



2021 FAR/AIM

Federal Aviation Regulations

Aeronautical Information Manual



Rules and Procedures for Aviators
U.S. Department of Transportation
From Titles 14 and 49 of the Code of Federal Regulations



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Introduction

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ASA has been supplying the standard reference of the industry, the FAR/AIM series, for more than 75 years. The 2021 series continues to provide information directly from the Federal Aviation Regulations and the *Aeronautical Information Manual*, along with these important features:

- All changes since the last edition are clearly identified
- Includes suggested study list of AIM paragraphs and regulations pertinent to specific pilot certificates and ratings
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FAR/AIM Comments

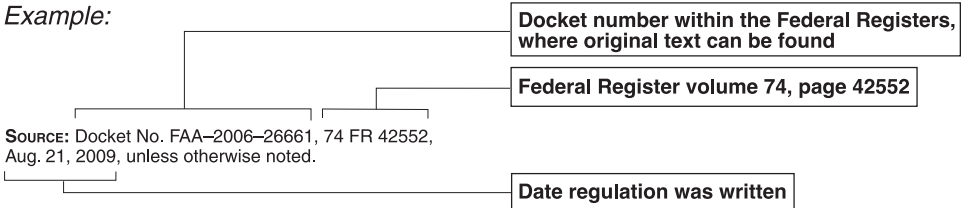
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How to Identify the Currency of the Regulations

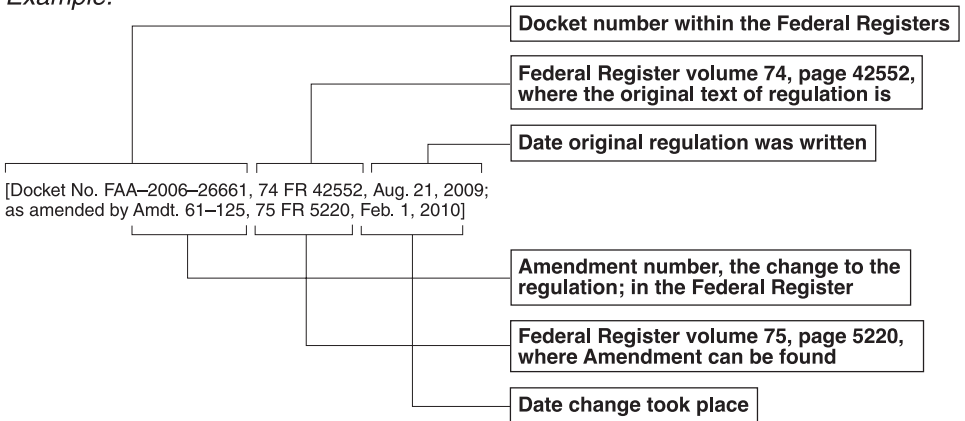
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Example:



If a change has taken place since the original Regulation was written, it is noted at the end of the regulation.

Example:



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Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701–44703, 44707, 44709–44711, 44729, 44903, 45102–45103, 45301–45302, Sec. 2307 Pub. L. 114–190, 130 Stat. 615 (49 U.S.C. 44703 note).

Source: Docket No. 25910, 62 FR 16298, April 4, 1997, unless otherwise noted.

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SPECIAL FEDERAL AVIATION REGULATIONS

SFAR No. 73

ROBINSON R-22 / R-44 SPECIAL TRAINING AND EXPERIENCE REQUIREMENTS

Sections

1. *Applicability.*
2. *Required training, aeronautical experience, endorsements, and flight review.*
3. *Expiration date.*

1. Applicability. Under the procedures prescribed herein, this SFAR applies to all persons who seek to manipulate the controls or act as pilot in command of a Robinson model R-22 or R-44 helicopter. The requirements stated in this SFAR are in addition to the current requirements of part 61.

2. Required training, aeronautical experience, endorsements, and flight review.

(a) Awareness Training:

(1) Except as provided in paragraph (a)(2) of this section, no person may manipulate the controls of a Robinson model R-22 or R-44 helicopter after March 27, 1995, for the purpose of flight unless the awareness training specified in paragraph (a)(3) of this section is completed and the person's logbook has been endorsed by a certified flight instructor authorized under paragraph (b)(5) of this section.

(2) A person who holds a rotorcraft category and helicopter class rating on that person's pilot certificate and meets the experience requirements of paragraph (b)(1) or paragraph (b)(2) of this section may not manipulate the controls of a Robinson model R-22 or R-44 helicopter for the purpose of flight after April 26, 1995, unless the awareness training specified in paragraph (a)(3) of this section is completed and the person's logbook has been endorsed by a certified flight instructor authorized under paragraph (b)(5) of this section.

(3) Awareness training must be conducted by a certified flight instructor who has been endorsed under paragraph (b)(5) of this section and consists of instruction in the following general subject areas:

- (i) Energy management;
- (ii) Mast bumping;
- (iii) Low rotor RPM (blade stall);
- (iv) Low G hazards; and
- (v) Rotor RPM decay.

(4) A person who can show satisfactory completion of the manufacturer's safety course after January 1, 1994, may obtain an endorsement from an FAA aviation safety inspector in lieu of completing the awareness training required in paragraphs (a)(1) and (a)(2) of this section.

(b) Aeronautical Experience:

(1) No person may act as pilot in command of a Robinson model R-22 unless that person:

(i) Has had at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-22; or

(ii) Has had at least 10 hours dual instruction in the Robinson R-22 and has received an endorsement from a certified flight instructor authorized under paragraph (b)(5) of this section that the individual has been given the training required by this paragraph and is proficient to act as pilot in command of an R-22. Beginning 12 calendar months after the date of the endorsement, the individual may not act as pilot in command unless the individual has completed a flight review in an R-22 within the preceding 12 calendar months and obtained an endorsement for that flight review. The dual instruction must include at least the following

abnormal and emergency procedures flight training:

(A) Enhanced training in autorotation procedures,

(B) Engine rotor RPM control without the use of the governor,

(C) Low rotor RPM recognition and recovery, and

(D) Effects of low G maneuvers and proper recovery procedures.

(2) No person may act as pilot in command of a Robinson R-44 unless that person—

(i) Has had at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-44. The pilot in command may credit up to 25 flight hours in the Robinson R-22 toward the 50 hour requirement in the Robinson R-44; or

(ii) Has had at least 10 hours dual instruction in a Robinson helicopter, at least 5 hours of which must have been accomplished in the Robinson R-44 helicopter and has received an endorsement from a certified flight instructor authorized under paragraph (b)(5) of this section that the individual has been given the training required by this paragraph and is proficient to act as pilot in command of an R-44. Beginning 12 calendar months after the date of the endorsement, the individual may not act as pilot in command unless the individual has completed a flight review in a Robinson R-44 within the preceding 12 calendar months and obtained an endorsement for that flight review. The dual instruction must include at least the following abnormal and emergency procedures flight training—

(A) Enhanced training in autorotation procedures;

(B) Engine rotor RPM control without the use of the governor;

(C) Low rotor RPM recognition and recovery; and

(D) Effects of low G maneuvers and proper recovery procedures.

(3) A person who does not hold a rotorcraft category and helicopter class rating must have had at least 20 hours of dual instruction in a Robinson R-22 helicopter prior to operating it in solo flight. In addition, the person must obtain an endorsement from a certified flight instructor authorized under paragraph (b)(5) of this section that instruction has been given in those maneuvers and procedures, and the instructor has found the applicant proficient to solo a Robinson R-22. This endorsement is valid for a period of 90 days. The dual instruction must include at least the following abnormal and emergency procedures flight training:

(i) Enhanced training in autorotation procedures,

(ii) Engine rotor RPM control without the use of the governor,

(iii) Low rotor RPM recognition and recovery, and

(iv) Effects of low G maneuvers and proper recovery procedures.

(4) A person who does not hold a rotorcraft category and helicopter class rating must have had at least 20 hours of dual instruction in a Robinson R-44 helicopter prior to operating it in solo flight. In addition, the person must obtain an endorsement from a certified flight instructor authorized under paragraph (b)(5) of this section that instruction has been given in those maneuvers and procedures, and the instructor has found the applicant proficient to solo a Robinson R-44. This endorsement is valid for a period of 90 days. The dual instruction must include at least the following abnormal and emergency procedures flight training:

(i) Enhanced training in autorotation procedures,

(ii) Engine rotor RPM control without the use of the governor,

(iii) Low rotor RPM recognition and recovery, and

(iv) Effects of low G maneuvers and proper recovery procedures.

(5) No certificated flight instructor may provide instruction or conduct a flight review in a Robinson R-22 or R-44 unless that instructor—

(i) Completes the awareness training in paragraph (2)(a) of this SFAR.

(ii) For the Robinson R-22, has had at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-22, or for the Robinson R-44, has had at least 200 flight hours in helicopters, 50 flight hours of which were in Robinson helicopters. Up to 25 flight hours of Robinson R-22 flight time may be credited toward the 50 hour requirement.

(iii) Has completed flight training in a Robinson R-22, R-44, or both, on the following abnormal and emergency procedures—

(A) Enhanced training in autorotation procedures;

(B) Engine rotor RPM control without the use of the governor;

(C) Low rotor RPM recognition and recovery; and

(D) Effects of low G maneuvers and proper recovery procedures.

(iv) Has been authorized by endorsement from an FAA aviation safety inspector or authorized designated examiner that the instructor has completed the appropriate training, meets the experience requirements and has satisfactorily demonstrated an ability to provide instruction on the general subject areas of paragraph 2(a)(3) of this SFAR, and the flight training identified in paragraph 2(b)(5)(iii) of this SFAR.

(c) Flight Review:

(1) No flight review completed to satisfy §61.56 by an individual after becoming eligible to function as pilot in command in a Robinson R-22 helicopter shall be valid for the operation of R-22 helicopter unless that flight review was taken in an R-22.

(2) No flight review completed to satisfy §61.56 by an individual after becoming eligible to function as pilot in command in a Robinson R-44 helicopter shall be valid for the operation of R-44 helicopter unless that flight review was taken in the R-44.

(3) The flight review will include a review of the awareness training subject areas of paragraph 2(a)(3) of this SFAR and the flight training identified in paragraph 2(b) of this SFAR.

(d) Currency Requirements: No person may act as pilot in command of a Robinson model R-22 or R-44 helicopter carrying passengers unless the pilot in command has met the recency of flight experience requirements of §61.57 in an R-22 or R-44, as appropriate.

3. Expiration date. This SFAR number 73 shall remain in effect until it is revised or rescinded.

[Docket No. 28095, 63 FR 666, Jan. 7, 1998; as amended by Docket No. FAA-2002-13744; SFAR No. 73-1, 68 FR 43, Jan. 2, 2003; Amdt. 61-120, 73 FR 17246, April 1, 2008; Amdt. SFAR 73-2, 74 FR 25650, May 29, 2009]

SFAR No. 100-2

RELIEF FOR U.S. MILITARY AND CIVILIAN PERSONNEL WHO ARE ASSIGNED OUTSIDE THE UNITED STATES IN SUPPORT OF U.S. ARMED FORCES OPERATIONS

1. Applicability. Flight Standards offices are authorized to accept from an eligible person, as described in paragraph 2 of this SFAR, the following:

(a) An expired flight instructor certificate to show eligibility for renewal of a flight instructor certificate under §61.197, or an expired written test report to show eligibility under part 61 to take a practical test;

(b) An expired written test report to show eligibility under §§63.33 and 63.57 to take a practical test; and

(c) An expired written test report to show eligibility to take a practical test required under part 65 or an expired inspection authorization to show eligibility for renewal under §65.93.

2. Eligibility. A person is eligible for the relief described in paragraph 1 of this SFAR if:

(a) The person served in a U.S. military or civilian capacity outside the United States in support of the U.S. Armed Forces' operation during some period of time from September 11, 2001, to termination of SFAR 100-2;

(b) The person's flight instructor certificate, airman written test report, or inspection authorization expired some time between September 11, 2001, and 6 calendar months after returning to the United States or termination of SFAR 100-2, whichever is earlier; and

(c) The person complies with §61.197 or §65.93 of this chapter, as appropriate, or completes the appropriate practical test within 6 calendar months after returning to the United States, or upon termination of SFAR 100-2, whichever is earlier.

3. Required documents. The person must send the Airman Certificate and/or Rating Application (FAA Form 8710-1) to the appropriate Flight Standards office. The person must include with the application one of the following documents, which must show the date of assignment outside the United States and the date of return to the United States:

(a) An official U.S. Government notification of personnel action, or equivalent document, showing the person was a civilian on official duty for the U.S. Government outside the United States and was assigned to a U.S. Armed Forces' operation some time between September 11, 2001, to termination of SFAR 100-2;

(b) Military orders showing the person was assigned to duty outside the United States and was assigned to a U.S. Armed Forces' operation some time between September 11, 2001, to termination of SFAR 100-2; or

(c) A letter from the person's military commander or civilian supervisor providing the dates during which the person served outside the United States and was assigned to a U.S. Armed Forces' operation some time between September 11, 2001, to termination of SFAR 100-2.

4. Expiration date. This Special Federal Aviation Regulation No. 100-2 is effective until further notice.

[Docket No. FAA-2009-0923, SFAR No. 100-2, 75 FR 9766, March 4, 2010; as amended by Docket No. FAA-2018-0119, Amdt. 61-141, 83 FR 9170, March 5, 2018]

SFAR No. 118-1

RELIEF FOR CERTAIN PERSONS DURING THE NATIONAL EMERGENCY CONCERNING THE NOVEL CORONAVIRUS DISEASE (COVID-19) PUBLIC HEALTH EMERGENCY

1. Applicability. This Special Federal Aviation Regulation (SFAR) applies to—

(a) Certain persons who are unable to meet the following requirements during some period between March 1, 2020 and September 30, 2020—

(1) Training, recency, testing, and checking requirements specified in parts 61, 91, 107, and 125 of this chapter, and SFAR No. 73 of this part; and

(2) Duration and renewal requirements specified in parts 61, 63, 65, and 141 of this chapter, and SFAR No. 100-2 of this part; and

(b) Certain air carriers and operators who are unable to obtain special flight permits with a continuing authorization under part 21 of this chapter for the purpose of flying the aircraft to a point of storage.

2. Training, recency, testing, and checking requirements.

(a) *Applicability.* The relief provided by paragraph 2 of this SFAR applies to—

(1) Operations conducted for compensation or hire under parts 91, 125, 133, and 137 of this chapter by persons who are exercising the privileges of at least a commercial pilot certificate issued under this part;

(2) Operations conducted by persons who are exercising the privileges of a private pilot certificate issued under this part, provided the person meets one of the following paragraphs—

(i) The person is conducting a charitable medical flight for a volunteer pilot organization pursuant to an exemption issued under part 11 of this chapter, and the flight involves only the carriage of persons considered essential for the flight;

(ii) The person is conducting an agricultural aircraft operation under a private agricultural aircraft operating certificate issued in accordance with §137.19 of this chapter;

(iii) The person has at least 500 hours of total time as a pilot, that includes at least 400 hours as a pilot in command and at least 50 hours that were accrued within the preceding 12 calendar months, and the person is conducting one of the following operations consistent with the compensation or hire exceptions specified in §61.113:

(A) A flight incidental to that person's business or employment;

(B) A flight in support of family medical needs or to transport essential goods for personal use;

(C) A flight necessary to fly an aircraft to a location in order to meet a requirement of this chapter; or

(D) A flight to transport essential goods and medical supplies to support public health needs;

(3) For operations conducted under part 91, subpart K, and part 125 of this chapter, persons who are serving as flight attendant crewmembers, check pilots, and flight instructors; and

(4) Operations conducted under part 107 of this chapter by a person who holds a remote pilot certificate issued under part 107 of this chapter.

(b) *This Part.*

(1) *Second-in-command qualifications of §61.55.*

(i) *Airmen requirements.* Notwithstanding the period specified in §61.55(c) of this chapter, a person who is required to complete the second-in-command familiarization and currency requirements under §61.55(b)(1) and (2) between March 1, 2020 and September 30, 2020 for purposes of maintaining second-in-command privileges may complete the requirements of §61.55(b)(1) and (2) in the month before or three months after the month in which they are required, provided the pilot meets the requirements of paragraph 2.(b)(1)(ii) of this SFAR. A pilot who meets the requirements of §61.55(b)(1) and (2) within the period prescribed by this paragraph 2.(b)(1)(i) will be considered to have completed the requirements in the month in which they were due.

(ii) *Qualification requirements.* To complete the requirements of §61.55(b)(1) or (2) within the period specified in paragraph 2.(b)(1)(i) of this SFAR, the person—

(A) Must review and become familiar with the following information for the specific type of aircraft for which second-in-command privileges are sought—

(1) Operational procedures applicable to the powerplant, equipment, and systems;

(2) Performance specifications and limitations;

(3) Normal, abnormal, and emergency operating procedures;

(4) Flight manual; and

(5) Placards and markings; and

(B) Prior to serving as second-in-command, must have logged at least three takeoffs and landings to a full stop as the sole manipulator of the flight controls within the 180 days preceding the date of the flight.

(2) *Flight review requirements of §61.56.* A person who has not completed a flight review within the previous 24 calendar months in accordance with §61.56 may continue to act as pilot in command of an aircraft, provided the following requirements are met—

(i) *Airmen requirements.* The person was current to act as pilot in command of an aircraft in March 2020 and, to maintain currency, is required to complete a flight review under §61.56 between March 1, 2020 and September 30, 2020.

(ii) *Qualification requirements.* To act as pilot in command of an aircraft during the period specified in paragraph 2.(b)(2)(iii) of this SFAR, the person must have—

(A) Within the 12 calendar months preceding the month in which the flight review is due, logged at least 10 hours of flight time as pilot in command in an aircraft for which that pilot is rated; and

(B) Since January 1, 2020 and preceding the date of flight, completed online Wings courses for pilots from the FAA Safety Team website, available at www.faasafety.gov. The online training courses must total at least 3 Wings credits.

(iii) *Grace period.* The person may act as pilot in command of an aircraft for a duration of three calendar months from the month in which the flight review was due. Before acting as pilot in command of an aircraft in the fourth month after the month in which the flight review was due, the person must satisfactorily complete a flight review in accordance with §61.56.

(3) *Instrument experience requirements of §61.57.* A person who has not performed and logged the tasks required by §61.57(c)(1) within the 6 calendar months preceding the month of the flight may continue to act as pilot in command under IFR or in weather conditions less than the minimums prescribed for VFR, provided the following requirements are met—

(i) *Qualification requirements.* The person has—

(A) Within the 6 calendar months preceding the month of the flight, performed and logged at least three instrument approaches in actual weather conditions, or under simulated conditions using a view-limiting device; and

(B) Within the 9 calendar months preceding the month of the flight, performed and logged the tasks required by §61.57(c)(1).

(ii) *Grace period.* Between April 30, 2020 and September 30, 2020, a person who meets the qualification requirements of paragraph 2.(b)(3)(i) of this SFAR may act as pilot in command under IFR or in weather conditions less than the minimums prescribed for VFR.

(iii) *Instrument currency after September 30, 2020.* Before acting as pilot in command under IFR or in weather conditions less than the minimums prescribed for VFR after September 30, 2020, the person must comply with §61.57(c).

(4) *Pilot in command proficiency check requirements of §61.58.*

(i) *Airmen requirements.* Notwithstanding the period specified in §61.58(i), a pilot who is required to take a pilot in command proficiency check under §61.58(a)(1) or (2) between March 1, 2020 and September 30, 2020 for purposes of maintaining pilot in command privileges may complete the check in the month before or three months after the month in which it is required, provided the pilot meets the requirements of paragraph 2.(b)(4)(ii) of this SFAR. A pilot who completes the proficiency check within the period prescribed by this paragraph 2.(b)(4)(i) will be considered to have completed the check in the month in which it was required.

(ii) *Qualification requirements.* To complete the pilot in command proficiency check required by §61.58(a)(1) or (2) within the period specified in paragraph 2.(b)(4)(i) of this SFAR, the person—

(A) Must meet the flight experience requirements of §61.57 that are applicable to the operation to be conducted; and

(B) Within the 3 calendar months preceding the month of the flight, must have reviewed the following information for the specific type of aircraft for which pilot in command privileges are sought—

(1) Operational procedures applicable to the powerplant, equipment, and systems;

(2) Performance specifications and limitations;

(3) Normal, abnormal, and emergency operating procedures;

(4) Flight manual; and

(5) Placards and markings.

(5) *Flight Crewmember Requirements of Part 91, Subpart K, of this Chapter.*

(i) *Testing and checking requirements.* Notwithstanding the period specified in §91.1071(a) of this chapter, a crewmember who is required to take a test or a flight check under §91.1065(a), §91.1065(b), §91.1067, §91.1069(a), or §91.1069(b) of this chapter between March 1, 2020 and September 30, 2020 for purposes of maintaining qualification may complete the test or check in the month before or three months after the month it is required, provided the requirements of paragraph 2.(b)(5)(vi) of this SFAR are met. A crewmember who completes a test or check in accordance with this paragraph will be considered to have completed the test or check in the month in which it was required.

(ii) *Recurrent training requirements.* Notwithstanding the period specified in §91.1073(b) of this chapter, a crewmember who is required to complete recurrent training under §91.1099 or §91.1107(c) of this chapter between March 1, 2020 and September 30, 2020 for purposes of maintaining qualification may complete that training in the month before or three months after the month in which it is required, provided the requirements of paragraph 2.(b)(5)(vi) of this SFAR are met. A crewmember who completes recurrent training in accordance with this paragraph 2.(b)(5)(ii) will be considered to have completed the training in the month in which it was required.

(iii) *Instrument experience.*

(A) *Precision instrument approaches.* A pilot who has not satisfactorily demonstrated the type of precision instrument approach procedure to be used within the previous six months in accordance with §91.1069(c) of this chapter may continue to use that type of approach procedure, provided the following requirements are met—

(1) *Airmen requirements.* The person was current under §91.1069(c) of this chapter to use that type of precision instrument approach procedure in March 2020, and is required to demonstrate that type of precision instrument approach procedure between March 1, 2020 and September 30, 2020.

(2) *Grace period.* The person satisfactorily demonstrates that type of precision instrument

approach procedure within three months after the month in which it was required.

(3) *Safety mitigations.* The management specification holder satisfies paragraph 2.(b)(5)(vi) of this SFAR.

(B) *Non-precision instrument approaches.* A pilot who has not satisfactorily demonstrated either the type of non-precision instrument approach procedure to be used, or any other two different types of non-precision approach procedures, within the previous six months in accordance with §91.1069(c) of this chapter may continue to use that type of non-precision instrument approach procedure, provided the following requirements are met—

(1) *Airmen requirements.* The person was current under §91.1069(c) of this chapter to use that type of non-precision instrument approach procedure in March 2020, and is required to demonstrate that type of non-precision instrument approach procedure, or any other two different types of non-precision instrument approach procedures, between March 1, 2020 and September 30, 2020.

(2) *Grace period.* The person satisfactorily demonstrates that type of non-precision instrument approach procedure within three months after the month in which it was required.

(3) *Safety mitigations.* The management specification holder satisfies paragraph 2.(b)(5)(vi) of this SFAR.

(iv) *Check pilot (simulator) and flight instructor (simulator) requirements.* Notwithstanding the period specified in §§91.1089(g) and 91.1091(g) of this chapter, a check pilot (simulator) or flight instructor (simulator) who is required to complete the flight segments or line-observation program under §91.1089(f) or §91.1091(f) of this chapter between March 1, 2020 and September 30, 2020 for purposes of maintaining qualification may complete the flight segments or line-observation program requirements in the month before or three months after the month they are required, provided the requirements of paragraph 2.(b)(5)(vi) of this SFAR are met. A check pilot (simulator) or flight instructor (simulator) who completes the flight segments or line-observation program requirements in accordance with this paragraph 2.(b)(5)(iv) will be considered to have completed the requirements in the month in which they were due.

(v) *Check pilot and flight instructor observation check requirements.* Notwithstanding the period specified in §§91.1093(b) and 91.1095(b) of this chapter, a check pilot or flight instructor who is required to complete an observation check under §91.1093(a)(2) or §91.1095(a)(2) of this chapter between March 1, 2020 and September 30, 2020 for purposes of maintaining qualification may complete the observation check in the month be-

fore or three months after the month it is required, provided the requirements of paragraph 2.(b)(5)(vi) of this SFAR are met. A check pilot or flight instructor who completes an observation check in accordance with this paragraph 2.(b)(5)(v) will be considered to have completed the check in the month in which it was due.

(vi) *Safety mitigations.* The management specification holder must provide an acceptable plan to the responsible Flight Standards office that contains the following information—

(A) A safety analysis and corresponding risk mitigations to be implemented by the management specification holder; and

(B) The method the management specification holder will use to ensure that each crewmember complying with paragraph 2.(b)(5) of this SFAR remains adequately tested and currently proficient for each aircraft, duty position, and type of operation in which the person serves.

(6) *Mitsubishi MU-2B Series Special Training, Experience, and Operating Requirements of Part 91, Subpart N, of this Chapter.*

(i) *Recurrent training.* Notwithstanding the period specified in §91.1705(e) of this chapter, a person who is required to complete recurrent training under §91.1703(e) of this chapter between March 1, 2020 and September 30, 2020 for purposes of complying with §91.1705(a) and (b) may complete the recurrent training in the month before or three months after the month the recurrent training is required, provided the requirements of paragraph 2.(b)(6)(iii) of this SFAR are met. A person who completes the recurrent training in accordance with this paragraph 2.(b)(6)(i) will be considered to have completed the training in the month it was required.

(ii) *Flight review.* A person who has not completed a flight review in accordance with §§61.56 and 91.1715(c) of this chapter in a Mitsubishi MU-2B series airplane or an MU-2B Simulator approved for landings with an approved course conducted under part 142 of this chapter may continue to act as pilot in command of a Mitsubishi MU-2B series airplane, providing the following requirements are met—

(A) *Airmen requirements.* The person was—

(1) Current to act as pilot in command of a Mitsubishi MU-2B series airplane in March 2020 and, to maintain currency, is required to complete a flight review in a Mitsubishi MU-2B series airplane between March 1, 2020 and September 30, 2020; and

(2) The requirements of paragraph 2.(b)(6)(iii) of this SFAR are met.

(B) *Grace period.* The person may act as pilot in command of a Mitsubishi MU-2B series airplane for a duration for three calendar months from the month in which the flight review was due. Before acting as pilot in command of an air

craft in the fourth month after the month in which the flight review was due, the person must satisfactorily complete a flight review in accordance with §§61.56 and 91.1715(c) of this chapter in a Mitsubishi MU-2B series airplane or an MU-2B Simulator approved for landings with an approved course conducted under part 142 of this chapter.

(iii) *Qualification requirements.* To complete the recurrent training or flight review during the grace period provided under paragraph 2.(b)(6) of this SFAR, the person must—

(A) Within the 12 calendar months preceding the month the recurrent training or flight review is due, logged at least 10 hours of flight time in an MU-2B series airplane that includes at least 3 hours of flight time in the 3 calendar months preceding the month in which the recurrent training or flight review is due;

(B) Since January 1, 2020, completed online Wings courses for pilots from FAA Safety Team website, available at www.faasafety.gov. The online training courses must total at least 3 Wings credits; and

(C) Prior to manipulating the controls of an MU-2B series airplane, have completed three hours of self-study, since January 1, 2020 and preceding the date of the flight, on the following subjects—

(1) The ground training curriculum required by §91.1705(h)(1) of this chapter;

(2) The *Special Emphasis Items* listed in the approved MU-2B training program that the pilot last completed;

(3) The limitations, procedures, aircraft performance, and MU-2B Cockpit Checklist procedures applicable to the MU-2B model to be flown, which are contained in the flight training curriculum required by §91.1705(h)(2) of this chapter; and

(4) The current general operating and flight rules of part 91 of this chapter.

(7) *Aeronautical Knowledge Recency Requirements of §107.65 of this Chapter.* A person who has not satisfied the aeronautical knowledge recency requirements of §107.65(a) or (b) of this chapter within the previous 24 calendar months may operate a small unmanned aircraft system under part 107 of this chapter, provided that person meets the following requirements—

(i) *Airmen requirements.* The person was current to exercise the privileges of a remote pilot certificate in March 2020 and, to maintain aeronautical currency, is required to meet the aeronautical recency requirements in §107.65(a) or (b) of this chapter between April 1, 2020 and September 30, 2020.

(ii) *Qualification requirements.* The person must have completed an FAA-developed initial or recurrent online training course, available at www.faasafety.gov, covering the areas of knowledge specified in §107.74(a) or (b) of this chapter. Each person is eligible to take an online training

course specified in this paragraph 2.(b)(7)(ii) one time for the purpose of obtaining the six calendar month grace period specified in paragraph 2.(b)(7)(iii) of this SFAR;

(iii) *Grace period.* The person may operate a small unmanned aircraft system under part 107 of this chapter for a duration of six calendar months from the month in which the person completed the online training course specified in paragraph 2.(b)(7)(ii) of this SFAR. Before operating a small unmanned aircraft system under part 107 in the seventh month after the month in which the person completed the online training course, the person must satisfy §107.65 of this chapter.

(8) *Flight Crewmember Requirements of Part 125 of this Chapter.*

(i) *Recent experience requirements.* A person who has not satisfied the recent experience requirements of §125.285(a) of this chapter may be used by a certificate holder (or holder of an A125 letter of deviation authority), and may serve as a required pilot flight crewmember, in operations conducted under part 125 of this chapter, provided the following requirements are met—

(A) *Grace period.* The person has made at least three takeoffs and landings, within the preceding 150 days, in the type of airplane in which that person is to serve.

(B) *Safety Mitigations.* The certificate holder complies with paragraph 2.(b)(8)(iii) of this SFAR.

(ii) *Testing and checking requirements.* Notwithstanding the period specified in §125.293(a) of this chapter, a crewmember who is required to take a test or check under §125.287(a), §125.287(b), §125.289, or §125.291(a) of this chapter between March 1, 2020 and September 30, 2020 for purposes of maintaining qualifications may complete the test or check in the month before or three months after the month it is required, provided the requirements of paragraph 2.(b)(8)(iii) of this SFAR are met. A crewmember who completes the test or check in accordance with this paragraph 2.(b)(8)(ii) will be considered to have completed the test or check in the month in which it was required.

(iii) *Safety mitigations.* The certificate holder (or holder of an A125 letter of deviation authority) must provide an acceptable plan to its assigned principal operations inspector that contains the following information—

(A) A safety analysis and corresponding risk mitigations to be implemented by the certificate holder (or holder of an A125 letter of deviation authority); and

(B) The method the certificate holder (or holder of an A125 letter of deviation authority) will use to ensure that each crewmember complying with paragraph 2.(b)(8) of this SFAR remains adequately tested and currently proficient for each

aircraft, duty position, and type of operation in which the person serves.

(9) *Robinson R-22/R-44 Special Training and Experience Requirements of SFAR No. 73 of this Part.* A person who has not completed a flight review in a Robinson model R-22 or R-44 helicopter, as appropriate, within the preceding 24 calendar months in accordance with paragraph 2(c) of SFAR No. 73 and §61.56, may continue to act as pilot in command of a Robinson model R-22 or R-44 helicopter, as appropriate, providing the following requirements are met—

(i) *Airmen requirements.* The person was current to act as pilot in command of a Robinson model R-22 or R-44 helicopter, as appropriate, in March 2020 and, to maintain currency, is required to complete a flight review in a Robinson model R-22 or R-44 helicopter, as appropriate, between March 1, 2020 and September 30, 2020.

(ii) *Qualification requirements.* The person must—

(A) Satisfy the qualification requirements specified in paragraph 2.(b)(2)(ii) of this SFAR, except

(1) The 10 hours of flight time as pilot in command must be obtained in a Robinson model R-22 or R-44 helicopter, as appropriate to the privileges sought;

(2) At least 3 hours of flight time must be obtained within the 3 calendar months preceding the month in which the flight review is due; and

(3) The courses required by paragraph 2.(b)(9)(ii)(C) and (D) of this SFAR may count towards the 3 Wings credits.

(B) Complete three hours of self-study, since January 1, 2020 and preceding the date of flight, on the following subjects—

(1) The awareness training subject areas specified in paragraph 2.(a)(3)(i) through (v) of SFAR No. 73 of this part;

(2) The current general operating and flight rules of part 91 of this chapter;

(3) Robinson R-22 or R-44 Maneuvers Guide, as applicable to the model(s) in which the airmen holds pilot in command privileges;

(C) Complete Course ALC-103: Helicopter Weight and Balance, Performance at www.faaafety.gov; and

(D) Complete Course ALC-104: Helicopter—General and Flight Aerodynamics at www.faaafety.gov.

(iii) *Grace period.* A person may act as a pilot in command of a Robinson model R-22 or R-44 helicopter, as appropriate, for a duration of three calendar months from the month in which the flight review was due. Before acting as pilot in command of an aircraft in the fourth month after the month in which the flight review was due, the person must satisfactorily complete a flight review in a Robinson model R-22 or R-44 helicopter, as appropriate to the privileges sought, in accordance

with paragraph 2(c) of SFAR No. 73 of this part and §61.56.

3. Duration and renewal requirements.

(a) This Part.

(1) *Extension of medical certificate duration requirements.* The expiration date of a first-, second-, or third-class medical certificate that expires between March 31, 2020 and September 30, 2020 is extended three calendar months from the duration established in §61.23(d) of this part. A certificate extended under this paragraph 3.(a)(1) is considered valid under §61.2(a)(5). Unless otherwise prohibited by a foreign country, a person may operate outside of the United States under this paragraph 3.(a)(1) if the person—

(i) Has access to this SFAR when outside the United States; and

(ii) Presents a copy of this SFAR for inspection upon request by a foreign Civil Aviation Authority in accordance with the Convention on International Civil Aviation (Chicago Convention), and its Annexes.

(2) *Extension of knowledge test duration requirements in §61.39.* An applicant for a certificate or rating issued under part 61 of this chapter may satisfy the eligibility requirement in §61.39(a) (1) by passing the required knowledge test:

(i) Within the 27-calendar month period preceding the month the applicant completes the practical test, if a knowledge test is required, provided the knowledge test was passed between March 1, 2018 and September 30, 2018; or

(ii) Within the 63-calendar month period preceding the month the applicant completes the practical test for those applicants who complete the airline transport pilot certification training program in §61.156 and pass the knowledge test for an airline transport pilot certificate with a multi-engine class rating, provided the knowledge test was passed between March 1, 2015 and September 30, 2015.

(3) *Extension of renewal requirements for flight instructor certification.* The holder of a flight instructor certificate that expires between March 31, 2020 and May 31, 2020 may renew his or her flight instructor certificate by submitting a completed and signed application to the FAA and satisfactorily completing one of the renewal requirements specified in §61.197(a)(2)(i) through (iv) before June 30, 2020.

(b) Part 63 of this Chapter.

(1) *Extension of medical certificate duration requirements.* For a person acting as a flight engineer of an aircraft, the expiration date of a second-class (or higher) medical certificate that expires between March 31, 2020 and September 30, 2020 is extended 3 calendar months from the original expiration date. Unless otherwise prohibited by a foreign country, a person may operate

outside of the United States under this paragraph 3.(b)(1) if the person:

(i) Has access to this SFAR when outside the United States; and

(ii) Presents a copy of this SFAR for inspection upon request by a foreign Civil Aviation Authority in accordance with the Convention on International Civil Aviation (Chicago Convention), and its Annexes.

(2) *Extension of written test duration requirements in §63.35 of this chapter.* An applicant for a flight engineer certificate or rating may satisfy the knowledge requirement in §63.35(d) of this chapter by passing the required written test within the 27-calendar month period preceding the month the applicant completes the practical test, provided the written test was passed between March 1, 2018 and September 30, 2018.

(c) Part 65 of this Chapter.

(1) *Extension of knowledge test duration requirements in §65.55 of this chapter.* An applicant for an aircraft dispatcher certificate may satisfy the knowledge requirement in §65.55(b) of this chapter by presenting satisfactory evidence that the applicant passed the knowledge test within the 27-calendar month period preceding the month the applicant completes the practical test, provided the knowledge test was passed between March 1, 2018 and September 30, 2018.

(2) *Extension of testing period in §65.71 of this chapter.* A person may show eligibility for a mechanic certificate or rating under §65.71 of this chapter by passing all the prescribed tests of part 65, subpart D, of this chapter within a period of 27 months, provided the testing period began between March 1, 2018 and September 30, 2018.

(3) *Renewal of inspection authorizations in §65.93 of this chapter.*

(i) *Grace period for meeting renewal requirements.* Notwithstanding the requirement in §65.93(c) of this chapter, an inspection authorization holder who did not complete one of the activities in §65.93(a)(1) through (5) of this chapter by March 31, 2020 of the first year may still be eligible for renewal of an inspection authorization for a 2-year period in March 2021. To be eligible for renewal, the inspection authorization holder must show completion of one of the five activities in §65.93(a)(1) through (5) of this chapter by June 30, 2020, and completion of the one of the five activities in §65.93(a)(1) through (5) of this chapter during the second year of the 2-year period. A person who completes one of the five activities by June 30, 2020 will be considered to have completed the activity by March 31, 2020 of the first year for purposes of determining eligibility under §65.93 of this chapter.

(ii) *Inspection authorization privileges after June 2020.* If the inspection authorization holder

does not complete one of the five activities in §65.93(a)(1) through (5) of this chapter by June 30, 2020, the inspection authorization holder may not exercise inspection authorization privileges after June 30, 2020. The inspection authorization holder may resume exercising inspection authorization privileges only after passing an oral test from an FAA inspector in accordance with §65.93(c) of this chapter.

(4) *Military riggers or former military riggers: Special certification rule of §65.117 of this chapter.* A person may satisfy the requirements of §65.117(a) and (b) of this chapter for a senior parachute rigger certificate by presenting satisfactory documentary evidence that the person was honorably discharged or released from any status covered by §65.117(a) of this chapter between March 2019 and June 2019, and has served as a parachute rigger for an Armed Force within the 15 months before the date of application.

(d) *Relief for U.S. Military and Civilian Personnel Who are Assigned Outside the United States in Support of U.S. Armed Forces Operations.* Notwithstanding the six calendar month period specified in paragraph 2 of SFAR No. 100-2 of this part, a person may exercise the relief specified in paragraph 1 of SFAR No. 100-2 for a duration of nine calendar months after returning to the United States, provided the person—

(i) Is eligible in accordance with paragraph 2 of SFAR No. 100-2 of this part;

(ii) Complies with the documentation requirements specified in paragraph 3 of SFAR No. 100-2 of this part; and

(iii) Returned to the United States from deployment between October 2019 and March 2020.

(e) *Part 141 of this Chapter.*

(1) *Pilot school certificate requirements of §141.5 of this chapter.*

(i) *Provisional pilot school.* Notwithstanding the period specified in §141.5 of this chapter, a provisional pilot school may apply for, and the FAA may issue, a pilot school certificate with the appropriate ratings if the following requirements are met—

(A) The provisional pilot school must satisfy the requirements of §141.5(a) through (e) of this chapter before December 31, 2020;

(B) The provisional pilot school certificate must expire between April 2020 and June 2020; and

(C) The provisional pilot school meets the requirements of paragraph 3.(e)(1)(ii) of this SFAR.

(ii) *Safety mitigations.*

(A) The provisional pilot school must notify its responsible Flight Standards office that it is applying for a pilot school certificate in accordance with this SFAR.

(B) Each provisional pilot school must include in its notification an acceptable plan that explains

the method to meet the requirements of §141.5(d) and (e) of this chapter, including—

(1) Ensuring each instructor used for ground or flight training is current and proficient; and

(2) Evaluating students to determine if they are assigned to the proper stage of the training course and if additional training is necessary.

(2) *Renewal of certificates and ratings in §141.27 of this Chapter.*

(i) *Pilot school.* A pilot school may apply for renewal of its pilot school certificate and ratings after the expiration of its pilot schools certificate, provided the school applies for renewal before December 31, 2020 and the following requirements are met—

(A) The pilot school must meet §141.27(a)(2) of this chapter before December 31, 2020;

(B) The pilot school certificate must expire between April 2020 and June 2020; and

(C) The pilot school meets the requirements of paragraph 3.(e)(2)(ii) of this SFAR.

(ii) *Safety mitigations.*

(A) Each pilot school must submit to the responsible Flight Standards office notification that it will renew its pilot school certificate in accordance with this SFAR.

(B) Each pilot school must include in its notification an acceptable plan that explains the method to regain currency, including—

(1) Ensuring each instructor used for ground or flight training is current and proficient; and

(2) Evaluating students to determine if they are assigned to the proper stage of the training course and if additional training is necessary.

4. Other relief for special flight permits issued under §21.197(c) of this chapter.

In addition to the purposes specified in §21.197(c) of this chapter, notwithstanding §§119.5(l) and 91.1015(a) of this chapter, a special flight permit with a continuing authorization may be issued under §21.197(c) of this chapter for aircraft that may not meet applicable airworthiness requirements, but are capable of safe flight for the purpose of flying the aircraft to a point of storage, provided the following requirements are met—

(a) The air carrier or operator must hold a special flight permit with continuing authorization to conduct a ferry flight program issued under §21.197(c) of this chapter; and

(b) The certificate holder or management specification holder must notify the responsible Flight Standards office each time the special flight permit is used for the purpose of flying the aircraft to a point of storage.

5. Expiration date. This SFAR is effective until March 31, 2021. The FAA may amend, rescind, or extend the SFAR as necessary.

6. Office of Management and Budget (OMB) control number. The Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520) requires the FAA to get approval from OMB for our information collection activities. The OMB control number assigned to the FAA's information collection associated with this SFAR is 2120-0788.

[Docket No. FAA-2020-0446, 85 FR 26344, May 4, 2020; Amdt. 61-145, 85 FR 38778, Jun. 29, 2020]

Subpart A—General

§61.1 Applicability and definitions.

(a) Except as provided in part 107 of this chapter, this part prescribes:

(1) The requirements for issuing pilot, flight instructor, and ground instructor certificates and ratings; the conditions under which those certificates and ratings are necessary; and the privileges and limitations of those certificates and ratings.

(2) The requirements for issuing pilot, flight instructor, and ground instructor authorizations; the conditions under which those authorizations are necessary; and the privileges and limitations of those authorizations.

(3) The requirements for issuing pilot, flight instructor, and ground instructor certificates and ratings for persons who have taken courses approved by the Administrator under other parts of this chapter.

(b) For the purpose of this part:

Accredited has the same meaning as defined by the Department of Education in 34 CFR 600.2.

Aeronautical experience means pilot time obtained in an aircraft, flight simulator, or flight training device for meeting the appropriate training and flight time requirements for an airman certificate, rating, flight review, or recency of flight experience requirements of this part.

Authorized instructor means—

(i) A person who holds a ground instructor certificate issued under part 61 of this chapter and is in compliance with §61.217, when conducting ground training in accordance with the privileges and limitations of his or her ground instructor certificate;

(ii) A person who holds a flight instructor certificate issued under part 61 of this chapter and is in compliance with §61.197, when conducting ground training or flight training in accordance with the privileges and limitations of his or her flight instructor certificate; or

(iii) A person authorized by the Administrator to provide ground training or flight training under part 61, 121, 135, or 142 of this chapter when conducting ground training or flight training in accordance with that authority.

Aviation training device means a training device, other than a full flight simulator or flight training device, that has been evaluated, qualified, and approved by the Administrator.

Complex airplane means an airplane that has a retractable landing gear, flaps, and a controllable pitch propeller, including airplanes equipped with an engine control system consisting of a digital computer and associated accessories for controlling the engine and propeller, such as a full authority digital engine control; or, in the case of a seaplane, flaps and a controllable pitch propeller, including seaplanes equipped with an engine control system consisting of a digital computer and associated accessories for controlling the engine and propeller, such as a full authority digital engine control.

Cross-country time means—

(i) Except as provided in paragraphs (ii) through (vi) of this definition, time acquired during flight—

(A) Conducted by a person who holds a pilot certificate;

(B) Conducted in an aircraft;

(C) That includes a landing at a point other than the point of departure; and

(D) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems to navigate to the landing point.

(ii) For the purpose of meeting the aeronautical experience requirements (except for a rotorcraft category rating), for a private pilot certificate (except for a powered parachute category rating), a commercial pilot certificate, or an instrument rating, or for the purpose of exercising recreational pilot privileges (except in a rotorcraft) under §61.101(c), time acquired during a flight—

(A) Conducted in an appropriate aircraft;

(B) That includes a point of landing that was at least a straight-line distance of more than 50 nautical miles from the original point of departure; and

(C) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems to navigate to the landing point.

(iii) For the purpose of meeting the aeronautical experience requirements for a sport pilot certificate (except for powered parachute privileges), time acquired during a flight conducted in an appropriate aircraft that—

(A) Includes a point of landing at least a straight line distance of more than 25 nautical miles from the original point of departure; and

(B) Involves, as applicable, the use of dead reckoning; pilotage; electronic navigation aids; radio aids; or other navigation systems to navigate to the landing point.

(iv) For the purpose of meeting the aeronautical experience requirements for a sport pilot certificate with powered parachute privileges or a

private pilot certificate with a powered parachute category rating, time acquired during a flight conducted in an appropriate aircraft that—

(A) Includes a point of landing at least a straight line distance of more than 15 nautical miles from the original point of departure; and

(B) Involves, as applicable, the use of dead reckoning; pilotage; electronic navigation aids; radio aids; or other navigation systems to navigate to the landing point.

(v) For the purpose of meeting the aeronautical experience requirements for any pilot certificate with a rotorcraft category rating or an instrument-helicopter rating, or for the purpose of exercising recreational pilot privileges, in a rotorcraft, under §61.101(c), time acquired during a flight—

(A) Conducted in an appropriate aircraft;

(B) That includes a point of landing that was at least a straight-line distance of more than 25 nautical miles from the original point of departure; and

(C) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems to navigate to the landing point.

(vi) For the purpose of meeting the aeronautical experience requirements for an airline transport pilot certificate (except with a rotorcraft category rating), time acquired during a flight—

(A) Conducted in an appropriate aircraft;

(B) That is at least a straight-line distance of more than 50 nautical miles from the original point of departure; and

(C) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems.

(vii) For a military pilot who qualifies for a commercial pilot certificate (except with a rotorcraft category rating) under §61.73 of this part, time acquired during a flight—

(A) Conducted in an appropriate aircraft;

(B) That is at least a straight-line distance of more than 50 nautical miles from the original point of departure; and

(C) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems.

Examiner means any person who is authorized by the Administrator to conduct a pilot proficiency test or a practical test for an airman certificate or rating issued under this part, or a person who is authorized to conduct a knowledge test under this part.

Flight training means that training, other than ground training, received from an authorized instructor in flight in an aircraft.

Ground training means that training, other than flight training, received from an authorized instructor.

Institution of higher education has the same meaning as defined by the Department of Education in 34 CFR 600.4.

Instrument approach means an approach procedure defined in part 97 of this chapter.

Instrument training means that time in which instrument training is received from an authorized instructor under actual or simulated instrument conditions.

Knowledge test means a test on the aeronautical knowledge areas required for an airman certificate or rating that can be administered in written form or by a computer.

Nationally recognized accrediting agency has the same meaning as defined by the Department of Education in 34 CFR 600.2.

Night vision goggles means an appliance worn by a pilot that enhances the pilot's ability to maintain visual surface reference at night.

Night vision goggle operation means the portion of a flight that occurs during the time period from 1 hour after sunset to 1 hour before sunrise where the pilot maintains visual surface reference using night vision goggles in an aircraft that is approved for such an operation.

Pilot time means that time in which a person—

(i) Serves as a required pilot flight crewmember;

(ii) Receives training from an authorized instructor in an aircraft, full flight simulator, flight training device, or aviation training device;

(iii) Gives training as an authorized instructor in an aircraft, full flight simulator, flight training device, or aviation training device; or

(iv) Serves as second in command in operations conducted in accordance with §135.99(c) of this chapter when a second pilot is not required under the type certification of the aircraft or the regulations under which the flight is being conducted, provided the requirements in §61.159(c) are satisfied.

Practical test means a test on the areas of operations for an airman certificate, rating, or authorization that is conducted by having the applicant respond to questions and demonstrate maneuvers in flight, in a flight simulator, or in a flight training device.

Set of aircraft means aircraft that share similar performance characteristics, such as similar airspeed and altitude operating envelopes, similar handling characteristics, and the same number and type of propulsion systems.

Student pilot seeking a sport pilot certificate means a person who has received an endorsement—

(i) To exercise student pilot privileges from a certificated flight instructor with a sport pilot rating; or

(ii) That includes a limitation for the operation of a light-sport aircraft specified in §61.89(c) issued by a certificated flight instructor with other than a sport pilot rating.

Technically advanced airplane (TAA) means an airplane equipped with an electronically advanced avionics system.

Training time means training received—

- (i) In flight from an authorized instructor;
 - (ii) On the ground from an authorized instructor;
- or
- (iii) In a flight simulator or flight training device from an authorized instructor.

[Docket No. 25910, 62 FR 16298, April 4, 1997; as amended by Amdt. 61–103, 62 FR 40893, July 30, 1997; Amdt. 61–110, 69 FR 44864, July 27, 2004; Amdt. 61–124, 74 FR 42546, Aug. 21, 2009; Amdt. 61–128, 76 FR 54105, Aug. 31, 2011; Amdt. 61–130, 78 FR 42372, July 15, 2013; Amdt. 61–137, 81 FR 42208, June 28, 2016; Amdt. 61–142, 83 FR 30276, June 27, 2018]

§61.2 Exercise of Privilege.

(a) **Validity.** No person may:

(1) Exercise privileges of a certificate, rating, endorsement, or authorization issued under this part if the certificate, rating or authorization is surrendered, suspended, revoked or expired.

(2) Exercise privileges of a flight instructor certificate if that flight instructor certificate is surrendered, suspended, revoked or expired.

(3) Exercise privileges of a foreign pilot certificate to operate an aircraft of foreign registry under §61.3(b) if the certificate is surrendered, suspended, revoked or expired.

(4) Exercise privileges of a pilot certificate issued under §61.75, or an authorization issued under §61.77, if the foreign pilot certificate relied upon for the issuance of the U.S. pilot certificate or authorization is surrendered, suspended, revoked or expired.

(5) Exercise privileges of a medical certificate issued under part 67 to meet any requirements of part 61 if the medical certificate is surrendered, suspended, revoked or expired according to the duration standards set forth in §61.23(d).

(6) Use an official government issued driver's license to meet any requirements of part 61 related to holding that driver's license, if the driver's license is surrendered, suspended, revoked or expired.

(b) **Currency.** No person may:

(1) Exercise privileges of an airman certificate, rating, endorsement, or authorization issued under this part unless that person meets the appropriate airman and medical recency requirements of this part, specific to the operation or activity.

(2) Exercise privileges of a foreign pilot license within the United States to conduct an operation described in §61.3(b), unless that person meets the appropriate airman and medical recency requirements of the country that issued the license, specific to the operation.

[Docket No. FAA–2006–26661, 74 FR 42546, Aug. 21, 2009]

§61.3 Requirement for certificates, ratings, and authorizations.

(a) **Required pilot certificate for operating a civil aircraft of the United States.** No person may serve as a required pilot flight crewmember of a civil aircraft of the United States, unless that person:

(1) Has in the person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate or authorization—

(i) A pilot certificate issued under this part and in accordance with §61.19;

(ii) A special purpose pilot authorization issued under §61.77;

(iii) A temporary certificate issued under §61.17;

(iv) A document conveying temporary authority to exercise certificate privileges issued by the Airmen Certification Branch under §61.29(e);

(v) When engaged in a flight operation within the United States for a part 119 certificate holder authorized to conduct operations under part 121 or 135 of this chapter, a temporary document provided by that certificate holder under an approved certificate verification plan;

(vi) When engaged in a flight operation within the United States for a fractional ownership program manager authorized to conduct operations under part 91, subpart K, of this chapter, a temporary document provided by that program manager under an approved certificate verification plan; or

(vii) When operating an aircraft within a foreign country, a pilot license issued by that country may be used.

(2) Has a photo identification that is in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate or authorization. The photo identification must be a:

(i) Driver's license issued by a State, the District of Columbia, or territory or possession of the United States;

(ii) Government identification card issued by the Federal government, a State, the District of Columbia, or a territory or possession of the United States;

(iii) U.S. Armed Forces' identification card;

(iv) Official passport;

(v) Credential that authorizes unescorted access to a security identification display area at an airport regulated under 49 CFR part 1542; or

(vi) Other form of identification that the Administrator finds acceptable.

(b) **Required pilot certificate for operating a foreign-registered aircraft within the United States.** No person may serve as a required pilot flight crewmember of a civil aircraft of foreign registry within the United States, unless—

(1) That person's pilot certificate or document issued under §61.29(e) is in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate; and

(2) Has been issued in accordance with this part, or has been issued or validated by the country in which the aircraft is registered.

(c) Medical certificate.

(1) A person may serve as a required pilot flight crewmember of an aircraft only if that person holds the appropriate medical certificate issued under part 67 of this chapter, or other documentation acceptable to the FAA, that is in that person's physical possession or readily accessible in the aircraft. Paragraph (c)(2) of this section provides certain exceptions to the requirement to hold a medical certificate.

(2) A person is not required to meet the requirements of paragraph (c)(1) of this section if that person—

(i) Is exercising the privileges of a student pilot certificate while seeking a pilot certificate with a glider category rating, a balloon class rating, or glider or balloon privileges;

(ii) Is exercising the privileges of a student pilot certificate while seeking a sport pilot certificate with other than glider or balloon privileges and holds a U.S. driver's license;

(iii) Is exercising the privileges of a student pilot certificate while seeking a pilot certificate with a weight-shift-control aircraft category rating or a powered parachute category rating and holds a U.S. driver's license;

(iv) Is exercising the privileges of a sport pilot certificate with glider or balloon privileges;

(v) Is exercising the privileges of a sport pilot certificate with other than glider or balloon privileges and holds a U.S. driver's license. A person who has applied for or held a medical certificate may exercise the privileges of a sport pilot certificate using a U.S. driver's license only if that person—

(A) Has been found eligible for the issuance of at least a third-class airman medical certificate at the time of his or her most recent application; and

(B) Has not had his or her most recently issued medical certificate suspended or revoked or most recent Authorization for a Special Issuance of a Medical Certificate withdrawn.

(vi) Is holding a pilot certificate with a balloon class rating and is piloting or providing training in a balloon as appropriate;

(vii) Is holding a pilot certificate or a flight instructor certificate with a glider category rating, and is piloting or providing training in a glider, as appropriate;

(viii) Is exercising the privileges of a flight instructor certificate, provided the person is not act-

ing as pilot in command or as a required pilot flight crewmember;

(ix) Is exercising the privileges of a ground instructor certificate;

(x) Is operating an aircraft within a foreign country using a pilot license issued by that country and possesses evidence of current medical qualification for that license;

(xi) Is operating an aircraft with a U.S. pilot certificate, issued on the basis of a foreign pilot license, issued under §61.75, and holds a medical certificate issued by the foreign country that issued the foreign pilot license, which is in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that airman certificate;

(xii) Is a pilot of the U.S. Armed Forces, has an up-to-date U.S. military medical examination, and holds military pilot flight status;

(xiii) Is exercising the privileges of a student, recreational or private pilot certificate for operations conducted under the conditions and limitations set forth in §61.113(i) and holds a U.S. driver's license; or

(xiv) Is exercising the privileges of a flight instructor certificate and acting as pilot in command for operations conducted under the conditions and limitations set forth in §61.113(i) and holds a U.S. driver's license.

(d) Flight instructor certificate.

(1) A person who holds a flight instructor certificate issued under this part must have that certificate, or other documentation acceptable to the Administrator, in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that flight instructor certificate.

(2) Except as provided in paragraph (d)(3) of this section, no person other than the holder of a flight instructor certificate issued under this part with the appropriate rating on that certificate may—

(i) Give training required to qualify a person for solo flight and solo cross-country flight;

(ii) Endorse an applicant for a—

(A) Pilot certificate or rating issued under this part;

(B) Flight instructor certificate or rating issued under this part; or

(C) Ground instructor certificate or rating issued under this part;

(iii) Endorse a pilot logbook to show training given; or

(iv) Endorse a logbook for solo operating privileges.

(3) A flight instructor certificate issued under this part is not necessary—

(i) Under paragraph (d)(2) of this section, if the training is given by the holder of a commercial pilot certificate with a lighter-than-air rating, pro-

vided the training is given in accordance with the privileges of the certificate in a lighter-than-air aircraft;

(ii) Under paragraph (d)(2) of this section, if the training is given by the holder of an airline transport pilot certificate with a rating appropriate to the aircraft in which the training is given, provided the training is given in accordance with the privileges of the certificate and conducted in accordance with an approved air carrier training program approved under part 121 or part 135 of this chapter;

(iii) Under paragraph (d)(2) of this section, if the training is given by a person who is qualified in accordance with subpart C of part 142 of this chapter, provided the training is conducted in accordance with an approved part 142 training program;

(iv) Under paragraphs (d)(2)(i), (d)(2)(ii)(C), and (d)(2)(iii) of this section, if the training is given by the holder of a ground instructor certificate in accordance with the privileges of the certificate; or

(v) Under paragraph (d)(2)(iii) of this section, if the training is given by an authorized flight instructor under §61.41 of this part.

(e) Instrument rating. No person may act as pilot in command of a civil aircraft under IFR or in weather conditions less than the minimums prescribed for VFR flight unless that person holds:

(1) The appropriate aircraft category, class, type (if required), and instrument rating on that person's pilot certificate for any airplane, helicopter, or powered-lift being flown;

(2) An airline transport pilot certificate with the appropriate aircraft category, class, and type rating (if required) for the aircraft being flown;

(3) For a glider, a pilot certificate with a glider category rating and an airplane instrument rating; or

(4) For an airship, a commercial pilot certificate with a lighter-than-air category rating and airship class rating.

(f) Category II pilot authorization. Except for a pilot conducting Category II operations under part 121 or part 135, a person may not:

(1) Act as pilot in command of a civil aircraft during Category II operations unless that person—

(i) Holds a Category II pilot authorization for that category or class of aircraft, and the type of aircraft, if applicable; or

(ii) In the case of a civil aircraft of foreign registry, is authorized by the country of registry to act as pilot in command of that aircraft in Category II operations.

(2) Act as second in command of a civil aircraft during Category II operations unless that person—

(i) Holds a pilot certificate with category and class ratings for that aircraft and an instrument rating for that category aircraft;

(ii) Holds an airline transport pilot certificate with category and class ratings for that aircraft; or

(iii) In the case of a civil aircraft of foreign registry, is authorized by the country of registry to act as second in command of that aircraft during Category II operations.

(g) Category III pilot authorization. Except for a pilot conducting Category III operations under part 121 or part 135, a person may not:

(1) Act as pilot in command of a civil aircraft during Category III operations unless that person—

(i) Holds a Category III pilot authorization for that category or class of aircraft, and the type of aircraft, if applicable; or

(ii) In the case of a civil aircraft of foreign registry, is authorized by the country of registry to act as pilot in command of that aircraft in Category III operations.

(2) Act as second in command of a civil aircraft during Category III operations unless that person—

(i) Holds a pilot certificate with category and class ratings for that aircraft and an instrument rating for that category aircraft;

(ii) Holds an airline transport pilot certificate with category and class ratings for that aircraft; or

(iii) In the case of a civil aircraft of foreign registry, is authorized by the country of registry to act as second in command of that aircraft during Category III operations.

(h) Category A aircraft pilot authorization. The Administrator may issue a certificate of authorization for a Category II or Category III operation to the pilot of a small aircraft that is a Category A aircraft, as identified in §97.3(b)(1) of this chapter if:

(1) The Administrator determines that the Category II or Category III operation can be performed safely by that pilot under the terms of the certificate of authorization; and

(2) The Category II or Category III operation does not involve the carriage of persons or property for compensation or hire.

(i) Ground instructor certificate.

(1) Each person who holds a ground instructor certificate issued under this part must have that certificate or a temporary document issued under §61.29(e) in that person's physical possession or immediately accessible when exercising the privileges of that certificate.

(2) Except as provided in paragraph (i)(3) of this section, no person other than the holder of a ground instructor certificate, issued under this part or part 143, with the appropriate rating on that certificate may—

(i) Give ground training required to qualify a person for solo flight and solo cross-country flight;

(ii) Endorse an applicant for a knowledge test required for a pilot, flight instructor, or ground instructor certificate or rating issued under this part; or

(iii) Endorse a pilot logbook to show ground training given.

(3) A ground instructor certificate issued under this part is not necessary—

(i) Under paragraph (i)(2) of this section, if the training is given by the holder of a flight instructor certificate issued under this part in accordance with the privileges of that certificate;

(ii) Under paragraph (i)(2) of this section, if the training is given by the holder of a commercial pilot certificate with a lighter-than-air rating, provided the training is given in accordance with the privileges of the certificate in a lighter-than-air aircraft;

(iii) Under paragraph (i)(2) of this section, if the training is given by the holder of an airline transport pilot certificate with a rating appropriate to the aircraft in which the training is given, provided the training is given in accordance with the privileges of the certificate and conducted in accordance with an approved air carrier training program approved under part 121 or part 135 of this chapter;

(iv) Under paragraph (i)(2) of this section, if the training is given by a person who is qualified in accordance with subpart C of part 142 of this chapter, provided the training is conducted in accordance with an approved part 142 training program; or

(v) Under paragraph (i)(2)(iii) of this section, if the training is given by an authorized flight instructor under §61.41 of this part.

(j) Age limitation for certain operations.

(1) *Age limitation.* No person who holds a pilot certificate issued under this part may serve as a pilot on a civil airplane of U.S. registry in the following operations if the person has reached his or her 60th birthday or, in the case of operations with more than one pilot, his or her 65th birthday:

(i) Scheduled international air services carrying passengers in turbojet-powered airplanes;

(ii) Scheduled international air services carrying passengers in airplanes having a passenger-seat configuration of more than nine passenger seats, excluding each crewmember seat;

(iii) Nonscheduled international air transportation for compensation or hire in airplanes having a passenger-seat configuration of more than 30 passenger seats, excluding each crewmember seat; or

(iv) Scheduled international air services, or nonscheduled international air transportation for compensation or hire, in airplanes having a payload capacity of more than 7,500 pounds.

(2) Definitions.

(i) “International air service,” as used in this paragraph (j), means scheduled air service performed in airplanes for the public transport of passengers, mail, or cargo, in which the service passes through the airspace over the territory of more than one country.

(ii) “International air transportation,” as used in this paragraph (j), means air transportation performed in airplanes for the public transport of passengers, mail, or cargo, in which the service passes through the airspace over the territory of more than one country.

(k) Special purpose pilot authorization. Any person that is required to hold a special purpose pilot authorization, issued in accordance with §61.77 of this part, must have that authorization and the person’s foreign pilot license in that person’s physical possession or have it readily accessible in the aircraft when exercising the privileges of that authorization.

(l) Inspection of certificate. Each person who holds an airman certificate, temporary document in accordance with paragraph (a)(1)(v) or (vi) of this section, medical certificate, documents establishing alternative medical qualification under part 68 of this chapter, authorization, or license required by this part must present it and their photo identification as described in paragraph (a) (2) of this section for inspection upon a request from:

(1) The Administrator;

(2) An authorized representative of the National Transportation Safety Board; or

(3) Any Federal, State, or local law enforcement officer; or

(4) An authorized representative of the Transportation Security Administration.

[Docket No. 25910, 62 FR 16298, April 4, 1997; as amended by Amdt. 61–103, 62 FR 40894, July 30, 1997; Amdt. 61–110, 67 FR 65861, Oct. 28, 2002; Amdt. 61–110, 69 FR 44864, July 27, 2004; Amdt. 61–123, 74 FR 34234, July 15, 2009; Amdt. 61–124, 74 FR 42546, Aug. 21, 2009; Amdt. 61–124A, 74 FR 53644, Oct. 20, 2009; Amdt. 61–131, 78 FR 56828, Sept. 16, 2013; Amdt. 61–134, 80 FR 33401, June 12, 2015; Amdt. 61–135, 81 FR 1306, Jan. 12, 2016; Amdt. 61–140, 82 FR 3164, Jan. 11, 2017; Amdt. 61–142, 83 FR 30276, June 27, 2018]

§61.4 Qualification and approval of flight simulators and flight training devices.

(a) Except as specified in paragraph (b) or (c) of this section, each flight simulator and flight training device used for training, and for which an airman is to receive credit to satisfy any training, testing, or checking requirement under this chapter, must be qualified and approved by the Administrator for—

(1) The training, testing, and checking for which it is used;

(2) Each particular maneuver, procedure, or crewmember function performed; and

(3) The representation of the specific category and class of aircraft, type of aircraft, particular variation within the type of aircraft, or set of aircraft for certain flight training devices.

(b) Any device used for flight training, testing, or checking that has been determined to be acceptable to or approved by the Administrator prior to August 1, 1996, which can be shown to function as originally designed, is considered to be a flight training device, provided it is used for the same purposes for which it was originally accepted or approved and only to the extent of such acceptance or approval.

(c) The Administrator may approve a device other than a flight simulator or flight training device for specific purposes.

[Docket No. 25910, 62 FR 16298, April 4, 1997; as amended by Amdt. 61-103, 62 FR 40894, July 30, 1997]

§61.5 Certificates and ratings issued under this part.

(a) The following certificates are issued under this part to an applicant who satisfactorily accomplishes the training and certification requirements for the certificate sought:

(1) Pilot certificates—

- (i) Student pilot.
- (ii) Sport pilot.
- (iii) Recreational pilot.
- (iv) Private pilot.
- (v) Commercial pilot.
- (vi) Airline transport pilot.

(2) Flight instructor certificates.

(3) Ground instructor certificates.

(b) The following ratings are placed on a pilot certificate (other than student pilot) when an applicant satisfactorily accomplishes the training and certification requirements for the rating sought:

(1) Aircraft category ratings—

- (i) Airplane.
- (ii) Rotorcraft.
- (iii) Glider.
- (iv) Lighter-than-air.
- (v) Powered-lift.
- (vi) Powered parachute.
- (vii) Weight-shift-control aircraft.

(2) Airplane class ratings—

- (i) Single-engine land.
- (ii) Multiengine land.
- (iii) Single-engine sea.
- (iv) Multiengine sea.

(3) Rotorcraft class ratings—

- (i) Helicopter.
- (ii) Gyroplane.

(4) Lighter-than-air class ratings—

- (i) Airship.
- (ii) Balloon.

(5) Weight-shift-control aircraft class ratings—

- (i) Weight-shift-control aircraft land.
- (ii) Weight-shift-control aircraft sea.

(6) Powered parachute class ratings—

- (i) Powered parachute land.
- (ii) Powered parachute sea.

(7) Aircraft type ratings—

- (i) Large aircraft other than lighter-than-air.
- (ii) Turbojet-powered airplanes.
- (iii) Other aircraft type ratings specified by the Administrator through the aircraft type certification procedures.
- (iv) Second-in-command pilot type rating for aircraft that is certificated for operations with a minimum crew of at least two pilots.

(8) Instrument ratings (on private and commercial pilot certificates only)—

- (i) Instrument—Airplane.
- (ii) Instrument—Helicopter.
- (iii) Instrument—Powered-lift.

(c) The following ratings are placed on a flight instructor certificate when an applicant satisfactorily accomplishes the training and certification requirements for the rating sought:

(1) Aircraft category ratings—

- (i) Airplane.
- (ii) Rotorcraft.
- (iii) Glider.
- (iv) Powered-lift.

(2) Airplane class ratings—

- (i) Single-engine.
- (ii) Multiengine.

(3) Rotorcraft class ratings—

- (i) Helicopter.
- (ii) Gyroplane.

(4) Instrument ratings—

- (i) Instrument—Airplane.
- (ii) Instrument—Helicopter.
- (iii) Instrument—Powered-lift.

(5) Sport pilot rating.

(d) The following ratings are placed on a ground instructor certificate when an applicant satisfactorily accomplishes the training and certification requirements for the rating sought:

- (1) Basic.
- (2) Advanced.
- (3) Instrument.

[Docket No. 25910, 62 FR 16298, April 4, 1997; as amended by Amdt. 61-110, 69 FR 44864, July 27, 2004; Amdt. 61-113, 70 FR 45271, Aug. 4, 2005]

§61.7 Obsolete certificates and ratings.

(a) The holder of a free-balloon pilot certificate issued before November 1, 1973, may not exercise the privileges of that certificate.

(b) The holder of a pilot certificate that bears any of the following category ratings without an associated class rating may not exercise the privileges of that category rating:

- (1) Rotorcraft.
- (2) Lighter-than-air.
- (3) Helicopter.
- (4) Autogyro.

§61.8 Inapplicability of unmanned aircraft operations.

Any action conducted pursuant to part 107 of this chapter or Subpart E of part 101 of this chapter cannot be used to meet the requirements of this part.

[Docket No. FAA-2015-0150, 81 FR 42208, June 28, 2016]

§61.9 [Reserved]**§61.11 Expired pilot certificates and reissuance.**

(a) No person who holds an expired pilot certificate or rating may act as pilot in command or as a required pilot flight crewmember of an aircraft of the same category or class that is listed on that expired pilot certificate or rating.

(b) The following pilot certificates and ratings have expired and will not be reissued:

(1) An airline transport pilot certificate issued before May 1, 1949, or an airline transport pilot certificate that contains a horsepower limitation.

(2) A private or commercial pilot certificate issued before July 1, 1945.

(3) A pilot certificate with a lighter-than-air or free-balloon rating issued before July 1, 1945.

(c) An airline transport pilot certificate that was issued after April 30, 1949, and that bears an expiration date but does not contain a horsepower limitation, may have that airline transport pilot certificate re-issued without an expiration date.

(d) A private or commercial pilot certificate that was issued after June 30, 1945, and that bears an expiration date, may have that pilot certificate reissued without an expiration date.

(e) A pilot certificate with a lighter-than-air or free-balloon rating that was issued after June 30, 1945, and that bears an expiration date, may have that pilot certificate reissued without an expiration date.

[Docket No. FAA-2006-26661, 74 FR 42547, Aug. 21, 2009]

§61.13 Issuance of airman certificates, ratings, and authorizations.**(a) Application.**

(1) An applicant for an airman certificate, rating, or authorization under this part must make that application on a form and in a manner acceptable to the Administrator.

(2) An applicant must show evidence that the appropriate fee prescribed in appendix A to part 187 of this chapter has been paid when that person applies for airmen certification services administered outside the United States.

(3) An applicant who is neither a citizen of the United States nor a resident alien of the United States may be refused issuance of any U.S. airman certificate, rating or authorization by the Administrator.

(4) Except as provided in paragraph (a)(3) of this section, an applicant who satisfactorily accomplishes the training and certification requirements for the certificate, rating, or authorization sought is entitled to receive that airman certificate, rating, or authorization.

(b) Limitations.

(1) An applicant who cannot comply with certain areas of operation required on the practical test because of physical limitations may be issued an airman certificate, rating, or authorization with the appropriate limitation placed on the applicant's airman certificate provided the—

(i) Applicant is able to meet all other certification requirements for the airman certificate, rating, or authorization sought;

(ii) Physical limitation has been recorded with the FAA on the applicant's medical records; and

(iii) Administrator determines that the applicant's inability to perform the particular area of operation will not adversely affect safety.

(2) A limitation placed on a person's airman certificate may be removed, provided that person demonstrates for an examiner satisfactory proficiency in the area of operation appropriate to the airman certificate, rating, or authorization sought.

(c) Additional requirements for Category II and Category III pilot authorizations.

(1) A Category II or Category III pilot authorization is issued by a letter of authorization as part of an applicant's instrument rating or airline transport pilot certificate.

(2) Upon original issue, the authorization contains the following limitations:

(i) For Category II operations, the limitation is 1,600 feet RVR and a 150-foot decision height; and

(ii) For Category III operations, each initial limitation is specified in the authorization document.

(3) The limitations on a Category II or Category III pilot authorization may be removed as follows:

(i) In the case of Category II limitations, a limitation is removed when the holder shows that, since the beginning of the sixth preceding month, the holder has made three Category II ILS approaches with a 150-foot decision height to a landing under actual or simulated instrument conditions.

(ii) In the case of Category III limitations, a limitation is removed as specified in the authorization.

(4) To meet the experience requirements of paragraph (c)(3) of this section, and for the practical test required by this part for a Category II or a Category III pilot authorization, a flight simulator or flight training device may be used if it is approved by the Administrator for such use.

(d) Application during suspension or revocation.

(1) Unless otherwise authorized by the Administrator, a person whose pilot, flight instructor, or ground instructor certificate has been suspended may not apply for any certificate, rating, or authorization during the period of suspension.

(2) Unless otherwise authorized by the Administrator, a person whose pilot, flight instructor, or ground instructor certificate has been revoked may not apply for any certificate, rating, or authorization for 1 year after the date of revocation.

[Docket No. 25910, 62 FR 40895, July 30, 1997; as amended by Amdt. 61-116, 72 FR 18558, April 12, 2007; Amdt. 61-132, 78 FR 77572, Dec. 24, 2013]

§61.14 [Reserved]

§61.15 Offenses involving alcohol or drugs.

(a) A conviction for the violation of any Federal or State statute relating to the growing, processing, manufacture, sale, disposition, possession, transportation, or importation of narcotic drugs, marijuana, or depressant or stimulant drugs or substances is grounds for:

(1) Denial of an application for any certificate, rating, or authorization issued under this part for a period of up to 1 year after the date of final conviction; or

(2) Suspension or revocation of any certificate, rating, or authorization issued under this part.

(b) Committing an act prohibited by §91.17(a) or §91.19(a) of this chapter is grounds for:

(1) Denial of an application for a certificate, rating, or authorization issued under this part for a period of up to 1 year after the date of that act; or

(2) Suspension or revocation of any certificate, rating, or authorization issued under this part.

(c) For the purposes of paragraphs (d), (e), and (f) of this section, a motor vehicle action means:

(1) A conviction after November 29, 1990, for the violation of any Federal or State statute relating to the operation of a motor vehicle while intoxicated by alcohol or a drug, while impaired by

alcohol or a drug, or while under the influence of alcohol or a drug;

(2) The cancellation, suspension, or revocation of a license to operate a motor vehicle after November 29, 1990, for a cause related to the operation of a motor vehicle while intoxicated by alcohol or a drug, while impaired by alcohol or a drug, or while under the influence of alcohol or a drug; or

(3) The denial after November 29, 1990, of an application for a license to operate a motor vehicle for a cause related to the operation of a motor vehicle while intoxicated by alcohol or a drug, while impaired by alcohol or a drug, or while under the influence of alcohol or a drug.

(d) Except for a motor vehicle action that results from the same incident or arises out of the same factual circumstances, a motor vehicle action occurring within 3 years of a previous motor vehicle action is grounds for:

(1) Denial of an application for any certificate, rating, or authorization issued under this part for a period of up to 1 year after the date of the last motor vehicle action; or

(2) Suspension or revocation of any certificate, rating, or authorization issued under this part.

(e) Each person holding a certificate issued under this part shall provide a written report of each motor vehicle action to the FAA, Civil Aviation Security Division (AMC-700), P.O. Box 25810, Oklahoma City, OK 73125, not later than 60 days after the motor vehicle action. The report must include:

(1) The person's name, address, date of birth, and airman certificate number;

(2) The type of violation that resulted in the conviction or the administrative action;

(3) The date of the conviction or administrative action;

(4) The State that holds the record of conviction or administrative action; and

(5) A statement of whether the motor vehicle action resulted from the same incident or arose out of the same factual circumstances related to a previously reported motor vehicle action.

(f) Failure to comply with paragraph (e) of this section is grounds for:

(1) Denial of an application for any certificate, rating, or authorization issued under this part for a period of up to 1 year after the date of the motor vehicle action; or

(2) Suspension or revocation of any certificate, rating, or authorization issued under this part.

§61.16 Refusal to submit to an alcohol test or to furnish test results.

A refusal to submit to a test to indicate the percentage by weight of alcohol in the blood, when requested by a law enforcement officer in accordance with §91.17(c) of this chapter, or a refusal to furnish or authorize the release of the test results

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Aeronautical Information Manual



Official Guide to Basic Flight Information
U.S. Department of Transportation

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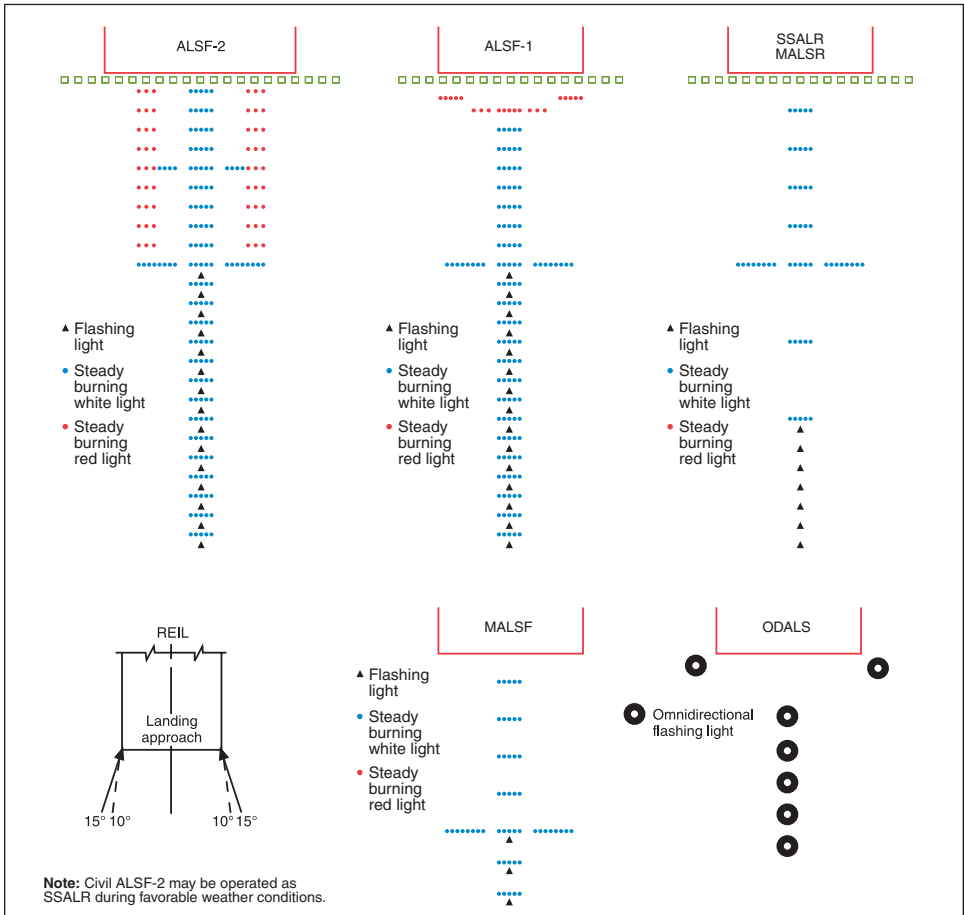
Section 1 Airport Lighting Aids

2-1-1 Approach Light Systems (ALS)

a. ALS provide the basic means to transition from instrument flight to visual flight for landing. Operational requirements dictate the sophistication and configuration of the approach light system for a particular runway.

b. ALS are a configuration of signal lights starting at the landing threshold and extending into the approach area a distance of 2,400–3,000 feet for precision instrument runways and 1,400–1,500 feet for nonprecision instrument runways. Some systems include sequenced flashing lights which appear to the pilot as a ball of light traveling towards the runway at high speed (twice a second). (See Figure 2-1-1.)

FIGURE 2-1-1
Precision and Nonprecision Configurations



2-1-2 Visual Glideslope Indicators

a. Visual Approach Slope Indicator (VASI)

1. VASI installations may consist of either 2, 4, 6, 12, or 16 light units arranged in bars referred to as near, middle, and far bars. Most VASI installations consist of 2 bars, near and far, and may consist of 2, 4, or 12 light units. Some VASIs consist of three bars, near, middle, and far, which provide an additional visual glide path to accommodate high cockpit aircraft. This installation may consist of either 6 or 16 light units. VASI installations consisting of 2, 4, or 6 light units are located on one side of the runway, usually the left. Where the installation consists of 12 or 16 light units, the units are located on both sides of the runway.

2. Two-bar VASI installations provide one visual glide path which is normally set at 3 degrees. Three-bar VASI installations provide two visual glide paths. The lower glide path is provided by the near and middle bars and is normally set at 3 degrees while the upper glide path, provided by the middle and far bars, is normally 1/4 degree higher. This higher glide path is intended for use only by high cockpit aircraft to provide a sufficient threshold crossing height. Although normal glide path angles are three degrees, angles at some locations may be as high as 4.5 degrees to give proper obstacle clearance. Pilots of high performance aircraft are cautioned that use of VASI angles in excess of 3.5 degrees may cause an increase in runway length required for landing and rollout.

3. The basic principle of the VASI is that of color differentiation between red and white. Each light unit projects a beam of light having a white segment in the upper part of the beam and red segment in the lower part of the beam. The light units are arranged so that the pilot using the VASIs during an approach will see the combination of lights shown below.

4. The VASI is a system of lights so arranged to provide visual descent guidance information during the approach to a runway. These lights are visible from 3–5 miles during the day and up to 20 miles or more at night. The visual glide path of the VASI provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to 4 NM from the runway threshold. Descent, using the VASI, should not be initiated until the aircraft is visually aligned with the runway. Lateral course guidance is provided by the runway or runway lights. In certain circumstances, the safe obstruction clearance area may be reduced by narrowing the beam width or shortening the usable distance due to local limitations, or the VASI may be offset from the extended runway centerline. This will be noted in the Chart Supplement U.S. and/or applicable notices to airmen (NOTAM).

5. For 2-bar VASI (4 light units) see Figure 2-1-2.

6. For 3-bar VASI (6 light units) see Figure 2-1-3.

7. For other VASI configurations see Figure 2-1-4.

b. Precision Approach Path Indicator (PAPI).

The precision approach path indicator (PAPI) uses light units similar to the VASI but are installed in a single row of either two or four light units. These lights are visible from about 5 miles during the day and up to 20 miles at night. The visual glide path of the PAPI typically provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to 3.4 NM from the runway threshold. Descent, using the PAPI, should not be initiated until the aircraft is visually aligned with the runway. The row of light units is normally installed on the left side of the runway and the glide path indications are as depicted. Lateral course guidance is provided by the runway or runway lights. In certain circumstances, the safe obstruction clearance area may be reduced by narrowing the beam width or shortening the usable distance due to local limitations, or the PAPI may be offset from the extended runway centerline. This will be noted in the Chart Supplement U.S. and/or applicable NOTAMs. (See Figure 2-1-5.)

c. **Tri-color Systems.** Tri-color visual approach slope indicators normally consist of a single light unit projecting a three-color visual approach path into the final approach area of the runway upon which the indicator is installed. The below glide path indication is red, the above glide path indication is amber, and the on glide path indication is green. These types of indicators have a useful range of approximately one-half to one mile during the day and up to five miles at night depending upon the visibility conditions. (See Figure 2-1-6.)

d. **Pulsating Systems.** Pulsating visual approach slope indicators normally consist of a single light unit projecting a two-color visual approach path into the final approach area of the runway upon which the indicator is installed. The on glide path indication may be a steady white light or alternating *red* and *white* light. The slightly below glide path indication is a steady red light. If the aircraft descends further below the glide path, the red light starts to pulsate. The above glide path indication is a pulsating white light. The pulsating rate increases as the aircraft gets further above or below the desired glide slope. The useful range of the system is about four miles during the day and up to ten miles at night. (See Figure 2-1-7.)

e. **Alignment of Elements Systems.** Alignment of elements systems are installed on some small general aviation airports and are a low-cost system consisting of painted plywood panels, normally black and white or fluorescent orange. Some

of these systems are lighted for night use. The useful range of these systems is approximately three-quarter miles. To use the system the pilot positions the aircraft so the elements are in alignment. The glide path indications are shown in Figure 2-1-8.

FIGURE 2-1-2
2-Bar VASI

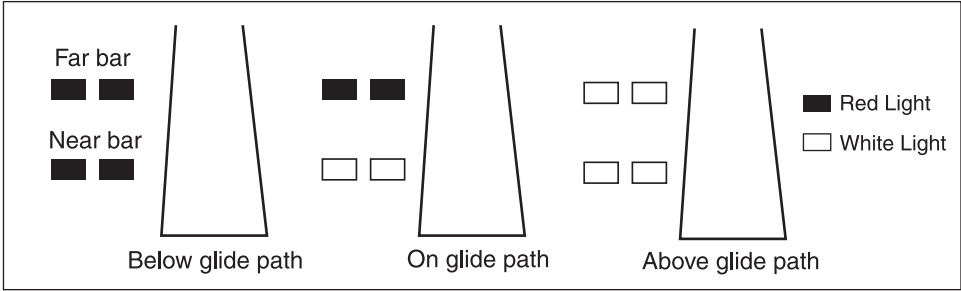


FIGURE 2-1-3
3-Bar VASI

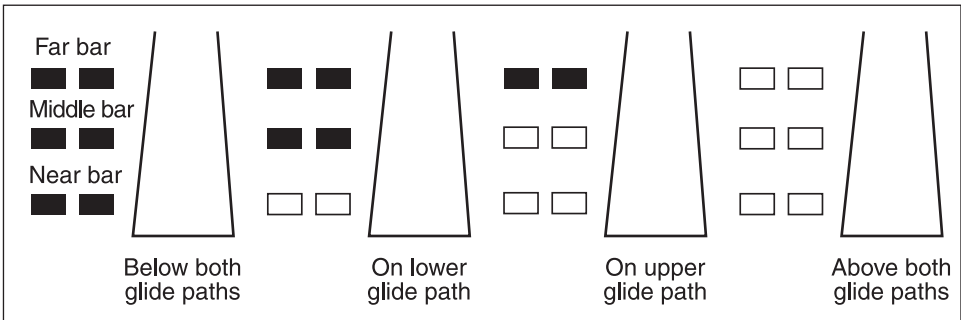
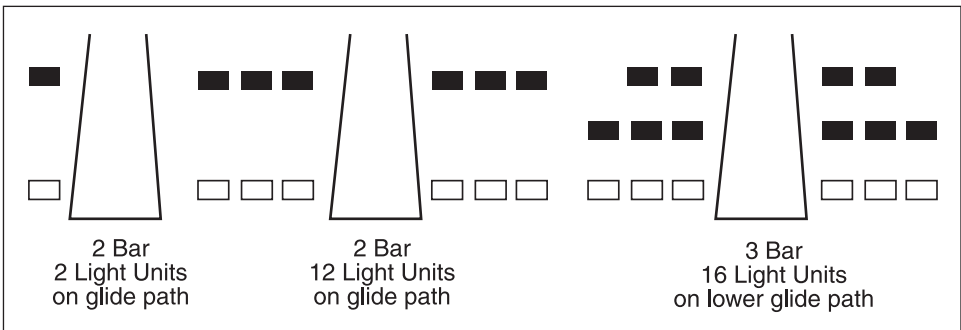
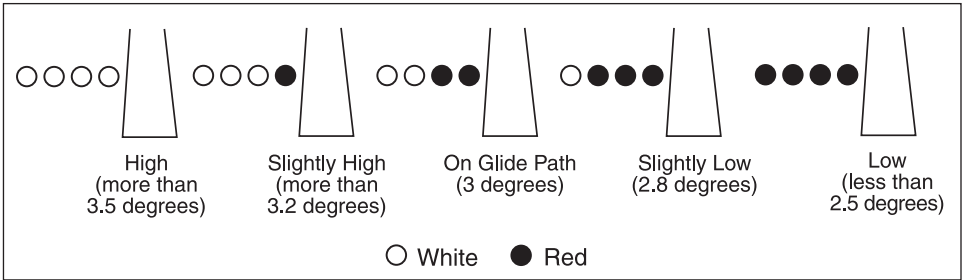


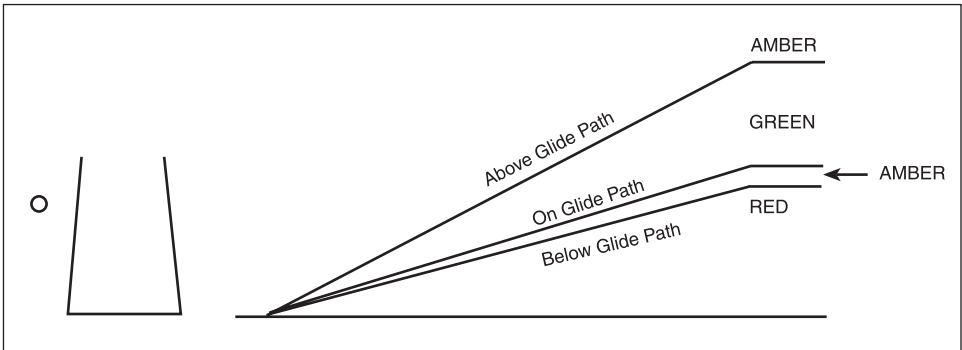
FIGURE 2-1-4
VASI Variations



**FIGURE 2-1-5
Precision Approach Path Indicator (PAPI)**



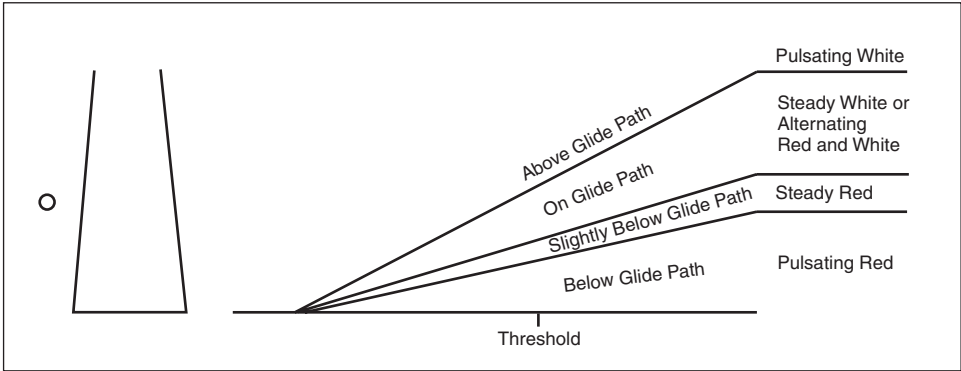
**FIGURE 2-1-6
Tri-Color Visual Approach Slope Indicator**



Notes:

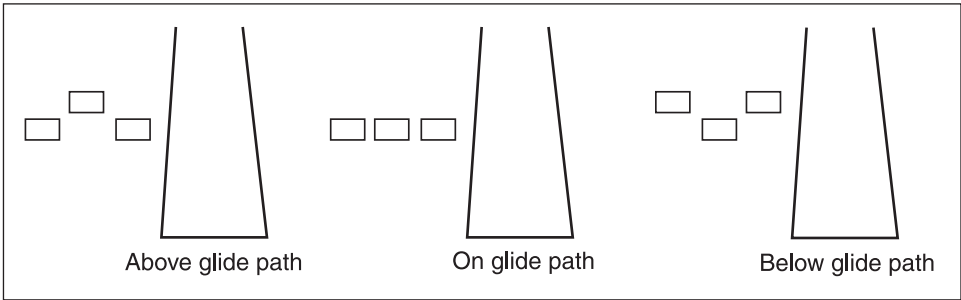
1. Since the tri-color VASI consists of a single light source which could possibly be confused with other light sources, pilots should exercise care to properly locate and identify the light signal.
2. When the aircraft descends from green to red, the pilot may see a dark amber color during the transition from green to red.

FIGURE 2-1-7
Pulsating Visual Approach Slope Indicator



Note: Since the PVASI consists of a single light source which could possibly be confused with other light sources, pilots should exercise care to properly locate and identify the light signal.

FIGURE 2-1-8
Alignment of Elements



2-1-3 Runway End Identifier Lights (REIL)

REILs are installed at many airfields to provide rapid and positive identification of the approach end of a particular runway. The system consists of a pair of synchronized flashing lights located laterally on each side of the runway threshold. REILs may be either omnidirectional or unidirectional facing the approach area. They are effective for:

- a. Identification of a runway surrounded by a preponderance of other lighting.
- b. Identification of a runway which lacks contrast with surrounding terrain.
- c. Identification of a runway during reduced visibility.

2-1-4 Runway Edge Light Systems

a. Runway edge lights are used to outline the edges of runways during periods of darkness or restricted visibility conditions. These light systems are classified according to the intensity or brightness they are capable of producing: they are the High Intensity Runway Lights (HIRL), Medium Intensity Runway Lights (MIRL), and the Low Intensity Runway Lights (LIRL). The HIRL and MIRL systems have variable intensity controls, whereas the LIRLs normally have one intensity setting.

b. The runway edge lights are white, except on instrument runways yellow replaces white on the last 2,000 feet or half the runway length, whichever is less, to form a caution zone for landings.

c. The lights marking the ends of the runway emit red light toward the runway to indicate the end of runway to a departing aircraft and emit green outward from the runway end to indicate the threshold to landing aircraft.

2-1-5 In-Runway Lighting

a. Runway Centerline Lighting System (RCLS). Runway centerline lights are installed on some precision approach runways to facilitate landing under adverse visibility conditions. They are located along the runway centerline and are spaced at 50-foot intervals. When viewed from the landing threshold, the runway centerline lights are white until the last 3,000 feet of the runway. The white lights begin to alternate with red for the next 2,000 feet, and for the last 1,000 feet of the runway, all centerline lights are red.

b. Touchdown Zone Lights (TDZL). Touchdown zone lights are installed on some precision approach runways to indicate the touchdown zone when landing under adverse visibility conditions. They consist of two rows of transverse light bars disposed symmetrically about the runway centerline. The system consists of steady-burning white lights which start 100 feet beyond the landing threshold and extend to 3,000 feet beyond the landing threshold or to the midpoint of the runway, whichever is less.

c. Taxiway Centerline Lead-Off Lights. Taxiway centerline lead-off lights provide visual guidance to persons exiting the runway. They are color-coded to warn pilots and vehicle drivers that they are within the runway environment or instrument landing system (ILS) critical area, whichever is more restrictive. Alternate green and yellow lights are installed, beginning with green, from the runway centerline to one centerline light position beyond the runway holding position or ILS critical area holding position.

d. Taxiway Centerline Lead-On Lights. Taxiway centerline lead-on lights provide visual guidance to persons entering the runway. These "lead-on" lights are also color-coded with the same color pattern as lead-off lights to warn pilots and vehicle drivers that they are within the runway environment or instrument landing system (ILS) critical area, whichever is more conservative. The fixtures used for lead-on lights are bidirectional, i.e., one side emits light for the lead-on function while the other side emits light for the lead-off function. Any fixture that emits yellow light for the lead-off function must also emit yellow light for the lead-on function. (See Figure 2-1-14.)

e. Land and Hold Short Lights. Land and hold short lights are used to indicate the hold short point on certain runways which are approved for Land and Hold Short Operations (LAHSO). Land and hold short lights consist of a row of pulsing white lights installed across the runway at the hold short point. Where installed, the lights will be on anytime LAHSO is in effect. These lights will be off when LAHSO is not in effect.

Reference: AIM, Pilot Responsibilities When Conducting Land and Hold Short Operations (LAHSO), Paragraph 4-3-11.

2-1-6 Runway Status Light (RWSL) System

a. Introduction.

RWSL is a fully automated system that provides runway status information to pilots and surface vehicle operators to clearly indicate when it is unsafe to enter, cross, takeoff from, or land on a runway. The RWSL system processes information from surveillance systems and activates Runway Entrance Lights (REL), Takeoff Hold Lights (THL), Runway Intersection Lights (RIL), and Final Approach Runway Occupancy Signal (FAROS) in accordance with the position and velocity of the detected surface traffic and approach traffic. REL, THL, and RIL are in-pavement light fixtures that are directly visible to pilots and surface vehicle operators. FAROS alerts arriving pilots that the approaching runway is occupied by flashing the Precision Approach Path Indicator (PAPI). FAROS may be implemented as an add-on to the RWSL system or implemented as a stand-alone system at airports without a RWSL system. RWSL is an independent safety enhancement that does not substitute for or convey an ATC clearance. Clearance to enter, cross, takeoff from, land on, or operate on a runway must still be received from ATC. Although ATC has limited control over the system, personnel do not directly use and may not be able to view light fixture activations and deactivations during the conduct of daily ATC operations.

b. Runway Entrance Lights (REL): The REL system is composed of flush mounted, in-pavement, unidirectional light fixtures that are parallel to and focused along the taxiway centerline and directed toward the pilot at the hold line. An array of REL lights include the first light at the hold line followed by a series of evenly spaced lights to the runway edge; one additional light at the runway centerline is in line with the last two lights before the runway edge (see Figure 2-1-9 and Figure 2-1-12). When activated, the red lights indicate that there is high speed traffic on the runway or there is an aircraft on final approach within the activation area.

1. REL Operating Characteristics—Departing Aircraft:

When a departing aircraft reaches a site adaptable speed of approximately 30 knots, all taxiway intersections with REL arrays along the runway ahead of the aircraft will illuminate (see Figure 2-1-9). As the aircraft approaches an REL equipped taxiway intersection, the lights at that intersection extinguish approximately 3 to 4 seconds before the aircraft reaches it. This allows controllers to

apply “anticipated separation” to permit ATC to move traffic more expeditiously without compromising safety. After the aircraft is declared “airborne” by the system, all REL lights associated with this runway will extinguish.

2. REL Operating Characteristics—Arriving Aircraft:

When an aircraft on final approach is approximately 1 mile from the runway threshold, all sets of taxiway REL light arrays that intersect the runway illuminate. The distance is adjustable and can be configured for specific operations at particular airports. Lights extinguish at each equipped taxiway intersection approximately 3 to 4 seconds before the aircraft reaches it to apply anticipated separation until the aircraft has slowed to approximately 80 knots (site adjustable parameter). Below 80 knots, all arrays that are not within 30 seconds of the aircraft’s forward path are extinguished. Once the arriving aircraft slows to approximately 34 knots (site adjustable parameter), it is declared to be in a taxi state, and all lights extinguish.

3. What a pilot would observe: A pilot at or approaching the hold line to a runway will observe RELs illuminate and extinguish in reaction to an aircraft or vehicle operating on the runway, or an arriving aircraft operating less than 1 mile from the runway threshold.

4. When a pilot observes the red lights of the REL, that pilot will stop at the hold line or remain stopped. The pilot will then contact ATC for resolution if the clearance is in conflict with the lights. Should pilots note illuminated lights under circumstances when remaining clear of the runway is impractical for safety reasons (for example, aircraft is already on the runway), the crew should proceed according to their best judgment while understanding the illuminated lights indicate the runway is unsafe to enter or cross. Contact ATC at the earliest possible opportunity.

c. Takeoff Hold Lights (THL): The THL system is composed of flush mounted, in-pavement, unidirectional light fixtures in a double longitudinal row aligned either side of the runway centerline lighting. Fixtures are focused toward the arrival end of the runway at the “line up and wait” point. THLs extend for 1,500 feet in front of the holding aircraft starting at a point 375 feet from the departure threshold (see Figure 2-1-13). Illuminated red lights provide a signal, to an aircraft in position for takeoff or rolling, that it is unsafe to takeoff because the runway is occupied or about to be occupied by another aircraft or ground vehicle. Two aircraft, or a surface vehicle and an aircraft, are required for the lights to illuminate. The departing aircraft must be in position for takeoff or beginning takeoff roll. Another aircraft or a surface vehicle must be on or about to cross the runway.

1. THL Operating Characteristics—Departing Aircraft:

THLs will illuminate for an aircraft in position for departure or departing when there is another aircraft or vehicle on the runway or about to enter the runway (see Figure 2-1-9). Once that aircraft or vehicle exits the runway, the THLs extinguish. A pilot may notice lights extinguish prior to the downfield aircraft or vehicle being completely clear of the runway but still moving. Like RELs, THLs have an “anticipated separation” feature.

Note: *When the THLs extinguish, this is not clearance to begin a takeoff roll. All takeoff clearances will be issued by ATC.*

2. What a pilot would observe: A pilot in position to depart from a runway, or has begun takeoff roll, will observe THLs illuminate in reaction to an aircraft or vehicle on the runway or entering or crossing it. Lights will extinguish when the runway is clear. A pilot may observe several cycles of illumination and extinguishing depending on the amount of crossing traffic.

3. When a pilot observes the red light of the THLs, the pilot should safely stop if it’s feasible or remain stopped. The pilot must contact ATC for resolution if any clearance is in conflict with the lights. Should pilots note illuminated lights while in takeoff roll and under circumstances when stopping is impractical for safety reasons, the crew should proceed according to their best judgment while understanding the illuminated lights indicate that continuing the takeoff is unsafe. Contact ATC at the earliest possible opportunity.

d. Runway Intersection Lights (RIL): The RIL system is composed of flush mounted, in-pavement, unidirectional light fixtures in a double longitudinal row aligned either side of the runway centerline lighting in the same manner as THLs. Their appearance to a pilot is similar to that of THLs. Fixtures are focused toward the arrival end of the runway, and they extend for 3,000 feet in front of an aircraft that is approaching an intersecting runway. They end at the Land and Hold Short Operation (LAHSO) light bar or the hold short line for the intersecting runway.

1. RIL Operating Characteristics—Departing Aircraft:

RILs will illuminate for an aircraft departing or in position to depart when there is high speed traffic operating on the intersecting runway (see Figure 2-1-9). Note that there must be an aircraft or vehicle in a position to observe the RILs for them to illuminate. Once the conflicting traffic passes through the intersection, the RILs extinguish.

2. RIL Operating Characteristics—Arriving Aircraft:

RILs will illuminate for an aircraft that has landed and is rolling out when there is high speed traffic on the intersecting runway that is ± 5 seconds of

meeting at the intersection. Once the conflicting traffic passes through the intersection, the RILs extinguish.

3. What a pilot would observe: A pilot departing or arriving will observe RILs illuminate in reaction to the high speed traffic operation on the intersecting runway. The lights will extinguish when that traffic has passed through the runway intersection.

4. Whenever a pilot observes the red light of the RIL array, the pilot will stop before the LA-HSO stop bar or the hold line for the intersecting runway. If a departing aircraft is already at high speed in the takeoff roll when the RILs illuminate, it may be impractical to stop for safety reasons. The crew should safely operate according to their best judgment while understanding the illuminated lights indicate that continuing the takeoff is unsafe. Contact ATC at the earliest possible opportunity.

e. **The Final Approach Runway Occupancy Signal (FAROS)** is communicated by flashing of the Precision Approach Path Indicator (PAPI) (see Figure 2-1-9). When activated, the light fixtures of the PAPI flash or pulse to indicate to the pilot on an approach that the runway is occupied and that it may be unsafe to land.

Note: FAROS is an independent automatic alerting system that does not rely on ATC control or input.

1. FAROS Operating Characteristics:

If an aircraft or surface vehicle occupies a FAROS equipped runway, the PAPI(s) on that runway will flash. The glide path indication will not be affected, and the allotment of red and white PAPI lights observed by the pilot on approach will not change. The FAROS system will flash the PAPI when traffic enters the runway and there is an aircraft on approach and within 1.5 nautical miles of the landing threshold.

2. What a pilot would observe: A pilot on approach to the runway will observe the PAPI flash if there is traffic on the runway and will notice the PAPI ceases to flash when the traffic moves outside the hold short lines for the runway.

3. When a pilot observes a flashing PAPI at 500 feet above ground level (AGL), the contact height, the pilot must look for and acquire the traffic on the runway. At 300 feet AGL, the pilot must contact ATC for resolution if the FAROS indication is in conflict with the clearance. If the PAPI continues to flash, the pilot must execute an immediate "go around" and contact ATC at the earliest possible opportunity.

f. Pilot Actions:

1. When operating at airports with RWSL, pilots will operate with the transponder/ADS-B "On" when departing the gate or parking area until it is shut down upon arrival at the gate or parking area. This ensures interaction with the FAA surveillance systems such as ASDE-X/Airport Surface Surveillance Capability (ASSC) which provide information to the RWSL system.

2. Pilots must always inform the ATCT when they have either stopped, are verifying a landing clearance, or are executing a go-around due to RWSL or FAROS indication that are in conflict with ATC instructions. Pilots must request clarification of the taxi, takeoff, or landing clearance.

3. Never cross over illuminated red lights. Under normal circumstances, RWSL will confirm the pilot's taxi or takeoff clearance previously issued by ATC. If RWSL indicates that it is unsafe to takeoff from, land on, cross, or enter a runway, immediately notify ATC of the conflict and re-confirm the clearance.

4. Do not proceed when lights have extinguished without an ATC clearance. RWSL verifies an ATC clearance, it does not substitute for an ATC clearance.

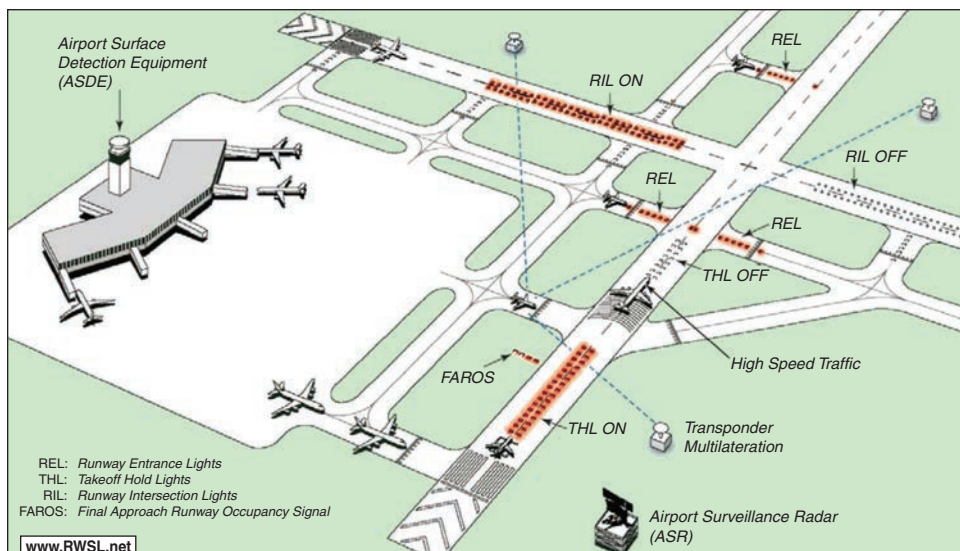
5. Never land if PAPI continues to flash. Execute a go-around and notify ATC.

g. ATC Control of RWSL System:

1. Controllers can set in-pavement lights to one of five (5) brightness levels to assure maximum conspicuity under all visibility and lighting conditions. REL, THL, and RIL subsystems may be independently set.

2. System lights can be disabled should RWSL operations impact the efficient movement of air traffic or contribute, in the opinion of the assigned ATC Manager, to unsafe operations. REL, THL, RIL, and FAROS light fixtures may be disabled separately. Disabling of the FAROS subsystem does not extinguish PAPI lights or impact its glide path function. Whenever the system or a component is disabled, a NOTAM must be issued, and the Automatic Terminal Information System (ATIS) must be updated.

FIGURE 2-1-9
Runway Status Light System



2-1-7 Stand-Alone Final Approach Runway Occupancy Signal (FAROS)

a. Introduction:

The stand-alone FAROS system is a fully automated system that provides runway occupancy status to pilots on final approach to indicate whether it may be unsafe to land. When an aircraft or vehicle is detected on the runway, the Precision Approach Path Indicator (PAPI) light fixtures flash as a signal to indicate that the runway is occupied and that it may be unsafe to land. The stand-alone FAROS system is activated by localized or comprehensive sensors detecting aircraft or ground vehicles occupying activation zones.

The stand-alone FAROS system monitors specific areas of the runway, called activation zones, to determine the presence of aircraft or ground vehicles in the zone (see Figure 2-1-10). These activation zones are defined as areas on the runway that are frequently occupied by ground traffic during normal airport operations and could present a hazard to landing aircraft. Activation zones may include the full-length departure position, the midfield departure position, a frequently crossed intersection, or the entire runway.

Pilots can refer to the airport specific FAROS pilot information sheet for activation zone configuration.

Clearance to land on a runway must be issued by Air Traffic Control (ATC). ATC personnel have limited control over the system and may not be able to view the FAROS signal.

b. Operating Characteristics:

If an aircraft or ground vehicle occupies an activation zone on the runway, the PAPI light fixtures on that runway will flash. The glide path indication is not affected, i.e. the configuration of red and white PAPI lights observed by the pilot on approach does not change. The stand-alone FAROS system flashes the PAPI lights when traffic occupies an activation zone whether or not there is an aircraft on approach.

c. Pilot Observations:

A pilot on approach to the runway observes the PAPI lights flashing if there is traffic on the runway activation zones and notices the PAPI lights cease to flash when the traffic moves outside the activation zones.

A pilot on departure from the runway should disregard any observations of flashing PAPI lights.

d. Pilot Actions:

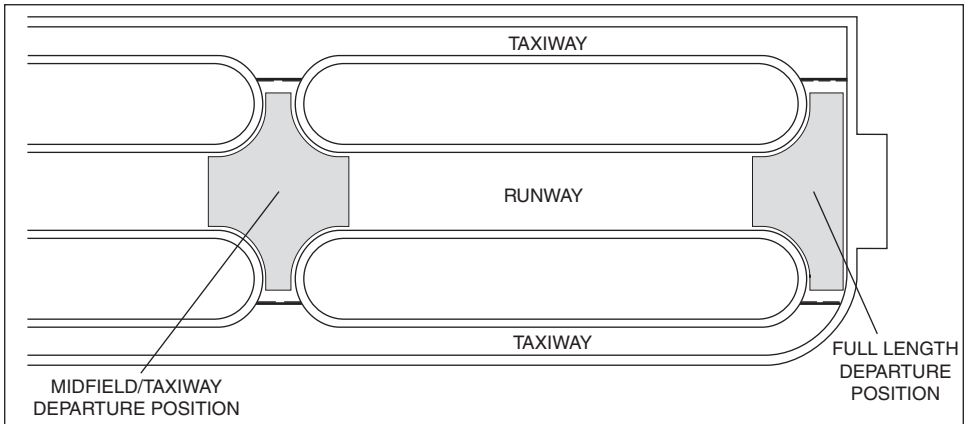
When a pilot observes a flashing PAPI at 500 feet above ground level (AGL), the pilot must look for and attempt to acquire the traffic on the runway. At 300 feet AGL, the pilot must contact ATC for resolution if the FAROS indication is in conflict

with the clearance (see Figure 2-1-11). If the PAPI lights continue to flash and the pilot cannot visually determine that it is safe to land, the pilot must execute an immediate “go around”. As with operations at non-FAROS airports, it is always the pilot’s responsibility to determine whether or not it is safe to continue with the approach and to land on

the runway. Pilots should inform the ATCT when they have executed a go around due to a FAROS indication that is in conflict with ATC instructions.

Note: At this time, the stand-alone FAROS system is not widely implemented and is used for evaluation purposes.

**FIGURE 2-1-10
FAROS Activation Zones**



**FIGURE 2-1-11
FAROS Glide Slope Action Points**

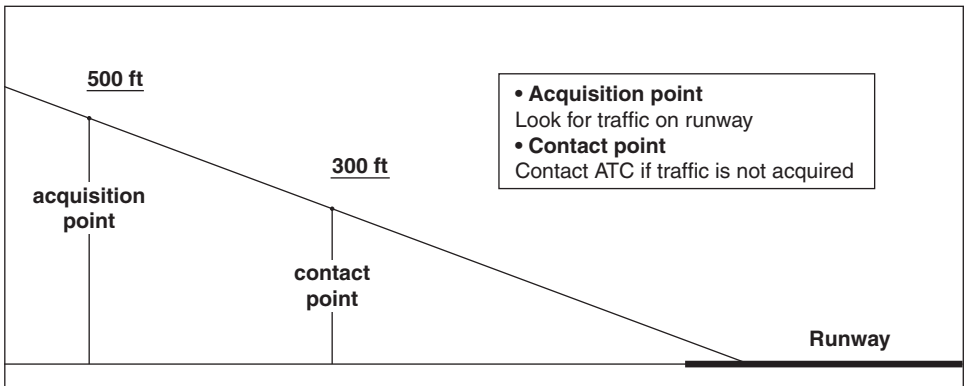


FIGURE 2-1-12
Runway Entrance Lights



FIGURE 2-1-13
Takeoff Hold Lights



FIGURE 2-1-14
Taxiway Lead-On Light Configuration



2-1-8 Control of Lighting Systems

a. Operation of approach light systems and runway lighting is controlled by the control tower (ATCT). At some locations the FSS may control the lights where there is no control tower in operation.

b. Pilots may request that lights be turned on or off. Runway edge lights, in-pavement lights and approach lights also have intensity controls which may be varied to meet the pilots request. Sequenced flashing lights (SFL) may be turned on and off. Some sequenced flashing light systems also have intensity control.

2-1-9 Pilot Control of Airport Lighting

Radio control of lighting is available at selected airports to provide airborne control of lights by keying the aircraft's microphone. Control of lighting systems is often available at locations without specified hours for lighting and where there is no control tower or FSS or when the tower or FSS is closed (locations with a part-time tower or FSS) or specified hours. All lighting systems which are radio controlled at an airport, whether on a single runway or multiple runways, operate on the same radio frequency. (See Tables 2-1-1 and 2-1-2.)

**TABLE 2-1-1
RUNWAYS WITH APPROACH LIGHTS**

Lighting System	No. of Int. Steps	Status During Nonuse Period	Intensity Step Selected Per No. of Mike Clicks		
			3 Clicks	5 Clicks	7 Clicks
Approach Lights (Med. Int.)	2	Off	Low	Low	High
Approach Lights (Med. Int.)	3	Off	Low	Med	High
MIRL	3	Off or Low	◆	◆	◆
HIRL	5	Off or Low	◆	◆	◆
VASI	2	Off	★	★	★

Notes: ◆ Predetermined intensity step.
★ Low intensity for night use. High intensity for day use as determined by photocell control.

**TABLE 2-1-2
RUNWAYS WITHOUT APPROACH LIGHTS**

Lighting System	No. of Int. Steps	Status During Nonuse Period	Intensity Step Selected Per No. of Mike Clicks		
			3 Clicks	5 Clicks	7 Clicks
MIRL	3	Off or Low	Low	Med	High
HIRL	5	Off or Low	Step 1 or 2	Step 3	Step 5
LIRL	1	Off	On	On	On
VASI ★	2	Off	◆	◆	◆
REIL ★	1	Off	Off	On/Off	On
REIL ★	3	Off	Low	Med	High

Notes: ◆ Low intensity for night use. High intensity for day use as determined by photocell control.
★ The control of VASI and/or REIL may be independent of other lighting systems.

a. With FAA approved systems, various combinations of medium intensity approach lights, runway lights, taxiway lights, VASI and/or REIL may be activated by radio control. On runways with both approach lighting and runway lighting (runway edge lights, taxiway lights, etc.) systems, the approach lighting system takes precedence for air-to-ground radio control over the runway lighting system which is set at a predetermined intensity step, based on expected visibility conditions. Runways without approach lighting may provide radio controlled intensity adjustments of runway edge lights. Other lighting systems, including VASI, REIL, and taxiway lights may be either controlled with the runway edge lights or controlled independently of the runway edge lights.

b. The control system consists of a 3-step control responsive to 7, 5, and/or 3 microphone clicks. This 3-step control will turn on lighting facilities capable of either 3-step, 2-step or 1-step operation. The 3-step and 2-step lighting facilities can be altered in intensity, while the 1-step cannot. All lighting is illuminated for a period of 15 minutes from the most recent time of activation and may not be extinguished prior to end of the 15 minute period (except for 1-step and 2-step REILs which may be turned off when desired by keying the mike 5 or 3 times respectively).

c. Suggested use is to always initially key the mike 7 times; this assures that all controlled lights are turned on to the maximum available intensity. If desired, adjustment can then be made, where the capability is provided, to a lower intensity (or the REIL turned off) by keying 5 and/or 3 times. Due to the close proximity of airports using the same frequency, radio controlled lighting receivers may be set at a low sensitivity requiring the aircraft to be relatively close to activate the system. Consequently, even when lights are on, always key mike as directed when overflying an airport of intended landing or just prior to entering the final segment of an approach. This will assure the aircraft is close enough to activate the system and a full 15 minutes lighting duration is available. Approved lighting systems may be activated by keying the mike (within 5 seconds) as indicated in Table 2-1-3.

TABLE 2-1-3
RADIO CONTROL SYSTEM

Key Mike	Function
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL-off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL-off)

d. For all public use airports with FAA standard systems the Chart Supplement U.S. contains the types of lighting, runway and the frequency that is used to activate the system. Airports with IAPs include data on the approach chart identifying the light system, the runway on which they are installed, and the frequency that is used to activate the system.

Note: Although the CTAF is used to activate the lights at many airports, other frequencies may also be used. The appropriate frequency for activating the lights on the airport is provided in the Chart Supplement U.S. and the standard instrument approach procedures publications. It is not identified on the sectional charts.

e. Where the airport is not served by an IAP, it may have either the standard FAA approved control system or an independent type system of different specification installed by the airport sponsor. The Chart Supplement U.S. contains descriptions of pilot controlled lighting systems for each airport having other than FAA approved systems, and explains the type lights, method of control, and operating frequency in clear text.

2-1-10 Airport/Heliport Beacons

a. Airport and heliport beacons have a vertical light distribution to make them most effective from one to ten degrees above the horizon; however, they can be seen well above and below this peak spread. The beacon may be an omnidirectional capacitor-discharge device, or it may rotate at a constant speed which produces the visual effect of flashes at regular intervals. Flashes may be one or two colors alternately. The total number of flashes are:

1. 24 to 30 per minute for beacons marking airports, landmarks, and points on Federal airways.

2. 30 to 45 per minute for beacons marking heliports.

b. The colors and color combinations of beacons are:

1. White and Green—Lighted land airport.

2. *Green alone—Lighted land airport.

3. White and Yellow—Lighted water airport.

4. *Yellow alone—Lighted water airport.

5. Green, Yellow, and White—Lighted heliport.

Note: *Green alone or yellow alone is used only in connection with a white-and-green or white-and-yellow beacon display, respectively.

c. Military airport beacons flash alternately white and green, but are differentiated from civil beacons by dualpeaked (two quick) white flashes between the green flashes.

d. In Class B, Class C, Class D and Class E surface areas, operation of the airport beacon

during the hours of daylight often indicates that the ground visibility is less than 3 miles and/or the ceiling is less than 1,000 feet. ATC clearance in accordance with 14 CFR Part 91 is required for landing, takeoff and flight in the traffic pattern. Pilots should not rely solely on the operation of the airport beacon to indicate if weather conditions are IFR or VFR. At some locations with operating control towers, ATC personnel turn the beacon on or off when controls are in the tower. At many airports the airport beacon is turned on by a photoelectric cell or time clocks and ATC personnel can not control them. There is no regulatory requirement for daylight operation and it is the pilot's responsibility to comply with proper preflight planning as required by 14 CFR Section 91.103.

2-1-11 Taxiway Lights

a. Taxiway Edge Lights. Taxiway edge lights are used to outline the edges of taxiways during periods of darkness or restricted visibility conditions. These fixtures emit blue light.

Note: *At most major airports these lights have variable intensity settings and may be adjusted at pilot request or when deemed necessary by the controller.*

b. Taxiway Centerline Lights. Taxiway centerline lights are used to facilitate ground traffic under low visibility conditions. They are located along the taxiway centerline in a straight line on straight portions, on the centerline of curved portions, and along designated taxiing paths in portions of runways, ramp, and apron areas. Taxiway centerline lights are steady burning and emit green light.

c. Clearance Bar Lights. Clearance bar lights are installed at holding positions on taxiways in order to increase the conspicuity of the holding position in low visibility conditions. They may also be installed to indicate the location of an intersecting taxiway during periods of darkness. Clearance bars consist of three in-pavement steady-burning yellow lights.

d. Runway Guard Lights. Runway guard lights are installed at taxiway/runway intersections. They are primarily used to enhance the conspicuity of taxiway/runway intersections during low visibility conditions, but may be used in all weather conditions. Runway guard lights consist of either a pair of elevated flashing yellow lights installed on either side of the taxiway, or a row of in-pavement yellow lights installed across the entire taxiway, at the runway holding position marking.

Note: *Some airports may have a row of three or five in-pavement yellow lights installed at taxiway/runway intersections. They should not be confused with clearance bar lights described in paragraph 2-1-11c, Clearance Bar Lights.*

e. Stop Bar Lights. Stop bar lights, when installed, are used to confirm the ATC clearance to enter or cross the active runway in low visibility conditions (below 1,200 ft Runway Visual Range). A stop bar consists of a row of red, unidirectional, steady-burning in-pavement lights installed across the entire taxiway at the runway holding position, and elevated steady-burning red lights on each side. A controlled stop bar is operated in conjunction with the taxiway centerline lead-on lights which extend from the stop bar toward the runway. Following the ATC clearance to proceed, the stop bar is turned off and the lead-on lights are turned on. The stop bar and lead-on lights are automatically reset by a sensor or backup timer.

Caution: *Pilots should never cross a red illuminated stop bar, even if an ATC clearance has been given to proceed onto or across the runway.*

Note: *If after crossing a stop bar, the taxiway centerline lead-on lights inadvertently extinguish, pilots should hold their position and contact ATC for further instructions.*

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