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[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. FAA-2026-6604]

Accepted Means of Compliance; Airworthiness Standards: Normal Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notification of availability (NOA).

SUMMARY: This document announces the availability of ASTM International (ASTM) consensus standards for use as an FAA-accepted means of compliance (MOC) to the applicable airworthiness standards for normal category airplanes. The FAA accepts ASTM F3264-25, "Standard Specification for Normal Category Aeroplanes Certification," with changes identified in this document.

DATES: Acceptance of the means of compliance is effective on [INSERT DATE OF PUBLICATION IN FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Hieu Nguyen, AIR-690, General Aviation, VTOL & Engine Standards Branch, Certification Standards Division, Aircraft Certification Service, Federal Aviation Administration, 1100 Main Street, Suite 800, Kansas City, MO 64105; telephone: (316) 946-4123; email: hieu.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

Under the provisions of the National Technology Transfer and Advancement Act of 1995 and Office of Management and Budget (OMB) Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," effective January 27, 2016, the FAA participates in the development of consensus standards for use as a means of carrying out its policy objectives where appropriate.

Consistent with the Small Airplane Revitalization Act of 2013, the FAA has been working with industry and other stakeholders through the ASTM F44 Committee on General Aviation Aircraft to develop consensus standards as a MOC in certificating small airplanes under part 23.

In part 23, amendment 23-64 (81 FR 96572), published on December 30, 2016, the final rule stated the FAA would publish an NOA of those consensus standards in the Federal Register when the Administrator accepts the consensus standards as an acceptable MOC. The FAA reviewed the published ASTM consensus standards developed by the ASTM F44 Committee on General Aviation Aircraft as the basis for a MOC to 65 sections of part 23, amendments 23-64 and 23-65. In some cases, the Administrator found sections of ASTM F3264-25, without changes, are accepted as a MOC for the airworthiness requirements of part 23, amendments 23-64 and 23-65. In other cases, the MOC, while based on ASTM consensus standards, includes additional FAA provisions necessary to comply with the airworthiness requirements of part 23, amendments 23-64 and 23-65.

Part 23, amendment 23-64, established airworthiness requirements based on the safety requirements outlined in amendment 23-63, except in areas that address loss of control and icing, where the FAA increased the safety level. Depending on the details of a design, the applicant may require use of a different MOC beyond those accepted by this NOA. For example, novel airplane designs, such as unmanned airplanes, or other special class aircraft, such as powered-lift, are beyond the scope of this NOA, and applicants may need to propose an alternative MOC applicable to their designs accepted under § 23.2010.

Means of Compliance Accepted

The FAA accepts only the revisions of the standards referenced in ASTM F3264-25, "Standard Specification for Normal Category Aeroplanes Certification," as a MOC for part 23, amendments 23-64 and 23-65, with the changes identified in Table 1. For ease of use, Table 2

was added to provide a side-by-side view, linking the applicable part 23 regulation to the ASTM F3264-25 section.

Guidance

This is a guidance document. Its content is not legally binding in its own right and will not be relied upon by the Department as a separate basis for affirmative enforcement action or other administrative penalty. Conformity with the guidance document is voluntary only, and nonconformity will not affect rights and obligations under existing statutes and regulations.

Table 1—Part 23 Accepted MOC Based on ASTM Consensus Standards

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
F2490-20	Standard Guide for Aircraft Electrical Load and Power Source Capacity Analysis	Replace "should" with "must" throughout document for regulatory compliance. Replace F2490-20 paragraph 2.1 with: " 2.1 FAA Aeronautics and Space Airworthiness Standards: 2 14 CFR 23.2510 'Equipment, systems and installations' 14 CFR 23.2525 'System power generation, storage, and distribution' 14 CFR 23.2540 'Flight in icing conditions' 14 CFR Appendix A of part 23 'Instructions for Continued Airworthiness' 14 CFR 91 'General Operating and Flight Rules' 14 CFR 135.163 'Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft -- Equipment Requirements: Aircraft Carrying Passengers under IFR' ", Replace in section 6.4.1.3 the statement "Assume "night" conditions as the worst-case scenario" with "Assume the worst-case scenario is based on the criticality of the system safety assessment." Add Lithium-Ion battery data to Figure 1.	
F3061/F3061M-25	Standard Specification for Systems and Equipment in Small Aircraft	The tables defining applicability of requirements in sections 4.1.6, 4.2.3.3, 4.2.6, 4.2.8, 4.2.8.1, 4.2.8.2, 4.3.1, 4.3.2.1, 4.3.2.2, 4.4, 10.1, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, 10.3.8, 10.3.9, 10.4.2, 10.4.3, 10.4.4, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.6, 10.7.7, 10.7.7.1, 10.8, 13.1.1, 13.1.2, 17.1.1, 17.1.2, 17.1.3, 17.2.1, 17.2.2, 17.2.3, 17.3.1.1, 17.3.1.2, 17.3.1.3, 17.3.1.4, and 18.4 are not accepted. Applicability will be determined by the Policy and Standards Division. Replace 17.3.1.1 with:	The tables defining applicability found in F3061/F3061M-25 sections 4.1.6, 4.2.3.3, 4.2.6, 4.2.8, 4.2.8.1, 4.2.8.2, 4.3.1, 4.3.2.1, 4.3.2.2, 4.4, 10.1, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, 10.3.8, 10.3.9, 10.4.2, 10.4.3, 10.4.4, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.6, 10.7.7, 10.7.7.1, 10.8, 13.1.1, 13.1.2, 17.1.1, 17.1.2, 17.1.3, 17.2.1, 17.2.2, 17.2.3, 17.3.1.1, 17.3.1.2, 17.3.1.3, 17.3.1.4, and 18.4 are not accepted. Applicability will be determined by the Policy and Standards Division. Aircraft

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		(a) Each electrical or electronic system that performs a function, the failure of which would prevent the continued safe flight and landing of the airplane, must be designed and installed such that – (1) The function at the airplane level is not adversely affected during and after the time the airplane is exposed to lightning; and (2) The system recovers normal operation of that function in a timely manner after the airplane is exposed to lightning unless the system's recovery conflicts with other operational or functional requirements of the system. Replace 17.3.1.2 with: (b) Each electrical and electronic system that performs a function, the failure of which would significantly reduce the capability of the airplane or the ability of the flight crew to respond to an adverse operating condition, must be designed and installed such that the system recovers normal operation of that function in a timely manner after the airplane is exposed to lightning. Remove 17.3.1.3, 17.3.1.4, and 18.4.	certification levels are as defined in 14 CFR 23.2005. F3061/F3061M-25 does not contain means for showing compliance to § 23.2310, *Buoyancy for seaplanes and amphibians*. If applying for certification of a seaplane or amphibian, applicants may use the provisions of §§ 23.751, 23.755, and 23.757 at amendment 23-63 as a means of complying with § 23.2310 or may obtain FAA acceptance of a different MOC in accordance with § 23.2010. For normal category airplanes with electric propulsion, the Policy and Standards Division will determine airworthiness criteria and acceptable compliance approaches.
F3062/F3062M-25	Standard Specification for Aircraft Powerplant Installation	None	
F3063/F3063M-24	Standard Specification for Aircraft Fuel and Energy Storage and Delivery	None	
F3064/F3064M-24	Standard Specification for Aircraft Powerplant Control, Operation, and Indication	None	
F3065/F3065M-21a	Standard Specification for Aircraft Propeller System Installation	None	
F3066/F3066M-25	Standard Specification for Aircraft Powerplant Installation Hazard Mitigation	None	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
F3082/F3082M-23a	Standard Specification for Weights and Centers of Gravity of Aircraft	None	
F3083/F3083M-25	Standard Specification for Emergency Conditions, Occupant Safety and Accommodations	Replace 4.1.6 with: Powerplant and ESS mounts and supporting structures must withstand 18.0 g forward for powerplants and ESS installed behind and above the seating compartment.	
F3093/F3093M-24e1	Standard Specification for Aeroelasticity Requirements	None	
F3114-21	Standard Specification for Structures	None	
F3115/F3115M-23e1	Standard Specification for Structural Durability for Small Aeroplanes	Replace 4.4.3.3 with: The residual strength evaluation must show that the remaining structure is able to withstand the residual strength loads in 4.5 with the extent of detectable damage consistent with the results of the damage tolerance evaluations. The residual strength demonstrated for inspectable damage shall be sufficiently above limit loads in 4.5 and should consider variables such as the severity of damage, inspection interval, and inspection method. This level of residual strength demonstrated should also account for material variability, damage, growth rate, and environmental effects. Guidance for no growth, slow growth, or arrested growth can be found in documents X2.3 and X2.4. Replace 4.4.1.1 with: For all airplanes the methods described in 4.4.3 are applicable. Delete 4.4.1.2. Revised paragraphs as follows: 4.4.1.2 For aeroplanes evaluated to the damage tolerance criteria of 4.4.3 if it is shown that the damage tolerance is impractical for a particular structure, the structure may be evaluated in accordance with the methods described in 4.4.2. 4.4.1.3 For all aeroplane levels, the effects of material variability and environmental conditions on the strength and durability	If the applicant proposes to use F3115/F3115M-20 sections 4.3 or 6.3.2, the Policy and Standards Division will be involved as the standard is applied during projects to review the approach to determining similarity (F3115/F3115M-20 section 4.3) and criteria defining obvious damage (F3115/F3115M-20 section 6.3.2). If the applicant proposes to use F3115/F3115M-23e1 sections 4.1.3 or 4.3.3.2, the Policy and Standards Division will be involved as the standard is applied during projects to review the approach to determining similarity (F3115/F3115M-23e1 section 4.1.3) and criteria defining obvious damage (F3115/F3115M-23e1 section 4.3.3.2). Note: Composite structure needs to be damage tolerant. If impractical, safe life methods may be used. Means of compliance must reflect this. F3115-20 Replace section 7.1 with: 7.1 Composite components must be evaluated as follows: 7.1.1 For all aeroplanes, the methods described in 7.3 are applicable. 7.1.2 For aeroplanes evaluated to the damage tolerance criteria

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		properties of the material must be considered. 4.4.1.4 For all aeroplane levels, the evaluation in either 4.4.2 or 4.4.3 must show that catastrophic failure due to fatigue, environmental effects, manufacturing defects, or accidental damage will be avoided throughout the operational life of the aircraft.	of 7.3: if it is shown that damage tolerance is impractical for a particular structure, the structure may be evaluated in accordance with the methods described in 7.2. 7.1.3 For all aeroplane levels, the effects of material variability and environmental conditions on the strength and durability properties of the materials must be considered. 7.1.4 For all aeroplane levels, the evaluations in either 7.2 or 7.3 must show that catastrophic failure due to fatigue, environmental effects, manufacturing defects, or accidental damage will be avoided throughout the operational life of the aircraft.
F3116/F3116M-24	Standard Specification for Design Loads and Conditions	Replace 4.1.4 with: Appendix X1 through Appendix X4 provides, within the limitations specified within the appendix, a simplified MOC with several of the requirements set forth in sections 4.2 to 4.26 and 7.1 to 7.9 that can be applied as one (but not the only) means to comply. If the simplified methods in Appendix X1 through X3 are used, they must be used together in their entirety. Replace X1.1.1 with: The methods provided in this appendix provide one possible means (but not the only possible means) of compliance and can only be applied to Level 1 and Level 2 low speed airplanes. Replace X2.1.1 with: The methods provided in this appendix provide one possible means (but not the only possible means) of compliance and can only be applied to Level 1 and Level 2 low speed airplanes. Replace X3.1.1 with: The methods provided in this appendix provide one possible means (but not the only possible means) of compliance and can only be applied to Level 1 and Level 2 low speed airplanes.	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		Replace X4.1.1 with: The methods provided in this appendix provide one possible means (but not the only possible means) of compliance and can only be applied to Level 1 low speed airplanes.	
F3117/F3117M-25a	Standard Specification for Crew Interface in Aircraft	None	
F3120/F3120M-24	Standard Specification for Ice Protection for General Aviation	None	
F3173/F3173M-24	Standard Specification for Aircraft Handling Characteristics	None	
F3174/F3174M-21	Standard Specification for Establishing Operating Limitations and Information for Aeroplanes	None	
F3179/F3179M-24a	Standard Specification for Performance of Aircraft	None	
F3180/F3180M-25	Standard Specification for Low-Speed Flight Characteristics of Aircraft	Replace 4.2 with: 4.2 Single-engine aeroplanes that are not certified for aerobatics shall demonstrate Enhanced Single Engine Low-Speed Characteristics (Section 6). Replace 5.1(6)(b) with: (b) For turbine engine powered airplanes: no less than the maximum engine thrust that is continuously available Replace 5.1(6)(c) with: (c) In all cases, to avoid extreme pitch attitudes, if the power/thrust requirements in (a) and (b), above, for a given configuration results in nose-high attitudes exceeding 30° pitch attitude prior to the stall, the thrust/power setting may be limited to one that results in not more than 30° pitch attitude but maintains greater than 25° pitch attitude until stall during a wings-level stall technique for a given configuration. That established "Power/Thrust On" setting shall then be used for wings-level, turning flight, and accelerated turning stalls flown	The FAA is committed to lowering the loss of control accident rate and is effecting this by ensuring that accepted standards are tailored to address the low altitude loss of control scenario that accounts for the majority of part 23 loss of control accidents. Applicants may propose elements of the *Departure Aversion for Light Aircraft* standard contained in F3180/F3180M-25, or other means, for development of their project means of compliance to 14 CFR 23.2150 in accordance with 14 CFR 23.2010. 5.3.2(3) If, in the judgement of the test pilot, the aeroplane exhibits adequate roll control to prevent large excursions past wings-level the stall characteristics may be deemed acceptable. 6.2.3 The FAA considers that the Spin Resistance MOC previously accepted does not need to be dependent on a points system and need not

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		under the same configuration, weight, altitude and temperature. Replace 5.2.4 with: 5.2.4 During the entry into and the recovery from stalls performed below 7620 m [25 000 ft], it shall be possible to prevent more than 20° of roll or heading change by the normal use of controls. Replace 5.3.2(3) with: (3) For both turning flight, and accelerated turning, stalls, exceeding a bank angle of 60° in the original direction of the turn or exceeding 0° (wings-level) in the opposite direction. Remove 5.3.2(4) 6.2 The FAA does not universally accept the *Departure Aversion Standard for Light Aircraft* contained in F3180/F3180M-25. Replace 6.2.3 with: 6.2.3 *Spin Resistance* – Aeroplanes may demonstrate that the aeroplane does not have a tendency to inadvertently depart controlled flight by demonstrating the following maneuvers. In all cases, maneuvers can be discontinued, and a normal recovery initiated, after a downward pitching motion of the aeroplane commences due to the activation of a stall barrier device (for example, stick pusher activation). Remove 6.2.6.3 *Descent Arrest Systems*	require additional Safety Enhancing Features nor Enhanced Stall Warning to demonstrate compliance to 14 CFR 23.2150 6.2.6.3 Descent arrest systems are not considered as a showing of compliance to 14 CFR 23.2150.
F3227/F3227M-25	Standard Specification for Environmental Systems in Small Aircraft	None	
F3228-21(2025)	Standard Specification for Flight Data and Voice Recording in Small Aircraft	Remove: Table 1	Aircraft Type Code compliance matrix table found in F3228-21(2025) is not accepted. Applicability will be determined by the Policy and Standards Division.

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
F3229/F3229M-23a	Standard Practice for Static Pressure System Tests in Small Aircraft	Remove: Table 1	Aircraft Type Code compliance matrix table found in F3229/F3229M-23a is not accepted. Applicability will be determined by the Policy and Standards Division.
F3230-25	Standard Practice for Safety Assessments of Systems and Equipment in Small Aircraft	None	
F3231/F3231M-24	Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation	Remove: Table 1 Remove section 4.1.1.3 and 4.1.1.4. Replace 4.2.13 with: "Electrical equipment shall be designed and installed so that in the event of a fire in the engine compartment, during which the surface of the firewall adjacent to the fire is heated to 1095 °C [2000 °F] for 15 min or follow AC 20-135 in compliance to 23.2440(c), the equipment essential to continued safe operation and located behind the firewall will function satisfactorily and will not create an additional fire hazard. For Lithium-Ion batteries, utilize the following documentation: Non-Rechargeable Lithium Battery Means of Compliance --CPP-23.2525-1, Rechargeable Lithium Battery Means of Compliance -- CPP-23.2525-2, Rechargeable Lithium Battery Method of Compliance -- CPP-23.2525-3, Non-Rechargeable Lithium Battery Method of Compliance -- CPP-23.2525-4"	Aircraft Type Code compliance matrix table found in F3231/F3231M-24 is not accepted. Applicability will be determined by the Policy and Standards Division.
F3232/F3232M-25a	Standard Specification for Flight Controls in Small Aircraft	None	
F3233/F3233M-23b	Standard Specification for Flight and Navigation Instrumentation in Aircraft	Remove: Table 1	Aircraft Type Code compliance matrix table found in F3233/F3233M-23b is not accepted. Applicability will be determined by the Policy and Standards Division.
F3234/F3234M-21(2025)	Standard Specification for Exterior Lighting in Small Aircraft	Remove: Table 1	Aircraft Type Code compliance matrix table found in F3234/F3234M-21(2025) is not accepted. Applicability will be

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
			determined by the Policy and Standards Division.
F3235-22	Standard Specification for Aircraft Storage Batteries	Replace section 2 with: "2.1 Following is a list of external standards referenced throughout this specification; the earliest revision acceptable for use is indicated. In all cases, later document revisions are acceptable if shown to be equivalent to the listed revision, or if otherwise formally accepted by the governing civil aviation authority; earlier revisions are not acceptable. 2.2 ASTM Standards:2 F3060 Terminology for Aircraft F3061/F3061M Specification for Systems and Equipment in Aircraft 2.3 EASA Standard:3 CS-23 Normal, Utility, Aerobatic and Commuter Aeroplanes 2.4 FAA Standard:4 14 CFR Part 23 Airworthiness Standards: Normal Category Airplanes 2.5 RTCA Standard:5 RTCA/DO-311A Minimum Operational Performance Standards for Rechargeable Lithium Batteries and Battery Systems 2.6 RTCA DO-293A: Minimum Operational Performance Standards (MOPS) for Nickel-Cadmium, Nickel Metal-Hydride and Lead-Acid Batteries" Replace section 4.1.2 with: "4.1.2 Nickel cadmium battery installations capable of being used to start an engine or auxiliary power unit must meet the requirements of either 4.1.2.1, 4.1.2.2, or 4.1.2.3. Follow guidance in RTCA 293A."	If applying for certification of an airplane with installed lithium batteries, applicants may use the guidance provided by RTCA/DO-311A or may obtain FAA acceptance of a different MOC in accordance with § 23.2010. Aircraft Type Code compliance matrix table found in F3235-22 is not accepted. Applicability will be determined by the Policy and Standards Division.

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		Remove: Section 4.2 Remove: Table 1 Remove A1.1, A1.2, and A1.3.	
F3236-21a	Standard Specification for High Intensity Radiated Field (HIRF) Protection in Small Aircraft	Remove: Table 1	Aircraft Type Code compliance matrix table found in F3236-21a is not accepted. Applicability will be determined by the Policy and Standards Division. For normal category airplanes with electric propulsion, fly-by-wire flight controls, or highly integrated systems, coordinate with the Policy and Standards Division to determine acceptable compliance approaches.
F3239-22a	Standard Specification for Aircraft Electric Propulsion Systems	The FAA does not universally accept F3239-22a.	Applicants may propose F3239-22a for development of their MOC for electric propulsion systems on a project-by-project basis. Any MOC proposed must receive acceptance by the FAA in accordance with § 23.2010.
F3254-22	Standard Specification for Aircraft Interaction of Systems and Structures	Figures 2, 3, and 4 Replace: "Remote" with: "10^{-5}" Replace: "Extremely Improbable" with: "10^{-8}" for Level 1, 2, and 3 airplanes and with "10^{-9}" for Level 4 airplanes	Other proposed probabilities will be considered by the FAA on a case-by-case basis.
F3309/F3309M-24a	Standard Practice for Simplified Safety Assessment of Systems and Equipment in Small Aircraft	None	
F3316/F3316M-19	Standard Specification for Electrical Systems for Aircraft with Electric or Hybrid-Electric Propulsion	FAA does not universally accept F3316/F3316M-19. Remove: Table 1	Applicants may propose F3316/F3316M-19 for development of their MOC for electrical systems installed on airplanes with electric or hybrid-electric propulsion systems on a project-by-project basis. Applicants may obtain FAA acceptance of a different MOC in accordance with § 23.2010. Aircraft Type Code compliance matrix table found in F3316/F3316M-19 is not

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
			accepted. Applicability will be determined by the Policy and Standards Division.
F3331-18(2023)	Standard Practice for Aircraft Water Loads	None	
F3367-23	Standard Practice for Simplified Methods for Addressing High-Intensity Radiated Fields (HIRF) and Indirect Effects of Lightning on Aircraft	Replace 5.1.1 with: Systems that are part of the Type Certificated Engine must be installed in accordance with the engine manufacturer's requirements. The minimum HIRF and lightning qualification in accordance with sections 8 and 9 of this ASTM practice should be met at the aircraft level, except for engine control systems in Level 1 and 2 airplanes, which should meet the following: HIRF: DO-160, section 20-R for both radiated and conducted susceptibility. Lightning: Utilize guidance in AC 33.28-3 For metallic fuselage DO-160G, section 22-A3J3L3 (shielded) and A3H3L3 (unshielded) For composite fuselage DO-160G, section 22-B3K3L3 (shielded) and B3H3L3 (unshielded) Use of lower HIRF and lightning induced voltage and current levels may be acceptable for electronic engine control systems if substantiated at the airplane level (by test in the proposed installation or similar) when exposed to external HIRF environment per AC 20-158 (latest revision) and lightning per AC 20-136 (latest revision), using shielding and grounding of the electronic engine control system and accessories in the given installation. Remove 8.2.2.2, 8.2.3.3, 9.2.5.2, and 9.2.7.2,	For normal category airplanes with electric propulsion, fly-by-wire flight controls, or highly integrated systems, coordinate with the Policy and Standards Division to determine acceptable compliance approaches.
F3380-19	Standard Practice for Structural Compliance of Very Light Aeroplanes	None	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
F3396/F3396M-23a	Standard Practice for Aircraft Simplified Loads	None	
F3397/F3397M-21	Standard Practice for Aeroplane Turbine Fuel System Hot Weather Operations	None	
F3408/F3408M-21	Standard Specification for Aircraft Emergency Parachute Recovery Systems	None	
F3432-20a	Standard Practice for Powerplant Instruments	None	
F3454-25	Standard Practice for Alerting Methods in Aircraft	None	
F3491-25	Standard Practice for Enhanced Indication Methods in Aircraft	None	
F3498-21	Standard Practice for Developing Simplified Fatigue Load Spectra	None	
F3532-25	Standard Practice for Protection of Aircraft Systems from Intentional Unauthorized Electronic Interactions	None	
F3601-23	Standard Practice for Structural Finite Element Model Verification and Validation	None	
F3643-25	Standard Practice for Pilot Compartment View in Precipitation	None	
F3651/F3651M-23	Standard Practice for Determining Safe-Life, Inspection Threshold and Recurring Inspection Intervals	None	
F3653-24	Standard Specification for Installation of Rechargeable Lithium Batteries of Aircraft	Replace ASTM F3653-24 section 4.1.2.1 with: "F3653-24, sections 4.1.1 and 4.1.2 can be met by showing that the battery or battery system meets the requirements in RTCA/DO-311A, 2.2, Equipment Requirements—Standard Conditions using the test procedures in RTCA/DO-311A, 2.4, Equipment Test Procedures. The applicant or the foreign civil aviation authority (FCAA) is to provide the FAA	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		with the video of the testing conducted for RTCA/DO-311A section 2.4.5.5; and" Replace section 4.1.3 with: "Not emit explosive or toxic gases, either in normal operation or as a result of its failure, that may accumulate in hazardous quantities within the aircraft. To determine whether an aircraft venting system is appropriate, consider the results of RTCA/DO-311A, section 2.4.5.5, and whether some cells or all cells achieved thermal runaway." Replace section 4.1.3.3 with: "F3653-24, section 4.1.3 can be met by Venting Category B per RTCA/DO-311A when not completely vented overboard if explosive or toxic emissions can be shown to not accumulate in hazardous quantities within the aircraft; or an acceptable method of compliance includes using the tests results required under F3653-24, sections 4.1.2.1, 4.1.2.2 and 4.1.2.2 (a) (including RTCA/DO-311A, section 2.4.5.5 test results) to demonstrate that all emitted gases are contained or vented completely overboard (i.e., vented completely outside the aircraft) through designed vent ports. If the design has ports to vent gases overboard completely, show that there are means to protect ground personnel from exposure to these gases and to prevent re-ingestion, for example through engine in-take or air conditioning in-take. Reference FAA TSO-C179b, Class A vs. Class B, as one method of classifying the results of the thermal runaway testing; or" Replace 4.1.3.4 with: "F3653-24, section 4.1.3 can be met by Venting Category C per RTCA/DO-311A if explosive or	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		toxic emissions can be shown to not accumulate in hazardous quantities within the aircraft. For Category C provide the volume of gas and the constituents of the gas per the reporting criteria of RTCA/DO-311A section 2.4.5.5 and section F3653-24, section 4.1.2.1." Replace section 4.1.4.1 with: "F3653-24, section 4.1.4 can be met (that is, demonstrates minimizing the probability of flammable fluid and vapor release, and thus the probability of ignition) by complying with F3653-24, section 4.1.3.1 or F3653-24, section 4.1.3.2; Defining the location of where flammable fluids or vapors might escape by leakage is required by (14 CFR 23.2325(g)) and; both battery electrolyte and any coolant fluid, if present, are considered fluid systems when evaluating 14 CFR 23.2325(g) and; performing a safety assessment to identify and evaluate associated hazards and their severity, as well as mitigation and minimization of all hazards resulting from a battery failure is required. Additional requirements may be needed depending upon the safety assessment of the installation location of the battery; or" Delete in sections 4.1.5 and 4.1.5.2 "major or more severe". Replace section 4.1.5.3 with: "F3653-24, section 4.1.5 can be met by Venting Category C per RTCA/DO-311A if emitted fluids and gases can be shown to not be corrosive in such a way as to cause any failure: To support F3653-24, section 4.1.5.2 or F3653-24, section 4.1.5.3, show that if fluid escapes the battery, it is not corrosive or it is managed in a	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		way (for example, contained, isolated, drained, or vented, etc.) that protects the surrounding structure and adjacent systems, equipment, components, and electrical wiring. To support F3653-24, section 4.1.5.2 or F3653-24, section 4.1.5.3, test results of RTCA/DO-311A, 2.4.5.5 may be useful to show substantiation, if information regarding the corrosive nature of emissions is captured. Mitigation at the aircraft level may also be applied in addition to F3653-24, sections 4.1.5.1 through 4.1.5.3 to bring the design into compliance with F3653-24, section 4.1.5. Include results of test performed during ASTM F3653-24 sections 4.1.2.1, 4.1.2.2 and 4.1.2.2(a) for section 4.1.5 substantiation." Replace 4.1.6.1 with: "F3653-24, section 4.1.6 can be met by showing that the heat and any related effects from a worst-case thermal runaway event do not create a hazard to the structure or systems of the aircraft, or that the hazard can be mitigated at the aircraft level. (a) The maximum external temperature of the battery from a worst-case thermal runaway event can be obtained by conducting and complying with RTCA/DO-311A, 2.4.5.5. Inclusion of results for tests performed during ASTM F3653-24 sections 4.1.2.1, 4.1.2.2, and 4.1.2.2(a), meet RTCA/DO-311A as well as the inclusion of temperature of the gases and the enclosure is required. " Replace 4.1.7 with: "Have a failure sensing and alerting system with adequate indication to the flight crew if its failure affects safe operation of the aircraft. Ensure adequate flight crew alerting because failure effects of a battery	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		installation to airplane level functions could result in unsafe system operating conditions. Reference RTCA/DO-311A, section 2.1.4.2, Battery Warning Features that discuss warning circuits and signals. “ Replace section 4.1.7.1 with: "Have monitoring and an alert for the flight crew when the battery power falls below acceptable levels if its function is required for safe operation of the aircraft. Have a means for the flight crew and maintenance personnel to determine the power if the battery's function is required for safe operation of the aircraft. Use a safety assessment system to determine the alert level. Reference Practice F3230 and Specification F3061/F3061M for guidance on conducting the hazard assessment of the failure. If required by the hazard assessment, incorporate alerting in accordance with Specification F3117/F3117M, 11.2, or similar." Replace section 4.1.8 with: "Have a means to disconnect from its charging source in the event of an over-temperature condition, cell failure or battery failure" Replace section 4.1.8.1 with: "F3653-24, section 4.1.8 can be met by demonstrating that the battery or battery system is capable of automatically disconnecting from the charging source in the event of an over-temperature condition, cell failure or battery failure, or" Remove section 4.1.8.2. Replace section 5 with:	

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		"F3653-24, section 5.1 When preparing Instructions for Continued Airworthiness, the following shall be addressed: F3653-24, section 5.1.1 Operational requirements shall be defined that address the necessary condition of the battery for continued use on the aircraft in accordance with the battery manufacturer's requirements and recommendations and airworthiness requirements. Maintenance requirements to replace each rechargeable lithium battery within an interval that will ensure there is sufficient charge to power equipment. F3653-24, section 5.1.2 Maintenance requirements, as applicable, to define the procedure and interval necessary to avoid damage to the battery and retain its operational capability during storage or extended non-use on the aircraft in accordance with the battery manufacturer's requirements and recommendations and aircraft maintenance manual. A requirement to only replace rechargeable lithium batteries with batteries from the same manufacturer with the same part number or to obtain a new FAA approval for installing a different battery. F3653-24, section 5.1.3 Precautions to prevent mishandling of replacement rechargeable lithium batteries prior to their installation which could result in short-circuit or other unintentional damage. Procedures are in place to ensure that each rechargeable lithium battery has not: - Experienced degraded charge retention ability or other damage during storage. -- Been damaged from environmental or physical impacts such as mechanical	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		shock, vibration, heat and possible abuses encountered during storage, transportation prior to their installation or maintenance activities on or around them. Precautions to prevent mishandling of replacement rechargeable lithium batteries prior to their installation which could result in short-circuit or other unintentional damage." Replace section 6.1 with: "If the battery installation falls within a rotor burst zone, an analysis shall consider the impact of uncontained high-energy fragments (ref: AC 20-128A Design Considerations for Minimizing Hazards caused by Uncontained Turbine Engine and Auxiliary Power Unit Rotor) with respect to any potential additional hazard that may result. The FAA requires the utilization of results of tests performed for ASTM F3653-24 sections 4.1.2.1, 4.1.2.2 and 4.1.2.2(a). Installation in a Designated Fire Zone (DFZ), such as an engine compartment, should be avoided, but may be acceptable, if the battery location does not create an additional hazard. Alternatively, the battery is to be located outside of the rotor burst zone. The battery must contain and/or vent any thermal runaway, and prevent introduction of additional hazards, when exposed to a 2000 °F flame for 15 minutes. Test by exposing the battery installation design (including any vents) to a 2000 °F flame for 15 minutes per AC 20-135. Ensure no additional hazards are introduced. Some examples are: a) Directing and venting (if the design includes a vent) any potential flames or flammable material from the battery out of the fire zone. Any vent system included in the design must continue to function	

ASTM Number as Identified in F3264-25	ASTM Document Title	Changes Required for FAA Acceptance	Additional Information
		in the event of a thermal runaway of the battery, otherwise it must not create an additional hazard from its failure. b) Using fireproof materials in the construction of the battery installation design. c) Providing adequate shielding to protect the battery and vent, if any, from direct flames to ensure the battery remains below a temperature that could compromise the thermal runaway containment integrity when exposed to a powerplant fire condition." F3653-24, section 6.1.1 Rechargeable coin or button cells with less than 2 watt-hours of energy that meet UL 1642, UL 2054, or IEC 62133 are exempt from this requirement (RTCA/DO-311A section 1.4.1). This exemption does not apply to other battery configurations."	
F3720/F3720M-24	Standard Practice for General Guidance on Damage Tolerance Evaluation of Normal Category Aeroplane	None	
F3789-25	Standard Guide for Endurance Testing of Aeroplane Flight Control System Actuators and Other System Elements	None	

[4.] The MOC are intended for traditional part 23 airplanes, not for novel designs. Novel designs require evaluation and possible modification of the MOC.
[5.] Wherever “shall” is used within a standard, replace with “must.”
[6.] You may find additional information on the FAA Small Airplane Issues List (SAIL) here: faa.gov/aircraft/air_cert/design_approvals/small_airplanes/small_airplanes_regs

Table 2—Side-By-Side View of Part 23 Regulations and ASTM F3264-25 Section(s)

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
Subpart B—Flight		
§ 23.2100 Weight and center of gravity.	5.1 Weight/Mass and Center of Gravity:	5.1.1 F3082/F3082M-23a Standard Specification for Weights and Centers of Gravity of Aircraft 5.1.2 F3114-21 Standard Specification for Structures
§ 23.2105 Performance data.	5.2 Performance Data:	5.2.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2110 Stall speed.	5.3 Stall Speed:	5.3.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2115 Takeoff performance.	5.4 Takeoff Performance:	5.4.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2120 Climb requirements.	5.5 Climb Requirements:	5.5.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2125 Climb information.	5.6 Climb Information:	5.6.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2130 Landing.	5.7 Landing:	5.7.1 F3179/F3179M-24a Standard Specification for Performance of Aircraft
§ 23.2135 Controllability.	5.8 Controllability:	5.8.1 F3173/F3173M-24 Standard Specification for Aircraft Handling Characteristics
§ 23.2140 Trim.	5.9 Trim:	5.9.1 F3173/F3173M-24 Standard Specification for Aircraft Handling Characteristics
§ 23.2145 Stability.	5.10 Stability:	5.10.1 F3173/F3173M-24 Standard Specification for Aircraft Handling Characteristics
§ 23.2150 Stall characteristics, stall warning, and spins.	5.11 Stall Characteristics, Stall Warning, and Spins:	5.11.1 F3180/F3180M-25 Standard Specification for Low-Speed Flight Characteristics of Aircraft 5.11.1.1 F3454-25 Standard Practice for Alerting Methods in Aircraft 5.11.1.2 F3491-25 Standard Practice for Enhanced Indication Methods in Aircraft
§ 23.2155 Ground and water handling characteristics.	5.12 Ground and Water Handling Characteristics:	5.12.1 F3173/F3173M-24 Standard Specification for Aircraft Handling Characteristics
§ 23.2160 Vibration, buffeting, and high-speed characteristics.	5.13 Vibration, Buffeting, and High-Speed Characteristics:	5.13.1 F3173/F3173M-24 Standard Specification for Aircraft Handling Characteristics
§ 23.2165 Performance and flight characteristics requirements for flight in icing conditions.	5.14 Performance and Flight Characteristics Requirements for Flight in Icing Conditions:	5.14.1 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft
Subpart C—Structures		
§ 23.2200 Structural design envelope.	6.1 Structural Design Envelope:	6.1.1 F3116/F3116M-24 Standard Specification for Design Loads and Conditions 6.1.1.1 F3396/F3396M-23a Standard Practice for Aircraft Simplified Loads
§ 23.2205 Interaction of systems and structures.	6.2 Interaction of Systems and Structure:	6.2.1 F3254-22 Standard Specification for Aircraft Interaction of Systems and Structures
§ 23.2210 Structural design loads.	6.3 Structural Design Loads:	6.3.1 F3116/F3116M-24 Standard Specification for Design Loads and Conditions

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		6.3.1.1 F3396/F3396M-23a Standard Practice for Aircraft Simplified Loads 6.3.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2215 Flight load conditions.	6.4 Flight Load Conditions:	6.4.1 F3116/F3116M-24 Standard Specification for Design Loads and Conditions 6.4.1.1 F3396/F3396M-23a Standard Practice for Aircraft Simplified Loads
§ 23.2220 Ground and water load conditions.	6.5 Ground and Water Load Conditions:	6.5.1 F3116/F3116M-24 Standard Specification for Design Loads and Conditions 6.5.1.1 F3331-18(2023) Standard Practice for Aircraft Water Loads
§ 23.2225 Component loading conditions.	6.6 Component Loading Conditions:	6.6.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 6.6.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 6.6.2 F3116/F3116M-24 Standard Specification for Design Loads and Conditions 6.6.2.1 F3396/F3396M-23a Standard Practice for Aircraft Simplified Loads
§ 23.2230 Limit and ultimate loads.	6.7 Limit and Ultimate Loads:	6.7.1 F3114-21 Standard Specification for Structures 6.7.1.1 F3601-23 Standard Practice for Structural Finite Element Model Verification and Validation 6.7.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2235 Structural strength.	6.8 Structural Strength:	6.8.1 F3114-21 Standard Specification for Structures 6.8.1.1 F3601-23 Standard Practice for Structural Finite Element Model Verification and Validation 6.8.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2240 Structural durability.	6.9 Structural Durability:	6.9.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 6.9.2 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 6.9.3 F3115/F3115M-23e1 Standard Specification for Structural Durability for Small Aeroplanes 6.9.3.1 F3380-19 Standard Practice for Structural Compliance of Very Light Aeroplanes 6.9.3.2 F3498-21 Standard Practice for Developing Simplified Fatigue Load Spectra 6.9.3.3 F3651/F3651M-23 Standard Practice for Determining Safe-Life, Inspection Threshold and Recurring Inspection Intervals 6.9.3.4 F3720/F3720M-24 Standard Practice for General Guidance on Damage Tolerance Evaluation of Normal Category Aeroplane 6.9.4 F3116/F3116M-24 Standard Specification for Design Loads and Conditions
§ 23.2245 Aeroelasticity.	6.10 Aeroelasticity:	6.10.1 F3093/F3093M-24e1 Standard Specification for Aeroelasticity Requirement 6.10.2 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft
§ 23.2250 Design and	6.11 Design and	6.11.1 F3061/F3061M-25 Standard Specification

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
construction principles.	Construction Principles:	for Systems and Equipment in Small Aircraft 6.11.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 6.11.2 F3114-21 Standard Specification for Structures 6.11.2.1 F3380-19 Standard Practice for Structural Compliance of Very Light Aeroplanes 6.11.3 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2255 Protection of structure.	6.12 Protection of Structure:	6.12.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 6.12.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 6.12.2 F3114-21 Standard Specification for Structures 6.12.2.1 F3380-19 Standard Practice for Structural Compliance of Very Light Aeroplanes 6.12.3 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 6.12.4 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2260 Materials and processes.	6.13 Materials and Processes:	6.13.1 F3114-21 Standard Specification for Structures 6.13.1.1 F3380-19 Standard Practice for Structural Compliance of Very Light Aeroplanes 6.13.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2265 Special factors of safety.	6.14 Special Factors of Safety:	6.14.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 6.14.2 F3114-21 Standard Specification for Structures 6.14.2.1 F3380-19 Standard Practice for Structural Compliance of Very Light Aeroplanes
§ 23.2270 Emergency conditions.	6.15 Emergency Conditions:	6.15.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 6.15.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 6.15.2 F3083/F3083M-25 Standard Specification for Emergency Conditions, Occupant Safety and Accommodations 6.15.3 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
Subpart D—Design and Construction		
§ 23.2300 Flight control systems.	7.1 Flight Control Systems:	7.1.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 7.1.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 7.1.2 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 7.1.3 F3117/F3117M-25a Standard Specification

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		for Crew Interface
§ 23.2305 Landing gear systems.	7.2 Landing Gear Systems:	7.2.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft
§ 23.2310 Buoyancy for seaplanes and amphibians.	7.3 Buoyancy for Seaplanes and Amphibians:	7.3.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft
§ 23.2315 Means of egress and emergency exits.	7.4 Means of Egress and Emergency Exits:	7.4.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 7.4.2 F3083/F3083M-25 Standard Specification for Emergency Conditions, Occupant Safety and Accommodations
§ 23.2320 Occupant physical environment.	7.5 Occupant Physical Environment:	7.5.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 7.5.1.1 F3227/F3227M-25 Standard Specification for Environmental Systems in Small Aircraft 7.5.2 F3083/F3083M-25 Standard Specification for Emergency Conditions, Occupant Safety and Accommodations 7.5.3 F3114-21 Standard Specification for Structures 7.5.4 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft
§ 23.2325 Fire protection.	7.6 Fire Protection:	7.6.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 7.6.1.1 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 7.6.1.2 F3234/F3234M-21(2025) Standard Specification for Exterior Lighting in Small Aircraft 7.6.1.3 F3316/F3316M-19 Standard Specification for Electrical Systems for Aircraft with Electric or Hybrid-Electric Propulsion 7.6.2 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 7.6.3 F3083/F3083M-25 Standard Specification for Emergency Conditions, Occupant Safety and Accommodations 7.6.4 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2330 Fire protection in designated fire zones and adjacent areas.	7.7 Fire Protection in Designated Fire Zones and Adjacent Areas:	7.7.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 7.7.1.1 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 7.7.2 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 7.7.3 F3114-21 Standard Specification for Structures
§ 23.2335 Lightning protection.	7.8 Lightning Protection:	7.8.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft
Subpart E—Powerplant		
§ 23.2400 Powerplant installation.	8.1 Powerplant Installation:	8.1.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.1.2 F3063/F3063M-24 Standard Specification for

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		Aircraft Fuel and Energy Storage and Delivery 8.1.3 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.1.3.1 F3432-20a Standard Practice for Powerplant Instruments 8.1.4 F3065/F3065M-21a Standard Specification for Aircraft Propeller System Installation 8.1.5 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.1.6 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2405 Automatic power or thrust control systems.	8.2 Power or Thrust Control Systems:	8.2.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.2.2 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.2.2.1 F3432-20a Standard Practice for Powerplant Instruments 8.2.3 F3065/F3065M-21a Standard Specification for Aircraft Propeller System Installation 8.2.4 F3117/F3117M-25a Standard Specification for Crew Interface
§ 23.2410 Powerplant installation hazard assessment.	8.3 Powerplant Installation Hazard Assessment:	8.3.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 8.3.2 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.3.3 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 8.3.4 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.3.4.1 F3432-20a Standard Practice for Powerplant Instruments 8.3.5 F3065/F3065M-21a Standard Specification for Aircraft Propeller System Installation 8.3.6 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.3.7 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 8.3.8 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2415 Powerplant ice protection.	8.4 Powerplant Installation Ice Protection:	8.4.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.4.2 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 8.4.3 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.4.4 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2420 Reversing systems.	8.5 Reversing Systems:	8.5.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.5.2 F3065/F3065M-21a Standard Specification for Aircraft Propeller System Installation 8.5.3 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
§ 23.2425 Powerplant operational characteristics.	8.6 Powerplant Operational Characteristics:	8.6.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.6.2 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.6.2.1 F3432-20a Standard Practice for Powerplant Instruments 8.6.3 F3065/F3065M-21a Standard Specification for Aircraft Propeller System Installation 8.6.4 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.6.5 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 8.6.6 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2430 Fuel systems.	8.7 Fuel and Energy Storage and Distribution Systems:	8.7.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.7.2 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 8.7.2.1 F3397/F3397M-21 Standard Practice for Aeroplane Turbine Fuel System Hot Weather Operations 8.7.3 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.7.3.1 F3432-20a Standard Practice for Powerplant Instruments 8.7.4 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.7.5 F3114-21 Standard Specification for Structures 8.7.6 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2435 Powerplant induction and exhaust systems.	8.8 Powerplant Induction, Exhaust, and Support Systems:	8.8.1 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.8.2 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
§ 23.2440 Powerplant fire protection.	8.9 Powerplant Installation Fire Protection:	8.9.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 8.9.2 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 8.9.3 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 8.9.4 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 8.9.4.1 F3432-20a Standard Practice for Powerplant Instruments 8.9.5 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 8.9.6 F3239-22a Standard Specification for Aircraft Electric Propulsion Systems
Subpart F—Equipment		
§ 23.2500 Airplane level systems requirements.	9.1 Systems and Equipment Function—Requirements:	9.1.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		9.1.1.1 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 9.1.1.1(a) F3235-22 Standard Specification for Aircraft Storage Batteries 9.1.1.2 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 9.1.1.3 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.1.1.3(a) F3229/F3229M-23a Standard Practice for Static Pressure System Tests in Small Aircraft 9.1.1.4 F3316/F3316M-19 Standard Specification for Electrical Systems for Aircraft with Electric or Hybrid-Electric Propulsion 9.1.1.5 F3789-25 Standard Guide for Endurance Testing of Aeroplane Flight Control System Actuators and Other System Elements 9.1.2 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 9.1.2.1 F3432-20a Standard Practice for Powerplant Instruments 9.1.3 F3066/F3066M-25 Standard Specification for Aircraft Powerplant Installation Hazard Mitigation 9.1.4 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 9.1.5 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft 9.1.6 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2505 Function and installation.	9.2 Equipment Function and Installation Requirements:	9.2.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.2.1.1 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 9.2.1.1(a) F3235-22 Standard Specification for Aircraft Storage Batteries 9.2.1.2 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 9.2.1.3 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.2.1.4 F3316/F3316M-19 Standard Specification for Electrical Systems for Aircraft with Electric or Hybrid-Electric Propulsion 9.2.1.4(a) F3653-24 Standard Specification for Installation of Rechargeable Lithium Batteries on Aircraft 9.2.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems 9.2.3 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft
§ 23.2510 Equipment, systems, and installations.	9.3 Equipment, Systems, and Installation:	9.3.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.3.1.1 F3230-25 Standard Practice for Safety

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		Assessments of Systems and Equipment in Small Aircraft 9.3.1.2 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.3.1.3 F3227/F3227M-25 Standard Specification for Environmental Systems in Small Aircraft 9.3.1.4 F3309/F3309M-24a Standard Practice for Simplified Safety Assessment of Systems and Equipment in Small Aircraft 9.3.1.5 F3532-25 Standard Practice for Protection of Aircraft Systems from Intentional Unauthorized Electronic Interactions 9.3.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2515 Electrical and electronic system lightning protection.	9.4 Electrical and Electronic System Lightning Protection:	9.4.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.4.1.1 F3367-23 Standard Practice for Simplified Methods for Addressing High-Intensity Radiated Fields (HIRF) and Indirect Effects of Lightning on Aircraft
§ 23.2520 High-intensity Radiated Fields (HIRF) protection.	9.5 High Intensity Radiated Fields (HIRF) Protection:	9.5.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.5.1.1 F3236-21a Standard Specification for High Intensity Radiated Field (HIRF) Protection in Small Aircraft 9.5.1.2 F3367-23 Standard Practice for Simplified Methods for Addressing High-Intensity Radiated Fields (HIRF) and Indirect Effects of Lightning on Aircraft
§ 23.2525 System power generation, storage, and distribution.	9.6 System Power Generation, Storage, and Distribution:	9.6.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.6.1.1 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 9.6.1.1(a) F2490-20 Standard Guide for Aircraft Electrical Load and Power Source Capacity Analysis 9.6.1.2 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.6.1.3 F3316/F3316M-19 Standard Specification for Electrical Systems for Aircraft with Electric or Hybrid-Electric Propulsion 9.6.1.3(a) F2490-20 Standard Guide for Aircraft Electrical Load and Power Source Capacity Analysis 9.6.1.3(b) F3653-24 Standard Specification for Installation of Rechargeable Lithium Batteries on Aircraft 9.6.2 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 9.6.3 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft
§ 23.2530 External and cockpit lighting.	9.7 External and Cockpit Lighting:	9.7.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
		9.7.1.1 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.7.1.2 F3234/F3234M-21(2025) Standard Specification for Exterior Lighting in Small Aircraft 9.7.2 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 9.7.3 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft
§ 23.2535 Safety equipment.	9.8 Safety Equipment:	9.8.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.8.2 F3083/F3083M-25 Standard Specification for Emergency Conditions, Occupant Safety and Accommodations 9.8.3 F3117/F3117M-25a Standard Specification for Crew Interface
§ 23.2540 Flight in icing conditions.	9.9 Flight in Icing Conditions:	9.9.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.9.1.1 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 9.9.2 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft
§ 23.2545 Pressurized systems elements.	9.10 Pressurized System Elements:	9.10.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 9.10.1.1 F3229/F3229M-23a Standard Practice for Static Pressure System Tests in Small Aircraft
§ 23.2550 Equipment containing high-energy rotors.	9.11 Equipment Containing High-Energy Rotors:	9.11.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft
Subpart G—Flight crew Interface and Other Information		
§ 23.2600 Flightcrew interface.	10.1 Flight crew Compartment Interface:	10.1.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 10.1.1.1 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 10.1.2 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 10.1.3 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 10.1.4 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 10.1.4.1 F3432-20a Standard Practice for Powerplant Instruments 10.1.5 F3114-21 Standard Specification for Structures 10.1.6 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 10.1.6.1 F3643-25 Standard Practice for Pilot Compartment View in Precipitation 10.1.7 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
§ 23.2605 Installation and operation.	10.2 Installation and Operation Information:	10.2.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 10.2.1.1 F3227/F3227M-25 Standard Specification for Environmental Systems in Small Aircraft 10.2.1.2 F3231/F3231M-24 Standard Specification for Electrical Systems for Aircraft with Combustion Engine Electrical Power Generation 10.2.1.3 F3232/F3232M-25a Standard Specification for Flight Controls in Small Aircraft 10.2.1.4 F3233/F3233M-23b Standard Specification for Flight and Navigation Instrumentation in Aircraft 10.2.2 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 10.2.3 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 10.2.4 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 10.2.4.1 F3432-20a Standard Practice for Powerplant Instruments 10.2.5 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 10.2.6 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft 10.2.7 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2610 Instrument markings, control markings, and placards.	10.3 Instrument Markings, Control Markings, and Placards:	10.3.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 10.3.2 F3063/F3063M-24 Standard Specification for Aircraft Fuel and Energy Storage and Delivery 10.3.3 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 10.3.4 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft 10.3.5 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems
§ 23.2615 Flight, navigation, and powerplant instruments.	10.4 Flight, Navigation, and Powerplant Instruments:	10.4.1 F3061/F3061M-25 Standard Specification for Systems and Equipment in Small Aircraft 10.4.2 F3062/F3062M-25 Standard Specification for Aircraft Powerplant Installation 10.4.3 F3064/F3064M-24 Standard Specification for Aircraft Powerplant Control, Operation, and Indication 10.4.3.1 F3432-20a Standard Practice for Powerplant Instruments 10.4.4 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 10.4.4.1 F3454-25 Standard Practice for Alerting Methods in Aircraft 10.4.4.2 F3491-25 Standard Practice for Enhanced Indication Methods in Aircraft
§ 23.2620 Airplane flight manual.	5.15 Operating Limitations:	5.15.1 F3174/F3174M-21 Standard Specification for Establishing Operating Limitations and Information for Aeroplanes

Part 23 Amendments 23-64 and 23-65 Regulation(s)	ASTM F3264-25 Section(s)[7]	ASTM F3264-25 Subsection(s)[8]
	10.5 Airplane Flight Manual:	5.15.2 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems 10.5.1 F3117/F3117M-25a Standard Specification for Crew Interface in Aircraft 10.5.2 F3174/F3174M-21 Standard Specification for Establishing Operating Limitations and Information for Aeroplanes 10.5.3 F3120/F3120M-24 Standard Specification for Ice Protection for General Aviation Aircraft 10.5.4 F3408/F3408M-21 Standard Specification for Aircraft Emergency Parachute Recovery Systems

[7.] The ASTM F3264-25 section(s) provides a means of compliance intended to be used on projects for traditional part 23 airplanes, not for novel designs. Novel designs require evaluation and possible modification of the means of compliance.

[8.] Changes required for FAA acceptance and additional information per Table 1 still apply to Table 2. The FAA does not accept the Aircraft Type Code compliance matrix tables included in F3228-21(2025), F3229/F3229M-23a, F3231/F3231M-24, F3233/F3233M-23b, F3234/F3234M-21(2025), F3235-22, F3236-21a, and F3316/F3316M-19. The tables defining applicability found in F3061/F3061M – 25 sections 4.1.6, 4.2.3.3, 4.2.6, 4.2.8, 4.2.8.1, 4.2.8.2, 4.3.1, 4.3.2.1, 4.3.2.2, 4.4, 10.1, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.3.3, 10.3.4, 10.3.5, 10.3.6, 10.3.7, 10.3.8, 10.3.9, 10.4.2, 10.4.3, 10.4.4, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.6, 10.7.7, 10.7.7.1, 10.8, 13.1.1, 13.1.2, 17.1.1, 17.1.2, 17.1.3, 17.2.1, 17.2.2, 17.2.3, 17.3.1.1, 17.3.1.2, 17.3.1.3, 17.3.1.4, and 18.4 are not accepted. Applicability will be determined by the Policy and Standards Division.

The MOC accepted by this NOA provides one means, but not the only means, of complying with part 23 regulatory requirements. Applicants who desire to use a MOC reflected by other revisions to ASTM standards not previously accepted may seek guidance and possible acceptance from the FAA for the use of those MOC on a case-by-case basis. Applicants may propose an alternative MOC for FAA review and possible acceptance.

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ASTM policy states that a consensus standard should be reviewed in its entirety by the responsible subcommittee and must be balloted for reapproval, revision, or withdrawal within five years of its last approval date. When an ASTM standard is reapproved, that reapproval is denoted by the year in parentheses (e.g., F2427-05a (2013)). This date indicates the completion of a review cycle with no technical changes made to the standard. In addition, ASTM issues editorial changes denoted by a superscript epsilon in the standard designation (e.g., F3235-17ϵ1). This epsilon indicates information was corrected, and it did not change the meaning or intent of a standard. Since reapprovals and editorial changes do not change the technical content of standards, any standard FAA-accepted by this NOA that is later reapproved or editorially changed by ASTM is also considered FAA-accepted without the need for an updated NOA.

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Availability

ASTM F3264-25, "Standard Specification for Normal Category Aeroplanes Certification," is available online at astm.org/readinglibrary. ASTM copyrights these consensus standards and charges the public a fee for service. Individual downloads or reprints of a standard (single or multiple copies, special compilations, and other related technical information), as well as information regarding membership, ASTM offices abroad, or Committee F44 on General Aviation Aircraft, may be obtained online or by contacting ASTM by telephone: (610) 832-9585; facsimile: (610) 832-9555; or through email: service@astm.org.

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James Blyn
Acting Manager, General Aviation, VTOL & Engine Standards Branch
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