ASA's 2024 FAR-AMT Update

Changes to the Federal Aviation Regulations occur via the *Federal Register*, which is published daily. The *Aeronautical Information Manual* is updated every 180 days, and Advisory Circulars are revised as the FAA deems necessary. ASA tracks all relevant changes to keep you current and informed: the ASA FAR/AIM Series is published annually, and all Updates are available at **asa2fly.com/farupdate** and through a free email subscription service that notifies you of changes affecting the information printed in your books.

ASA's 2024 *FAR for Aviation Maintenance Technicians* book is current through July 6, 2023. With this Update, information is current through **February 20, 2024**.

TITLE 14: AERONAUTICS AND SPACE

PART 13
INVESTIGATIVE AND ENFORCEMENT PROCEDURES

➨ ***Change Date:*** *December 28, 2023*
➨ ***Effective Date:*** *December 28, 2023*
➨ ***Source:*** *88 FR 89557*

Amend §13.301 by revising paragraphs (b) and (c) to read as follows:

§13.301 Inflation adjustments of civil monetary penalties.

* * * * *

(b) Each adjustment to a maximum civil monetary penalty or to minimum and maximum civil monetary penalties that establish a civil monetary penalty range applies to actions initiated under this part for violations occurring on or after December 28, 2023, notwithstanding references to specific civil penalty amounts elsewhere in this part.

(c) Minimum and maximum civil monetary penalties are as follows:

TABLE 1 TO §13.301—MINIMUM AND MAXIMUM CIVIL MONETARY PENALTY AMOUNTS FOR CERTAIN VIOLATIONS

United States Code citation	Civil monetary penalty description	2023 minimum penalty amount	New adjusted minimum penalty amount for violations occurring on or after December 28, 2023	2023 maximum penalty amount	New adjusted maximum penalty amount for violations occurring on or after December 28, 2023
49 U.S.C. 5123(a)(1)	Violation of hazardous materials transportation law.	N/A	N/A	$96,624	$99,756
49 U.S.C. 5123(a)(2)	Violation of hazardous materials transportation law resulting in death, serious illness, severe injury, or substantial property destruction.	N/A	N/A	$225,455	$232,762
49 U.S.C. 5123(a)(3)	Violation of hazardous materials transportation law relating to training.	$582	$601	$96,624	$99,756
49 U.S.C. 44704(d)(3)	Knowing presentation of a nonconforming aircraft for issuance of an initial airworthiness certificate by a production certificate holder.	N/A	N/A	$1,144,488	$1,181,581

United States Code citation	Civil monetary penalty description	2023 minimum penalty amount	New adjusted minimum penalty amount for violations occurring on or after December 28, 2023	2023 maximum penalty amount	New adjusted maximum penalty amount for violations occurring on or after December 28, 2023
49 U.S.C. 44704(e)(4)	Knowing failure by an applicant for or holder of a type certificate to submit safety critical information or include certain such information in an airplane flight manual or flight crew operating manual.	N/A	N/A	$1,144,488	$1,181,581
49 U.S.C. 44704(e)(5)	Knowing false statement by an airline transport pilot (ATP) certificate holder with respect to the submission of certain safety critical information.	N/A	N/A	See entries for 49 U.S.C. 46301(a)(1) and (a)(5).	See entries for 49 U.S.C. 46301(a)(1) and (a)(5).
49 U.S.C. 44742	Interference by a supervisory employee of an organization designation authorization (ODA) holder that manufactures a transport category airplane with an ODA unit member's performance of authorized functions.	N/A	N/A	See entries for 49 U.S.C. 46301(a)(1).	See entries for 49 U.S.C. 46301(a)(1).
49 U.S.C. 44802 note	Operation of an unmanned aircraft or unmanned aircraft system equipped or armed with a dangerous weapon.	N/A	N/A	$29,462	$30,417
49 U.S.C. 46301(a)(1)	Violation by a person other than an individual or small business concern under 49 U.S.C. 46301(a)(1)(A) or (B).	N/A	N/A	$40,272	$41,577
49 U.S.C. 46301(a)(1)	Violation by an airman serving as an airman under 49 U.S.C. 46301(a)(1)(A) or (B) (but not covered by 46301(a)(5)(A) or (B)).	N/A	N/A	$1,771	$1,828
49 U.S.C. 46301(a)(1)	Violation by an individual or small business concern under 49 U.S.C. 46301(a)(1)(A) or (B) (but not covered in 49 U.S.C. 46301(a)(5)).	N/A	N/A	$1,771	$1,828
49 U.S.C. 46301(a)(3)	Violation of 49 U.S.C. 47107(b) (or any assurance made under such section) or 49 U.S.C. 47133.	N/A	N/A	Increase above otherwise applicable maximum amount not to exceed 3 times the amount of revenues used in violation of such section.	No change
49 U.S.C. 46301(a)(5)(A).	Violation by an individual or small business concern (except an airman serving as an airman) under 49 U.S.C. 46301(a)(5)(A)(i) or (ii).	N/A	N/A	$16,108	$16,630
49 U.S.C. 46301(a)(5)(B)(i).	Violation by an individual or small business concern related to the transportation of hazardous materials.	N/A	N/A	$16,108	$16,630
49 U.S.C. 46301(a)(5)(B)(ii).	Violation by an individual or small business concern related to the registration or recordation under 49 U.S.C. chapter 441, of an aircraft not used to provide air transportation.	N/A	N/A	$16,108	$16,630
49 U.S.C. 46301(a)(5)(B)(iii).	Violation by an individual or small business concern of 49 U.S.C. 44718(d), relating to limitation on construction or establishment of landfills.	N/A	N/A	$16,108	$16,630
49 U.S.C. 46301(a)(5)(B)(iv).	Violation by an individual or small business concern of 49 U.S.C. 44725, relating to the safe disposal of life-limited aircraft parts.	N/A	N/A	$16,108	$16,630
49 U.S.C. 46301 note	Individual who aims the beam of a laser pointer at an aircraft in the airspace jurisdiction of the United States, or at the flight path of such an aircraft.	N/A	N/A	$30,820	$31,819
49 U.S.C. 46301(b)	Tampering with a smoke alarm device	N/A	N/A	$5,171	$5,339
49 U.S.C. 46302	Knowingly providing false information about alleged violation involving the special aircraft jurisdiction of the United States.	N/A	N/A	$28,085	$28,995

United States Code citation	Civil monetary penalty description	2023 minimum penalty amount	New adjusted minimum penalty amount for violations occurring on or after December 28, 2023	2023 maximum penalty amount	New adjusted maximum penalty amount for violations occurring on or after December 28, 2023
49 U.S.C. 46318	Physical or sexual assault or threat to physically or sexually assault crewmember or other individual on an aircraft, or action that poses an imminent threat to the safety of the aircraft or individuals on board.	N/A	N/A	$42,287	$43,658
49 U.S.C. 46319	Permanent closure of an airport without providing sufficient notice.	N/A	N/A	$16,108	$16,630
49 U.S.C. 46320	Operating an unmanned aircraft and in so doing knowingly or recklessly interfering with a wildfire suppression, law enforcement, or emergency response effort.	N/A	N/A	$24,656	$25,455
49 U.S.C. 47531	Violation of 49 U.S.C. 47528–47530 or 47534, relating to the prohibition of operating certain aircraft not complying with stage 3 noise levels.	N/A	N/A	See entries for 49 U.S.C. 46301(a)(1) and (a)(5).	See entries for 49 U.S.C. 46301(a)(1) and (a)(5).

PART 21
CERTIFICATION PROCEDURES FOR PRODUCTS AND ARTICLES

➧ ***Change Date:*** *February 16, 2024*
➧ ***Effective Date:*** *April 16, 2024*
➧ ***Source:*** *Amdt. 21–107, 89 FR 12653*

Amend §21.5 by adding paragraph (b)(3) to read as follows:

§21.5 Airplane or Rotorcraft Flight Manual.

* * * * *

(b) * * *

(3) Documentation of compliance with Part 38 of this chapter, in an FAA-approved section of any approved airplane flight manual. Such material must include the fuel efficiency metric value as calculated under §38.11 of this chapter, and the specific paragraph of §38.17 of this chapter with which compliance has been shown for that airplane.

Amend §21.17 by revising paragraph (a) introductory text to read as follows:

§21.17 Designation of applicable regulations.

(a) Except as provided in §§25.2, 27.2, and 29.2 of this subchapter, and in parts 26, 34, 36, and 38 of this subchapter, an applicant for a type certificate must show that the aircraft, aircraft engine, or propeller concerned meets—

* * * * *

Amend §21.21 by revising paragraphs (b) introductory text and (b)(1) to read as follows:

§21.21 Issue of type certificate: normal, utility, acrobatic, commuter, and transport category aircraft; manned free balloons; special classes of aircraft; aircraft engines; propellers.

* * * * *

(b) The applicant submits the type design, test reports, and computations necessary to show that the product to be certificated meets the applicable airworthiness, aircraft noise, fuel venting, exhaust emission, and fuel efficiency requirements of this subchapter and any special conditions prescribed by the FAA, and the FAA finds—

(1) Upon examination of the type design, and after completing all tests and inspections, that the type design and the product meet the applicable noise, fuel venting, emissions, and fuel efficiency requirements of this subchapter, and further finds that they meet the applicable airworthiness requirements of this subchapter or that any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety; and

* * * * *

Amend §21.29 by revising paragraphs (a)(1)(i) and (b) to read as follows:

§21.29 Issue of type certificate: import products.

(a) * * *

(1) * * *

(i) The applicable aircraft noise, fuel venting, exhaust emissions, and fuel efficiency requirements of this subchapter as designated in §21.17, or the applicable aircraft noise, fuel venting, exhaust emissions, and fuel efficiency requirements of the State of Design, and any other requirements the FAA may prescribe to provide noise, fuel venting, exhaust emission, and fuel efficiency levels no greater than those provided by the applicable aircraft noise, fuel venting, exhaust emissions, and fuel efficiency requirements of this subchapter as designated in §21.17; and

* * * * *

(b) A product type certificated under this section is determined to be compliant with the fuel venting and exhaust emission standards of Part 34 of this subchapter, the noise standards of part 36 of this subchapter, and the fuel efficiency requirements of part 38 of this subchapter. Compliance with Parts 34, 36, and 38 of this subchapter is certified under paragraph (a)(1)(i) of this section, and the applicable airworthiness standards of this subchapter, or an equivalent level of safety, with which compliance is certified under paragraph (a)(1)(ii) of this section.

Amend §21.31 by revising paragraph (e) to read as follows:

§21.31 Type design.

* * * * *

(e) Any other data necessary to allow, by comparison, the determination of the airworthiness, noise characteristics, fuel efficiency, fuel venting, and exhaust emissions (where applicable) of later products of the same type.

Amend §21.93 by adding paragraph (d) to read as follows:

§21.93 Classification of changes in type design.

* * * * *

(d) For the purpose of maintaining compliance with Part 38 of this chapter, any voluntary change in the type design of an airplane that may increase the fuel efficiency metric value or the MTOM of that airplane is a "fuel efficiency change", in addition to being a minor or major change as classified in paragraph (a) of this section.

Amend §21.101 by revising paragraph (a) to read as follows

§21.101 Designation of applicable regulations.

(a) An applicant for a change to a type certificate must show that the change and areas affected by the change comply with the airworthiness requirements applicable to the category of the product in effect on the date of the application for the change and with Parts 34, 36, and 38 of this chapter. Exceptions are detailed in paragraphs (b) and (c) of this section.

* * * * *

Amend §21.115 by revising paragraph (a) to read as follows:

§21.115 Applicable requirements.

(a) Each applicant for a supplemental type certificate must show that the altered product meets applicable requirements specified in §21.101 and—

(1) In the case of an acoustical change described in §21.93(b), show compliance with the applicable noise requirements of Part 36 of this chapter;

(2) In the case of an emissions change described in §21.93(c), show compliance with the applicable fuel venting and exhaust emissions requirements of Part 34 of this chapter; and

(3) In the case of a fuel efficiency change described in §21.93(d), show compliance with the applicable fuel efficiency requirements of Part 38 of this chapter.

* * * * *

Amend §21.183 by adding reserved paragraph (i) and adding paragraph (j) to read as follows:

§21.183 Issue of standard airworthiness certificates for normal, utility, acrobatic, commuter, and transport category aircraft; manned free balloons; and special classes of aircraft.

* * * * *

(i) [Reserved]

(j) ***Fuel efficiency requirements.*** No original standard airworthiness certificate may be issued under this section unless the applicant has demonstrated that the type design complies with the applicable fuel efficiency requirements of Part 38 of this chapter.

Amend §21.187 by revising paragraph (a) to read as follows:

§21.187 Issue of multiple airworthiness certification.

(a) An applicant for an airworthiness certificate in the restricted category, and in one or more other categories except primary category, is entitled to the certificate, if—

(1) The applicant shows compliance with the requirements for each category, when the aircraft is in the configuration for that category;

(2) The applicant shows that the aircraft can be converted from one category to another by removing or adding equipment by simple mechanical means;

(3) The aircraft complies with the applicable requirements of Part 34 of this subchapter; and

(4) The airplane complies with the applicable requirements of Part 38 of this subchapter.

* * * * *

PART 38
AIRPLANE FUEL EFFICIENCY CERTIFICATION

➨ ***Change Date:*** *February 16, 2024*
➨ ***Effective Date:*** *April 16, 2024*
➨ ***Source:*** *Amdt. 38–1, 89 FR 12654*

Add Part 38 to read as follows:

PART 38
AIRPLANE FUEL EFFICIENCY CERTIFICATION

Subpart A—General

Sec.

Subpart B—Determining Fuel Efficiency for Subsonic Airplanes

Authority: 42 U.S.C. 4321 et seq., 7572; 49 U.S.C. 106(g), 40113, 44701–44702, 44704; 49 CFR 1.83(c)

Subpart A—General

§38.1 Applicability.

(a) Except as provided in paragraph (c) of this section, an airplane that is subject to the requirements of 40 CFR part 1030 may not exceed the fuel efficiency limits of this part when original type certification under this title is sought. This part applies to the following airplanes:

(1) A subsonic jet airplane that has—

(i) Either—

(A) A type-certificated maximum passenger seating capacity of 20 seats or more;

(B) A maximum takeoff mass (MTOM) greater than 5,700 kg; and

(C) An application for original type certification that is submitted on or after January 11, 2021;

(ii) Or—

(A) A type-certificated maximum passenger seating capacity of 19 seats or fewer;

(B) A MTOM greater than 60,000 kg; and

(C) An application for original type certification that is submitted on or after January 11, 2021.

(2) A subsonic jet airplane that has—

(i) A type-certificated maximum passenger seating capacity of 19 seats or fewer;

(ii) A MTOM greater than 5,700 kg, but not greater than 60,000 kg; and

(iii) An application for original type certification that is submitted on or after January 1, 2023.

(3) A propeller-driven airplane that has—

(i) A MTOM greater than 8,618 kg; and

(ii) An application for original type certification that is submitted on or after January 11, 2021.

(4) A subsonic jet airplane—

(i) That is a modified version of an airplane whose type design was not certificated under this part;

(ii) That has a MTOM greater than 5,700 kg;

(iii) For which an application by the type certificate holder for a type design change is submitted on or after January 1, 2023; and

(iv) For which the first certificate of airworthiness is issued with the modified type design.

(5) A propeller-driven airplane—

(i) That is a modified version of an airplane whose type design was not certificated under this part;

(ii) That has a MTOM greater than 8,618 kg;

(iii) For which an application by the type certificate holder for a type design change is submitted on or after January 1, 2023; and

(iv) For which the first certificate of airworthiness is issued with the modified type design.

(6) A subsonic jet airplane that has—

(i) A MTOM greater than 5,700 kg; and

(ii) Its first certificate of airworthiness issued on or after January 1, 2028.

(7) A propeller-driven airplane that has—

(i) A MTOM greater than 8,618 kg; and

(ii) Its first certificate of airworthiness issued on or after January 1, 2028.

(b) The requirements of this part apply to an airplane for which an application for a change in type design is submitted that includes a modification that meets the change criteria of §38.19. A modified airplane may not exceed the applicable fuel efficiency limit of this part when certification under this chapter is sought. A modified airplane is subject to the same fuel efficiency limit of §38.17 as the airplane was certificated to prior to modification.

(c) The requirements of this part do not apply to:

(1) Subsonic jet airplanes having a MTOM at or below 5,700 kg.

(2) Propeller-driven airplanes having a MTOM at or below 8,618 kg.

(3) Amphibious airplanes.

(4) Airplanes initially designed, or modified and used, for specialized operations. These airplane designs may include characteristics or configurations necessary to conduct specialized operations that the FAA and the United States Environmental Protection Agency (EPA) have determined may cause a significant increase in the fuel efficiency metric value.

(5) Airplanes designed with a reference geometric factor of zero.

(6) Airplanes designed for, or modified and used for, firefighting.

(7) Airplanes powered by reciprocating engines.

§38.3 Definitions.

For the purpose of showing compliance with this part, the following terms have the specified meanings:

Amphibious airplane means an airplane that is capable of takeoff and landing on both land and water. Such an airplane uses its hull or floats attached to the landing gear for takeoff and landing on water, and either extendable or fixed landing gear for takeoff and landing on land.

ICAO Annex 16, Volume III means Volume III of Annex 16 to the Convention on International Civil Aviation.

Maximum takeoff mass (MTOM) is the maximum certified takeoff mass, expressed in kilograms, for an airplane type design.

Performance model is an analytical tool (or a method) validated using corrected flight test data that can be used to determine the specific air range values for calculating the fuel efficiency metric value.

Reference geometric factor (RGF) is a non-dimensional number derived from a two-dimensional projection of the fuselage.

Specific air range (SAR) is the distance an airplane travels per unit of fuel consumed. Specific air range is expressed in kilometers per kilogram of fuel.

Subsonic means an airplane that has not been certificated under this title to exceed Mach 1 in normal operation.

Type certificated maximum passenger seating capacity means the maximum number of passenger seats that may be installed on an airplane as listed on its type certificate data sheet, regardless of the actual number of seats installed on an individual airplane.

§38.4 Compatibility with airworthiness requirements.

Unless otherwise approved by the FAA, an airplane used to demonstrate compliance with this part must meet all of the airworthiness requirements of this chapter required to establish the type certification basis of the airplane, for any condition under which compliance with this part is being demonstrated. Any procedure used to demonstrate compliance, and any flight crew information developed for demonstrating compliance with this part, must be consistent with the airworthiness requirements of this chapter that constitute the type certification basis of the airplane.

§38.5 Exemptions.

A petition for exemption from any requirement of this part must be submitted to the Administrator in accordance with and meet the requirements of part 11 of this chapter. The FAA will consult with the EPA on each exemption petition before taking action.

§38.7 Incorporation by reference.

The ICAO Doc 7488/3, *Manual of the ICAO Standard Atmosphere (extended to 80 kilometres (262 500 feet))* (1993), referenced in sections A38.2.1.3.1, A38.5.2.2.1.9, and A38.5.2.2.1.10 of appendix A to this part, is incorporated by reference into this part

with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the FAA and at the National Archives and Records Administration (NARA). Contact FAA at: Office of Rulemaking (ARM-1), 800 Independence Avenue SW, Washington, DC 20590 (telephone 202-267-9677). For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov*. The ICAO Doc 7488/3 is available for purchase from the ICAO Store at 999 Robert-Bourassa Boulevard Montréal (Quebec) Canada H3C 5H7, (*https://store.icao.int/*).

§38.9 Relationship to other regulations.

In accordance with certain provisions of the Clean Air Act Amendments of 1970 (CAA) (42 U.S.C. 7571 *et seq.*), the United States Environmental Protection Agency (EPA) is authorized to set standards for aircraft engine emissions in the United States, while the FAA is authorized to ensure compliance with those standards under a delegation from the Secretary of Transportation (49 CFR 1.83). The fuel efficiency limits in §38.17 are intended to be the same as that promulgated by the EPA in 40 CFR part 1030. Accordingly, if the EPA changes any regulation in 40 CFR part 1030 that corresponds with a regulation in this part, a certification applicant may request a waiver of those provisions as they appear in this part in order to comply with part 1030. In addition, unless otherwise specified in this part, all terminology and abbreviations in this part that are defined in 40 CFR part 1030 have the meaning specified in part 1030.

Subpart B—Determining Fuel Efficiency for Subsonic Airplanes

§38.11 Fuel efficiency metric.

For each airplane subject to this part, or to determine whether a modification makes an airplane subject to this part under the change criteria of §38.19, a fuel efficiency metric value must be calculated, using the following equation, rounded to three decimal places:

$$Fuel\ Efficiency\ metric\ value = \frac{\left(\frac{1}{SAR}\right)_{avg}}{RGF^{0.24}}$$

Where:

The SAR is determined in accordance with §38.13, and the RGF is determined in accordance with §38.15. The fuel efficiency metric value is expressed in units of kilograms of fuel consumed per kilometer.

§38.13 Specific air range.

(a) For each airplane subject to this part, the SAR of an airplane must be determined by either:

(1) Direct flight test measurements; or

(2) Using a performance model that is:

(i) Validated by actual SAR flight test data; and

(ii) Approved by the FAA before any SAR calculations are submitted.

(b) For the airplane model, establish a 1/SAR value at each of the following reference airplane masses:

(1) High gross mass: 92 percent MTOM.

(2) Low gross mass: (0.45 * MTOM) + (0.63 * (MTOM^0.924)).

(3) Mid gross mass: simple arithmetic average of high gross mass and low gross mass.

(c) To obtain $(1/SAR)_{avg}$ as required to determine the fuel efficiency metric value described in §38.11, calculate the average of the three 1/SAR values described in paragraph (b) of this section. Do not include auxiliary power units in any 1/SAR calculation.

(d) All determinations made under this section must be made in accordance with the procedures applicable to SAR as described in Appendix A to this part.

§38.15 Reference geometric factor.

For each airplane subject to this part, determine the airplane's non-dimensional RGF for the fuselage size of each airplane model, calculated as follows:

(a) For an airplane with a single deck, determine the area of a surface (expressed in m^2) bounded by the maximum width of the fuselage outer mold line projected to a flat plane parallel with the main deck floor and the forward and aft pressure bulkheads except for the crew flight deck zone.

(b) For an airplane with more than one deck, determine the sum of the areas (expressed in m^2) as follows:

(1) The maximum width of the fuselage outer mold line, projected to a flat plane parallel with the main deck floor by the forward and aft pressure bulkheads except for any crew flight deck zone.

(2) The maximum width of the fuselage outer mold line at or above each other deck floor, projected to a flat plane parallel with the additional deck floor by the forward and aft pressure bulkheads except for any crew flight deck zone.

(c) Determine the non-dimensional RGF by dividing the area defined in paragraph (a) or (b) of this section by 1 m^2.

(d) All measurements and calculations used to determine the RGF of an airplane must be made in accordance with the procedures for determining RGF in section A38.3 of Appendix A to this part.

§38.17 Fuel efficiency limits.

(a) The fuel efficiency limits in this section are expressed as maximum permitted fuel efficiency metric values, as calculated under §38.11.

(b) The fuel efficiency metric value of an airplane subject to this part may not exceed the following, rounded to three decimal places:

For airplanes described in...	With a MTOM...	The maximum permitted fuel efficiency metric value is...
(1) Section 38.1(a)(1) and (2)	5,700 < MTOM ≤ 60,000 kg	$10^{(-2.73780 + (0.681310 * \log_{10}(MTOM)) + (-0.0277861 * (\log_{10}(MTOM))^2))}$
(2) Section 38.1(a)(3)	8,618 < MTOM ≤ 60,000 kg	$10^{(-2.73780 + (0.681310 * \log_{10}(MTOM)) + (-0.0277861 * (\log_{10}(MTOM))^2))}$
(3) Section 38.1(a)(1) and (3)	60,000 < MTOM ≤ 70,395 kg	0.764
(4) Section 38.1(a)(1) and (3)	MTOM > 70,395 kg	$10^{(-1.412742 + (-0.020517 * \log_{10}(MTOM)) + (0.0593831 * (\log_{10}(MTOM))^2))}$
(5) Section 38.1(a)(4) and (6)	5,700 < MTOM ≤ 60,000 kg	$10^{(-2.57535 + (0.609766 * \log_{10}(MTOM)) + (-0.0191302 * (\log_{10}(MTOM))^2))}$
(6) Section 38.1(a)(5) and (7)	8,618 < MTOM ≤ 60,000 kg	$10^{(-2.57535 + (0.609766 * \log_{10}(MTOM)) + (-0.0191302 * (\log_{10}(MTOM))^2))}$
(7) Section 38.1(a)(4) through (7)	60,000 < MTOM ≤ 70,107 kg	0.797
(8) Section 38.1(a)(4) through (7)	MTOM > 70,107 kg	$10^{(-1.39353+ (-0.020517 * \log_{10}(MTOM)) + (0.0593831 * (\log_{10}(MTOM))^2))}$

§38.19 Change criteria.

(a) For an airplane that has been shown to comply with §38.17, any subsequent version of that airplane must demonstrate compliance with §38.17 if the subsequent version incorporates a modification that either increases:

(1) The maximum takeoff mass; or

(2) The fuel efficiency metric value by a percentage that is more than the following calculated thresholds.

(i) For airplanes with a MTOM greater than or equal to 5,700 kg, the threshold decreases linearly from 1.35 percent for an airplane with a MTOM of 5,700 kg to 0.75 percent for an airplane with a MTOM of 60,000 kg.

(ii) For airplanes with a MTOM greater than or equal to 60,000 kg, the threshold decreases linearly from 0.75 percent for an airplane with a MTOM of 60,000 kg to 0.70 percent for airplanes with a MTOM of 600,000 kg.

(iii) For airplanes with a MTOM greater than or equal to 600,000 kg, the threshold is 0.70 percent.

(b) For an airplane that has been shown to comply with §38.17, and for any subsequent version of that airplane that incorporates modifications that do not increase the MTOM or the fuel efficiency metric value in excess of the levels shown in paragraph (a) of this section, the fuel efficiency metric value of the modified airplane may be reported to be the same as the value prior to modification.

(c) For an airplane that meets the criteria of §38.1(a)(4) or (5), on or after January 1, 2023, and before January 1, 2028, the airplane must demonstrate compliance with §38.17 if it incorporates any modification that increases the fuel efficiency metric value of the airplane prior to modification by more than 1.5 percent.

§38.21 Approval before compliance testing.

All procedures, weights, configurations, and other information or data that are used to establish a fuel efficiency level required by this part or in any appendix to this part (including any equivalent procedures) must be approved by the FAA prior to use in certification tests intended to demonstrate compliance with this part.

§38.23 Manual information and limitations.

(a) ***Information in manuals.*** The following information must be included in any FAA-approved section of a FAA-approved Airplane Flight Manual or combination of approved manual material:

(1) Fuel efficiency level established as required by this part; and

(2) Maximum takeoff mass at which fuel efficiency level was established.

(b) ***Limitation.*** If the fuel efficiency of an airplane is established at a weight (mass) that is less than the maximum certificated takeoff weight (mass) used to establish the airworthiness of the airplane under this chapter, the lower weight (mass) becomes an operating limitation of the airplane and that limitation must be included in the limitations section of any FAA-approved manual.

APPENDIX A TO PART 38

DETERMINATION OF AIRPLANE FUEL EFFICIENCY METRIC VALUE

A38.1 *Introduction*

A38.1.1 This appendix describes the processes and procedures for determining the fuel efficiency metric value for an airplane subject to this part.

A38.1.2 Methods for Determining Specific Air Range (SAR)

A38.1.2.1 SAR may be determined by either—

A38.1.2.1.1 Direct flight test measurement at the SAR test points, including any corrections of test data to reference specifications; or

A38.1.2.1.2 Use of a performance model.

A38.1.2.2 For any determination made under section A38.1.2.1.1 of this appendix, the SAR flight test data must have been acquired in accordance with the procedures defined in this appendix and approved by the FAA.

A38.1.2.3 For any determination made under section A38.1.2.1.2 of this appendix, the performance model must:

A38.1.2.3.1 Be verified that the model produces the values that are the same as FAA-approved SAR flight test data;

A38.1.2.3.2 Include a detailed description of any test and analysis method and any algorithm used so as to allow evaluation by the FAA; and

A38.1.2.3.3 Be approved by the FAA before use.

A38.2 Reference Specifications for SAR Flight Tests

A38.2.1 The following reference specifications must be established when determining SAR values for an airplane. No reference specification may exceed any airworthiness limit approved for the airplane under this chapter. See section A38.5 of this appendix for further information.

A38.2.1.1 Reference specifications at the airplane level:

A38.2.1.1.1 Airplane at the reference masses listed in §38.13(b);

A38.2.1.1.2 A combination of altitude and airspeed selected by the applicant;

A38.2.1.1.3 Airplane in steady, unaccelerated, straight and level flight;

A38.2.1.1.4 Airplane in longitudinal and lateral trim;

A38.2.1.1.5 Airplane gravitational acceleration when travelling in the direction of true North in still air at the reference altitude and a geodetic latitude of 45.5 degrees, based on g_0 (g_0 is 9.80665 m/s^2, which is the standard acceleration due to gravity at sea level and a geodetic latitude of 45.5 degrees);

A38.2.1.1.6 A reference airplane center of gravity (CG) position selected by the applicant to be representative of the mid-CG point relevant to design cruise performance at each of the three reference airplane masses; and

A38.2.1.1.7 A wing structural loading condition defined by the applicant that is representative of operations conducted in accordance with the airplane's maximum payload capability.

A38.2.1.2 Reference specifications at the engine level:

A38.2.1.2.1 Electrical and mechanical power extraction and bleed flow relevant to design cruise performance, as selected by the applicant;

Note 1 to A38.2.1.2.1—Power extraction and bleed flow attributable to the use of optional equipment such as passenger entertainment systems need not be included.

A38.2.1.2.2 Engine stability bleeds operating according to the manufacturer's normal schedule for the engine; and

A38.2.1.2.3 Engines with at least 15 cycles or 50 engine flight hours.

A38.2.1.3 Other reference specifications:

A38.2.1.3.1 ICAO standard day atmosphere (Doc 7488/3, 3rd edition 1993, titled "Manual of the ICAO Standard Atmosphere (extended to 80 kilometres (262 500 feet))") (incorporated by reference, see §38.7); and

A38.2.1.3.2 Fuel lower heating value equal to 43.217 MJ/kg (18, – 580 BTU/lb).

A38.2.2 If any test conditions are not the same as the reference specifications of this appendix, the test conditions must be corrected to the reference specifications as described in section A38.5 of this appendix.

A38.3 Determination of Reference Geometric Factor (RGF)

A38.3.1 This section provides additional information for determining the RGF, as required by §38.15.

A38.3.2 The area that defines RGF includes all pressurized space on a single or multiple decks including aisles, assist spaces, passageways, stairwells and areas that can accommodate cargo or auxiliary fuel containers. It does not include permanent integrated fuel tanks within the cabin, or any unpressurized fairings, crew rest or work areas, or cargo areas that are not on the main or upper deck (*e.g.*, 'loft' or under floor areas). RGF does not include the flight deck crew zone.

A38.3.3 The aft boundary to be used for calculating RGF is the aft pressure bulkhead. The forward boundary is the forward pressure bulkhead, not including the flight deck crew zone.

A38.3.4 Areas that are accessible to both crew and passengers are not considered part of the flight deck crew zone. For an airplane that has a flight deck door, the aft boundary of the flight deck crew zone is the plane of the flight deck door. For an airplane that has no flight deck door or has optional interior configurations that include different locations of the flight deck door, the aft boundary is determined by the configuration that provides the smallest available flight deck crew zone. For airplanes certificated for single-pilot operation, the flight deck crew zone is measured as half the width of the flight deck.

A38.3.5 Figures A38-1 and A38-2 of this appendix provide a notional view of the RGF boundary conditions.

FIGURE A38-1—Cross-sectional view

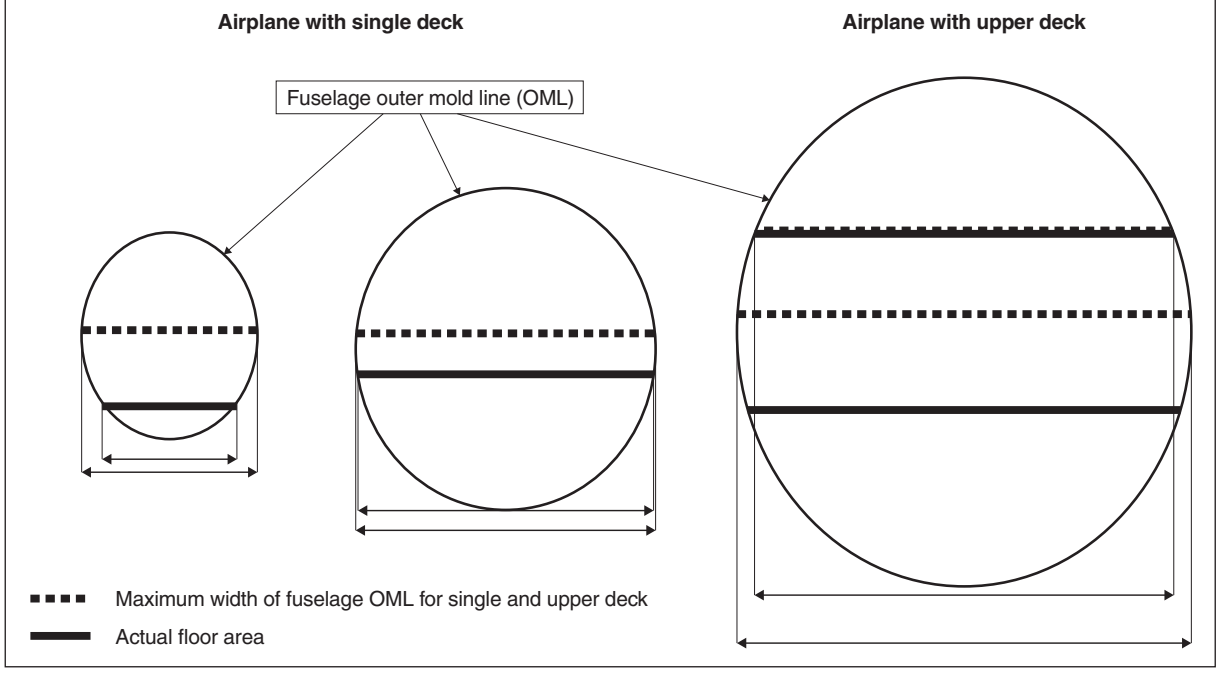
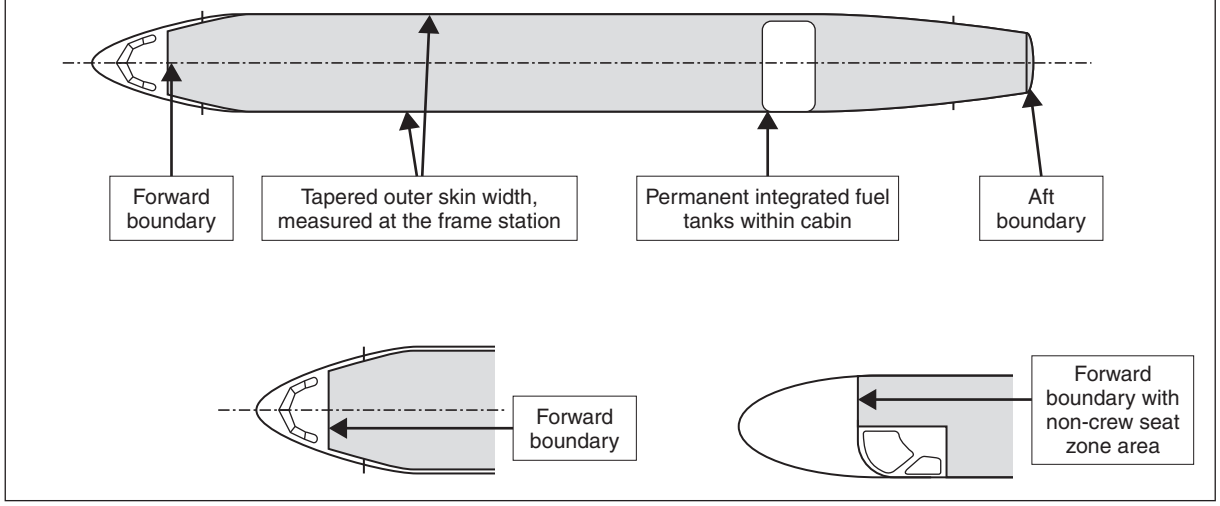


FIGURE A38-2—Longitudinal view



A38.4 Certification Test Specifications

A38.4.1 Certification Test Specifications. This section prescribes the specifications under which an applicant must conduct SAR certification tests.

A38.4.2 Flight Test Procedures

A38.4.2.1 Before a Test Flight. The test flight procedures must include the following elements and must be approved by the FAA before any test flight is conducted:

A38.4.2.1.1 *Airplane conformity.* The test airplane must conform to the critical configuration of the type design for which certification is sought.

A38.4.2.1.2 *Airplane weight.* The test airplane must be weighed. Any change in mass after the weighing and prior to the test flight must be accounted for.

A38.4.2.1.3 *Fuel.* The fuel used for each flight test must meet the specification defined in either ASTM D1655-15 (titled "Standard Specification for Aviation Turbine Fuels"), UK MoD Defense Standard 91-91, Issue 7, Amendment 3 (titled "Turbine Fuel, Kerosene Type, Jet A-1, NATO Code F-35; Join Services Designation; AVTUR"), or as approved by FAA.

A38.4.2.1.4 *Fuel lower heating value.* The lower heating value of the fuel used on a test flight must be determined from a sample of fuel used for the test flight. The lower heating value of the fuel sample must be used to correct measured data to reference specifications. The determination of lower heating value and the correction to reference specifications are subject to approval by the FAA.

A38.4.2.1.4.1 The fuel lower heating value may be determined in accordance with ASTM D4809-13 "Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method)", or as approved by the FAA.

A38.4.2.1.4.2 The fuel sample may be representative of the fuel used for each flight test and should not have errors or variations due to fuel being uplifted from multiple sources, fuel tank selection, or fuel layering in a tank.

A38.4.2.1.5 *Fuel specific gravity and viscosity.* When volumetric fuel flow meters are used, the specific gravity and viscosity of the fuel used on a test flight must be determined from a sample of fuel used for the test flight.

A38.4.2.1.5.1 The fuel specific gravity may be determined in accordance with ASTM D4052-11 "Standard Test Method for Density, Relative Density, and API Gravity of Liquids", or as approved by FAA.

A38.4.2.1.5.2 The fuel kinematic viscosity may be determined in accordance with ASTM D445-15 (titled "Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)"), or as approved by FAA.

A38.4.2.2 Flight Test Procedures and Test Condition Stability. An applicant must conduct each flight test in accordance with the flight test procedures and the stability conditions as follows:

A38.4.2.2.1 Flight Test Procedure. The following procedures must be maintained during each flight used to gather data for determining SAR values:

A38.4.2.2.1.1 To the extent that is practicable, the airplane is flown at constant pressure altitude and constant heading along isobars;

A38.4.2.2.1.2 The engine thrust/power setting is stable for unaccelerated level flight;

A38.4.2.2.1.3 The airplane is flown as close as practicable to the reference specifications to minimize the magnitude of any correction;

A38.4.2.2.1.4 Changes in trim or engine power/thrust settings, engine stability and handling bleeds, or electrical and mechanical power extraction (including bleed flow) are avoided or minimized as practicable; and

A38.4.2.2.1.5 There is no unnecessary movement of on-board personnel.

A38.4.2.2.2 Test Condition Stability. To obtain a valid SAR measurement, the following conditions must be maintained during each test flight, including the indicated tolerances for at least 1 minute while SAR data is acquired:

A38.4.2.2.2.1 Mach number within ±0.005;

A38.4.2.2.2.2 Ambient temperature within ±1 °C;

A38.4.2.2.2.3 Heading within ±3 degrees;

A38.4.2.2.2.4 Track within ±3 degrees;

A38.4.2.2.2.5 Drift angle less than 3 degrees;

A38.4.2.2.2.6 Ground speed within ±3.7 km/h (±2 kt);

A38.4.2.2.2.7 Difference in ground speed at the beginning of the SAR measurement from the ground speed at the end of the SAR measurement within ±2.8 km/h/min (±1.5 kt/min); and

A38.4.2.2.2.8 Pressure altitude within ±23 m (±75 ft).

A38.4.2.2.3 Alternatives to the stable test condition criteria of section A38.4.2.2.2 of this appendix may be used provided that stability is sufficiently demonstrated to the FAA.

A38.4.2.2.4 Data obtained at test points that do not meet the stability criteria of section A38.4.2.2.2 may be acceptable as an equivalent procedure, subject to FAA approval.

A38.4.2.2.5 SAR measurements at the test points must be separated by either:

A38.4.2.2.5.1 Two minutes; or

A38.4.2.2.5.2 An exceedance of one or more of the stability criteria limits described in A38.4.2.2.2.

A38.4.2.3 Verification of Airplane Mass at Test Conditions

A38.4.2.3.1 The procedure for determining the mass of the airplane at each test condition must be approved by the FAA.

A38.4.2.3.2 The mass of the airplane during a flight test is determined by subtracting the fuel used from the mass of the airplane at the start of the test flight. The accuracy of the determination of the fuel used must be verified by:

A38.4.2.3.2.1 Weighing the test airplane on calibrated scales before and after the SAR test flight;

A38.4.2.3.2.2 Weighing the test airplane before and after another test flight that included a cruise segment, provided that flight occurs within one week or 50 flight hours (at the option of the applicant) of the SAR test flight and using the same, unaltered fuel flow meters; or

A38.4.2.3.2.3 Other methods as approved by the FAA.

A38.5 Measurement of Specific Air Range

A38.5.1 Measurement System

A38.5.1.1 The following parameters must be recorded at a minimum sampling rate of 1 Hertz (cycle per second):

A38.5.1.1.1 Airspeed;

A38.5.1.1.2 Ground speed;

A38.5.1.1.3 True airspeed;

A38.5.1.1.4 Fuel flow;

A38.5.1.1.5 Engine power setting;

A38.5.1.1.6 Pressure altitude;

A38.5.1.1.7 Temperature;

A38.5.1.1.8 Heading;

A38.5.1.1.9 Track; and

A38.5.1.1.10 Fuel used (for the determination of gross mass and CG position).

A38.5.1.2 The following parameters must be recorded:

A38.5.1.2.1 Latitude;

A38.5.1.2.2 Engine bleed positions and power off-takes; and

A38.5.1.2.3 Power extraction (electrical and mechanical load).

A38.5.1.3 The value of each parameter used for the determination of SAR (except for ground speed) is the simple arithmetic average of the measured values for that parameter obtained throughout the stable test condition described in section A38.4.2.2.2 of this appendix.

A38.5.1.4 For ground speed, the value is the rate of change of ground speed during the SAR test measurement. The rate of change of ground speed during the SAR measurement must be used to evaluate and correct any acceleration or deceleration that might occur during the SAR measurement.

A38.5.1.5 Each measurement device must have sufficient resolution to determine that the stability of a parameter defined in section A38.4.2.2.2 of this appendix is maintained during SAR measurement.

A38.5.1.6 The SAR measurement system consists of the combined instruments and devices, and any associated procedures, used to acquire the following parameters necessary to determine SAR:

A38.5.1.6.1 Fuel flow;

A38.5.1.6.2 Mach number;

A38.5.1.6.3 Altitude;

A38.5.1.6.4 Airplane mass;

A38.5.1.6.5 Ground speed;

A38.5.1.6.6 Outside air temperature;

A38.5.1.6.7 Fuel lower heating value; and

A38.5.1.6.8 CG.

A38.5.1.7 The SAR value is affected by the accuracy of each element that comprises the SAR measurement system. The cumulative error associated with the SAR measurement system is defined as the root sum of squares (RSS) of the individual accuracies.

A38.5.1.8 If the absolute value of the cumulative error of the overall SAR measurement system is greater than 1.5 percent, a penalty equal to the amount that the RSS value exceeds 1.5 percent must be applied to the SAR value that has been corrected to reference specifications (see section A38.5.2 of this appendix). If the absolute value of the cumulative error of the overall SAR measurement system is less than or equal to 1.5 percent, no penalty will be applied.

A38.5.2 Calculation of Specific Air Range from Measured Data

A38.5.2.1 Calculating SAR. SAR must be calculated using the following equation:

$SAR = TAS/W_f$

Where:

TAS is the true airspeed and W_f is total airplane fuel flow.

A38.5.2.2 Correcting Measured SAR Values to Reference Specifications

A38.5.2.2.1 The measured SAR values must be corrected to the reference specifications listed in A38.2 of this appendix. Unless otherwise approved by the FAA, corrections to reference specifications must be applied for each of the following measured parameters:

A38.5.2.2.1.1 *Acceleration/deceleration (energy).* Drag determination is based on an assumption of steady, unaccelerated flight. Acceleration or deceleration occurring during a test condition affects the assessed drag level. The reference specification is in section A38.2.1.1.3 of this appendix.

A38.5.2.2.1.2 *Aeroelastics.* Wing aeroelasticity may cause a variation in drag as a function of airplane wing mass distribution. Airplane wing mass distribution will be affected by the fuel load distribution in the wings and the presence of any external stores. The reference specification is in section A38.2.1.1.7 of this appendix.

A38.5.2.2.1.3 *Altitude.* The altitude at which the airplane is flown affects the fuel flow. The reference specification is in section A38.2.1.1.2 of this appendix.

A38.5.2.2.1.4 *Apparent gravity.* Acceleration, caused by the local effect of gravity, and inertia, affect the test weight of the airplane. The apparent gravity at the test conditions varies with latitude, altitude, ground speed, and direction of motion relative to the Earth's axis. The reference gravitational acceleration is the gravitational acceleration for the airplane travelling in the direction of true North in still air at the reference altitude, a geodetic latitude of 45.5 degrees, and based on g_0 (see section A38.2.1.1.5 of this appendix).

A38.5.2.2.1.5 *CG position.* The position of the airplane CG affects the drag due to longitudinal trim. The reference specification is in section A38.2.1.1.6 of this appendix.

A38.5.2.2.1.6 *Electrical and mechanical power extraction and bleed flow.* Electrical and mechanical power extraction, and bleed flow affect the fuel flow. The reference specifications are in sections A38.2.1.2.1 and A38.2.1.2.2 of this appendix.

A38.5.2.2.1.7 *Engine deterioration level.* The requirement in section A38.2.1.2.3 of this appendix addresses the minimum deterioration of an engine that is used to determine SAR. Since engine deterioration is rapid when an engine is new, when used for SAR determination:

A38.5.2.2.1.7.1 Subject to FAA approval, an engine having less deterioration than the reference deterioration level in section A38.2.1.2.3 of this appendix must correct the fuel flow to the reference deterioration using an approved method.

A38.5.2.2.1.7.2 An engine with greater deterioration than the reference deterioration level in section A38.2.1.2.3 of this appendix may be used, and no correction is permitted.

A38.5.2.2.1.8 *Fuel lower heating value.* The fuel lower heating value defines the energy content of the fuel. The lower heating value directly affects the fuel flow at a given test condition. The reference specification is in section A38.2.1.3.2 of this appendix.

A38.5.2.2.1.9 *Reynolds number.* The Reynolds number affects airplane drag. For a given test condition the Reynolds number is a function of the density and viscosity of air at the test altitude and temperature. The reference Reynolds number is derived from the density and viscosity of air from the ICAO standard atmosphere at the reference altitude (see sections A38.2.1.1.2 and A38.2.1.3.1 of this appendix, incorporated by reference see §38.7).

A38.5.2.2.1.10 *Temperature.* The ambient temperature affects the fuel flow. The reference temperature is the standard day temperature from the ICAO standard atmosphere at the reference altitude (see section A38.2.1.3.1 of this appendix, incorporated by reference see §38.7).

Note 2 to A38.5.2.2.1.10—Post-flight data analysis includes the correction of measured data for data acquisition hardware response characteristics (e.g., system latency, lag, offset, buffering, etc.).

A38.5.2.2.2 Correction methods are subject to the approval of the FAA.

A38.5.2.3 Using Specific Air Range to Determine the Fuel Efficiency Metric Value

A38.5.2.3.1 Calculate the SAR values for each of the three reference masses as described in §38.13, including any corrections to reference specifications, as required under this part. The final SAR value for each reference mass is the simple arithmetic average of all valid test points at the appropriate gross mass, or derived from

a validated performance model. No data acquired from a valid test point may be omitted unless approved by the FAA.

A38.5.2.3.2 When an FAA-approved performance model is used, extrapolations to aircraft masses other than those tested may be approved when such extrapolations are consistent with accepted airworthiness practices. Since a performance model must be based on data covering an adequate range of lift coefficient, Mach number, and thrust specific fuel consumption, no extrapolation of those parameters is permitted.

A38.5.3 Validity of Results

A38.5.3.1 A 90 percent confidence interval must be calculated for each of the SAR values at the three reference masses.

A38.5.3.2 If the 90 percent confidence interval of the SAR value at any of the three reference airplane masses—

A38.5.3.2.1 Is less than or equal to ±1.5 percent, the SAR value may be used.

A38.5.3.2.2 Exceeds ±1.5 percent, a penalty equal to the amount that the 90 percent confidence interval exceeds ±1.5 percent must be applied to the SAR value, as approved by the FAA.

A38.5.3.3 If clustered data is acquired separately for each of the three gross mass reference points, the minimum sample size acceptable for each of the three gross mass SAR values is six.

A38.5.3.4 If SAR data is collected over a range of masses, the minimum sample size is 12 and the 90 percent confidence interval is calculated for the mean regression line through the data.

A38.6 Submission of Certification Data to the FAA

The following information must be provided to the FAA in the certification reports for each airplane type and model for which fuel efficiency certification under this part is sought.

A38.6.1 General Information

A38.6.1.1 Designation of the airplane type and model:

A38.6.1.2 Configuration of the airplane, including CG range, number and type designation of engines and, if fitted, propellers, and any modifications or non-standard equipment expected to affect the fuel efficiency characteristics;

A38.6.1.3 MTOM used for certification under this part;

A38.6.1.4 All dimensions needed for calculation of RGF; and

A38.6.1.5 Serial number of each airplane used to establish fuel efficiency certification in accordance with this part.

A38.6.2 Reference Specifications. The reference specifications used to determine any SAR value as described in section A38.2 of this appendix.

A38.6.3 Test Data. The following measured test data, including any corrections for instrumentation characteristics, must be provided for each of the test measurement points used to calculate the SAR values for each of the reference masses defined in §38.13(b):

A38.6.3.1 Airspeed, ground speed and true airspeed;

A38.6.3.2 Fuel flow;

A38.6.3.3 Pressure altitude;

A38.6.3.4 Static air temperature;

A38.6.3.5 Airplane gross mass and CG for each test point;

A38.6.3.6 Levels of electrical and mechanical power extraction and bleed flow;

A38.6.3.7 Engine performance;

A38.6.3.7.1 For jet airplanes, engine power setting; or

A38.6.3.7.2 For propeller-driven airplanes, shaft horsepower or engine torque, and propeller rotational speed;

A38.6.3.8 Fuel lower heating value;

A38.6.3.9 When volumetric fuel flow meters are used, fuel specific gravity and kinematic viscosity (see section A38.4.2.1.5. of this appendix);

A38.6.3.10 The cumulative error (RSS) of the overall measurement system (see section A38.5.1.7 of this appendix);

A38.6.3.11 Heading, track and latitude;

A38.6.3.12 Stability criteria (see section A38.4.2.2.2 of this appendix); and

A38.6.3.13 Description of the instruments and devices used to acquire the data needed for the determination of SAR, and the individual accuracies of the equipment relevant to their effect on SAR (see sections A38.5.1.6 and A38.5.1.7 of this appendix).

A38.6.4 Calculations and Corrections of SAR Test Data to Reference Specifications. The measured SAR test data, all corrections of the measured data to the reference specifications, and the SAR values calculated from the corrected data must be provided for each of the test measurement points.

A38.6.5 Calculated Values. The following values must be provided for each airplane used to establish fuel efficiency certification in accordance with this part:

A38.6.5.1 SAR (km/kg) for each reference airplane mass and the associated 90 percent confidence interval;

A38.6.5.2 Average of the 1/SAR values;

A38.6.5.3 RGF; and

A38.6.5.4 Fuel efficiency metric value.

PART 43
MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

➨ ***Change Date:*** *October 17, 2023*
➨ ***Effective Date:*** *December 18, 2023*
➨ ***Source:*** *Amdt. 43–53, 88 FR 71476*

Amend Appendix F to Part 43 by revising paragraphs (h) and (j) to read as follows:

APPENDIX F TO PART 43
ATC TRANSPONDER TESTS AND INSPECTIONS

* * * * *

(h) Mode S All-Call Interrogations: Interrogate the Mode S transponder with the Mode S-only all-call format UF = 11 and verify that the correct address and capability are reported in the replies (downlink format DF = 11).

* * * * *

(j) Squitter: Verify that the Mode S transponder generates a correct acquisition squitter approximately once per second.

* * * * *

PART 91
GENERAL OPERATING AND FLIGHT RULES

➨ ***Change Date:*** *July 26, 2023*
➨ ***Effective Date:*** *July 26, 2023*
➨ ***Source:*** *Amdt. 91–370, 88 FR 48087*

Amend §91.146 by revising paragraphs (b) introductory text and (b)(2), (3), (5), and (7) to read as follows:

§91.146 Passenger-carrying flights for the benefit of a charitable, nonprofit, or community event.

* * * * *

(b) Passenger-carrying flights in airplanes, powered-lift, or rotorcraft for the benefit of a charitable, nonprofit, or community event identified in paragraph (c) of this section are not subject to the cer-

tification requirements of part 119 of this chapter or the drug and alcohol testing requirements in part 120 of this chapter, provided the following conditions are satisfied and the limitations in paragraphs (c) and (d) of this section are not exceeded:
* * * * *

(2) The flight is conducted from a public airport that is adequate for the aircraft used, or from another location the FAA approves for the operation;

(3) The aircraft has a maximum of 30 seats, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds;
* * * * *

(5) Each aircraft holds a standard airworthiness certificate, is airworthy, and is operated in compliance with the applicable requirements of subpart E of this part;
* * * * *

(7) Reimbursement of the operator of the aircraft is limited to that portion of the passenger payment for the flight that does not exceed the pro rata cost of owning, operating, and maintaining the aircraft for that flight, which may include fuel, oil, airport expenditures, and rental fees;
* * * * *

Amend §91.147 by revising paragraph (a) to read as follows:

§91.147 Passenger-carrying flights for compensation or hire.
* * * * *

(a) For the purposes of this section and for drug and alcohol testing, *Operator* means any person conducting nonstop passenger-carrying flights in an airplane, powered-lift, or rotorcraft for compensation or hire in accordance with §119.1(e)(2), §135.1(a)(5), or §121.1(d) of this chapter that begin and end at the same airport and are conducted within a 25-statute mile radius of that airport.
* * * * *

➨ ***Change Date:*** *October 17, 2023*
➨ ***Effective Date:*** *December 18, 2023*
➨ ***Source:*** *Amdt. 91–371, 88 FR 71476*

Amend §91.215 by revising the introductory text of paragraph (b) to read as follows:

§91.215 ATC transponder and altitude reporting equipment and use.
* * * * *

(b) ***All airspace.*** Unless otherwise authorized or directed by ATC, and except as provided in paragraph (e)(1) of this section, no person may operate an aircraft in the airspace described in paragraphs (b)(1) through (5) of this section, unless that aircraft is equipped with an operable coded radar beacon transponder having either Mode A 4096 code capability, replying to Mode A interrogations with the code specified by ATC, or a Mode S capability, replying to Mode A interrogations with the code specified by ATC and Mode S interrogations in accordance with the applicable provisions specified in TSO-C112, and that aircraft is equipped with automatic pressure altitude reporting equipment having a Mode C capability that automatically replies to Mode C interrogations by transmitting pressure altitude information in 100-foot increments. The requirements of this paragraph (b) apply to—
* * * * *

Amend §91.225 by:

a. Revising paragraphs (a)(1), (b), and (e) introductory text.
b. Redesignating paragraphs (h) and (i), as (i) and (h), respectively.
c. Revising newly redesignated paragraphs (h)(1)(i) and (i).

The revisions read as follows:

§91.225 Automatic Dependent Surveillance–Broadcast (ADS-B) Out equipment and use.

(a) * * *

(1) Meets the performance requirements in—

(i) TSO-C166b and Section 2 of RTCA DO-260B (as referenced in TSO-C166b); or

(ii) TSO-C166c and Section 2 of RTCA DO-260C as modified by DO-260C—Change 1 (as referenced in TSO-C166c); and
* * * * *

(b) After January 1, 2020, except as prohibited in paragraph (h)(2) of this section or unless otherwise authorized by ATC, no person may operate an aircraft below 18,000 feet MSL and in airspace described in paragraph (d) of this section unless the aircraft has equipment installed that—

(1) Meets the performance requirements in—

(i) TSO-C166b and Section 2 of RTCA DO-260B (as referenced in TSO-C166b);

(ii) TSO-C166c and Section 2 of RTCA DO-260C as modified by DO-260C—Change 1 (as referenced in TSO-C166c);

(iii) TSO-C154c and Section 2 of RTCA DO-282B (as referenced in TSO-C154c); or

(iv) TSO-C154d and Section 2 of RTCA DO-282C (as referenced in TSO-C154d);

(2) Meets the requirements of §91.227.
* * * * *

(e) The requirements of paragraph (b) of this section do not apply to any aircraft that was not originally certificated with an engine-driven electrical system, or that has not subsequently been certified with such a system installed, including balloons and gliders. These aircraft may conduct operations without ADS-B Out in the airspace specified in paragraph (d)(4) of this section. These aircraft may also conduct operations in the airspace specified in paragraph (d)(2) of this section if those operations are conducted—
* * * * *

(h) * * *

(1) * * *

(i) That aircraft has equipment installed that meets the performance requirements in TSO-C166b (including Section 2 of RTCA DO-260B, as referenced in TSO-C166b), TSO-C166c (including Section 2 of RTCA DO-260C as modified by DO-260C—Change 1, as referenced in TSO-C166c), TSO-C154c (including Section 2 of RTCA DO-282B, as referenced in TSO-C154c), or TSO-C154d (including Section 2 of RTCA DO-282C, as referenced in TSO-C154d); and
* * * * *

(i) The standards required in this section are incorporated by reference with the approval of the Director of the Office of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. This incorporation by reference (IBR) material is available for inspection at the FAA and the National Archives and Records Administration (NARA). Contact the FAA at: Office of Rulemaking (ARM-1), 800 Independence Avenue SW, Washington, DC 20590 (telephone 202-267-9677). For information on the availability of this material at NARA, visit *https://www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov*. This material is also available from the following sources in this paragraph (i).

(1) U.S. Department of Transportation, Subsequent Distribution Office, DOT Warehouse M30, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785; telephone (301) 322-5377; website: *www.faa.gov/aircraft/air_cert/design_approvals/tso/* (select the link "Search Technical Standard Orders").

(i) TSO-C166b, Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz), December 2, 2009.

(ii) TSO-C166c, Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz), March 10, 2023.

(iii) TSO-C154c, Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B) Equipment Operating on the Frequency of 978 MHz, December 2, 2009.

(iv) TSO-C154d, Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B) Equipment Operating on the Radio Frequency of 978 Megahertz (MHz), March 10, 2023.

(2) RTCA, Inc., 1150 18th St. NW, Suite 910, Washington, DC 20036; telephone (202) 833-9339; website: *www.rtca.org/products*.

(i) RTCA DO-260B, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 2, 2009.

(ii) RTCA DO-260C, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 17, 2020.

(iii) RTCA DO-260C, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Change 1, January 25, 2022.

(iv) RTCA DO-282B, Minimum Operational Performance Standards for Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 2, 2009.

(v) RTCA DO-282C, Minimum Operational Performance Standards (MOPS) for Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B), Section 2, Equipment Performance Requirements and Test Procedures, June 23, 2022.

Amend §91.227 by:

a. In paragraph (a), revising definitions for "Navigation Accuracy Category for Position (NAC_P)", "Navigation Accuracy Category for Velocity (NAC_V)", "Navigation Integrity Category (NIC)", "Source Integrity Level (SIL)", and "System Design Assurance (SDA)"; and

b. Revising paragraphs (b)(1), (b)(2)(i) and (ii), (c)(1)(iv) and (v), (d) introductory text, (d)(5) through (8), (11), and (13), and (g).

The revisions read as follows:

§91.227 Automatic Dependent Surveillance–Broadcast (ADS-B) Out equipment performance requirements.

(a) * * *

Navigation Accuracy Category for Position (NAC_P) specifies the accuracy of a reported aircraft's position.

Navigation Accuracy Category for Velocity (NAC_V) specifies the accuracy of a reported aircraft's velocity.

Navigation Integrity Category (NIC) specifies an integrity containment radius around an aircraft's reported position.

* * * * *

Source Integrity Level (SIL) indicates the probability of the reported horizontal position exceeding the containment radius defined by the NIC on a per sample or per hour basis.

System Design Assurance (SDA) indicates the probability of an aircraft malfunction causing false or misleading information to be transmitted.

* * * * *

(b) * * *

(1) Aircraft operating in Class A airspace must have equipment installed that meets the antenna and power output requirements of Class A1S, A1, A2, A3, B1S, or B1 equipment as defined in TSO-C166b and Section 2 of RTCA DO-260B (as referenced in TSO-C166b), or TSO-C166c and Section 2 of RTCA DO-260C as modified by DO-260C—Change 1 (as referenced in TSO-C166c).

(2) * * *

(i) Class A1S, A1, A2, A3, B1S, or B1 as defined in TSO-C166b and Section 2 of RTCA DO-260B (as referenced in TSO-C166b) or TSO-C166c and Section 2 of RTCA DO-260C as modified by DO-260C—Change 1 (as referenced in TSO-C166c); or

(ii) Class A1S, A1H, A2, A3, B1S, or B1 equipment as defined in TSO-C154c and Section 2 of RTCA DO-282B (as referenced in TSO-C154c), or TSO-C154d and Section 2 of RTCA DO-282C (as referenced in TSO-C154d).

(c) * * *

(1) * * *

(iv) The aircraft's SDA must be less than or equal to 10^{-5} per flight hour; and

(v) The aircraft's SIL must be less than or equal to 10^{-7} per flight hour or per sample.

* * * * *

(d) ***Minimum Broadcast Message Element Set for ADS-B Out.*** Each aircraft must broadcast the following information, as defined in TSO-C166b (including Section 2 of RTCA DO-260B, as referenced in TSO-C166b), TSO-C166c (including Section 2 of RTCA DO-260C as modified by DO-260C—Change 1, as referenced in TSO-C166c), TSO-C154c (including Section 2 of RTCA DO-282B, as referenced in TSO-C154c), or TSO-C154d (including Section 2 of RTCA DO-282C, as referenced in TSO-C154d). The pilot must enter information for message elements listed in paragraphs (d)(7) through (10) of this section during the appropriate phase of flight.

* * * * *

(5) An indication if a collision avoidance system is installed and operating in a mode that can generate resolution advisory alerts;

(6) If an operable collision avoidance system is installed, an indication if a resolution advisory is in effect;

(7) An indication of the Mode A transponder code specified by ATC;

(8) An indication of the aircraft identification that is submitted on the flight plan or used for communicating with ATC, except when the pilot has not filed a flight plan, has not requested ATC services, and is using a TSO-C154c or TSO-C154d self-assigned temporary 24-bit address;

* * * * *

(11) An indication of the aircraft assigned ICAO 24-bit address, except when the pilot has not filed a flight plan, has not requested ATC services, and is using a TSO-C154c or TSO-C154d self-assigned temporary 24-bit address;

* * * * *

(13) An indication of whether an ADS-B In capability is available;

* * * * *

(g) ***Incorporation by reference.*** The standards required in this section are incorporated by reference with the approval of the Director of the Office of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. This incorporation by reference (IBR) material is available for inspection at the FAA and the National Archives and Records Administration (NARA). Contact the FAA at: Office of Rulemaking (ARM-1), 800 Independence Avenue SW, Washington, DC 20590 (telephone 202-267-9677). For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov.* This material is also available from the following sources indicated in this paragraph (g).

(1) U.S. Department of Transportation, Subsequent Distribution Office, DOT Warehouse M30, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785; telephone (301) 322-5377; website: *www.faa.gov/aircraft/air_cert/design_approvals/tso/* (select the link "Search Technical Standard Orders").

(i) TSO-C166b, Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz), December 2, 2009.

(ii) TSO-C166c, Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz), March 10, 2023.

(iii) TSO-C154c, Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B) Equipment Operating on the Frequency of 978 MHz, December 2, 2009.

(iv) TSO-C154d, Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B) Equipment Operating on the Radio Frequency of 978 Megahertz (MHz), March 10, 2023.

(2) RTCA, Inc., 1150 18th St. NW, Suite 910, Washington, DC 20036; telephone (202) 833-9339; website: *www.rtca.org/products*.

(i) RTCA DO-260B, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 2, 2009.

(ii) RTCA DO-260C, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 17, 2020.

(iii) RTCA DO-260C, Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance–Broadcast (ADS-B) and Traffic Information Services–Broadcast (TIS-B), Change 1, January 25, 2022.

(iv) RTCA DO-282B, Minimum Operational Performance Standards for Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B), Section 2, Equipment Performance Requirements and Test Procedures, December 2, 2009.

(v) RTCA DO-282C, Minimum Operational Performance Standards (MOPS) for Universal Access Transceiver (UAT) Automatic Dependent Surveillance–Broadcast (ADS-B), Section 2, Equipment Performance Requirements and Test Procedures, June 23, 2022.

➨ ***Change Date:*** *July 26, 2023*
➨ ***Effective Date:*** *July 26, 2023*
➨ ***Source:*** *Amdt. 91–370, 88 FR 48087*

Amend §91.1015 by revising paragraph (a)(9) to read as follows:

§91.1015 Management specifications.

(a) * * *

(9) Any authorized deviation and exemption that applies to the person conducting operations under this subpart; and

* * * * *

➨ ***Change Date:*** *October 26, 2023*
➨ ***Effective Date:*** *October 27, 2023*
➨ ***Source:*** *Amdt. 91–331H, 88 FR 73532*

Remove and reserve §91.1607.

§91.1607 [Reserved]

➨ ***Change Date:*** *December 27, 2023*
➨ ***Effective Date:*** *December 27, 2023*
➨ ***Source:*** *Amdt. 91-348D, 88 FR 89300*

Amend §91.1609 by revising paragraph (e) to read as follows:

§91.1609 Special Federal Aviation Regulation No. 114—Prohibition Against Certain Flights in the Damascus Flight Information Region (FIR) (OSTT).

* * * * *

(e) ***Expiration.*** This SFAR will remain in effect until December 30, 2028. The FAA may amend, rescind, or extend this SFAR, as necessary.

➨ ***Change Date:*** *September 22, 2023*
➨ ***Effective Date:*** *September 22, 2023*
➨ ***Source:*** *Amdt. 91–340D, 88 FR 65320*

Amend §91.1611 by revising paragraphs (b) and (c) to read as follows:

§91.1611 Special Federal Aviation Regulation No. 115—Prohibition Against Certain Flights in Specified Areas of the Sanaa Flight Information Region (FIR) (OYSC).

* * * * *

(b) ***Flight prohibition.*** Except as provided in paragraphs (c) and (d) of this section, no person described in paragraph (a) of this section may conduct flight operations in the portion of the Sanaa Flight Information Region (FIR) (OYSC) that is west of a line drawn direct from KAPET (163322N 0530614E) to NODMA (152603N 0533359E), northwest of a line drawn direct from NODMA to IMPAG (140638N 0503924E) then from IMPAG to TIMAD (115500N 0463500E), north of a line drawn direct from TIMAD to PARIM (123200N 0432720E), and east of a line drawn direct from PARIM to RIBOK (154700N 0415230E). Use of jet route UN303 is not authorized.

(c) ***Permitted operations.*** This section does not prohibit persons described in paragraph (a) of this section from conducting flight operations in the Sanaa FIR (OYSC) under the following circumstances:

(1) *Permitted operations that do not require an approval or exemption from the FAA.* Flight operations may be conducted in the Sanaa FIR (OYSC) in that airspace east of a line drawn direct from KAPET (163322N 0530614E) to NODMA (152603N 0533359E),

southeast of a line drawn direct from NODMA to IMPAG (140638N 0503924E) then from IMPAG to TIMAD (115500N 0463500E), south of a line drawn direct from TIMAD to PARIM (123200N 0432720E), and west of a line drawn direct from PARIM to RIBOK (154700N 0415230E). Use of jet routes UT702 and M999 are authorized. All flight operations conducted under this subparagraph must be conducted subject to the approval of, and in accordance with the conditions established by, the appropriate authorities of Yemen.

(2) *Operations permitted under an approval or exemption issued by the FAA.* Flight operations may be conducted in the Sanaa FIR (OYSC) in that airspace west of a line drawn direct from KAPET (163322N 0530614E) to NODMA (152603N 0533359E), northwest of a line drawn direct from NODMA to IMPAG (140638N 0503924E) then from IMPAG to TIMAD (115500N 0463500E), north of a line drawn direct from TIMAD to PARIM (123200N 0432720E), and east of a line drawn direct from PARIM to RIBOK (154700N 0415230E) if such flight operations are conducted under a contract, grant, or cooperative agreement with a department, agency, or instrumentality of the U.S. Government (or under a subcontract between the prime contractor of the U.S. Government department, agency, or instrumentality and the person subject to paragraph (a)), with the approval of the FAA, or under an exemption issued by the FAA. The FAA will consider requests for approval or exemption in a timely manner, with the order of preference being: First, for those operations in support of U.S. Government-sponsored activities; second, for those operations in support of government-sponsored activities of a foreign country with the support of a U.S. government department, agency, or instrumentality; and third, for all other operations.

* * * * *

Issued in Washington, DC, under the authority of 49 U.S.C. 106(f) and (g), 40101(d)(1), 40105(b)(1)(A), and 44701(a)(5), on September 15, 2023.

➨ ***Change Date:*** *September 15, 2023*
➨ ***Effective Date:*** *September 15, 2023*
➨ ***Source:*** *Amdt. 91–352B, 88 FR 63525*

Amend §91.1615 by revising paragraph (e) to read as follows:

§91.1615 Special Federal Aviation Regulation No. 79—Prohibition Against Certain Flights in the Pyongyang Flight Information Region (FIR) (ZKKP).

* * * * *

(e) *Expiration.* This SFAR will remain in effect until September 18, 2028. The FAA may amend, rescind, or extend this SFAR, as necessary.

Issued in Washington, DC, under the authority of 49 U.S.C. 106(f) and (g), 40101(d)(1), 40105(b)(1)(A), and 44701(a)(5).

➨ ***Change Date:*** *July 25, 2023*
➨ ***Effective Date:*** *July 25, 2023*
➨ ***Source:*** *Amdt. 91-369, 88 FR 47771*

Add §91.1619 to read as follows:

§91.1619 Special Federal Aviation Regulation No. 119—Prohibition Against Certain Flights in the Kabul Flight Information Region (FIR) (OAKX).

(a) *Applicability.* This Special Federal Aviation Regulation (SFAR) applies to the following persons:

(1) All U.S. air carriers and U.S. commercial operators;

(2) All persons exercising the privileges of an airman certificate issued by the FAA, except when such persons are operating U.S.-registered aircraft for a foreign air carrier; and

(3) All operators of U.S.-registered civil aircraft, except when the operator of such aircraft is a foreign air carrier.

(b) *Flight prohibition.* Except as provided in paragraphs (c) and (d) of this section, no person described in paragraph (a) of this section may conduct flight operations in the Kabul Flight Information Region (FIR) (OAKX).

(c) *Permitted operations.* This section does not prohibit persons described in paragraph (a) of this section from conducting flight operations in the Kabul Flight Information Region (FIR) (OAKX) under the following circumstances:

(1) Overflights of the Kabul Flight Information Region (FIR) (OAKX) may be conducted at altitudes at and above Flight Level (FL) 320, subject to the approval of, and in accordance with the conditions established by, the appropriate authorities of Afghanistan.

(2) Flight operations may be conducted in the Kabul Flight Information Region (FIR) (OAKX) at altitudes below FL320, provided that such flight operations occur under a contract, grant, or cooperative agreement with a department, agency, or instrumentality of the U.S. Government (or under a subcontract between the prime contractor of the U.S. Government department, agency, or instrumentality and the person described in paragraph (a) of this section) with the approval of the FAA or under an exemption issued by the FAA. The FAA will consider requests for approval or exemption in a timely manner, with the order of preference being: first, for those operations in support of U.S. Government-sponsored activities; second, for those operations in support of government-sponsored activities of a foreign country with the support of a U.S. Government department, agency, or instrumentality; and third, for all other operations.

(d) *Emergency situations.* In an emergency that requires immediate decision and action for the safety of the flight, the pilot in command of an aircraft may deviate from this section to the extent required by that emergency. Except for U.S. air carriers and commercial operators that are subject to the requirements of 14 CFR part 119, 121, 125, or 135, each person who deviates from this section must, within 10 days of the deviation, excluding Saturdays, Sundays, and Federal holidays, submit to the responsible Flight Standards Office a complete report of the operations of the aircraft involved in the deviation, including a description of the deviation and the reasons for it.

(e) *Expiration.* This SFAR will remain in effect until July 25, 2025. The FAA may amend, rescind, or extend this SFAR as necessary.

PART 110
GENERAL REQUIREMENTS

➨ ***Change Date:*** *July 26, 2023*
➨ ***Effective Date:*** *July 26, 2023*
➨ ***Source:*** *Amdt. 110–3, 88 FR 48087*

The authority citation for Part 110 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40101, 40102, 40103, 40113, 44105, 44106, 44111, 44701–44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105.

Amend §110.2 by revising the introductory text of the definition of "Commercial air tour" and by revising the definitions of "Commuter operation", "Domestic operation", "Flag operation", "On-demand operation", and "Supplemental operation" to read as follows:

§110.2 Definitions.

* * * * *

Commercial air tour means a flight conducted for compensation or hire in an airplane, powered-lift, or rotorcraft where a purpose of the flight is sightseeing. The FAA may consider the following factors in determining whether a flight is a commercial air tour:

* * * * *

Commuter operation means any scheduled operation conducted by any person operating one of the following types of aircraft with a frequency of operations of at least five round trips per week on at least one route between two or more points according to the published flight schedules:

(1) Rotorcraft; or

(2) Airplanes or powered-lift that:

(i) Are not turbojet-powered;

(ii) Have a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat; and

(iii) Have a maximum payload capacity of 7,500 pounds or less.

* * * * *

Domestic operation means any scheduled operation conducted by any person operating any aircraft described in paragraph (1) of this definition at locations described in paragraph (2) of this definition:

(1) Airplanes or powered-lift that:

(i) Are turbojet-powered;

(ii) Have a passenger-seat configuration of more than 9 passenger seats, excluding each crewmember seat; or

(iii) Have a payload capacity of more than 7,500 pounds.

(2) Locations:

(i) Between any points within the 48 contiguous States of the United States or the District of Columbia; or

(ii) Operations solely within the 48 contiguous States of the United States or the District of Columbia; or

(iii) Operations entirely within any State, territory, or possession of the United States; or

(iv) When specifically authorized by the Administrator, operations between any point within the 48 contiguous States of the United States or the District of Columbia and any specifically authorized point located outside the 48 contiguous States of the United States or the District of Columbia.

* * * * *

Flag operation means any scheduled operation conducted by any person operating any aircraft described in paragraph (1) of this definition at locations described in paragraph (2) of this definition:

(1) Airplanes or powered-lift that:

(i) Are turbojet-powered;

(ii) Have a passenger-seat configuration of more than 9 passenger seats, excluding each crewmember seat; or

(iii) Have a payload capacity of more than 7,500 pounds.

(2) Locations:

(i) Between any point within the State of Alaska or the State of Hawaii or any territory or possession of the United States and any point outside the State of Alaska or the State of Hawaii or any territory or possession of the United States, respectively; or

(ii) Between any point within the 48 contiguous States of the United States or the District of Columbia and any point outside the 48 contiguous States of the United States and the District of Columbia; or

(iii) Between any point outside the U.S. and another point outside the U.S.

* * * * *

On-demand operation means any operation for compensation or hire that is one of the following:

(1) Passenger-carrying operations conducted as a public charter under part 380 of this chapter or any operations in which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative that are any of the following types of operations:

(i) Common carriage operations conducted with airplanes or powered-lift, including any that are turbojet-powered, having a passenger-seat configuration of 30 seats or fewer, excluding each crewmember seat, and a payload capacity of 7,500 pounds or less. The operations described in this paragraph do not include operations using a specific airplane or powered-lift that is also used in domestic or flag operations and that is so listed in the operations specifications as required by §119.49(a)(4) of this chapter for those operations are considered supplemental operations;

(ii) Noncommon or private carriage operations conducted with airplanes or powered-lift having a passenger-seat configuration of less than 20 seats, excluding each crewmember seat, and a payload capacity of less than 6,000 pounds; or

(iii) Any rotorcraft operation.

(2) Scheduled passenger-carrying operations conducted with one of the following types of aircraft, other than turbojet-powered aircraft, with a frequency of operations of less than five round trips per week on at least one route between two or more points according to the published flight schedules:

(i) Airplanes or powered-lift having a maximum passenger-seat configuration of 9 seats or less, excluding each crewmember seat, and a maximum payload capacity of 7,500 pounds or less; or

(ii) Rotorcraft.

(3) All-cargo operations conducted with airplanes or powered-lift having a payload capacity of 7,500 pounds or less, or with rotorcraft.

* * * * *

Supplemental operation means any common carriage operation for compensation or hire conducted with any aircraft described in paragraph (1) of this definition that is a type of operation described in paragraph (2) of this definition:

(1) Airplanes or powered-lift that:

(i) Have a passenger-seat configuration of more than 30 seats, excluding each crewmember seat.

(ii) Have a payload capacity of more than 7,500 pounds.

(iii) Are propeller-powered and:

(A) Have a passenger-seat configuration of more than 9 seats and less than 31 seats, excluding each crewmember seat; and

(B) Are used in domestic or flag operations but are so listed in the operations specifications as required by §119.49(a)(4) of this chapter for such operations.

(iv) Are turbojet-powered and:

(A) Have a passenger seat configuration of 1 or more but less than 31 seats, excluding each crewmember seat; and

(B) Are used in domestic or flag operations and are so listed in the operations specifications as required by §119.49(a)(4) of this chapter for such operations.

(2) Types of operation:

(i) Operations for which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative.

(ii) All-cargo operations.

(iii) Passenger-carrying public charter operations conducted under part 380 of this chapter.

* * * * *

PART 119
CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS

➧ ***Change Date:*** *July 26, 2023*
➧ ***Effective Date:*** *July 26, 2023*
➧ ***Source:*** *Amdt. 119–20, 88 FR 48088*

The authority citation for Part 119 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40101, 40102, 40103, 40113, 44105, 44106, 44111, 44701–44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105; sec. 215, Pub. L. 111–216, 124 Stat. 2348.

Amend §119.1 by:

a. Revising paragraph (a)(2);

b. Adding paragraph (a)(3); and

c. Revising paragraphs (e) introductory text, (e)(2), (e)(4)(v), (e)(5), (e)(7) introductory text, and (e)(7)(i), (iii), and (vii).

The revisions and addition read as follows:

§119.1 Applicability.

(a) * * *

(2) When common carriage is not involved, in operations of any U.S.-registered civil airplane or powered-lift with a seat configuration of 20 or more passengers, or a maximum payload capacity of 6,000 pounds or more; or

(3) When noncommon carriage is involved, except as provided in §91.501(b) of this chapter, or in private carriage for compensation or hire, in operations of any U.S.-registered civil airplane or powered-lift with a passenger-seat configuration of less than 20 seats and a payload capacity of less than 6,000 pounds.

* * * * *

(e) Except for operations when common carriage is not involved conducted with any airplane or powered-lift having a passenger-seat configuration of 20 seats or more, excluding any required crewmember seat, or a payload capacity of 6,000 pounds or more, this part does not apply to—

* * * * *

(2) Nonstop Commercial Air Tours that occur in an airplane, powered-lift, or rotorcraft having a standard airworthiness certificate and passenger-seat configuration of 30 seats or fewer and a maximum payload capacity of 7,500 pounds or less that begin and end at the same airport, and are conducted within a 25-statute mile radius of that airport, in compliance with the Letter of Authorization issued under §91.147 of this chapter. For nonstop Commercial Air Tours conducted in accordance with part 136, subpart B, of this chapter, National Parks Air Tour Management, the requirements of this part apply unless excepted in §136.37(g)(2). For Nonstop Commercial Air Tours conducted in the vicinity of the Grand Canyon National Park, Arizona, the requirements of SFAR 50-2, part 93, subpart U, of the chapter and this part, as applicable, apply.

* * * * *

(4) * * *

(v) Powered-lift or rotorcraft operations in construction or repair work (but part 119 of this chapter does apply to transportation to and from the site of operations); and

* * * * *

(5) Sightseeing flights conducted in hot air balloons or gliders;

* * * * *

(7) Powered-lift or rotorcraft flights conducted within a 25 statute mile radius of the airport of takeoff if—

(i) Not more than two passengers are carried in the aircraft in addition to the required flightcrew;

* * * * *

(iii) The aircraft used is certificated in the standard category and complies with the 100-hour inspection requirements of part 91 of this chapter;

* * * * *

(vii) Cargo is not carried in or on the aircraft;

* * * * *

Amend §119.5 by revising paragraphs (b) and (c) to read as follows:

§119.5 Certifications, authorizations, and prohibitions.

* * * * *

(b) A person not authorized to conduct direct air carrier operations, but authorized by the Administrator to conduct operations as a U.S. commercial operator, will be issued an Operating Certificate.

(c) A person not authorized to conduct direct air carrier operations, but authorized by the Administrator to conduct operations when common carriage is not involved as an operator of any U.S.-registered civil airplane or powered-lift with a seat configuration of 20 or more passengers, or a maximum payload capacity of 6,000 pounds or more, will be issued an Operating Certificate.

* * * * *

Amend §119.21 by revising paragraph (a) introductory text to read as follows:

§119.21 Commercial operators engaged in intrastate common carriage and direct air carriers.

(a) Each person who conducts airplane or powered-lift operations as a commercial operator engaged in intrastate common carriage of persons or property for compensation or hire in air commerce, or as a direct air carrier, shall comply with the certification and operations specifications requirements in subpart C of this part, and shall conduct its:

* * * * *

Amend §119.23 by revising the section heading, paragraphs (a) introductory text, (a)(2), and (b) introductory text to read as follows:

§119.23 Operators engaged in passenger-carrying operations, cargo operations, or both with airplanes or powered-lift when common carriage is not involved.

(a) Each person who conducts operations when common carriage is not involved with any airplane or powered-lift having a passenger-seat configuration of 20 seats or more, excluding each crewmember seat, or a payload capacity of 6,000 pounds or more, must, unless deviation authority is issued—

* * * * *

(2) Conduct its operations in accordance with the requirements of part 125 of this chapter; and

* * * * *

(b) Each person who conducts noncommon carriage (except as provided in §91.501(b) of this chapter) or private carriage operations for compensation or hire with any airplane or powered-lift having a passenger-seat configuration of less than 20 seats,

excluding each crewmember seat, and a payload capacity of less than 6,000 pounds, must—
* * * * *

Amend §119.49 by revising paragraphs (a)(12), (b)(12), and (c)(11) to read as follows:

§119.49 Contents of operations specifications.

(a) * * *

(12) Any authorized deviation or exemption from any requirement of this chapter that applies to the certificate holder.
* * * * *

(b) * * *

(12) Any authorized deviation or exemption from any requirement of this chapter that applies to the certificate holder.
* * * * *

(c) * * *

(11) Any authorized deviation or exemption from any requirement of this chapter that applies to the certificate holder.
* * * * *

Amend §119.65 by revising paragraphs (a)(3) and (b)(2) to read as follows:

§119.65 Management personnel required for operations conducted under part 121 of this chapter.

(a) * * *

(3) Chief Pilot for each category of aircraft the certificate holder uses, as listed in §61.5(b)(1) of this chapter.
* * * * *

(b) * * *

(2) The number and type of aircraft used; and
* * * * *

Revise §119.67 to read as follows:

§119.67 Management personnel: Qualifications for operations conducted under part 121 of this chapter.

(a) ***Director of Operations.*** To serve as Director of Operations under §119.65(a), a person must hold an airline transport pilot certificate and—

(1) If the certificate holder uses large aircraft, at least 3 years of supervisory or managerial experience within the last 6 years in large aircraft, in a position that exercised operational control over any operations conducted under part 121 or 135 of this chapter.

(2) If the certificate holder uses large aircraft, at least 3 years of experience as pilot in command under part 121 or 135 of this chapter in large aircraft in at least one of the categories of aircraft the certificate holder uses, as listed in §61.5(b)(1) of this chapter. In the case of a person becoming Director of Operations for the first time, he or she must have accumulated this experience as pilot in command within the past 6 years.

(3) If the certificate holder uses only small aircraft in its operations, the experience required in paragraphs (a)(1) and (2) of this section may be obtained in either large or small aircraft.

(b) ***Chief Pilot.*** To serve as Chief Pilot under §119.65(a), a person must:

(1) Hold an airline transport pilot certificate with appropriate ratings in the category of aircraft that the certificate holder uses in its operations under part 121 of this chapter and over which the Chief Pilot exercises responsibility; and

(2) Have at least 3 years of experience as pilot in command in the same category of aircraft that the certificate holder uses, as listed in §61.5(b) of this chapter. The experience as pilot in command described in this paragraph (b)(2) must:

(i) Have occurred within the past 6 years, in the case of a person becoming a Chief Pilot for the first time.

(ii) Have occurred in large aircraft operated under part 121 or 135 of this chapter. If the certificate holder uses only small aircraft in its operation, this experience may be obtained in either large or small aircraft.

(iii) Be in the same category of aircraft over which the Chief Pilot exercises responsibility.

(c) ***Director of Maintenance.*** To serve as Director of Maintenance under §119.65(a), a person must:

(1) Hold a mechanic certificate with airframe and powerplant ratings;

(2) Have 1 year of experience in a position responsible for returning aircraft to service;

(3) Have at least 1 year of experience in a supervisory capacity under either paragraph (c)(4)(i) or (ii) of this section maintaining the same category and class of aircraft as the certificate holder uses; and

(4) Have 3 years of experience within the past 6 years in one or a combination of the following—

(i) Maintaining large aircraft with 10 or more passenger seats, including, at the time of appointment as Director of Maintenance, experience in maintaining the same category and class of aircraft as the certificate holder uses; or

(ii) Repairing aircraft in a certificated airframe repair station that is rated to maintain aircraft in the same category and class of aircraft as the certificate holder uses.

(d) ***Chief Inspector.*** To serve as Chief Inspector under §119.65(a), a person must:

(1) Hold a mechanic certificate with both airframe and powerplant ratings, and have held these ratings for at least 3 years;

(2) Have at least 3 years of maintenance experience on different types of large aircraft with 10 or more passenger seats with an air carrier or certificated repair station, 1 year of which must have been as maintenance inspector; and

(3) Have at least 1 year of experience in a supervisory capacity maintaining the same category and class of aircraft as the certificate holder uses.

(e) ***Deviation.*** A certificate holder may request a deviation to employ a person who does not meet the appropriate airman experience, managerial experience, or supervisory experience requirements of this section if the Manager of the Air Transportation Division or the Manager of the Aircraft Maintenance Division, as appropriate, finds that the person has comparable experience and can effectively perform the functions associated with the position in accordance with the requirements of this chapter and the procedures outlined in the certificate holder's manual. Deviations under this paragraph (e) may be issued after consideration of the size and scope of the operation and the qualifications of the intended personnel. The Administrator may, at any time, terminate any grant of deviation authority issued under this paragraph (e).

PART 125

CERTIFICATION AND OPERATIONS: AIRCRAFT HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE; AND RULES GOVERNING PERSONS ON BOARD SUCH AIRCRAFT

➨ ***Change Date:*** *July 26, 2023*
➨ ***Effective Date:*** *July 26, 2023*
➨ ***Source:*** *Amdt. 125–74, 88 FR 48090*

The heading for Part 125 is revised to read as set forth above.

Amend §125.1 by revising paragraphs (a), (b) introductory text, (b)(4), (c), and (e) to read as follows:

§125.1 Applicability.

(a) Except as provided in paragraphs (b) through (d) of this section, this part prescribes rules governing the operations of U.S.-registered civil airplanes and powered-lift, when those aircraft have a seating configuration of 20 or more passengers or a maximum payload capacity of 6,000 pounds or more when common carriage is not involved.

(b) The rules of this part do not apply to the operations of aircraft specified in paragraph (a) of this section, when—

* * * * *

(4) They are being operated under Part 91 of this chapter by an operator certificated to operate those aircraft under the rules of Part 121, 135, or 137 of this chapter, they are being operated under the applicable rules of Part 121 or 135 of this chapter by an applicant for a certificate under Part 119 of this chapter or they are being operated by a foreign air carrier or a foreign person engaged in common carriage solely outside the United States under Part 91 of this chapter;

* * * * *

(c) This part, except §125.247, does not apply to the operation of aircraft specified in paragraph (a) of this section when they are operated outside the United States by a person who is not a citizen of the United States.

* * * * *

(e) This part also establishes requirements for operators to take actions to support the continued airworthiness of each aircraft.

Amend §125.23 by revising the introductory text to read as follows:

§125.23 Rules applicable to operations subject to this part.

Each person operating an aircraft in operations under this part shall—

* * * * *

➨ ***Change Date:*** *February 16, 2024*
➨ ***Effective Date:*** *April 16, 2024*
➨ ***Source:*** *Amdt. 125–75, 89 FR 12663*

Amend §125.75 by revising paragraph (b) to read as follows:

§125.75 Airplane flight manual.

* * * * *

(b) Each certificate holder shall carry the approved Airplane Flight Manual or the approved equivalent aboard each airplane it operates. A certificate holder may elect to carry a combination of the manuals required by this section and §125.71. If it so elects, the certificate holder may revise the operating procedures sections and modify the presentation of performance from the applicable Airplane Flight Manual if the revised operating procedures and modified performance data presentation are approved by the Administrator. Any approved equivalent must include the information required by §38.23 of this chapter identifying compliance with the fuel efficiency requirements of part 38 of this chapter.