U. S. DEPARTMENT OF COMMERCE

DANIEL C. ROPER, Secretary

BUREAU OF AIR COMMERCE

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CIVIL AIR REGULATIONS

20.—PILOT RATING

As Amended to May 31, 1938

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1938

CIVIL AIR REGULATIONS

Pursuant to the authority contained in the Air Commerce Act of 1926 (44 Stat. 568) as amended by the Act of February 28, 1929 (45 Stat. 1404), the Act of June 19, 1934 (48 Stat. 1113), the Act of June 19, 1934 (48 Stat. 1116), and Sections 11 and 12 of the Act of June 12, 1934 (48 Stat. 933, 937), the following Civil Air Regulations are hereby made, prescribed, and issued to be known as—

Part 00. Aircraft Registration Certificate.
Part 01. Aircraft Certificates.
Part 02. Aircraft Identification Mark.
Part 03. Aircraft Title Transfer.
Part 04. Airplane Airworthiness.
Part 13. Aircraft Engine Airworthiness.
Part 14. Aircraft Propeller Airworthiness.
Part 15. Aircraft Equipment Airworthiness.
Part 18. Repair and Alteration of Aircraft.
Part 20. Pilot Rating.
Part 21. Airline Pilot Rating.
Part 23. Ground Instructor Rating.
Part 24. Mechanic Rating.
Part 25. Parachute Rigger Rating.
Part 26. Airport Control Tower Operator Rating.
Part 27. Airline Dispatcher Rating.
Part 40. Scheduled Airline Certification (Interstate and Intra-Territorial).
Part 50. Flying School Rating.
Part 52. Aircraft Repair Station Rating.
Part 60. Air Traffic Rules.
Part 61. Scheduled Airline Rules (Interstate).
Part 90. Air Mail.
Part 91. Aircraft Accident Investigations.
Part 92. Hearings Upon Certificates (Issued, Renewed, Denied, Suspended or Revoked).
Part 93. Evidence.
Part 94. Penalties.
Part 95. Imposition, Remission and Mitigation of Penalties.
Part 96. Authorization to Act for the Secretary.
Part 98. Definitions.
Part 99. Mode of Citation of Regulations.

Any and all rules and regulations heretofore made, prescribed, and issued by the Secretary of Commerce pursuant to the authority first above stated are hereby repealed.

Approved May 31, 1938.

[SEAL]

DANIEL C. ROPER,
Secretary of Commerce.

PART 20.—PILOT RATING

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20.0 Provision for rating. Pursuant to the provisions of the Air Commerce Act requiring the Secretary of Commerce to provide for the examination and rating of airmen serving in connection with aircraft of the United States as to their qualifications for such service, pilots will be rated in accordance with the following provisions.

20.00 General pilot ratings. The general classification and rating of pilots will be based upon their hours of solo flight and the kind of aeronautical activity for which they are deemed competent. Each general rating, except student rating, will include an aircraft rating specifying the type, weight and engine classification of the aircraft which the pilot is deemed competent to fly, and a flight area rating specifying the geographical area in which he is deemed competent to pilot aircraft. The general pilot ratings will be as follows:

(*a*) Student Pilot Rating.
(*b*) Solo Pilot Rating.
(*c*) Private Pilot Rating.
(*d*) Limited-Commercial Pilot Rating.
(*e*) Commercial Pilot Rating.
(*f*) Airline Pilot Rating (Provided for in all respects in Part 21).
(*g*) Student Glider Pilot Rating.

(*h*) Private Glider Pilot Rating.
(*i*) Commercial Glider Pilot Rating.

20.01 Special pilot ratings. Special pilot ratings will be based upon satisfactory demonstration of pilot competence as related to skill or qualification for a particular piloting activity. The special pilot ratings will be as follows:

(*a*) Instructor Rating.
(*b*) Instrument Rating.

20.1 General rating minimum requirements. To be eligible for a general pilot competency rating, an applicant shall comply with the following minimum requirements prescribed for the particular rating sought.

20.10 Student pilot rating. To be eligible for a student pilot rating, an applicant shall comply with the following minimum requirements.

20.100 Age. Applicant shall be at least 16 years of age. If applicant be less than 21 years of age at the time of making application, he shall submit with his application the written consent of either parent, or legal or natural guardian, to the issuance of the pilot rating sought.

20.101 Character. Applicant shall be of good moral character.

20.102 Citizenship. Applicant may be a citizen of any nationality.

20.103 Education. Applicant shall be able to read, speak, write and understand the English language; except that a citizen of a country granting reciprocal pilot privileges to pilots of the United States on equal terms and conditions will not be required to meet the English language requirements.

20.104 Physical condition. Applicant shall comply with the following minimum requirements as to physical condition; *provided,* that the existence of a lesser grade or condition in one or more of the particulars mentioned may not disqualify the applicant if excellence in other particulars or excellence in aeronautical experience or in aeronautical skill offsets the deficiency in the opinion of the Secretary; *provided,* that an applicant having structural defects or limitations which, in the opinion of the Secretary, may interfere with the safe piloting by the applicant of other aircraft, may be certificated to pilot only such aircraft as are specified by the Secretary in the pilot certificate of such applicant; *provided, however,* that an increase of such deficiency, which occurs at any time within the effective period of the certificate and cannot be compensated for by some additional excellence (as in aeronautical experience or practical skill), will automatically invalidate such certificate:

20.1040 (*a*) **Eye.** Applicant shall have a visual acuity of at least 20/50 in each eye separately, without correction; provided that, if the vision in either or both eyes is poorer than 20/50 and is brought up to 20/30 or better in each such eye by glasses, the applicant may be qualified on condition that correcting glasses be worn while piloting aircraft. An average of 30 millimeters or less on the depth perception apparatus, with or without glasses, is required. If the depth perception is greater than 30 millimeters without correction and can be corrected to at least 30 millimeters by glasses, the restriction that correcting glasses be worn while piloting aircraft will apply. No

diplopia will be allowed unless corrected by glasses in which case such glasses must be worn while piloting aircraft. There shall be no serious pathology of the eye.

20.1041 (*b*) **Ear, nose, throat and equilibrium.** Applicant shall be able to hear the whispered voice at three feet; shall have no acute or chronic disease of the internal ear, no disease or malformation of the nose or throat which may interfere with or be aggravated by flying, and no disturbance in equilibrium.

20.1042 (*c*) **General physical conditions.** Applicant shall have no organic or functional disease or structural defect or limitation which might interfere with the safe piloting of aircraft.

20.1043 (*d*) **Nervous system.** Applicant shall have no disease of the mental or nervous system and no abnormality of the personality.

20.105 Aeronautical knowledge. No minimum requirement is prescribed but, prior to his first solo flight, applicant shall be familiar with the provisions of Part 60, and such fact shall be certified to by his instructor in accordance with the requirements of § 20.652.

20.106 Aeronautical experience. No minimum requirement.

20.107 Aeronautical skill. No minimum requirement is prescribed but, prior to his first solo flight, applicant shall have had a minimum of 8 hours dual flight instruction, including recovery from spins and stalls, and shall have been deemed, in the opinion of his instructor, competent to make such flight, and such competence shall be certified to by his instructor on the student pilot certificate in the place provided therefor. The date of such flight and the type, weight and engine classification of the aircraft so flown shall also be certified by the instructor in the same manner.

20.11 Solo pilot rating. To be eligible for a solo pilot rating, an applicant shall comply with the following minimum requirements.

20.110 Age. Same as in § 20.100.

20.111 Character. Same as in § 20.101.

20.112 Citizenship. Same as in § 20.102.

20.113 Education. Same as in § 20.103.

20.114 Physical condition. Same as in § 20.104.

20.115 Aeronautical knowledge. Applicant shall be familiar with and accomplish satisfactorily a written examination on so much of the provisions of Parts 00, 01, 02, 03, 20, 60, 91, 94 and 98, as are pertinent to his rating.

20.116 Aeronautical experience. Applicant shall have logged at least 5 hours of solo flight time, of which at least 3 hours shall have been logged within the 60 days last preceding the date of filing the application, *provided,* however, that a graduate of the solo pilot course of a certificated flying school will be deemed to have complied with this requirement upon presentation of his certificate of graduation within 30 days thereof.

20.117 Aeronautical skill. Applicant shall demonstrate satisfactorily his ability to pilot aircraft in solo flights including normal take-offs, turns and landings.

20.12 Private pilot rating. To be eligible for a private pilot rating, an applicant shall comply with the following minimum requirements:

20.120 Age. Same as in § 20.100.

20.121 Character. Same as in § 20.101.
20.122 Citizenship. Same as in § 20.102.
20.123 Education. Same as in § 20.103.
20.124 Physical condition. Same as in § 20.104.
20.125 Aeronautical knowledge. Same as in § 20.115 and, in addition, applicant shall satisfactorily accomplish a written examination covering prevailing weather conditions in the United States as encountered in flying, and the forecasting thereof, the analyzing of weather maps and sequence reports as furnished by the United States Weather Bureau, practical air navigation problems and the use of maps, and navigation by terrain (pilotage) and by dead reckoning, including the use of instruments and other aids to navigation in visual contact flying.
20.126 Aeronautical experience. Applicant shall have logged at least 35 hours of solo flight time, of which at least 5 hours shall have been logged within the 60 days last preceding the date of filing the application, *provided*, however, that a graduate of the private pilot course of a certificated flying school will be deemed to have complied with this requirement upon presentation of his certificate of graduation within 30 days thereof. As part of the foregoing, applicant shall have logged at least 5 hours of cross country flying of which at least 3 hours shall be solo, which shall include at least one flight over a course of not less than 50 miles with at least 2 full stop landings at different points on such course. Such experience shall be certified to by some person, other than the applicant, having direct knowledge of the same.
20.127 Aeronautical skill. Applicant, for rating on heavier-than-air aircraft of a land or water type, exclusive of gliders, shall demonstrate satisfactorily his ability to pilot an aircraft in solo flight and, in addition to normal take-offs, turns and landings, to perform satisfactorily the following maneuvers:
20.1270 (*a*) From 1,500 feet, with engine throttled, a 360° turn and a landing in normal landing attitude, the wheels touching the ground beyond and within 300 feet of a line or point designated by the examining Bureau inspector.
20.1271 (*b*) From 1,000 feet, with engine throttled, a 180° turn and a landing in normal landing attitude, the wheels touching the ground beyond and within 300 feet of a line or point designated by the examining Bureau inspector.
20.1272 (*c*) A series of 3 shallow and 3 steep figure 8 turns, and one 720° steep power turn in each direction. During these maneuvers, the pilot shall not gain or lose more than 200 feet of altitude.
20.1273 (*d*) A spiral in one direction from 2,000 feet, with engine throttled, and a landing in normal landing attitude, the wheels touching the ground beyond and within 300 feet of a line or point designated by the examining Bureau inspector.
20.1274 (*e*) A right hand and a left hand spin, each of at least one full turn, either solo or accompanied by a certificated instructor.
20.1275 (*f*) Emergency maneuvers such as simulated forced landings, spirals, side slips and climbing turns, and recovery from stalls and such other maneuvers as the examining Bureau inspector may

deem necessary and appropriate to demonstrate the competence of the applicant for the rating sought.

20.1276 (*g*) Such maneuvers as are necessary to demonstrate competence to satisfactorily pilot an aircraft from either control seat. None of the maneuvers provided for in § 20.127 shall be disregarded, but any such maneuver may be modified by the examining Bureau inspector to such extent as may be necessary for reasonable and safe operation of the aircraft used in the particular maneuver. Such inspector will report any such modification to the Secretary in writing.

20.128 Aeronautical skill on other types. Applicant, for rating on aircraft other than gliders or conventional heavier-than-air aircraft of a land or water type, shall demonstrate satisfactorily his ability to pilot an aircraft of such other type in solo flight and, in addition to normal take-offs and landings, shall perform such other maneuvers as the examining Bureau inspector may deem necessary and appropriate to demonstrate the competence of the applicant.

20.129 Military competence. An applicant, who is an active member of the regular Army, Navy or Marine Corps, or a reserve member of any such service on extended active duty for at least 1 year, may be deemed to have met the requirements of § 20.124 through § 20.127 by a satisfactory showing to a Bureau inspector that he is on flying status and holds an airplane pilot rating, or equivalent, in connection with his service, which shall include:

(*a*) A certificate from a flight medical officer of his service stating that the applicant meets the minimum physical standards prescribed for his service for flying status and for an airplane pilot rating, or equivalent, the date of such physical examination, and

(*b*) a certificate from the operations officer, or officer in charge of flying, of his service stating that the applicant is on flying status, holds an airplane pilot rating, or equivalent, and that the applicant is competent to pilot airplanes of the type, weight and engine classifications stated. (See § 20.55.)

The applicant shall submit to the Secretary, within 4 months after the date of application, a certified copy of the current medical examination, of the applicant, for flying in his service, *provided, however*, that the pilot certificate applied for may be issued by a Bureau inspector prior to the submission of such certified copy of the applicant's medical examination.

20.13 Limited-commercial pilot rating. To be eligible for a limited-commercial pilot rating, an applicant shall comply with the following minimum requirements:

20.130 Age. Same as § 20.100, except that applicant shall be at least 18 years of age.

20.131 Character. Same as in § 20.101.

20.132 Citizenship. Applicant shall be—

20.1320 (*a*) A citizen of the United States, or

20.1321 (*b*) A citizen of a foreign country which grants reciprocal commercial pilot privileges to citizens of the United States on equal terms and conditions with citizens of such foreign country, or

20.1322 (*c*) An alien who has filed his declaration of intention to become a citizen of the United States and notifies the Secretary of the

serial number of such declaration and of the date thereof and of the court in which it is filed; *provided*, that the certificate of competency is, in such case, subject to revocation if the holder does not from time to time keep the Secretary advised of the status of the proceedings in court and does not diligently and successfully prosecute them and become admitted as a citizen.

20.133 Education. Applicant shall be able to read, speak, write and understand the English language.

20.134 Physical condition. Applicant shall comply with the following minimum requirements as to physical condition; *provided*, that the existence of a lesser grade or condition in one or more of the particulars mentioned may not disqualify the applicant if excellence in other particulars or excellence in aeronautical experience or in aeronautical skill offsets the deficiency, in the opinion of the Secretary; *provided*, however, that an increase of such deficiency, which occurs at any time within the effective period of the certificate and cannot be compensated for by some other excellence (as in aeronautical experience or practical skill), will automatically invalidate such certificate:

20.1340 (a) Eye. Applicant shall have a visual acuity of at least 20/20 in each eye separately without correction, *provided*, that if the vision in either or both eyes is not poorer than 20/50 and is brought up to 20/20 or better in each such eye by glasses, the applicant may be qualified on condition that correcting glasses be worn while piloting aircraft; an average depth perception of 30 millimeters or less with or without glasses is required; if the depth perception is greater than 30 millimeters without correction, and can be corrected to at least 30 millimeters by glasses, the restriction that correcting glasses be worn while piloting aircraft will apply; no diplopia; not more than 1 diopter of hyperphoria; properly balanced eye muscles with an abduction of 3 diopters or more; sufficient accommodation to pass a Bureau test based primarily upon ability to read official aeronautical maps; normal fields of vision, and no pathology of the eye.

20.1341 (b) Ear, nose, throat and equilibrium. Applicant shall be able to hear the whispered voice at 8 feet with each ear separately; shall have no acute or chronic disease of the middle or internal ear; no disease of the mastoid; no unhealed perforations of the ear drum; no disease or malformation of the nose or throat which may interfere with or be aggravated by flying, and no disturbance of equilibrium.

20.1342 (c) General physical condition. Same as in § 20.1042.

20.1343 (d) Nervous system. Same as in § 20.1043.

20.135 Aeronautical knowledge. Same as in § 20.125 and, in addition, applicant shall satisfactorily accomplish a written examination on the theory and the practice of flight and the maintenance of aircraft, and on the maintenance and proper use of aircraft power units in common use.

20.136 Aeronautical experience. Applicant shall have logged at least 60 hours of solo flight time, of which at least 5 hours shall have been logged within the 60 days last preceding the date of filing the application, *provided*, however, that a graduate of the limited-commercial pilot course of a certificated flying school will be deemed to have complied with this requirement upon presentation of his certificate of grad-

nation within 30 days thereof. Solo cross country flying time is required as provided in § 20.126.

20.137 Aeronautical skill. Same as in § 20.127 except as follows:

20.1370 (*a*) In the maneuvers required by §§ 20.1270, 20.1271 and 20.1273, the wheels shall touch the ground beyond and within 250 feet of the line or point designated.

20.1371 (*b*) In the maneuvers required by § 20.1272, the pilot shall not gain or lose more than 150 feet.

20.1372 (*c*) In the spins required by § 20.1274, the applicant shall perform a 2-turn spin in each direction with an error of not more than plus or minus ¼ turn.

20.138 Aeronautical skill on other types. Same as in § 20.128.

20.14 Commercial pilot rating. To be eligible for a commercial pilot rating, an applicant shall comply with the following minimum requirements:

20.140 Age. Same as in § 20.130.

20.141 Character. Same as in § 20.101.

20.142 Citizenship. Same as in § 20.132.

20.143 Education. Same as in § 20.133.

20.144 Physical condition. Same as in § 20.134.

20.145 Aeronautical knowledge. Same as in § 20.135 except that the examinations will be more searching and in greater detail.

20.146 Aeronautical experience. Applicant shall have logged at least 200 hours of solo flight time, of which at least 5 hours shall have been logged within the 60 days last preceding the date of filing the application, *provided*, however, that a graduate of the commercial pilot course of a certificated flying school will be deemed to have complied with this requirement upon presentation of his certificate of graduation within 30 days thereof. As part of the foregoing applicant shall have logged at least 10 hours of solo cross-country flying, which shall include at least one flight over a course of not less than 100 miles with at least three full stop landings at different points on such course. Such experience shall be certified to by some person, other than the applicant, having direct knowledge of the same.

20.147 Aeronautical skill. Same as in § 20.127 except as follows:

20.1470 (*a*) In the maneuvers required by §§ 20.1270, 20.1271 and 20.1273, the wheels shall touch the ground within 200 feet beyond the line or point designated.

20.1471 (*b*) In the maneuvers required by § 20.1272, the pilot shall not gain or lose more than 100 feet.

20.1472 (*c*) Applicant shall complete the spins required in §20.1372 except that the permissible error shall be plus or minus ten degrees.

20.148 Aeronautical skill on other types. Same as in § 20.128.

20.149 Military competence. An applicant who has been an active member of the regular Army, Navy or Marine Corps, or a reserve member of any such service who has been on extended active duty for at least 1 year, may, within 60 days after the date of separation from such service be deemed competent to have met the requirements of § 20.144 through § 20.147 by a satisfactory showing to a Bureau inspector that he has been on flying status and that he held an airplane

pilot rating, or equivalent, in connection with his service, which shall include:

(*a*) A certificate from a flight medical officer of his service stating that the applicant met the minimum physical standards prescribed for his service for flying status and for an airplane pilot rating, or equivalent, at the time of separation from the service and the date of the last physical examination upon which such certificate is based, or, in lieu thereof, evidence of a satisfactory medical examination, for commercial pilot certificate, conducted by a designated Bureau medical examiner within 4 months preceding application, and

(*b*) a certificate from the operations officer, or officer in charge of flying, of his service stating that the applicant, at the time of his separation from the service, was on flying status, held an airplane pilot rating, or equivalent, and that the applicant was then competent to pilot airplanes of the type, weight and engine classifications stated. (See § 20.55.)

The applicant shall submit to the Secretary within 60 days after the date of application a certified copy of the current medical examination, of the applicant, for flying in his service, if evidence of a military examination has been submitted (see § 20.149 (a)), *provided, however,* that the pilot certificate applied for may be issued by a Bureau inspector prior to the submission of such certified copy of the applicant's medical examination.

20.15 Student glider pilot rating. To be eligible for a student glider pilot rating, an applicant shall comply with the following minimum requirements.

20.150 Age. Applicant shall be at least 14 years of age. If applicant be less than 21 years of age at the time of making application, he shall submit with his application the written consent of either parent, or legal or natural guardian, to the issuance of the glider pilot rating sought.

20.151 Character. Same as in § 20.101.

20.152 Citizenship. Same as in § 20.102.

20.153 Education. Same as in § 20.103.

20.154 Physical condition. Applicant shall certify that to the best of his knowledge and belief he has no physical defect which renders him incompetent to pilot a glider.

20.155 Aeronautical knowledge. No minimum requirements.

20.156 Aeronautical experience. No minimum requirements.

20.157 Aeronautical skill. No minimum requirement, but prior to his first solo flight a student glider pilot shall, in the opinion of his instructor, be deemed competent to make such solo flight.

20.16 Private glider pilot rating. To be eligible for a private glider pilot rating, an applicant shall comply with the following minimum requirements:

20.160 Age. Same as in § 20.150.

20.161 Character. Same as in § 20.101.

20.162 Citizenship. Same as in § 20.102.

20.163 Education. Same as in § 20.103.

20.164 Physical condition. Same as in § 20.154.

20.165 Aeronautical knowledge. Applicant shall be familiar with and accomplish satisfactorily a written examination on the provisions of Part 60.

20.166 Aeronautical experience. Applicant shall have completed at least 100 gliding flights, 25 of which shall have each included a 360° turn, and at least 5 of such 25 flights shall have been made within the 30 days preceding the date of filing the application.

20.167 Aeronautical skill. Applicant shall demonstrate his ability to pilot a glider by satisfactorily making at least the following: one straight flight with normal take-off and landing within the airport, one flight with a 180° turn and a downwind landing in wind of not more than 10 miles per hour velocity, one flight with a 360° turn to the right and a landing to within 200 feet of a designated mark and one flight with a 360° turn to the left and a similar landing.

20.17 Commercial glider pilot rating. To be eligible for a commercial glider pilot rating, an applicant shall comply with the following minimum requirements:

20.170 Age. Same as § 20.150, except that applicant shall be at least 18 years of age.

20.171 Character. Same as in § 20.101.

20.172 Citizenship. Same as in § 20.132.

20.173 Education. Same as in § 20.133.

20.174 Physical condition. Same as in § 20.104.

20.175 Aeronautical knowledge. Same as in § 20.115.

20.176 Aeronautical experience. Applicant shall have completed at least 250 gliding flights, 100 of which shall each have included a 360° turn, and at least 5 of such 100 flights shall have been made within the 30 days preceding the date of filing the application. Applicant shall also have had at least 1 hour of instruction in recovery from stalls and spins in a Class 1 airplane by a certificated instructor, evidenced by the signed entry of such instructor in the log-book of the applicant. 5 hours of soaring may be substituted for 50 gliding flights.

20.177 Aeronautical skill. Applicant shall demonstrate his ability to pilot a glider by satisfactorily making at least the following: one straight flight with normal take-off and landing within the airport, one flight with a 180° turn and a downwind landing in wind of not more than 10 miles per hour velocity, one flight with a 360° turn to the right and a landing to a point not more than 100 feet beyond a designated line, one flight with a 360° turn to the left and a similar landing and 2 flights including right and left turns in each flight.

20.2 Special rating minimum requirements. To be eligible for a special pilot competency rating, an applicant shall comply with the following minimum requirements prescribed for the particular rating sought:

20.20 Instructor rating. To be eligible for an instructor rating, an applicant shall comply with the following minimum requirements:

20.200 Age. Same as in § 20.130.

20.201 Aeronautical knowledge. Applicant shall have practical and theoretical knowledge of flight instruction and shall accomplish a satisfactory written and practical examination thereon.

20.202 Aeronautical experience. Applicant shall be possessed of a valid commercial or private pilot rating, provided that in the latter case he meets the requirements of § 20.146.

20.203 Aeronautical skill. Applicant shall satisfactorily accomplish a practical flight test as to his ability to perform with precision and teach properly such fundamental flight maneuvers as are, in the opinion of the Secretary, deemed necessary and appropriate for safe and sound instruction in the safe piloting of aircraft.

20.21 Instrument rating. To be eligible for an instrument rating, an applicant shall comply with the following minimum requirements:

20.210 Aeronautical knowledge. Applicant shall be familiar with the use of such instruments and other navigational aids, both in aircraft and on the ground, as are deemed by the Secretary to be necessary for the navigation of aircraft by instruments, and with meteorology as applied to weather analysis and forecasting, and the applicant shall satisfactorily accomplish a written examination thereon.

20.211 Aeronautical experience. Applicant shall have logged at least 200 hours of solo flight time as prescribed in § 20.146, including a minimum of at least 20 hours of instrument flying instruction and practice, and shall be possessed of a valid private, limited-commercial or commercial pilot rating. In lieu of not to exceed 10 hours of the foregoing 20-hour requirement applicant may show an equal or greater amount of instruction and practice under simulated conditions approved by the Secretary.

20.212 Aeronautical skill. Applicant shall satisfactorily accomplish, solely by instruments, a flight test with respect to the following:

20.2120 (*a*) Straight level flight for a given period of time.

20.2121 (*b*) Moderately banked 180° and 360° turns in both directions.

20.2122 (*c*) Minimum glides and maximum climbs, and approaches to stalled attitudes of flight.

20.2123 (*d*) Climbing turns.

20.2124 (*e*) Stalls, skids, slips and spirals, and banks in excess of 45°, and recovery from the same.

20.2125 (*f*) Such other maneuvers as the examining inspector deems necessary.

20.2126 (*g*) A practical demonstration, while in flight or under simulated conditions, of estimating arrival time, taking into account speed, wind and drift.

20.213 Radio skill. Applicant shall satisfactorily accomplish, solely by instruments, a flight test with respect to the following:

20.2130 (*a*) Tuning radio.

20.2131 (*b*) Orientation.

20.2132 (*c*) Following radio range.

20.2133 (*d*) Locating cone of silence.

20.2134 (*e*) Letting-down-through on the range by the approved instrument approach procedure for the particular airport used in connection with the test.

20.2135 (*f*) Such other maneuvers as the examining inspector deems necessary.

20.214 Military instrument competence. An applicant, who is an active member of the regular Army, Navy or Marine Corps, or a reserve member of any such service on extended active duty for at least 1 year, may be deemed to have met the requirements of § 20.210 through § 20.213 by a satisfactory showing to a Bureau inspector that he holds or has applied to the Secretary for a pilot certificate above the grade of solo, and holds a military instrument flying rating, or equivalent, issued by his service. Such showing shall be made by submitting a certificate from the operations officer, or officer in charge of flying, of his service stating that the applicant holds a military instrument flying rating, or equivalent, and is competent to pilot aircraft solely by reference to instruments.

20.3 Pilot competency certificate.

20.30 Provision for issuance. An appropriate pilot certificate of competency will be issued by the Secretary to a natural person who is an applicant therefor, after approval of an application made and proofs submitted in connection therewith and if upon inspection and examination such applicant is found by the Secretary to meet the appropriate minimum requirements prescribed in § 20.1. Holders of valid pilot licenses may pilot aircraft pursuant to such authority until the expiration thereof, *provided*, that such piloting of aircraft by holders of valid student, amateur, private, limited-commercial and transport pilot licenses shall be subject to the respective prohibitions and limitations provided in Civil Air Regulations effective November 1, 1937, and as amended, for piloting of aircraft by holders of valid student, solo, private, limited-commercial and commercial pilot certificates. On the expiration of each pilot license the holder, upon meeting the requirements for the renewal or re-issuance thereof and for any ratings held, may have issued to him the following certificates and ratings:

(*a*) If the holder of a student license, a *solo certificate*, *provided* he has logged at least 5 hours of certified solo flying time, makes application within the effective period of his license and shows a satisfactory physical examination, as provided for in § 20.104, within the 9 months immediately preceding application for such solo certificate. If the holder of a student license with no or less than 5 hours solo flying time, §§ 20.10 and 20.60 shall apply.

(*b*) If the holder of an amateur license, *a solo certificate*.

(*c*) If the holder of a private, limited-commercial or transport license, a *private, limited-commercial* or *commercial certificate* respectively, plus an *instrument rating* if a non-scheduled instrument rating is held and, in the case of the commercial pilot certificate, an *instructor rating* whether or not a flying instructor's rating is held.

20.300 Aircraft rating. The type, weight and engine classification of the aircraft (except unconventional aircraft) which the applicant is deemed competent to pilot will be entered upon the pilot certificate. (See §§ 20.54 and 20.55.)

20.301 Flight area rating. When limited, the geographical area in which the applicant is deemed competent to pilot the aircraft will be entered upon the pilot certificate. (See § 20.56.)

20.302 Special rating. When issued to an applicant, as provided for in §§ 20.2 and 20.4, any special rating will be entered upon his pilot certificate.

20.303 Identification card. An appropriate pilot identification card will be issued in connection with a pilot certificate, in the discretion of the Secretary.

20.31 Application. Application for a pilot certificate of competency, subscribed under oath, shall be made to the Secretary upon a form supplied for the purpose.

20.310 Application to amend. When any change in a pilot competency rating is desired, whether affecting the general or special ratings, the applicant shall file a written request therefor with the Secretary upon a form supplied for the purpose.

20.311 Proceeding to amend. A proceeding to amend a pilot competency rating, whether general or special, may be instituted by the Secretary when, in his opinion, the pilot is no longer competent in respect of some matter specified in the certificate. Notice of such proceeding shall be addressed to the pilot with opportunity for a hearing. In the interim, the certificate may be suspended in whole or in part by a duly authorized Bureau inspector or by the Secretary. Following the hearing, the Secretary may issue a re-rating as to competency.

20.32 Issuance. Upon approval of an application duly made, proofs submitted and examinations and tests satisfactorily completed, a pilot certificate of competency will be issued in an appropriate form.

20.320 Temporary certificate. Following application made for a pilot certificate of competency, but prior to approval thereof and issuance of the certificate, a temporary pilot certificate may be issued by the examining Bureau inspector. A temporary student pilot certificate may be issued by a medical examiner authorized by the Secretary for such purpose.

20.33 Display. A pilot certificate of competency shall be kept in the personal possession of the pilot at all times when piloting aircraft, and shall be presented for inspection upon the demand of any passenger, of any authorized official or employee of the Department of Commerce and of any State or municipal official charged with the duty of enforcing local laws or regulations involving Federal compliance, and upon the reasonable request of any other person.

20.34 Duration. A pilot certificate of competency, unless sooner suspended or revoked in accordance with the provisions of § 20.37, will remain in force for the following periods, for the respective kinds of certificate:

20.340 (*a*) **Student pilot.** 1 year.
20.341 (*b*) **Solo pilot.** 1 year.
20.342 (*c*) **Private pilot.** 1 year.
20.343 (*d*) **Limited-commercial pilot.** 6 months.
20.344 (*e*) **Commercial pilot.** 6 months.
20.345 (*f*) **Airline pilot.** 6 months (See Part 21).
20.346 (*g*) **Student glider pilot.** 1 year.
20.347 (*h*) **Private glider pilot.** 1 year.

20.348 (*i*) **Commercial glider pilot.** 1 year.

20.35 Renewal. The term of a pilot certificate (other than a student pilot or student glider pilot certificate) may be renewed, for a like period as the original certificate, upon application to a duly authorized Bureau inspector within 45 days prior to expiration and upon satisfactory showing of the following facts with respect to the kinds of certificates issued:

20.3500 (*a*) **Student pilot.** Not renewable.

20.3501 (*b*) **Solo pilot.**

(1) 15 hours of solo flight, in aircraft of each type, weight and engine classification for which renewal is sought, within the year preceding expiration, and

(2) a satisfactory physical examination, completed within the 9 months preceding expiration, in accordance with the provisions of § 20.104.

20.3502 (*c*) **Private pilot.** Same as in § 20.3501 except that the physical examination provided for shall have been completed within the 14 months preceding expiration. An applicant, who is an active member of the regular Army, Navy or Marine Corps, or a reserve member of any such service on extended active duty with such service, may meet this requirement by the same showing provided for in § 20.129.

20.3503 (*d*) **Limited-commercial pilot.**

(1) 10 hours of solo flight, in aircraft of each type, weight and engine classification for which renewal is sought, within the 6 months preceding expiration, and

(2) a satisfactory physical examination, completed within the 60 days preceding expiration, in accordance with the provisions of § 20.134.

20.3504 (*e*) **Commercial pilot.** Same as in § 20.3503, *provided, however,* that an applicant who is the holder of a valid commercial pilot competency rating, and who is employed as a second pilot in scheduled airline operation, may be deemed to have met the requirements of § 20.3503 (1) for renewal of his commercial pilot competency rating for the purpose of qualifying as a second pilot (§ 40.262), if he shall have logged 20 hours of solo flight time as a second pilot in such scheduled airline operation in the manner specified in § 61.523, within 6 months preceding expiration. Such renewal of a commercial pilot competency rating shall be valid only for scheduled airline operation as a second pilot.

20.3505 (*f*) **Airline pilot.** See Part 21.

20.3506 (*g*) **Student glider pilot.** Not renewable.

20.3507 (*h*) **Private glider pilot.** 10 gliding flights, or one soaring flight of one hour, within the year preceding expiration.

20.3508 (*i*) **Commercial glider pilot.** Same as in § 20.3507, together with a satisfactory physical examination completed within the 60 days preceding expiration, in accordance with § 20.104.

20.3509 Reinstatement. In the event of an emergency which prevents renewal prior to expiration, and upon a showing thereof satisfactory to the Secretary, the applicant may have his pilot certificate validated in accordance with the provisions for renewal in § 20.35, provided the flight tests appropriate thereto are again satisfactorily

accomplished. The date of application for reinstatement rather than the expiration date of the certificate shall be controlling in applying § 20.35. There shall be but one application for reinstatement following a given lapse. The above flight tests may not be required if application for reinstatement is made within 30 days after such expiration date of the certificate and there is a satisfactory showing within the same 30 days with respect to the requirements of § 20.3501 through § 20.3508, according to the rating sought.

20.3510. Re-rating after lapse. Within 6 months after the expiration date of a private, limited-commercial or commercial pilot certificate the holder thereof may have issued to him a solo pilot certificate upon application therefor and a satisfactory showing to the Secretary of physical competency as provided in § 20.3501 (2), and of 5 hours of certified solo flying time logged by the applicant within the year preceding application in aircraft of each type, weight and engine classification for which the solo pilot certificate is sought.

20.36 Non-transferability. A pilot certificate of competency is not transferable.

20.37 Suspension or revocation. The following rules will govern the suspension or revocation of pilot competency certificates.

20.370 Automatic invalidation. Any physical deficiency, or any increase in physical deficiency, which occurs at any time within the effective period of a pilot certificate and which is not compensated for by some additional excellence as provided for in §§ 20.104 and 20.134, will automatically cause the pilot certificate to become invalid for the period of such physical deficiency.

20.371 General grounds. A pilot certificate of competency may be suspended by a duly authorized Bureau inspector or by the Secretary or revoked by the Secretary by reason of any of the following on the part of the holder thereof:

20.37100 (*a*) Any false statement in an application for a certificate or in any report required by the Secretary.

20.37101 (*b*) Use or display of the certificate for any fraudulent purpose.

20.37102 (*c*) Refusal to exhibit the certificate upon proper demand.

20.37103 (*d*) Unsound physical or mental condition.

20.37104 (*e*) Any demonstration of incompetency in the piloting of aircraft.

20.37105 (*f*) Failure to wear correcting lenses when required.

20.37106 (*g*) Being under the influence of, or using or having personal possession of, intoxicating liquor, cocaine or other habit-forming drugs while on duty.

20.37107 (*h*) Carrying any passenger who is obviously under the influence of intoxicating liquor, cocaine or other habit-forming drugs.

20.37108 (*i*) Carelessness or inattention to duty affecting safety.

20.37109 (*j*) Performance of any act in connection with aircraft which is contrary to the public safety or interest.

20.37110 (*k*) Violation of any provision of the Air Commerce Act or any rule or regulation duly issued thereunder.

20.38 Surrender. Upon notice from a duly authorized Bureau inspector of the suspension of a pilot certificate by such inspector or by

the Secretary, and upon demand of either of the same for the surrender of such certificate, or upon notice from the Secretary of the revocation of such certificate, the holder thereof shall immediately surrender such certificate to such inspector or immediately return such certificate to the Secretary, as the case may be. In case of revocation, notwithstanding any failure or refusal to surrender a pilot certificate, it shall be deemed canceled and of no further force or effect.

20.39 Re-application. The following rules will govern the re-application for pilot competency certificates:

(*a*) An applicant for a solo, private glider or commercial glider pilot certificate who has failed to successfully accomplish any prescribed theoretical or practical examination or test may apply for re-examination in any such subject at any time after the expiration of 30 days from the date of such failure.

(*b*) An applicant for a private, limited-commercial or commercial pilot certificate who has failed to successfully accomplish any prescribed theoretical or practical examination or test may apply for re-examination at any time after the expiration of 30 days from the date of such failure, provided he shows at least 15 additional hours of certified flying time logged by him, or in lieu thereof shows at least 5 additional hours of certified flying time logged by him and a written statement from a certificated instructor that he has flown in an aircraft with the applicant and as a result of such flight test believes the applicant to be qualified for the rating sought.

20.4 Special competency rating.

20.40 Provision for issuance. An appropriate special competency rating will be issued by the Secretary, upon approval of application made and satisfactory proofs submitted, to a natural person who, upon inspection and examination, is found by the Secretary to meet the appropriate minimum requirements prescribed in § 20.2.

20.41 Application. Same as in § 20.31 applied to a special rating.

20.42 Issuance. Any special rating issued to a pilot will be entered or indicated at the proper place therefor on the pilot certificate of competency.

20.43 Duration. A special rating or any renewal thereof, unless sooner suspended or revoked in accordance with the provisions of § 20.46, will remain in force for the effective period of the particular pilot certificate held.

20.44 Renewal. Renewal of a special rating may be effected upon application therefor within 45 days prior to the expiration of the pilot certificate and upon satisfactory showing of the following facts with respect to the kind of rating held:

20.440 Instructor rating. Compliance with the requirements appropriate for renewal of private or commercial pilot certificates as provided in § 20.35, as the case may be, and a satisfactory showing that the applicant has served as an instructor for not less than 10 hours during the 6 months preceding expiration. The holder of such rating may be required to undergo a re-examination in any of the tests prescribed for the original rating at such times as the Secretary deems necessary. 10 hours of flight time used for the demonstration of aircraft to bona fide prospective purchasers thereof shall be deemed

the equivalent of 10 hours served as an instructor; or there may be a combination of such demonstration and instruction time. The demonstration time shall only be counted when such purchaser is at the dual controls and such demonstration is the equivalent of instruction.

20.441 Instrument rating. Applicant shall have logged:

20.4410 (*a*) If holder of a private pilot certificate—10 hours of flying solely by instruments within the year preceding the expiration of the pilot certificate, 5 hours of which shall have been within 6 months thereof.

20.4411 (*b*) If holder of a limited-commercial or commercial pilot certificate—5 hours of flying solely by instruments within the 6 months preceding the expiration date of the certificate.

20.4412 (*c*) In lieu of not to exceed 50% of either of the above requirements applicant may show an equal or greater amount of practice under simulated conditions approved by the Secretary.

20.4413 (*d*) If the holder of a military instrument rating, or equivalent, and the applicant is an active member of the regular Army, Navy or Marine Corps, or a reserve member of any such service on extended active duty, no specified amount of instrument flight time, but an instrument rating may be renewed by meeting all of the requirements of § 20.214.

20.442 Reinstatement. In the event of an emergency which prevents renewal of any of the foregoing special ratings prior to expiration, and upon a showing thereof satisfactory to the Secretary, the applicant may have his rating or ratings validated in accordance with the appropriate provisions for renewal in §§ 20.440 through 20.441, as the case may be, provided the flight tests appropriate to the particular rating are satisfactorily accomplished. The date of application for reinstatement rather than the expiration date of the rating shall be controlling in applying §§ 20.440 through 20.441. There shall be but one application for reinstatement following a given lapse. The above flight tests may not be required if application for reinstatement is made within 30 days after such expiration date of the certificate and there is a satisfactory showing within the same 30 days with respect to the appropriate requirements of § 20.44 according to the rating sought.

20.45 Non-transferability. A special rating is not transferable.

20.46 Suspension or revocation. A special rating may be suspended by a duly authorized Bureau inspector or by the Secretary or revoked by the Secretary by reason of the suspension or revocation of the pilot certificate or by reason of any of the following, on the part of the holder thereof:

20.460 (*a*) Any false statement in an application for a pilot rating.

20.461 (*b*) Unsound physical or mental condition.

20.462 (*c*) Any demonstration of incompetency in piloting aircraft, particularly as related to any given rating.

20.463 (*d*) Violation of any provision of the Air Commerce Act or any rule or regulation duly issued thereunder.

20.47 Re-application. An applicant for a special competency rating who has failed to successfully accomplish any prescribed test for such

rating may apply for re-examination thereon after the expiration of 30 days from the date of such failure.

20.5 Examinations and tests.

20.50 General. The examinations and tests prescribed in the foregoing regulations (both for pilot certificates of competency and for the ratings issued with respect thereto) will be conducted by an authorized officer or employee of the Bureau or by a properly qualified person designated for the purpose by the Secretary.

20.51 Time and place. All examinations and tests will be held at such times and places as the Secretary may designate.

20.52 Physical examinations. The following rules will govern the physical examinations given in connection with the original issuance of any pilot competency certificate:

20.520 (*a*) The appropriate physical examination prescribed shall be accomplished before any practical or theoretical test or other examination will be given, and shall be completed within the 9 months preceding application for a solo or private rating, or within the 4 months preceding application for a limited-commercial or commercial pilot rating.

20.521 (*b*) In lieu of a physical examination conducted by authority of the Secretary, a certified copy of the medical examination for flying in the United States Army, Navy, or Marine Corps, made within the 60 days preceding the date of filing application for a pilot certificate, or any renewal thereof, will be accepted for any pilot rating provided for in this Part; *provided,* that the physical qualifications as shown in such prior examination are not less than those required by these regulations for the kind of pilot certificate or rating applied for.

20.522 (*c*) A pilot holding a certificate of a lower grade and applying for a certificate of a higher shall pass satisfactorily a new physical examination for the grade applied for unless his prior physical examination was for the higher grade and was passed within the time limit prescribed in § 20.520.

20.53 Aircraft used in tests. The applicant shall furnish a certificated aircraft for any flight test involved. Each such aircraft, used in any test for a pilot certificate above the grade of solo pilot, shall be equipped with dual controls and shall accommodate the applicant, the inspector and parachutes for both. Aircraft having only one elevator and aileron control for two seats, or any arrangement whereby all flight and engine controls cannot be handled in a normal or conventional manner from either seat are not considered as having dual controls for the purpose of flight tests for pilot ratings. Each such aircraft shall have adequate vision for the pilot and check pilot.

20.54 Aircraft type classification. For purposes of specifying the types of aircraft which the applicant is deemed competent to pilot and for convenience of examining the applicant with respect thereof, the following aircraft type classification is prescribed:

(*a*) Conventional airplane (land or water).
(*b*) Unconventional airplane (land or water).
(*c*) Rotorplane (land or water).
(*d*) Glider.
(*e*) Aerostat.

20.540 Unconventional aircraft which the applicant is deemed competent to fly will be specified on his pilot certificate by make and model designation only.

20.55 Aircraft weight and engine classification. For purposes of specifying the weight and powerplant equipment of aircraft which the applicant is deemed competent to pilot, and for convenience of examining the applicant with respect thereto, the following aircraft weight and engine classification is prescribed:

(*a*) Class 1.—Gross weight not more than 1,500 pounds.

(*b*) Class 2S.—Gross weight between 1,500 and 4,000 pounds, single-engine.

(*c*) Class 2M.—Gross weight between 1,500 and 4,000 pounds, multi-engine.

(*d*) Class 3S.—Gross weight between 4,000 and 10,000 pounds, single-engine.

(*e*) Class 3M.—Gross weight between 4,000 and 10,000 pounds, multi-engine.

(*f*) Class 4S.—Gross weight between 10,000 and 25,000 pounds, single-engine.

(*g*) Class 4M.—Gross weight between 10,000 and 25,000 pounds, multi-engine.

(*h*) Class 5.—Gross weight in excess of 25,000 pounds.

20.550 The holder of a valid solo, private, limited-commercial or commercial pilot certificate may pilot aircraft of a weight or engine classification other than as specified in such pilot certificate, except for the carriage of any person other than a second pilot with at least a valid private pilot certificate, or any other bona fide crew member in aircraft of Class 5, or any property other than necessary flight equipment. (See also § 20.62.)

20.551 The holder of a valid private, limited-commercial or commercial pilot certificate may pilot conventional aircraft of a similar airplane classification (§ 04.010) and of an equal or lower weight or engine classification than as specified in such pilot certificate, except for the carriage of any person other than a certificated instructor actually giving instruction to such pilot or any property other than necessary flight equipment and personal baggage. (See also § 20.62.)

20.56 Flight area classification. For purposes of specifying the geographical limits within which the applicant is deemed competent to pilot aircraft, the following flight area classification is prescribed.

20.560 Limited. In which case the pilot is deemed by the Secretary to be competent to pilot aircraft only with restriction as to geographical limits. Such limits are as follows:

(*a*) A student pilot is limited to an area within a 25-mile radius of the point of take-off when piloting aircraft in solo flight.

(*b*) A limited-commercial pilot is limited to a particular base named in his pilot certificate, and to an area within a radius of 10 miles thereof, for the piloting of aircraft carrying persons for hire, *provided*, that upon 10 days notice to and approval by the Secretary, said area specified in the certificate may be changed to a different area.

(*c*) Pilots who have a lesser grade or condition in one or more of the particulars specified in §§ 20.104 or 20.134 for physical condition which

are compensated for by excellence in other such particulars, or by excellence in aeronautical experience or in aeronautical skill, may be limited to such flight areas and bases as may be deemed necessary by the Secretary, and such limitations shall be set forth in the pilot certificate.

20.561 Unlimited. In which case the pilot is deemed by the Secretary to be competent to pilot aircraft without restriction as to geographical limits. Such rating relates only to the competency of the pilot and, of itself, will only authorize the applicant to pilot aircraft in the airspace over those geographical areas (other than airspace reservations and other prohibited areas) wherein the pilot certificate is accorded official recognition as valid and effective.

20.57 Inspection. The applicant for a pilot certificate of competency shall offer full cooperation with respect to any inspection or examination which may be made of such applicant upon proper demand by any authorized representative of the Secretary prior or subsequent to the issuance of a pilot certificate of competency.

20.58 Standard of performance. Every practical and theoretical examination and test shall be accomplished to the satisfaction of the Secretary and the minimum passing grade in the subject of examination and test shall be 70 per cent. Each flight maneuver will be graded separately. Other examinations will each be graded as a whole.

20.59 Reports. The person giving any examination or test in behalf of the Secretary shall report the result thereof upon an appropriate form to the Secretary and all data collected incident to such examination or test shall be considered as of a confidential nature by all persons conducting such examinations or tests and by all employees of the Department of Commerce.

20.6 Pilot regulations.

20.60 Certificate required. No person shall pilot civil aircraft within the limits of a civil airway, or in interstate or foreign air commerce elsewhere, unless possessed of a valid pilot certificate of competency or, if an alien, possessed of a similar pilot certificate or permit issued or validated according to the provisions of Part 65, *provided, however,* that such person need not be possessed of such certificate if piloting an aircraft equipped with fully functioning dual controls as set forth in § 20.53, and a certificated instructor is in full charge of one set of said controls and such flight is only for instruction or for the demonstration of the aircraft to a bona fide prospective purchaser of such aircraft.

20.61 Flight limitations.

20.610 Student. No person possessed of a valid student pilot certificate or receiving dual instruction shall pilot any aircraft carrying any person other than a certificated instructor actually giving instruction to such student pilot or any property other than necessary flight equipment and personal baggage. No such person shall pilot any aircraft for hire. No such person shall pilot any aircraft, for or without hire, in solo flight outside an area within a 25-mile radius of the point of take-off. No person who has not attained the age of 16 years shall receive dual instruction in any aircraft. No person who has attained the age of 16 years, but not the age of 21 years, shall

receive dual instruction in any aircraft unless such person has first obtained the written consent of either parent, or legal or natural guardian, for such instruction and first delivered such consent to his instructor.

20.611 Solo pilot. No person possessed of a valid solo pilot certificate shall pilot any aircraft for hire or pilot any aircraft, for or without hire, carrying any person other than a certificated instructor actually giving instruction to such solo pilot or any property other than necessary equipment and personal baggage.

20.612 Private pilot. No person possessed of a valid private pilot certificate shall pilot any aircraft carrying for hire any person other than a certificated instructor actually giving instruction to such private pilot or any property other than necessary flight equipment and personal baggage. No person possessed of a valid private pilot certificate shall pilot for hire any aircraft in furtherance of a business or from one place to another for operation in the conduct of a business unless such private pilot is at least possessed of the minimum qualifications as to age, citizenship, education and aeronautical experience for a limited-commercial pilot and provided for respectively in §§ 20.130, 20.132, 20.133 and 20.136. (See also § 20.616 for dual controls and § 20.66 for demonstration of aircraft to persons on board.)

20.613 Limited-commercial pilot. No person possessed of a valid limited-commercial pilot certificate shall pilot any aircraft, beyond the geographical limits specified in such pilot certificate, carrying for hire any person other than a certificated instructor actually giving instruction to such limited-commercial pilot or any property other than necessary flight equipment and personal baggage, *provided, however,* that such pilot may carry guests, executives or employees of his employer beyond such limits if no additional payment is made for such carriage, and *provided, further,* such pilot may serve as second pilot, except in scheduled airline service, beyond such geographical limits if the person in command of such aircraft is possessed of at least a valid commercial pilot certificate.

20.614 Commercial pilot. No person possessed of a valid commercial pilot certificate shall pilot any aircraft carrying any person or property in scheduled airline service within the limits of a civil airway, or elsewhere in interstate or foreign air commerce, unless also possessed of a valid instrument rating.

20.615 Glider pilot. No person shall pilot a glider for hire unless possessed of a valid commercial glider pilot certificate.

20.616 Dual controls. No person shall occupy either control seat of an aircraft equipped with fully or partially functioning dual controls unless the other control seat, if occupied, is occupied by a person possessed of at least a valid commercial pilot certificate or possessed of a valid private pilot certificate and a valid instructor rating; *provided, however,* that two persons may occupy such control seats if each such person is possessed of at least a valid private pilot certificate.

20.62 Aircraft type and weight. No person shall pilot for hire, or carry any person for or without hire other than a properly certificated instructor in, an aircraft of a type, weight or engine classification other

than as specified in his pilot certificate, except in accordance with §§ 20.550 or 20.551.

20.63 Aircraft flight area. No person shall pilot an aircraft carrying any person for hire beyond the geographical limits of the flight area specified in his pilot certificate, except as provided in § 20.613.

20.64. Night flying. No person shall take-off or land an aircraft carrying passengers, between sunset and sunrise, unless he has made at least 5 take-offs and landings between sunset and sunrise within the last preceding 90 days.

20.65 Instruction. The following rules will govern the giving of flight instruction:

20.650 Rating required. No person shall give flying instruction, for or without hire, to any other person unless possessed of at least a valid commercial pilot certificate and a valid instructor rating, or, in case of instruction of glider students, unless possessed of a valid commercial glider pilot certificate, *provided, however*, that the holder of a valid private pilot certificate and a valid instructor rating may give flying instruction not for hire; *provided, further*, that nothing herein contained shall be construed to limit the instruction by one airline pilot of other pilots in airline service as provided for in § 21.222.

20.651 Solo flight authorization. No instructor shall authorize, or knowingly permit any person to whom he has given flying instruction to make, any solo flight on a civil airway or in interstate or foreign air commerce elsewhere, unless such person is possessed of a valid pilot certificate.

20.652 Aeronautical knowledge certification. No instructor shall authorize, or knowingly permit any person to whom he has given flying instruction to make a first solo flight on a civil airway, or in interstate or foreign air commerce elsewhere, until he has examined such student as to his knowledge of the provisions of Part 60 and until such student shows a satisfactory knowledge thereof, which facts shall be certified to by such instructor on the student pilot certificate.

20.653 Time limitations. No instructor shall give more than 6 hours of dual flying instruction in any one day, nor more than 6 days of such instruction in any 7 consecutive days.

20.654 Flying instruction time entries. No instructor shall give flying instruction unless, immediately following each period of such instruction, he makes in the log-book of his student the appropriate certified entries as provided in § 20.661.

20.655 Dual controls. No flying instruction shall be given in any aircraft, for or without hire, unless such aircraft is equipped with fully functioning dual controls and a certificated instructor is in full charge of one set of said controls. Such dual controls shall be fully functioning as set forth in § 20.53, except in aircraft manufactured prior to January 1, 1939.

20.66 Demonstration. No pilot shall demonstrate aircraft in flight to any other person in such aircraft unless such pilot is possessed of at least a valid commercial pilot certificate or is possessed of a private pilot certificate and a valid instructor rating. (See also § 20.60 for

piloting of aircraft by uncertificated pilot to whom aircraft is being demonstrated.)

20.67 Log-books. The following rules will govern pilot log-books:

20.670 General. Every certificated pilot and every person receiving flying instruction shall keep an accurate record of his flying time in a log-book in which the entries with respect to dual instruction have been certified by a certificated instructor and the entries with respect to solo flying time have been certified to by him before a notary public. Log-books shall be bound records and the entries shall be accurate, legible, in ink or indelible pencil, and so arranged as to facilitate easy reference thereto.

20.671 Contents. The log-book shall contain the date of flight, the make and model of aircraft flown, its type, weight and engine classification, the aircraft certificate number, a statement of solo, dual instruction, instrument and night flying time, the duration of the flight, the points between which such flight was made, and, in addition, when any flight results in serious damage to the aircraft, a notation to this effect. Flying instruction time shall be logged in the same manner and, in addition, the instructor shall make complete entries in the log-book of his student showing the nature of each maneuver in which instruction was given and the time spent thereon. The instructor shall attest each such entry with his initials, pilot certificate number and pertinent rating. This log-book shall be presented for inspection, upon demand and reasonable notice, to any authorized representative of the Department of Commerce or State or municipal officer enforcing local regulations or laws involving Federal compliance.

20.672 From and after the effective date of these regulations no flying time shall be taken into account in connection with the issuance, renewal or reinstatement of a pilot certificate unless the aircraft flown was a public or a certificated aircraft. (See § 01.10.)

20.673 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.)

20.68 Foreign flights. No person shall be in command of any aircraft of the United States flying in any foreign country unless possessed of a valid private, limited-commercial, commercial or airline pilot certificate, with a rating for the type, weight and engine classification of aircraft so flown.

NOTE.—For permission of U. S. aircraft to be flown out of the United States with intent to enter a foreign country, see Part 70.

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