for which route competency is sought.

61.55314 (*o*) He shall be familiar with the effect of weather conditions upon the radio reception by the aircraft to be used.

61.55315 (*p*) He shall be familiar with the timetables which ordinarily apply to the air carrier operation.

61.55316 (*q*) He shall be familiar with any airway facility, additional to those mentioned in § 61.55313 en route to, or located at, alternate airports approved as such, for the route or part thereof, in the air carrier operating certificate.

61.554 Maintenance of qualifications. Each dispatcher listed in the air carrier operating certificate shall maintain his familiarity with the route or routes on which he dispatches air carrier aircraft in scheduled operations and with the items set forth in § 61.55301 through § 61.55316.

61.555 A dispatcher shall not dispatch visual-contact, instrument, or over-the-top flights, either day or night, below the respective minimums specified for such flights in the air carrier operating certificate, except as provided in § 61.71091 (*b*).

61.556. Dispatcher route qualification expiration. After 24 consecutive months' absence from dispatching duty over a route or part thereof, a dispatcher will no longer be deemed qualified to dispatch aircraft in scheduled operations over such route or part thereof.

61.557 Dispatcher time limitations. The following rules will govern the hours of duty for authorized dispatchers:

61.5570 (*a*) **Maximum consecutive hours of duty.** No dispatcher shall be on duty as such for a period of more than 10 consecutive hours.

61.5571 (b) Maximum hours of duty in 24 consecutive hours. If a dispatcher is scheduled to be on duty as such for more than 10 hours in a period of 24 consecutive hours, he shall be given a rest period of not less than 8 hours, at or before the termination of 10 hours of dispatcher duty except in emergencies due to illness or unavoidable absence of a dispatcher due to weather during a qualification trip or other circumstances beyond the control of the operator.

61.5572 (c) Dispatcher's time off. Relief from all duty with the air carrier for not less than 24 hours shall be provided for and given each dispatcher at least once during any consecutive 7 days, or equivalent thereto within one calendar month.

61.6 Weather.

61.60 Reports. The following rules shall govern the use of weather reports by scheduled air carriers:

61.600 (a) No weather report shall be used to control flight movements unless prepared from observations made and released by the United States Weather Bureau, or by a source approved by such Bureau including pilots' flight observation reports.

61.601 (b) The weather reports used shall be the latest reports available.

61.602 (c) The last airway weather report entered upon the clearance form or attached thereto shall be not more than 1 hour and 30 minutes old at the time the aircraft departs on a scheduled flight, except that off-course weather reports or on-call weather reports may be entered thereupon or attached thereto if the last such report is not more than 2 hours old.

61.603 (d) Barometric pressures, corrected to sea-level readings, shall be utilized exclusively.

61.604 (e) All ceiling heights, reported by pilots in flight either by radio or by entry on forms, shall be with reference to altitude above sea level.

61.605 (f) Forecasts made by Weather Bureau or company meteorologists, or both, may be used.

61.7 Flight operations.

61.70 Prior to clearance.

61.700 Aircraft to be airworthy. No scheduled air carrier shall operate any aircraft unless, at the time of use, the aircraft is in an airworthy condition, conforms with the terms of its current aircraft certificate and is loaded in conformity with the current loading schedule which is a part of such certificate.

61.701 Adequately serviced. Before departure on any flight, the air carrier aircraft shall be adequately serviced. The first pilot shall be responsible for the proper servicing of the aircraft, although he may delegate supervision of the actual work to a second pilot or other certificated airman.

61.702 Adequate fuel supply. The following rules shall govern the minimum fuel supply to be carried by all air carrier aircraft:

61.7020 (a) Visual-contact operation (day or night). No air carrier aircraft shall be dispatched or shall take off without fuel and oil sufficient, considering the wind and other weather conditions to be encountered during the course of the flight, to complete flight to the first point of landing specified in the clearance, and thereafter to fly for a period of at least 45 minutes at normal cruising consumption for the flight.

61.7021 (b) Instrument or over-the-top operation (day or night). No air carrier aircraft shall be dispatched or shall take off without fuel and oil sufficient, considering the wind and other weather conditions to be encountered during the course of the flight, to complete such flight to the next point of landing specified in the clearance; and thereafter

(a) to fly to and land at the alternate airport for such point designated in the clearance which is most distant from such point, and thereafter

(b) to fly for a period of at least 45 minutes at normal cruising consumption for the flight.

61.703 Radio ground check. Immediately preceding departure from originating station it shall be determined that both day and night frequencies of the two-way radio, as well as all additional frequencies whose use are contemplated during the flight, are working satisfactorily. The method of determining this shall be by radio contact on each frequency with at least one ground station.

61.704 Passengers aboard during refueling. Passengers may be permitted to remain in the cabin during refueling: *Provided,* That

61.7040 (*a*) there is no smoking in the aircraft, and

61.7041 (*b*) there is no smoking on the ground in the vicinity of the aircraft, and

61.7042 (*c*) an employee of the operator is stationed in the entrance to the passenger cabin and remains there alert for any emergency until refueling is completed.

61.705 Notice of other aircraft in flight on route (outside of airway traffic control area). Immediately prior to departure it shall be the responsibility of the dispatcher dispatching an instrument flight outside of an airway traffic control area to ascertain from the best information available what other aircraft flights affecting the flight are in progress over the route between clearance points, the results of which shall be made known to the pilot. After departure of the scheduled flight the dispatcher will continue to advise his flight or flights the progress of all other known aircraft in flight on the course, crossing courses, converging courses, etc., affecting the flight.

61.71 Dispatching rules (for clearance).

61.7100 Necessity for dispatching authorization. No scheduled air carrier flight shall be started except on the authority of an aircraft dispatcher whose name appears in the air carrier operating certificate as qualified for the route, or part thereof, on which the flight takes off. No such authority is required for take-offs from an intermediate stop between points specified in the original clearance unless the flight has been delayed for any reason more than 30 minutes. (See § 61.7103 for new flight clearance.)

61.7101 Dispatcher reporting for duty. No dispatcher shall clear a flight of air carrier aircraft unless he has been on duty, at the station from which such clearance is effected, for a period sufficient to become familiar with existing conditions. He shall continue on duty until the aircraft has landed in completion of a trip, or until the dispatching supervision has been taken over by an adjacent aircraft dispatcher or by another dispatcher who has relieved him after such relief dispatcher has been on duty for a period sufficient to become familiar with existing conditions.

61.7102 Clearance and load manifest forms—Approval. The clearance and load manifest forms used shall be approved by the Administrator.

NOTE.—Sample forms which contain substantially the material that would be acceptable may be obtained from the Administrator.

61.7103 Clearance and preparation. A clearance form shall be properly prepared for each flight between specified clearance points. Such form shall be signed by the first pilot and by the authorized aircraft dispatcher or, by duly authorized station personnel of the air carrier after receiving current authority from the authorized aircraft dispatcher, only when the first pilot and the dispatcher both believe the flight may be made with safety. A load manifest form shall be properly prepared and signed for each flight by the personnel of the air carrier who are charged with the duty of supervising the loading of the aircraft and the preparation of the load manifest forms. The aircraft when loaded as shown on the load manifest form shall not exceed the center of gravity limits or maximum allowable weight limits set forth in the aircraft certificate for the particular aircraft. The original copies of both forms shall be given to the first pilot and duplicate copies shall be kept in the station file for a period of at least 30 days.

61.7104 Clearance and load manifest contents. The following rules will govern the clearance and load manifest contents:

61.71040 (*a*) The clearance shall contain or have attached thereto all current weather reports as outlined in § 61.60 over the airway or part thereof and, when available, any off-airway or on-call weather reports considered necessary or desirable by the pilot or dispatcher to insure the safety of the flight.

61.71041 (*b*) When available, the latest terminal and airway forecasts shall be included in or attached to the clearance and shall be considered by the dispatcher responsible and first pilot before clearance.

61.71042 (*c*) The dispatcher or duly authorized station personnel shall attach or enter all current reports or information pertaining to weather and irregularities of navigational aids and facilities and aircraft instruments and equipment affecting the flight. He shall also inform the pilot, during flight, of any additional or different irregularities, and the flight shall be controlled accordingly.

61.71043 (*d*) The load manifest shall be completed or kept current at each intermediate stop.

61.7105 Clearance request repetition. When a pilot requests clearance from a dispatcher authorized to clear the proposed flight and is refused such clearance, he shall not make a similar request from another dispatcher.

61.7106 Change in clearance by radio. If a change in clearance is desirable while the aircraft is in flight, the pilot may be given a change in clearance by radio by an authorized dispatcher, provided the two-way conversation appears in the radio log. If the pilot is refused such change by one dispatcher, he shall not make a similar request of another dispatcher. No aircraft shall be recleared en route for instrument flight after clearance for contact flight with any one instrument or unit of equipment not in serviceable condition as provided for in § 61.7114.

61.7107 Weather minimums; general. The following rules relating to weather conditions will govern the dispatching of air carrier aircraft.

61.71070 (*a*) No scheduled air carrier aircraft shall be dispatched unless, at the time of take-off, the ceiling and visibility at the point of departure are equal to or better than those specified for departure in the air carrier operating certificate.

61.71071 (*b*) In the event of ground fog, the dispatcher shall comply strictly with the pertinent procedures specified in the air carrier operating certificate with respect to take-offs and landings.

61.7108 Weather minimums; visual-contact clearance. The following rules relating to weather conditions will govern the dispatching of air carrier aircraft in visual-contact operation. No scheduled air carrier aircraft shall be dispatched unless:

61.71080 (*a*) The hourly weather report sequence and current weather forecasts shall show a trend that gives sufficient indication that the ceilings and visibilities along the route to be flown are and will remain at or above the minimums specified in the air carrier operating certificate until the flight arrives at the point cleared to.

61.71081 (*b*) During day operation minimum visibility shall be 1 mile, except contact flight may be made when visibility is reduced to ½ mile by local smoke, dust, haze, blowing snow, or sand.

61.71082 (*c*) During night operation at least one beacon on the course shall be visible from the aircraft at all times, unless otherwise specifically authorized by the Administrator.

61.7109 Instrument or over-the-top clearance. The following rules with respect to weather conditions shall govern the dispatch of air carrier aircraft in air transportation for instrument or over-the-top flight:

61.71090 Weather conditions at terminal or intermediate airports. Air carrier aircraft shall not be dispatched in air transportation unless:

(1) The observed weather information and current weather forecasts, pertaining to all landing points specified in the clearance, give sufficient indication at the time of clearance that the ceilings and visibilities are, or will be, when the flight would arrive at such point or points, at or above the minimums specified in the air carrier operating certificate for letting-down-through; and

(2) The alternate airports required by § 61.71091 are specified.

61.71091 Alternate airport requirement.

(*a*) When the observed weather information and current weather forecasts pertaining to a landing point specified in the clearance indicate, at the time of clearance, that the ceiling and visibility are, and will remain until the flight would arrive at such point, at or above the minimums specified in the air carrier operating certificate for letting-down-through, there shall be at least one alternate airport specified on the appropriate flight clearance for such point.

(*b*) When, at the time of clearance, the ceiling or visibility at a landing point specified in the clearance is below the minimums specified in the air carrier operating certificate for letting-down-through, but the weather reports pertaining to such point at the time of clearance show a trend, by the hourly sequence and current forecasts, that indicates that the weather conditions will improve to or above such minimums upon arrival of the flight at such point, two alternate airports shall be specified in the appropriate flight clearance for such point.

61.71092 Types of alternate airports.

(*a*) If an alternate referred to in § 61.71091 is equipped with a radio range, the weather conditions existing thereat at the time of clearance must be equal to, or above, the ceilings and visibilities specified in the air carrier operating certificate for letting-down-through at such airport when using it as an alternate airport and the hourly weather report sequence and current forecasts shall show a trend that indicates that such weather conditions will continue or improve at such alternate airport until the flight shall arrive thereat. The weather minimums at such alternate airport shall in no case be less than one of the following:

(1) A ceiling of 1,000 feet and visibility of 1 mile;
(2) A ceiling of 900 feet with a visibility of 1½ miles; or
(3) A ceiling of 800 feet with a visibility of 2 miles.

(*b*) If an alternate referred to in § 61.71091 is not equipped with a radio range, the weather conditions existing thereat, at the time of clearance, must be equal to, or better than, broken clouds and a ceiling of 1,000 feet and a visibility of 2 miles, and the hourly weather report sequence and forecasts shall show a trend that gives sufficient indication of weather conditions continuing or improving until the flight shall arrive thereat: *Provided,* That the Administrator may, in the interest of safety, prescribe higher minimums at individual airports.

61.7110 Clearance of flights.

(*a*) *On alternate routes.* Clearance of flights on alternate routes shall not be permitted unless such route or routes have been approved and listed in the air carrier operating certificate and conditions on the regular route are such that the flight would otherwise be cancelled or delayed, or when for the purpose of keeping pilots qualified over such routes. When flights are cleared over alternate routes due to conditions on the regular route being such that flight is considered inadvisable, the weather conditions on the alternate route shall be equal to or better than those listed in the air carrier operating certificate for the particular alternate route.

(*b*) *From alternate airports.* Clearance of flights from an alternate airport over an unauthorized route to an airport on an authorized route shall not be permitted unless the flights can be made in accordance with the provisions of § 61.200.

61.7111 Late or off-schedule flights. When variations from the regular schedules occur, the dispatcher shall take such action or issue such special orders as may be necessary and proper.

61.7112 Flight hazards. No scheduled air carrier flight shall be dispatched when, in the opinion of either the first pilot or the dispatcher, such flight cannot be completed with safety. No scheduled air carrier flight shall be continued toward any point cleared to when, in the opinion of either the first pilot or the dispatcher, such continuation cannot be completed with safety unless, in the opinion of either, there is no safer method of procedure. In the latter event continuation shall constitute an emergency situation (see §§ 61.732 and 61.7811).

61.7113 (Unassigned).

61.7114 Flight equipment. An air carrier shall not dispatch an aircraft in air transportation unless the equipment required by the Civil Air Regulations for the particular type of operation involved is installed in such aircraft and in serviceable condition and, if any part of such equipment becomes unserviceable in flight, a landing shall be made either at the nearest suitable landing area where a safe landing may be made or at the

next point of intended landing, whichever in the opinion of the pilot and dispatcher is the safest procedure: *Provided,* That the aircraft dispatcher in control of the flight may dispatch or authorize the operation of such aircraft in air transportation to the nearest point where repair or replacement of such equipment can be made if the equipment specified below for the particular type of operation involved is installed in such aircraft and in serviceable condition:

(*a*) *Visual-contact day operation.*

1. One airspeed indicator.
2. One altimeter.
3. One tachometer for each engine.
4. One oil pressure gauge for each engine.
5. One oil temperature gauge for each engine.
6. One manifold pressure gauge for each engine.
7. One safety belt for each person aboard.
8. Two approved type portable fire extinguishers.
9. One landing gear position indicator or equivalent facility.
10. One first aid kit.
11. One magnetic compass.
12. One fixed fire extinguisher in each engine compartment.
13. One or more storage batteries of sufficient capacity to operate all radio and electrical equipment.
14. Two of the following units of radio equipment:
    One transmitter for two-way communication;
    One receiver for two-way communication;
    One radio range receiver.
15. If such aircraft is a multi-engine aircraft it may be operated with any one of the units of equipment in Items 3, 5, or 6 above inoperative: *Provided,* That in the case of Item 5 a cylinder temperature gauge in serviceable condition is installed on the same engine the inoperative oil temperature gauge is installed.

(*b*) *Visual-contact night operation.*

1. All equipment required for visual-contact day operation.
2. Forward position lights and continuous white tail light.
3. Two landing lights.
4. Two 3-minute landing flares.
5. One set of instrument lights.
6. One electrical generator sufficient to operate all electrical and radio equipment.

(*c*) *Instrument or over-the-top day operation.*

1. All equipment required for visual-contact day operation.
2. A fuel quantity indicator to show the amount of fuel in each of at least two fuel tanks.
3. One additional airspeed indicator.
4. An electrically heated pitot tube for each airspeed indicator.
5. One rate of climb indicator.
6. One gyroscopic rate of turn indicator combined with a bank indicator.
7. One artificial horizon indicator.
8. One directional gyrocompass.
9. Two sensitive type altimeters.
10. One outside air temperature gauge with indicating dial in cockpit.
11. One clock with sweep second hand.
12. One vacuum gauge installed in lines leading to the rate of turn and artificial horizon indicators and the directional gyrocompass.
13. One carburetor ice indicator if the de-icing equipment requires manual manipulation.
14. All of the radio equipment required by the Civil Air Regulations for instrument type of operation.
15. One spare set of fuses.

(*d*) *Instrument or over-the-top night operation.*

1. All equipment required for visual-contact night and instrument or over-the-top day operation.

61.712 Operating limitations upon airplanes certificated under transport category requirements. In operating in scheduled passenger transportation, any airplane certificated in accordance with the provisions of 04.75–T, the restrictions of §§ 61.7121 to 61.7125, inclusive, shall be observed unless deviations therefrom are specifically authorized by the Administrator on the ground that a peculiarity of the particular circumstances of a particular case makes a literal observation of the restrictions unnecessary for safety in that case.

In determining compliance with these provisions, the data obtained in testing the airplane for type certification may be applied, by interpolation or by computation of the effects of changes in specific variables, to conditions differing from those for which specific tests were made, where such interpolations or computations will give results substantially equaling in accuracy the results of a direct test.

61.7121 General limitations. (*a*) The airplane shall not be operated from any field at an altitude outside of the altitude range for which maximum take-off weights have been determined and set forth in the airplane operating manual and shall not be dispatched to a field of intended destination, or have any field specified as an alternate, which is at an altitude outside the range for which maximum landing weights have been determined and set forth in the airplane operating manual.

(*b*) The weight of the airplane at take-off shall not exceed the certificated maximum take-off weight for the altitude of the field from which the take-off is to be made.

(*c*) The gross weight at take-off shall be such that, allowing for the consumption of the amount of fuel which would normally be consumed in flight to the intended destination, the weight on arrival at the destination will not exceed the certificated maximum landing weight for the altitude of the field of intended destination.

61.7122 Take-off limitations to provide for engine failure. Take-offs shall be made only from such fields in such directions and under such gross weight limitations that the following conditions are fulfilled as shown by the performance data determined under 04.7532–T and set forth in the airplane operating manual.

(*a*) From any point on the take-off up to the time of attaining the critical-engine-failure speed set forth in the airplane operating manual, it shall be possible to bring the airplane to a safe stop within the landing area, as shown by the accelerate-and-stop distance data.

(*b*) If the critical engine should fail at any instant after the airplane attains the critical-engine-failure speed, it shall be possible to proceed with the take-off, and attain a height of 50 feet, as indicated by the take-off path data, before passing over the end of the take-off area. Thereafter it shall be possible to clear all obstacles either by at least 50 feet vertically, as shown by the take-off path data, or by at least 200 feet horizontally within the airport boundaries and 300 feet horizontally after passing beyond such boundaries.

In determining the allowable deviation of the flight path in order to avoid obstacles, it shall be assumed that the airplane is not banked before reaching a height of 50 feet, as shown by the take-off path data, and that the maximum bank thereafter does not exceed 15°.

(*c*) In applying requirements (*a*) and (*b*), correction shall be made for any appreciable gradient of the take-off surface. Take-off data based on still air may be corrected to allow for the effect of a favorable wind which is equal to not more than 50 percent of the component along the take-off runway due to the reported wind condition.

61.7123 Landing distance limitations. (*a*) Aircraft shall be dispatched only under such conditions that it would be possible, as shown by the still air landing data obtained in 04.7533–T and set forth in the airplane operating manual, at a weight corresponding to the maximum weight expected to exist at the time of arrival at the field of intended destination, and under standard air conditions for the altitude of such field, to bring the airplane to rest, from a point 50 feet directly above the intersection of the obstruction clearance line (as defined in § 61.7124) and the landing surface, within a total distance not in excess of 60 percent of the effective length (as defined in § 61.7124) of the landing area most suitable for landing in still air.

(*b*) For every possible condition of wind velocity and direction and the corresponding landing direction required at the field of intended destination by the ground handling characteristics of the airplane type involved, the ratio of landing distance to effective length of landing area shall not be greater than that as specified in (*a*), after allowing for the effect on the landing path and roll of not more than 50 percent of the favorable wind component due to a particular wind condition.

(*c*) If requirement (*a*) can be met, but requirement (*b*) cannot be fully met, at a field of intended destination, a flight to such field may be dispatched under the following or more conservative conditions:

(1) At least one suitable alternate field shall be designated in the flight plan, at which requirements (*a*) and (*b*) of this section, as modified by § 61.71230, and the requirements of §§ 61.71091 to 61.71092, inclusive, are met.

(2) If requirement (*b*) cannot be met for the wind conditions existing at the time of arrival, the airplane shall proceed to the alternate.

61.71230 Landing distance at alternate fields. The conditions of § 61.7123 shall apply with respect to alternate fields specified in the flight plan, except that in the case of alternate fields the landing distance as defined in that section shall not exceed 70 percent of the effective length of the landing area.

61.7124 Definition of effective length of landing area. The effective length of the landing area shall be the distance from the point where the obstruction clearance line, as defined below, intersects the landing surface to the far end of the landing area.

The obstruction clearance line is a line drawn tangent to or clearing all obstructions showing in a profile of the approach area, as defined below. The obstruction clearance line is further limited by having a slope to the horizontal of 1/20, as it approaches the landing area.

The approach area, as used in this section, shall be an area symmetrical about a center line coinciding with and prolonging the center line of the runway, except that where there are a multiplicity of parallel runways, or a large area continuously available for landing, the center line of the approach area shall coincide with the most probable landing path for instrument approaches. The approach area shall be considered as extending longitudinally from the landing area out to the most remote obstacle touched by the obstruction clearance line, assuming the center line of the approach area in plan view to be straight for at least 1,500 feet from the intersection of the obstruction clearance line with the landing surface, and thereafter continuing in a path consistent with the instrument approach procedures for the field in question, or, where such procedures are not specified, consistent with turns of at least 4,000 feet radius; and as extending laterally to a distance of 200 feet on either side of its center line at the point of intersection of the obstruction clearance line with the landing surface, with this distance increasing uniformly to 500 feet on either side of the center line of the area at a longitudinal distance of 1,500 feet from the intersection of the obstruction clearance line with the landing surface, and maintaining a distance of 500 feet from the center line thereafter.

61.7125 En route limitations. Aircraft shall be dispatched only under such conditions that in progressing along the intended route, with the weight of the airplane progressively reduced by the anticipated consumption of fuel and oil, the maximum one-engine-inoperative operating altitude, as defined in 04.7513–T and as set forth in the airplane operating manual, shall at all times exceed by at least 1,000 feet the altitude of the highest ground or obstruction within 10 miles on either side of the intended route. Where special air navigation facilities provide for close and specific identification of an obstruction, or of high ground extending for less than 20 miles along the route, the maximum lateral distance from the intended route up to which such obstructions or high ground must be taken into account may be reduced to 5 miles.

61.72 Flight preparation and take-off rules.

61.7200 Radio ground check. Before departure from the originating terminal on any scheduled air carrier operation, at least one check shall be made by the pilot of the radio system to be used in flight.

61.7201 Radio check after take-off. When a trailing antenna is used, a precautionary radio check to determine possible loss of such antenna shall be made as soon as practicable after take-off.

61.7202 Control tests. The pilot shall test the flight controls on the ground and determine that they are functioning properly.

61.7203 View of traffic. Immediately prior to take-off, the pilot shall maneuver the aircraft to a position from which he can observe incoming and outgoing aircraft.

61.7204 Engine tests. Before the take-off run, the aircraft engine or engines shall be individually tested at full throttle, except that supercharged engines shall be tested at run-up r. p. m. at the manifold pressure specified by the operator for the particular conditions involved. The engine temperatures (including oil, carburetor, and head temperatures) shall be normal and each magneto shall be individually tested.

61.72040 (*a*) No person other than a certificated airman may run-up the engine or engines of an air carrier aircraft while such engines are installed in an air carrier aircraft.

61.72041 (*b*) Engine run-ups shall be conducted in such a manner as to minimize the possibility of loose gravel, cinders, and like material contacting the propeller blades and aircraft control, lift, and stabilizing surfaces.

61.7205 Instrument tests. Before the take-off run, as many as possible of the aircraft flight instruments, and particularly all pressure gauges and gyroscopic flight instruments, shall be tested by the pilot to determine that they are all functioning properly.

61.7206 Take-off restrictions. No pilot shall take off any air carrier aircraft if, in his opinion, the aircraft is not airworthy. No pilot shall take off any air carrier aircraft at any time when an engine is not functioning properly.

61.7207 Runway utilization. The take-off shall be started from a point which makes available the greatest length of runway, considering the direction of the wind.

61.7208 Restricted-vision take-offs. If a method of take-off under conditions of restricted vision (including conditions of ground fog) is specified in the air carrier operating certificate, it shall be strictly followed.

61.7209 Banking after take-off. So far as practicable, the aircraft shall not be banked immediately after take-off until at least a minimum altitude of 500 feet has been attained.

61.7210 Pilots at controls. Neither pilot shall leave the controls during ascent of the aircraft immediately following take-off.

61.7212 Ice and snow. No scheduled air carrier aircraft shall take off when the wings or tail surfaces of such aircraft have a coating of ice or snow.

61.73 Flight course and en route rules.

61.730 Weather minimums.

61.7300 Point cleared to. No scheduled air carrier aircraft dispatched in accordance with § 61.7109 through § 61.71092 shall continue toward the point cleared to unless weather conditions at such point remain at or above the minimums specified in the air carrier operating certificate for such airport: *Provided, however,* That such aircraft may be redispatched en route in accordance with § 61.71091 (*b*) if the weather conditions at the point cleared to drop below the minimum specified in the air carrier operating certificate.

61.7301 Alternate airports. No scheduled air carrier aircraft shall continue toward the point cleared to unless the weather minimums at required alternate airports (§ 61.7109) specified in the clearance remain, throughout the flight, at or above the minimums specified in the air carrier operating certificate for such airport when used as an alternate: *Provided, however,* That the clearance may be amended en route by the substitution of another alternate airport within the fuel range of the aircraft as outlined in § 61.7021 with weather conditions at or above the minimums specified in the air carrier operating certificate for such airport when used as an alternate.

61.7302 (Unassigned).

NOTE: The subject matter heretofore contained in this section will be found in § 61.752.

61.731 Deviation from airway. No scheduled air carrier aircraft shall deviate from its prescribed airway or, if there be no airway, from an area between two lines parallel to and 5 miles on either side of the center of the authorized route, except when operating in accordance with instructions issued by a certificated air-traffic control-tower operator or when circumstances render such deviation necessary as a safety measure. Any deviation of more than 25 miles on either side of the center line of the prescribed airway or authorized route shall be explained by the pilot in a written report to the Administrator of Civil Aeronautics. Such report shall be made within 7 days after the completion of the flight.

61.732. Dispatcher emergency decisions. In an emergency situation, arising during the course of the flight, which requires immediate decision and action on the part of the dispatcher, and that is known to him, the aircraft dispatcher shall notify and advise the pilot as to such situation. Further, the dispatcher shall determine from the pilot what final decision has been made by such pilot and shall cause the same to be entered in the station radio log.

61.733 Reporting icing conditions. When a pilot reports an icing condition in accordance with § 61.7700, the pertinent information including time, altitude, location, type, and extent of the icing conditions encountered shall immediately be relayed to the nearest United States Weather Bureau airway station and to the appropriate general supervising and forecasting district headquarters of the United States Weather Bureau.

61.74 Flight altitude rules.

61.740 Visual contact flights.

61.7400 Day. Except during take-offs and landings, no scheduled air carrier aircraft shall be flown at an altitude less than 500 feet above the ground, or within 500 feet of any mountain, hill, or other obstruction to flight except as may be specifically approved by the Administrator.

61.7401 Night. No scheduled air carrier aircraft shall be flown at an altitude of less than 1,000 feet above the highest obstacle located within a horizontal distance of 5 miles from the center of the course intended to be flown, except during take-offs and landings or when operating in accordance with specific procedures for definite localities approved by the Administrator.

61.741 Instrument flights. Altitudes established for instrument flights by the provisions of § 60.58 shall be strictly adhered to during such flights. Except during take-offs, and final approaches and landings, no instrument flight shall be conducted within 1,000 feet above the ground or any obstruction.

61.742 Maximum altitude of flight operations. No scheduled air carrier aircraft shall be operated at altitudes above 17,000 feet above sea level unless specifically permitted by the terms of the air carrier operating certificate issued to the air carrier. A competent cabin attendant to care for passengers shall be provided on all air carrier flights carrying passengers operating for any period of time above 12,000 feet above sea level.

61.743 Oxygen apparatus and its use. No air carrier aircraft shall be operated in scheduled air transportation at an altitude exceeding 10,000 feet above sea level continuously for more than 30 minutes, or at an altitude exceeding 12,000 feet above sea level for any length of time, unless such aircraft is equipped with an effective oxygen apparatus and an adequate supply of oxygen available for the convenient use of the operating crew, and proper use is made of such apparatus.

61.75 Instrument approach rules.

61.750 Altitude maintenance on initial approach. When making an initial approach to a radio range station, on instruments or on top of overcast or clouds, an aircraft in scheduled air carrier operation shall not descend below the pertinent minimum altitude for initial approach specified in the air carrier operating certificate for such station, until arrival over the radio range station has been definitely proved by the method outlined in the appropriate instrument approach procedures of the air carrier operating certificate.

61.751 Letting-down-through procedure. When instrument authority is authorized, standard instrument approach procedure shall be established by the operator for each radio range station used or to be used for letting-down-through, and approved by the Administrator and included in the air carrier operating certificate. The letting-down-through methods, procedures, and minimums specified, shall be strictly adhered to.

61.752 Approach limitations. No pilot shall, at any airport, let down below his last approved cruising altitude or continue descent when he has received United States Weather Bureau information that the measured ceiling* is below or the visibility is less than the authorized minimums prescribed in the air carrier operating certificate for landing at that airport.

61.76 Landing rules.

61.760 Pilots at controls. The pilots shall remain at their controls during the final approach and landing.

61.761 Restricted-vision landing. The method of landing under conditions of restricted vision, when authorized, will be specified in air carrier operating certificate and shall be strictly adhered to.

61.762 Provisional weight. No aircraft, the specification for which lists a provisional weight, shall be landed at a weight in excess of standard, except in accordance with the provisions of § 61.7811.

61.763 Fuel dumping. No fuel shall be dumped in effecting a landing except in accordance with § 61.7811, and then only if the pilot deems it safer than landing at a weight in excess of standard.

61.77 Flight interruption rules.

61.770 Weather interruption. If any hazardous flight condition is encountered en route, the pilot shall broadcast information as to the course of action which he is taking and as to his reasons therefor.

61.7700 Icing conditions. No air carrier shall dispatch or operate aircraft in air transportation through any known or probable icing condition unless the aircraft is equipped for de-icing wings, propellers, and for such other parts of the aircraft as the Administrator may prescribe to assure safety of the flight under the particular conditions to be encountered. When an icing condition is encountered in flight the pilot shall, if possible, immediately notify his radio ground station of such fact and the company shall immediately transmit such information to the nearest office of the United States Weather Bureau in accordance with § 61.733.

61.771 Mechanical interruptions. In the event of any mechanical failure or interruption (including failure of engine, flight instrument, radio, or other essential component of the aircraft) which may involve the safety of the flight, the pilot shall proceed to and land at the nearest place where a safe landing can be effected. (For general pilot authorization, in emergency situations, see § 61.7811.)

61.772 Other interruptions.

61.7720 Communications failure. In the event of inability to maintain two-way communication with the appropriate communications station or in the event that the pilot does not receive radio signals sufficient to permit him to maintain instrument flight to any point cleared to or otherwise specified in the approved flight plan one of the following procedures shall be observed:

61.77200 (*a*) Contact flight. The aircraft may proceed provided that the flight may be made in accordance with contact flight rules as provided in § 60.4.

61.77201 (*b*) Landing. Landing may be made at the nearest suitable airport at which favorable weather conditions exist.

61.77202 (*c*) Emergency procedure. In the event weather conditions do not permit the procedures provided for in § 61.77200 or § 61.77201, the pilot shall proceed according to his approved flight plan, including any amending instructions issued and acknowledged en route, with particular attention to maintaining his last acknowledged assigned altitude until the approach time last authorized for him, after which landing may be made. Normal traffic will resume as soon as the aircraft has landed or been accounted for, but, in any event, in not more than 30 minutes after the approach time last authorized for the aircraft.

61.78 General pilot rules.

61.7800 Command of flight. The first pilot shall be in command during the flight of the aircraft.

61.7801 Remaining at controls. The pilots shall remain at their posts while the aircraft is in flight and shall not leave the pilots' compartment except when it is necessary in attending to their regular duties or when replaced by a person authorized in § 61.7803. When a second pilot is required to attend passengers, he shall not, unless the first pilot deems it necessary, leave the pilots' compartment until the aircraft has ascended to its cruising altitude, or during the final stages of an approach for a landing.

*The definition of measured ceiling as revised on June 1, 1943, will be found on page 28–2R, paragraph 2–131, of Circular N of the United States Weather Bureau.

61.7802 Manipulation of controls. No person, other than a first or second pilot, shall manipulate the controls of an air carrier aircraft while in scheduled flight: *Provided,* That at the discretion of the first pilot such restriction shall not apply to authorized inspectors of the Administrator or to properly qualified company personnel or to properly qualified personnel of other air carriers.

61.7803 Pilots' compartment. (*a*) No person except a member of the operating crew or an air carrier inspector of the Administrator of Civil Aeronautics shall be admitted to the pilots' compartment during such flight unless his admission is approved by the first pilot and such person is one of the following: (1) An employee of the Federal Government or of an air carrier or other aeronautical enterprise, whose duties are such that his presence in the cockpit is necessary or advantageous to the conduct of safe air carrier operations or the improvement of the safety of such operations;* (2) a person whose presence in such compartment has been specifically authorized by the management of the air carrier operating the aircraft and by the Administrator.

(*b*) No person shall occupy a seat in the pilots' compartment or the companionway thereto unless such seat is securely attached to the structure of the aircraft and is provided with a safety belt which shall be kept fastened by the occupant throughout his occupancy of such seat.

(*c*) Unless a seat is also available for his use in the passenger compartment, no person shall be admitted to the pilots' compartment during scheduled flight except:

(1) A member of the flight crew;

(2) A person engaged during flight in checking of pilots' operations for the Federal Government or for the air carrier;

(3) Flight supervisory personnel of the air carrier concerned who are certificated pilots;

(4) First or second pilots listed in Operations Specifications of the air carrier concerned; or any first or second pilots listed in the Operations Specifications—Airmen of another air carrier who have been authorized by the air carrier concerned and the Administrator to make the trips over the route being flown for the purpose of route qualification or familiarization;

(5) Certificated aircraft dispatchers of the air carrier concerned or certificated aircraft dispatchers of another air carrier who have been authorized by the air carrier concerned and the Administrator to make the trips over the route being flown for the purpose of establishing or maintaining dispatcher route qualification; or

(6) Certificated mechanics of the air carrier concerned, in the performance of duty.

(7) Pilot trainees in the employ of the air carrier. This provision shall terminate at the end of the war.

(*d*) Any air carrier inspector of the Administrator of Civil Aeronautics shall be admitted to the pilots' compartment of an air carrier aircraft at any time while in the performance of his official duty.

61.7804 Radio headsets. A radio telephone head set shall be worn by the first pilot or by a second pilot and the radio tuned to appropriate frequencies at least during the time while the aircraft is in flight or taxiing.

61.7805 Time of reporting for duty. The pilot in command of any scheduled flight and the second pilot shall report to the operations office of the operator in sufficient time prior to the start of any scheduled flight to study and familiarize themselves with weather conditions on the route to be flown and for the plan of flight to be executed for the proposed schedule.

61.7806 Local airport rules and interline agreements. Pilots shall at all times comply with accepted safety agreements or practices, including current inter-airline agreements and local airport traffic rules, as approved by the Administrator or Board.

61.7807 (Unassigned.)

61.7808 Manuevers. All aircraft maneuvers not necessary to the safe and orderly progress of the flight shall be avoided.

*Federal employees who deal responsibly with matters relating to air carrier safety and such air carrier employees as pilots, dispatchers, meteorologists, communication operators, and mechanics whose efficiency would be increased by familiarity with flight conditions in the pilots' compartment may be considered eligible under this requirement. Employees of traffic, sales, and other air carrier departments not directly related to flight operations cannot be considered eligible unless authorized under (2).

61.7809 Maps and flight equipment. It shall be the responsibility of the pilot in command before any scheduled flight is started to have in his possession in the cockpit, proper flight and navigational facility maps, including instrument approach procedures when instrument flight is authorized, and such other flight equipment as may be necessary to properly conduct the particular flight proposed.

61.7810 Flashlights. It shall be the responsibility of the pilot in command to see that two satisfactory flashlights in good working order are provided in the aircraft and accessible to both pilots.

61.7811 Emergency decisions. The first pilot is authorized, in emergency situations which require immediate decision and action, to resolve upon a course of action which is required by the factors and information available to him. He may, in such situations, deviate from prescribed methods, procedures, or minimums to the extent required by considerations of safety. When such emergency authority is exercised, the pilot shall, to the extent possible, keep the proper control station fully informed regarding the progress of the flight. He shall submit a written report of any such deviation to his operations manager. The operations manager shall furnish a copy of such report, with his comments, promptly to the Administrator.

61.79 Miscellaneous rules.

61.790 Distribution of notices. The operator shall set up some provisions for the prompt transmission of all information pertaining to changes and irregularities of all navigational aids and facilities over his entire system. In addition where inter-airline agreements, airway traffic control regulations, and local airport traffic rules, etc., have been provided and adopted, on any portion of the route or routes, prompt notice and appropriate instructions shall be given to all personnel concerned.

61.791 Air carrier aircraft proving period.

61.7910 (*a*) All air carrier aircraft of a new make or model shall have at least 100 hours of proving tests in the hands of an air carrier under the supervision of an authorized representative of the Administrator, before authority for carrying passengers may be issued. At least 50 hours of such tests shall be in scheduled air carrier operation and include at least 10 hours of night operation.

61.7911 (*b*) In the case of major changes on aircraft previously proved, or the use of the same aircraft on a different operation, 50 hours of proving tests similar to that outlined in the preceding paragraph may be required, at least 25 hours of which shall be in scheduled operation.

61.7912 (*c*) During the tests specified in (*a*) and (*b*) above, passengers other than those essential to the tests are prohibited. Mail, express, and cargo may be carried, at the discretion of the Administrator.

61.792 Smoking rules. The operator may permit smoking in scheduled air carrier aircraft, except in berths of sleeper planes and during refueling, provided:

61.7920 (*a*) The aircraft carries a second pilot or cabin attendant, who shall notify passengers when and where smoking is prohibited.

61.7921 (*b*) Sufficient ash containers of a suitable type are provided.

61.793 No smoking signs. A prominent "No Smoking" sign shall be displayed in berths.

61.794 Smoking in pilot compartment. When the operator permits smoking in the pilot compartment, suitable ash containers for the members of crew shall be provided. In no event shall smoking be permitted during take-offs, landing, and refueling.

61.795 Radio rules. The following rules will govern the use and operation of radio facilities by an air carrier.

61.7950 (*a*) Radio facilities, exclusive of the emergency equipment in the aircraft, shall be ready for immediate use at all times when the aircraft is in flight, except as may otherwise be provided for in § 61.7114.

61.7951 (*b*) The radio communications system required by the Civil Air Regulations shall at all times be operated in strict accordance with the rules and regulations provided therefor by the Federal Communications Commission.

61.7952 (*c*) Where a communication channel serves point-to-point contacts in addition to ground to plane, it is required that priority of the circuit be given to plane to ground and ground to plane communication. Where in the opinion of the Administrator the volume of point-to-point traffic is so heavy as to interfere with the primary purpose of the circuit, i. e., plane to ground and ground to plane contacts, the Administrator may require that all other traffic be removed from this circuit.

61.796 Fuel dumping. In circumstances other than those in connection with the effecting of a landing, fuel shall not be dumped except in accordance with § 61.7811, and then only if the pilot deems it safer than any other procedure.

61.797 Marking emergency exits. Emergency exits of aircraft carrying passengers shall be clearly marked as such in letters not less than ¾ inch high with luminous paint, such markings to be located either on or immediately adjacent to the pertinent exit and readily visible to passengers. Location and method of operation of the handles shall be marked with luminous paint.

61.8 Operations manual.

61.80 Necessity for. Each operator of a scheduled air carrier shall prepare and maintain an operations manual for the use and guidance of the air carrier flight and ground personnel. If desired by the operator, such manual may be broken down into two or more parts, on a divisional basis, but the manual for each division shall be complete as pertains to such division.

61.81 Contents. Each operations manual, including a divisional manual, shall contain—

61.810 (*a*) A copy of that portion of the air carrier operating certificate pertaining to en route operations and airport specification;

(*b*) A copy of all interline traffic agreements affecting the particular operation involved; and

(*c*) Any other data or information which the operator desires to include for the efficiency or safety of the operation.

61.82 Form. The operations manual shall be loose-leaf in form, and each page therein shall be numbered and dated to show the currency of all material contained therein. All copies of such manual shall at all times be kept up to date.

61.83 Delivery of copies. A copy of the operations manual shall be furnished to at least the following persons:

(*a*) the Administrator of Civil Aeronautics;

(*b*) the Chief of the Air Carrier Service, Civil Aeronautics Administration;

(*c*) each air carrier inspector of the Administrator of Civil Aeronautics in charge of inspection of any portion of the route, including any division thereof;

(*d*) each air carrier first pilot;

(*e*) each air carrier second pilot;

(*f*) each person authorized for dispatching duty;

(*g*) each air carrier aircraft radio operator; and at

(*h*) each air carrier terminal and scheduled intermediate stop.

61.84 Record of copies. Each air carrier shall keep a complete record of all persons to whom copies of its operations manual have been furnished.

61.85 Changes. The following rules will govern changes made in the operations manual:

61.850 (*a*) Any change issuing from the Administrator pertaining to that portion of the air carrier operating certificate covering en route operations and airport specifications shall be promptly incorporated in the operations manual and a copy thereof sent, in the form of a new page of such manual, to each person required to hold a copy of the manual. Each amended page of the manual shall be properly dated.

61.851 (*b*) Upon receipt of such new page or pages, the recipient shall insert the current information in the manual.

61.852 (*c*) Any data not issuing from the Administrator may be changed by the operator, without approval of the Administrator, providing such change is not inconsistent with any Federal regulation or the air carrier operating certificate. Notice of any such change shall be given promptly in accordance with the provisions of § 61.850.

61.9 Reports.

61.90 General. Each scheduled domestic air carrier shall furnish the Administrator such reports as may be required by him.

61.91 Monthly report. A monthly operations report shall be submitted to the Administrator, on and in accordance with a form supplied for the purpose, not later than the 20th day of the next succeeding month.

61.92 Mechanical interruption. A mechanical interruption report shall be submitted to the Administrator, on and in accordance with a form supplied for the purpose, through the air carrier maintenance inspector of the Administrator assigned to such operations, as soon as possible but not later than 10 days after such mechanical interruption occurs. Any block-to-block instrument or equipment mechanical failure, in whole or in part, shall be reported as above.

61.93 Weather interruption. An air carrier shall maintain and make readily available to inspectors of the Administrator or Board for not less than 1 year from the date of the flight the records pertaining to any flight of aircraft engaged in air transportation which, because of unfavorable weather conditions, was interrupted by either:

(*a*) Failure to land at the point or points to which the flight was cleared;

(*b*) A landing at a point other than that to which the flight was specifically cleared;

(*c*) Landing at points cleared to other than in the progressive order of landing specified in the flight clearance; or

(*d*) A re-clearance by radio during flight.

Such records shall include at least the flight plan, flight log, company clearance form, and weather reports upon which the clearance was based.

61.94 Mechanical record. The records of the air carrier covering mechanical trouble shall be made available upon request to any authorized representative of the Administrator or Board.

61.95 Irregularity report. All airmen, including flight and ground personnel, shall immediately report any irregularity or hazard which exists on or adjacent to any civil airway, and which in their opinion, makes for unsafe operation of aircraft in flight. Such report shall be made to the air carrier operations manager, who shall verify its accuracy to the best of his ability. If the report is justified, notice of the irregularity or hazard shall at once be given to the Administrator.

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NOTICE

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