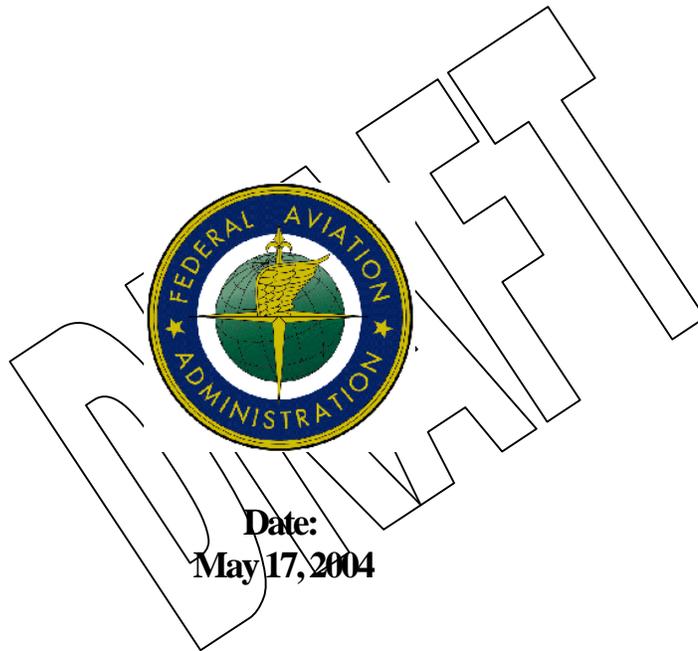


# **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

## **RESPONSIBILITIES, REQUIREMENTS, AND CONTENTS**



**Date:**  
**May 17, 2004**

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**



## FOREWORD

In this order we offer guidance on responsibilities, requirements, and contents for Instructions for Continued Airworthiness (ICA) as required by Title 14 of the Code of Federal Regulations (14 CFR) § 21.50. We wrote this order for Aircraft Certification Service and Aircraft Evaluation Group staffs who review and accept ICA as required by the regulations.

If you find any deficiencies, need clarification, or want to suggest improvements on this order, send a copy of Federal Aviation Administration (FAA) Form 1320-19, Directive Feedback Information (written or electronically), to the Aircraft Certification Service, Planning and Financial Resources Management Branch, AIR-530, Attention: Directives Management Officer. Form 1320-19 is on the last page of this order. You may also send a copy to the Aircraft Engineering Division, AIR-100, Attention: Comments to Order 8110.ICA. If you urgently need an interpretation, contact AIR-140 at 405-954-7066. Always use Form 1320-19 to follow up each verbal conversation.

Nicholas Sabatini  
Associate Administrator, Regulation and Certification, AVR-1

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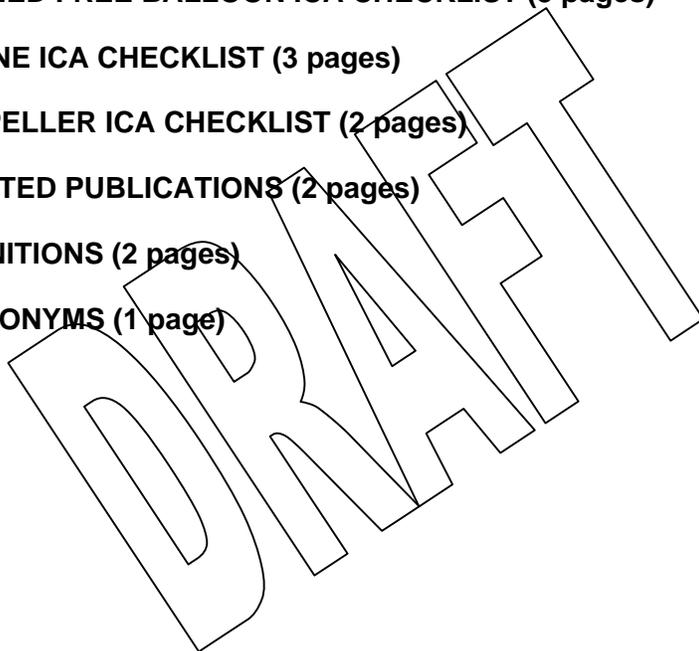
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## CHAPTER 1. PURPOSE AND ORDER ADMINISTRATION

**1-1. Purpose.** This order shows Aircraft/Engine Certification Office (ACO/ECO) and Aircraft Evaluation Group (AEG) staffs how to review and accept Instructions for Continued Airworthiness (ICA). We also include their responsibilities for these tasks. This order supplements Title 14 of the Code of Federal Regulations (CFR) § 21.50(b) and the appendices of §§ 23.1529, 25.1529, 27.1529, 29.1529, 31.82, 33.4, and 35.4, which from now on we call “the applicable regulations.”

**1-2. Distribution.** Distribute this order to branch levels of the Aircraft Certification Service, Flight Standards Service, and the Office of Aviation Systems Standards in Washington Headquarters; to branch levels in the Aircraft Certification Directorates and Regional Flight Standards Divisions; to Aircraft Evaluation Groups; to International Field Offices and Flight Standards District Offices; to all Aircraft Certification Offices; to the Flight Standards Branch and Aircraft Certification Branch at the FAA Academy; to the Suspected Unapproved Parts Program Office; and to the Brussels Aircraft Certification Division and Flight Standards Staff.

**1-3. Cancellation.** This order cancels the following orders and policy memorandums.

**a.** Order 8110.50, Submitting Instructions for Continued Airworthiness for Type Certificates, Amended Type Certificates and Supplemental Type Certificates, dated October 20, 2003.

**b.** Office of Airworthiness Policy Memorandum, Interpretation of FAR 21.50B, dated August 3, 1982.

**c.** Office of Airworthiness Policy Memorandum, Interpretation of FAR 21.50B, dated August 8, 1983.

**1-4. Related Publications (Latest Revisions).** See appendix 8.

**1-5. Definitions.** See appendix 9.

**1-6. Acronyms.** See appendix 10.

**1-7. Authority to Change this Order.** The Aircraft Certification Service, Aircraft Engineering Division (AIR-100), and the Flight Standards Service, Aircraft Maintenance Division (AFS-300), can revise or cancel this order after coordinating with each other.

**1-8. Records Management.** Refer to FAA Orders 0000.1, *FAA Standard Subject Classification System*; 1350.14, *Records Management*; and 1350.15, *Records, Organization, Transfer, and Destruction Standards*; or see your office Records Management Officer or Directives Management Officer for guidance on keeping or disposing of records.



## CHAPTER 2. REGULATORY REQUIREMENTS FOR ICA

### 2-1. Requirement for ICA.

a. Title 14 CFR § 21.50(b) requires design approval holders to furnish ICA per the product's applicable appendix to §§ 23.1529, 25.1529, 27.1529, 29.1529, 31.82, 33.4, and 35.4 (from now on called the "applicable airworthiness regulations"). Design approval holders have to give the ICA to product owners and any other person required to comply with the ICA. The airworthiness regulations also require that ICA be acceptable to the Administrator. That is the basis for our review and acceptance. It is the design approval holder's responsibility to ensure that there is enough information in the ICA to maintain the continued airworthiness of the product.

b. Title 14 CFR § 21.50(b) requires ICA for design approvals applied for after January 28, 1981. We do not use the original certification basis in determining whether ICA are required. We use the date of the application for design approval. For example, in 1965 we required an application for a type certificate (TC) with a certification basis of CAR 4b to develop maintenance instructions, but we did not require the information to be furnished. Today, a design approval holder of a supplemental type certificate (STC) or amended TC for this same product must furnish ICA that meets the applicable regulations per 14 CFR § 21.50(b), even though the original certification basis did not require this.

c. We will not retroactively require design approval holders to develop, or change, ICA on any previous design approvals. However, we will require ICA for these approvals if the ACO, ECO, and AEG determine that there isn't enough information to maintain the product's airworthiness. Airworthiness concern investigations, assessments of potential unsafe conditions, or special certification reviews can reveal such deficiencies.

**2-2. Purpose of ICA.** Instructions for Continued Airworthiness must describe the applicable methods, inspections, processes and procedures for maintaining a product in an airworthy condition. This includes inspections or other procedures to prevent catastrophic failure.

**2-3. Design Approvals Needing ICA.** We classify *all* the following as design approvals, and require design approval holders to distribute acceptable ICA per § 21.50(b):

- a. TCs
- b. Amended TCs
- c. Changes to type design approved under §§ 21.97, and 21.99
- d. STCs
- e. Amended supplemental type certificates

**2-4. Parts Manufacturer Approval (PMA) May Change ICA.** Although a PMA is a design and production approval and does not authorize installation, ICA for the part and eligible

products must still be considered. See Order 8110.42A, *Parts Manufacturer Approval Procedures*, for additional information.

**2-5. ICA for TSO authorization and Import TSO's (Letter of TSO design approval)** only applies if the TSO requires ICA or maintenance instructions. If so, then we must review and accept the ICA as with all other design approvals. For example, see Appendix 4 of TSO-C77b, *Gas Turbine Auxiliary Power Units*. In it, applicants must provide ICA similar to that required in § 33.4, Appendix A.

**2-6. Major Repairs May Change ICA.** Although most repairs do not change existing maintenance practices or inspection intervals, they must still be assessed for changes to ICA or existing maintenance practices. For example, major structural repairs may need more inspection. The owner/operator needs to know that, and the ICA should reflect the additional maintenance and inspection requirements.

**2-7. Major Alterations May Change ICA.** Major alterations are subject to the same airworthiness requirements as the product. Therefore, all major alterations must be assessed for changes to the product level ICA and subsequently provided to the owner of the product. See Order 8300.10, *Airworthiness Inspectors Handbook*, for additional information on the requirement for ICA on Major Alterations.

**2-8. ICA in Manufacturers' Service Documents.** We consider FAA-approved portions of service documents as changes to the type design. They constitute a design approval, and are subject to the applicable airworthiness requirements and § 21.50(b). Consequently, we expect the manufacturer to assess this change to type design and provide for inclusion into the ICA all necessary information to correctly maintain the product, part, or appliance throughout its life. The manufacturer's service document can serve as the ICA if all required information for the change to type design is contained within the document and subsequently provided to all owners of the product.

**2-9. ICA for Military Surplus Aircraft.**

a. Title 14 CFR § 21.25a(2) covers aircraft manufactured to meet the requirements of, and accepted for use by, one of the U.S. armed services and have been later modified for a special purpose. The section says this aircraft can receive a restricted category TC. ICA for the aircraft, engines, appliances and any alterations for the special purpose operation are required before a TC under this category can be issued. The ICA should contain the information required by the applicable airworthiness standards for the aircraft type (parts 23, 25, 27, or 29).

Take, for example, a surplus aircraft manufactured entirely for the military: a U.S. Army UH-1D helicopter. This aircraft requires a complete TC. The design approval holder must provide acceptable ICA to the owner .

b. Military surplus aircraft certificated under § 21.27(b) may require ICA if the regulations required ICA when the aircraft was accepted for operational use by the armed forces, or if the TC is applied for after January 28, 1981.

### CHAPTER 3. ICA FORMAT AND TYPES OF DATA

### 3-1. What the ICA Should Include, Overall.

**a.** ICA for each aircraft must include:

- (1) ICA for each engine, propeller, and appliance required by the applicable airworthiness regulations, and
- (2) ICA for all appliances or products installed on the aircraft not required by the airworthiness regulations, otherwise known as owner options.
- (3) Any required information about the interface of those appliances and products with the aircraft.

**b.** If a part or component is exceptionally complex (needing specialized maintenance techniques, test equipment, or expertise), you can permit an applicant to refer to the manufacturer of an accessory, instrument, or equipment as the source of this information. The applicant must clearly cross-reference the part or component manufacturer's instructions by Part number revision level and/or date of publication in their ICA. Those instructions are incorporated by reference and now become part of the complete ICA, and must be provided to the owner by the design approval holder as required by § 21.50(b).

### 3-2. Format.

**a.** ACOs should instruct applicants to prepare ICA in English, as a manual or manuals, depending on how much data they provide. The manuals need to be easy to read and follow, with a reader staying with one chapter or diagram while performing a task. If there are multiple manuals, there should be a principal manual with a description and application of the manuals, plus a table of contents of all other manuals. We consider the principal manual as the one used for day-to-day maintenance of the aircraft, engine or propeller, and not overhaul manuals, component maintenance manuals, MRB reports or service bulletins. You can refer applicants to sample formats in the Air Transport Association's iSpec 2200, *Information Standards for Aviation Maintenance*, 2003 edition, and General Aviation Manufacturers Association's Specification No. 2, *Maintenance Manual*, dated September 1, 1982.

**b.** If previous ICA or maintenance documents do not exist, or were developed before January 28, 1981, you should expect the ICA submitted for a subsequent design change (after January 28, 1981) to follow the format requirements in the appropriate airworthiness standards. However, you should review any submittal of ICA containing the essential information for acceptance, regardless of the format.

### 3-3. Types of Data for Specific Approvals.

**a.** The appendices in the applicable airworthiness regulations generally say what has to be in the ICA. Chapter 4 of this order provides more detail on the information required per the applicable airworthiness regulations. Besides the information shown in paragraphs 3-3b through 3-3e, All ICA submitted to you:

(1) Must include, as a minimum, instructions for maintenance and preventive maintenance, and inspection requirements in 14 CFR part 43, Appendices A and D.

(2) Must be specific to the product, not general. It has been our experience that applicants rely too much on “standard practices” or other general guidance as the only installation and maintenance details. Often, type design data packages refer to FAA Advisory Circular (AC) 43-13, *Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair*, for installation and maintenance instructions. That guidance is general. It allows an owner, operator, or installer to choose many options for installation or maintenance. Although there are some standard practice manuals that are acceptable for use on a specific task, they are not acceptable, as the “complete set” of ICA. We must have product specific ICA to find that the configuration complies with criteria established by the certification basis.

b. *ICA for a TC* must have all information required by the appendix of the applicable airworthiness regulations as shown in Chapter 4 of this document. For example, a new aircraft being type certificated to 14 CFR part 25 should have all items marked in this order as “(Aircraft).” An engine TC project should include all information marked “(Engine).” The maintenance manual is marked for both “(Aircraft) and (Engine)”, because the regulations require maintenance manuals for both the aircraft and engine.

c. *ICA for an Amended TC* that designates a new model product must have all required information in the appendix of the applicable regulations as shown in chapter 4 of this document. Applicants can use ICA from the baseline product where the processes and procedures are identical to the new model. New ICA must be developed to cover differences between the earlier version and a new product.

d. *ICA for an STC* should cover only the items affected by the design change for which application is made, plus other systems, parts, or areas of the aircraft affected by the design change. For example, if an STC installs a Global Positioning Satellite (GPS) system, ICA for the engine will not be affected and doesn't need to be addressed. However, the submitted ICA must include all of the applicable items from the applicable regulations for the installation. In addition, the ICA must include any appropriate information pertaining to the GPS antenna and its installation. If the GPS is critical to operations, requirements for periodic performance checks must also be in the ICA. We consider ICAs that cover only the affected design change as complete under § 21.50(b).

If the design change does not impact or change the existing ICA or maintenance documentation, the applicant can submit an *assessment* of the need for ICA to satisfy the “complete set” requirement. The assessment must show that the STC project does not change any information, procedures, process, requirements or limitations in the current ICA or maintenance documentation.

e. *ICA for all other changes to products* including changes to type design approved under §§ 21.95 and 21.99, parts manufacturer approval (PMA), and major repairs or alterations must cover the items impacted or changed by the incorporation of the design change for which application is made, plus any other systems, parts, or areas of the aircraft affected by the design

change. Managing ACO/ECO and AEG offices will help an applicant determine the final content requirements.

If the design change does not impact or change the existing ICA or maintenance documentation, the applicant can submit an *assessment* of the need for ICA to satisfy the “complete set” requirement. The assessment must show that the certification project did not change any information, procedures, process, requirements or limitations in the current ICA or maintenance documentation.

**f.** Appendices 1-7 of this order are checklists for each specific product. They tell what items you must address for each.

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## CHAPTER 4. REQUIRED MANUALS OR SECTIONS

### 4-1. Airworthiness Limitations Section (ALS).

a. For an aircraft, balloon, engine, or propeller, there must be a separate and distinguishable ICA section, called “Airworthiness Limitations.” If the ICA consists of multiple manuals, require applicants to include the ALS in the principal manual. We consider the principal manual as the one used for day-to-day maintenance of the aircraft, engine, or propeller, and not overhaul manuals, component maintenance manuals, MRB reports or service bulletins. The ALS must prominently display this statement: **“The Airworthiness Limitations Section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved.”** Require applicants to include the following:

- (1) Mandatory replacement times for type certification.
- (2) Mandatory inspection times for type certification.
- (3) Inspection procedures for those mandatory times.

b. We consider paragraphs 4-1(a)(1) through 4-1(a)(3) critical, because if an aircraft, balloon, engine, or propeller does not comply with those inspection and replacement times and procedures, a catastrophe could result. These items are typically identified by applicants as they make safety assessments on both the structure and systems of the product.

c. Examples of items required for type certification are structural inspections per § XX.571, and fuel system requirements per § 25.981 (Transport Category Aircraft).

d. See 14 CFR § 23.1529, Appendix G, G23.4; § 25.1529, Appendix H, H25.4; § 27.1529, Appendix A, A27.4; § 29.1529, Appendix A, A29.4; § 31.82, Appendix A, A31.4; § 33.4, Appendix A, A33.4; and § 35.4, Appendix A, A35.4 for the regulatory requirements.

**4-2. Certification Maintenance Requirements (CMR)** (for Transport Category Airplane) are required inspections or maintenance tasks. They apply to equipment, systems, and powerplant installations, and are performed at certain times to detect or correct safety-significant latent failures (failures not known to the crew). These latent failures, combined with one or more other specific failures or events, can cause hazards or catastrophes. CMRs are necessary to maintain a product’s airworthiness. We consider CMRs as part of the ICA. See AC 25-19, *Certification Maintenance Requirements*, for additional information.

**4-3. Maintenance Review Board (MRB) Report** (Transport Category Aircraft). Intended for air carriers, this report contains the initial minimum scheduled maintenance and inspection requirements for a particular transport category aircraft and on-wing engine program. Air carriers use the MRB, and its associated requirements, to develop maintenance programs. See AC 121-22A, *Maintenance Review Board Procedures*, for additional information.

#### **4-4. Aircraft/Rotorcraft Maintenance.**

**a.** This manual must explain aircraft/rotorcraft features, and include aircraft/rotorcraft maintenance or preventive maintenance information, including:

(1) Description of all systems and installations, including engines, propellers, and appliances (for aircraft/rotorcraft); and accessories (for engines).

(2) Removal and installation instructions for parts, including all required equipment and precautions.

(3) Description of how the system operates and is controlled, including special procedures and limitations.

(4) Description of how to adjust and test the system, plus required equipment and precautions.

(5) Description of probable malfunctions, and how to recognize and correct them.

(6) Servicing procedures, including servicing points (location and access), capacities of tanks and reservoirs, types of fluid used, required equipment and precautions.

(7) Aircraft/rotorcraft towing instructions, including required equipment and precautions.

(8) Aircraft/rotorcraft jacking, mooring, and leveling instructions (including required equipment and precautions).

(9) Lifting and shoring instructions, including required equipment and precautions.

(10) Weight and balance instructions to determine the center of gravity.

(11) List of equipment required to complete all work. There may be several lists, each in the sections of the ICA where the work is described. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Instruct applicants to highlight them.

(12) The applicant's inspection program with the frequency and extent of the inspections necessary to sustain continued airworthiness.

**b.** See 14 CFR § 23.1529, Appendix G, G23.3(a); § 25.1529, Appendix H, H25.3(a); § 27.1529, Appendix A, A27.3(a); and § 29.1529, Appendix A, A29.3(a) for the regulatory requirements.

#### **4-5. Balloon Maintenance.**

**a.** This manual must explain the balloon's features and describe maintenance or preventive maintenance, including:

(1) Description of the balloon, its systems, and installations. This should include, but is not limited to, the controls, basket structure, fuel systems, and heating assembly.

(2) Removal and installation instructions for parts, including all required equipment and necessary precautions.

(3) Description of how the system operates and is controlled, including special procedures and limitations.

(4) How to adjust and test the system, including all required equipment and precautions.

(5) Description of probable malfunctions, how to recognize and correct them.

(6) Servicing procedures that include balloon components, including burner nozzles, fuel tanks, valves during operation, and any required equipment and precautions.

(7) Hard landing inspection items and procedures.

(8) Balloon storage preparation and limits.

(9) How to repair the balloon envelope, its basket or trapeze.

(10) The applicant's inspection program with the frequency and extent of the inspections necessary to sustain continued airworthiness.

b. See § 31.82, Appendix A, A31.3 for the regulatory requirement.

#### **4-6. Engine Maintenance.**

a. This manual or section must cover the engine's features and what is necessary for engine maintenance or preventive maintenance, including the following:

(1) Description of engine features, systems, and installations.

(2) Removal and installation instructions for parts and accessories with warnings, cautions, and notes that are part of the engine type design.

(3) Description of how the engine components, systems, and installations operate; how to start, run, test, and stop the engine and its parts, including any special procedures and limitations.

(4) How to adjust and test a system, including all required equipment and precautions.

(5) Description of probable malfunctions, how to recognize and correct them.

(6) Servicing procedures with servicing points (location and access), capacities of tanks and reservoirs, types of fluid used, and any required equipment and precautions.

Procedures must cover both engine type design parts and systems or components either installed integrally or dependent on the engine.

(7) List of required equipment to complete all work. There may be several lists, each in the ICA sections where the work is described. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Instruct applicants to highlight them.

(8) Schedule for each part of the engine with the recommended times for cleaning, inspecting, adjusting, testing, and lubricating. Applicants should add the depth of inspection required, applicable wear tolerances, and tasks at those times.

(9) Schedule for part removal, replacement, or overhaul, cross-referenced to the ALS. If the ICA shows overhaul time for a part, then the ICA must include an overhaul manual for that part.

(10) The applicant's inspection program with the frequency and extent of the inspections necessary to sustain continued airworthiness.

b. See § 33.4, Appendix A, A33.3(a) for the regulatory requirement.

#### **4-7. Engine Overhaul.**

a. Covering engine disassembly, overhaul, and reassembly, this manual or section must also include necessary cautions or warnings, and:

(1) Cleaning and inspection instructions with inspection criteria for each part of the engine, subassembly, assembly, module, systems, and components. The inspection criteria should identify the tasks at each level, such as part replacement, repair, or more detailed inspection.

(2) Details on all fits and clearances of the engine and components, and structural integrity and functionality for new and worn parts.

(3) Repair methods for worn or otherwise substandard parts that do not meet the inspection limits. The ICA does not need repair information for all engine parts, but should identify when and why a part must be replaced or repaired.

(4) Instructions for testing an engine after overhaul, including test acceptance criteria.

(5) Instructions for storage that identify special containers and required equipment or tools. The ICA should also include environmental restrictions for storage and storage limits.

(6) List of required tools to complete all work. There may be several lists, each in the ICA section where the work is described. The list of overhaul tools should be in the front of the manual or section so it's easy to find the list and order the tools. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Instruct applicants to highlight this.

b. See 14 CFR § 33.4, Appendix A, A33.3(b) for the regulatory requirement.

**4-8. Propeller Maintenance.**

**a.** The manual or section must cover both the propeller features and maintenance or preventive maintenance, including:

- (1) Description of propeller features, systems, and installations.
- (2) Instructions for uncrating, acceptance checking, lifting, installing, and removing the propeller, and any warnings, cautions, and notes that are part of the propeller type design.
- (3) Description of the propeller components and systems, how they operate, and how they are controlled, including any special procedures and limitations.
- (4) Description of how to adjust and test propellers, including required equipment and precautions.
- (5) Description of probable malfunctions, and how to recognize and correct them.
- (6) Order and method of removing and replacing propeller parts, with any necessary precautions to take.
- (7) List of required equipment to complete all work. There may be several lists, each in the ICA section where the work is described. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Instruct applicants to highlight them.
- (8) Maintenance schedule for each part of the propeller, including recommended periods for cleaning, inspecting, adjusting, testing, and lubricating; the depth of inspection required; the wear tolerances; and tasks at those intervals.
- (9) The recommended replacement/overhaul schedule – with the necessary cross-reference to the ALS – that shows when to remove, replace, or overhaul a specific part. If the ICA shows an overhaul time for a part, then the ICA must include the overhaul manual for that part. The product design approval holder is responsible for controlling the content and changes, not the part manufacturer.
- (10) Expect an applicant to include an inspection program detailing the frequency and extent of the inspections necessary to sustain continued airworthiness.

**b.** See § 35.4, Appendix A, A35.3(a) for the regulatory requirement.

**4-9. Propeller Overhaul.**

**a.** Covering propeller disassembly, overhaul, and reassembly, the manual or section must include any necessary cautions or warnings, plus:

- (1) Cleaning and inspection instructions with inspection criteria for each part of the propeller. The criteria should identify the tasks at each level, such as part replacement, repair, or more detailed inspection.

(2) Details on all fits and clearances for the propeller and components, and structural integrity and functionality for new and worn parts.

(3) Repair methods for worn or otherwise substandard parts that do not meet the inspection limits. The ICA does not need to cover repairs on all propeller parts, but should identify when and why a part must be replaced or repaired.

(4) Description of how to test the propeller after overhaul, including test acceptance criteria.

(5) Instructions for storage that identify special containers and required equipment or tools. The ICA should also include the environmental restrictions for storage and storage limits.

(6) List of required tools to complete all work. The list may actually be several lists, each in the ICA section where the work is described. The tools list should be in front of the manual or section so it's easy to find the list and order the tools. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Ensure that applicants highlight this.

b. See 14 CFR § 35.4, Appendix A, A35.3(b) for the regulatory requirement.

#### **4-10. Maintenance Instructions.**

a. For each part of the aircraft, balloon, engine, and propeller, plus its components or appliances, this manual or section must include:

(1) Recommended times for cleaning, inspecting, testing, lubricating, and adjusting, including the depth of inspection required, the wear tolerances, and tasks performed.

(2) Location of access panels for inspection and servicing.

(3) Diagram of structural access plates, and how to gain access when access plates are not provided.

(4) Replacement/overhaul schedule – with cross-reference to the ALS – that shows when to remove, replace, or overhaul a specific part. If the ICA shows an overhaul requirement for a part, then the ICA must include an overhaul manual for that part. The product design approval holder is responsible for controlling the content and changes, not the part manufacturer.

(5) Primary structure identification and recommended inspection times and types, such as ultrasonic, eddy current, and so forth.

(6) An inspection program with the frequency and extent of inspections to sustain continued airworthiness.

(7) All data on structural fasteners, such as identification, discard recommendations, and torque values.

b. The applicant may refer to the manufacturer of an accessory, instrument, or equipment as the source of this maintenance information, if they show that the item is very complex and requires specialized techniques, test equipment, or expertise.

c. See 14 CFR § 23.1529, Appendix G, G23.3(b); § 25.1529, Appendix H, H25.3(b); § 27.1529, Appendix A, A27.3(b); § 29.1529, Appendix A, A29.3(b); § 31.82, Appendix A, A31.3; § 33.4, Appendix A, A33.3(a); and § 35.4, Appendix A, A35.3(a) for the regulatory requirements.

**4-11. System Wiring Diagram Section.** For aircraft and engines, this section covers the aircraft's electrical or electronic circuits. The diagrams must be detailed enough to enable maintenance personnel to troubleshoot and service the electrical system. This section must include wiring diagrams for the installation in sufficient detail for the purposes of troubleshooting. In addition, the wiring diagram section must include a method of determining connector type, wire type and wire size. We consider system wiring diagrams as descriptive data of the systems used on the product, and a part of the ICA.

**4-12. Component Overhaul/Maintenance Manuals.** For aircraft, engines, and propellers, these manuals cover overhauling and repairing components or appliances not covered under the maintenance manual (such as "black boxes."). If the ICA refer to the manuals or set overhaul times as a requirement to maintain the continued airworthiness, those instructions are incorporated by reference and now become part of the complete ICA, and must be provided to the owner by the design approval holder as required by § 21.50(b). In that case, the component manuals must contain the following:

a. Cleaning and inspection instructions with criteria for each part. The inspection requirements should identify the tasks at each level, such as part replacement, repair, or more detailed inspection.

b. Details on all fits and clearances of the component, and structural integrity and functionality for new and worn parts.

c. Repair methods for worn or otherwise substandard parts that do not meet the inspection limits.

d. Instructions for testing after overhaul, including test acceptance criteria.

e. Instructions for storage, identifying special containers and any equipment or tools. The ICA should also include environmental restrictions for storage and storage limits.

f. List of required tools to complete all work. There may be several lists, each in the ICA section where the work is described. The tools list should be in front of the manual or section so it's easier to find it and order the tools. Title 14 CFR § 43.13 mandates the use of special tools during maintenance. Ensure that applicants highlight this.

**4-13. Non-Destructive Test (NDT) and Inspection.** For aircraft, engines, and propellers, this manual covers testing techniques, instructions, and required equipment for all required NDTs and inspections. The regulations don't specifically require this information, but we consider it

necessary to do the inspections under the maintenance interval requirement. This can be specifically written for the product or a referenced standard practices/procedures document.

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## CHAPTER 5. ACO AND AEG RESPONSIBILITIES

**5-1. What ACOs and the ECO Must Do.** If you are in an ACO/ECO, you are the primary connection with the applicant for design approvals, except field approvals. You are responsible for accepting the ICA with concurrence from the AEG. This includes advising all applicants that they have to develop ICA for every application for a design approval. After you receive an application, you must:

- a. Coordinate with the responsible AEG individual at the start of each program to give them information, and provide notification that their concurrence of the ICA will be needed. Recommended method of notification would be with a certification project notification (CPN). You cannot delegate this job to a company DER or foreign regulatory agency.
- b. Notify the applicant early in the program that you require ICA per 14 CFR §§ 23.1529, 25.1529, 27.1529, 29.1529, 31.82, 33.4, or 35.4 – whichever applies – and their associated appendices. See chapter 3 for more information on the content requirements. For a TSO, ensure the applicant has addressed all ICA requirements that apply.
- c. Give the applicant the names and offices of the AEG airworthiness inspectors, who will review the ICA.
- d. Invite the AEG airworthiness inspector to the TC board, or other formal meetings with the applicant, to ensure that everyone understands the requirement for ICA and what should be in it.
- e. Communicate regularly with the applicant and AEG airworthiness inspector to ensure that the ICA meets the project schedule. Reviewing the ICA can be time-consuming. You, the AEG, and the applicant need to communicate regularly to keep the project on schedule.
- f. Review and approve the ALS and the instructions for installing and operating the engine, propeller, or both. Contact the AEG airworthiness inspector and ask for their concurrence on the acceptability of the engine and propeller installation instructions and the format/content of the ALS before you approve them.
- g. For TC and Amended TC projects requiring a new Airworthiness Certificate, approve a program to ensure the applicant provides a complete set of accepted ICA to the owner prior to delivery of the first aircraft or an Airworthiness Certificate has been issued, whichever occurs later.
- h. All other design approvals should not be issued until you with AEG concurrence have accepted the ICA. However, if there is a need to issue a design approval without complete ICA, you must approve a program that ensures the ICA will be complete and accepted before the first affected aircraft is operated with a standard airworthiness certificate. The minimum program elements are:

- (1) List of all parts affected by the design change.

(2) Detailed schedule for completing and submitting the ICA to the ACO/ECO.

(3) A statement saying, “Instructions for Continued Airworthiness are incomplete. The aircraft will be eligible for return to service when the ICA are complete and accepted.” You must put this statement in the type certificate data sheet or the “Limitations” section of the STC. This means an aircraft can be modified, but cannot return to service until the complete ICA are accepted. When we accept the ICA, you can remove the statement.

(4) A memo to notify the appropriate individual or office (FAA or designee) that a standard airworthiness certificate cannot be issued. When we accept the ICA, rescind the memo.

i. With AEG concurrence, review and determine the acceptability of the applicant’s plan showing how they, or the design approval holder, are going to distribute the initial ICA and subsequent changes. This plan should include the kind of media they’ll use to distribute the ICA and how soon after a change they will send it.

j. With AEG concurrence, review and determine acceptability of any ICA changes provided the plan accepted requires review of changes.

**5-2. AEG Responsibilities.** AEG personnel are operations, maintenance, and avionics inspectors lending their specialized technical services to assigned aircraft. This includes reviewing and concurring on the acceptance of the ICA, plus subsequent changes. The ACO responsible for the project will notify the AEG when a project requires ICA review.

a. If you are an AEG staff member and get this notification, you need to:

(1) Give the ACO project manager the names of the AEG airworthiness inspectors, who will be assigned to the project.

(2) Ensure that the project AEG airworthiness inspectors meet or communicate with ACO project engineers to coordinate the maintenance requirements for each of the disciplines, particularly those for maintaining the product’s continued airworthiness.

(3) Report ICA status to the ACO project manager during any internal FAA meetings, and additionally whenever you think you need to.

(4) Within 30 days of receiving the ICA, send the ACO project manager written concurrence of acceptance, in the form of a memo or electronic mail. If you cannot meet this timeline, you should coordinate a schedule with the ACO/ECO that details when you can complete your review.

(5) In coordination with the ACO project manager, review and determine the acceptability of the applicant’s plan showing how they, or the design approval holder, are going to distribute ICA changes. This plan should include the kind of media they’ll use for distribution and how soon after the change will they send it.

(6) Coordinate with the ACO/ECO when deciding whether to allow an owner/operator to use an equivalent tool or equipment instead of the one specified in the appropriate manual.

b. If you are the AEG airworthiness inspector, meet or communicate with the applicant as often as necessary to monitor the progress of ICA publications. You must advise the applicant, when needed, on proper compliance to airworthiness regulations and their associated appendices.

### **5-3. The Flight Standards Inspector's Role.**

a. The flight standards inspector is the focal point for reviewing and accepting ICA on field approval projects that require a Form 337. If you are an inspector, tell the applicant that they have to submit ICA when asking for project approval. The ICA must meet the requirements of the applicable airworthiness regulations (see Order 8300.10, *Airworthiness Inspectors Handbook*). Keep in mind that individuals with varying degrees of skill will use the ICA, so ICA need to be easy to understand. Both premier carriers with many years of experience and first-time operators must be able to understand the manuals and the ICA equally.

b. Note that ICA are not only used by air carriers operating under part 121, but by operators under part 91. ICA are also the only source of information for maintaining certified products at repair stations when the stations are not performing maintenance for air carriers under § 145.2. If the proposed ICA does not add or change existing requirements in the ALS, you can accept the ICA. If the change affects the ALS, however, you must contact the certifying ACO for approval.

**5-4. How We Resolve Disputes.** Because engineering personnel and AEG airworthiness inspectors may disagree, we have developed a conflict resolution process. These are the steps:

a. AEG and ACO/ECO project members review ICA and identify their concerns and problems with the ICA to one another. If the AEG and ACO/ECO project engineers agree, they present the problems and concerns with the ICA to the applicant for correction.

b. If AEG and ACO/ECO project members disagree on any item, individuals will present their concerns to their office managers. Remember that we consider the AEG the maintenance and operations expert, while the ACO/ECO are design experts.

(1) If AEG and ACO/ECO managers can't resolve the disagreement, the concerned office sends a memo to the other office, explaining the concern, their position, and a proposed solution.

(2) The office getting the memo responds in writing.

(3) The office also sends a copy of their response to the responsible directorate Standards Staff, the Aircraft Maintenance Division (AFS-300) of Flight Standards, and if appropriate, the regional counsel for review, comments, and resolution.

(4) If the directorate Standards Staff, Aircraft Maintenance Division (AFS-300) of Flight Standards, and regional counsel cannot agree, the staffs will send the original concerns and their responses to the ICA focal points in the Aircraft Certification, Aircraft Engineering Division (AIR-100) and the Flight Standards, Aircraft Maintenance Division (AFS-300).

(5) AIR-100 and AFS-300 focal points distribute the disputed issues and comments to division team members. Within five working days after sending the material, the focal point convenes a team teleconference. The focal point needs to include the originating AEG and ACO/ECO project members in the teleconference, during which the team will strive to reach consensus. If they don't, the focal point makes a recommendation.

(6) The ICA team writes that recommendation and submits it to the managers of AIR-100 and AFS-300. The team's legal representatives should decide whether to send the team's solution to the Office of the Chief Counsel's Regulations Division (AGC-200) to resolve legal issues.

(7) The managers of AIR-100 and AFS-300 will decide what to do based on the recommendations. They will tell both the directorate and the applicant.

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## CHAPTER 6. DISTRIBUTING ICA AND CHANGES

**6-1. ACOs/ECOs Review the Plan.** In this chapter, we show you how to work with applicants on an acceptable way to distribute both new and subsequent changes to ICA. We'll also cover when a non-owner (like a 14 CFR part 145 repair station) is entitled to receive ICA. As we covered in paragraph 5-1 of this order, if you're in an ACO/ECO, you must review and accept the method of distributing ICA.

### 6-2. Distributing ICA.

**a.** The reason for furnishing ICA to the owner upon delivery of the aircraft or issuance of the airworthiness certificate is to ensure that the owner has ICA when operations begin. Most of the time, the design approval holder will provide the ICA when they deliver the aircraft to the owner. However, there are cases when the owner has possession of the aircraft, but does not have an airworthiness certificate because of changes in the type design. In this case, we would not require the ICA for the changes in type design until the airworthiness certificate is issued.

**b.** Furnishing ICA means giving the ICA in either hard copy (paper) or by electronic means, such as a compact disk (CD). When an owner buys more than one product of the same type design and does not want more than one copy of the ICA, applicants should send only one set of manuals or electronic media. For example, an airline that buys 25 747-400 aircraft of the same type design may not need 25 copies of the ICA on CD, but they are entitled to all 25 copies if they ask for it.

**c.** We will not accept an applicant/design approval holder's offer to provide the owner a website or toll-free phone number for downloading or requesting initial ICA. We cannot guarantee that through the web, the owner will access or download all required material to safely maintain the product. The intent of the rule is to ensure that each owner has the required information to safely operate and maintain the product's airworthiness throughout the service life.

**6-3. Changes to ICA.** Title 14 CFR § 21.50(b) requires that the design approval holder make changes to the ICA available to any person who must comply with them. The approval holder provides changes according to a plan they wrote that both the ACO/ECO and AEG accepted. The design approval holder should format the changes to supplement the original ICA, and clearly say what's being changed, to prevent confusion. Instruct an approval holder that they can distribute changes to ICA using:

- a.** Paper copies of the changes, sent to all owners on record.
- b.** Digital format (CD) copies, sent to owners on record.

### 6-4. Who Is Entitled to ICA.

**a.** Section 21.50(b) says the owner of a type-certificated product is entitled to at least one set of complete ICA. The rule also says that ICA must be made available to any person required to comply with the terms of these instructions. We find that the owner has the requirement to

maintain the airworthiness of the product. Therefore, these four conditions must be met in full for ICA to be “made available” to someone who is not an owner of the product:

(1) Application for the latest related TC (original, amended, or supplemental) was made after January 28, 1981.

(2) The latest related certification basis includes § 21.50 as amended September 11, 1980 or later (and 2x.1529 or 3x.4 as applicable). That is, the certificate holder was required to develop and furnish ICA as part of the certification process.

(3) The requester (repair station/individual) of the ICA is *currently* rated for the product/part, has the product/part listed in their limitations, and is required by Chapter 1 of 14 CFR to comply with ICA for the product/part.

(4) If the ICA data requested is a component maintenance manual (CMM) or specific repair information, the CMM or repair information must be referenced in higher-level ICA (airplane or engine ICA) as the source of information for continued airworthiness actions.

b. Meeting each of the conditions in paragraph 6-4a(1) through 6-4a(4) is necessary to ensure enforcement of the § 21.50(b) rule. Conditions (1) and (2) are self-evident about whether the rule applies. Condition (3) is the only case in which a repair station or individual is *required* to perform maintenance per ICA. Condition (4) covers how to vouch for the validity of some CMMs as part of ICA. If top-level ICA contain “remove and replace” instructions for certain components, and don’t refer to CMMs or specific repair procedures, then the:

- Aircraft can maintain its airworthiness by replacement action, and
- CMM or repair documentation is not part of the ICA

c. If a person can show they are entitled to ICA per the criteria in paragraphs 6-4a(1) through 6-4a(4), and they are not requesting the ICA to accomplish work on §§ 121 or 135 operator, then by regulation they are also entitled to changes to that ICA. Work on §§ 121 or 135 operator’s products must be performed per the operator’s processes and procedures, not the design holders ICA.

**APPENDIX 1. SMALL AIRCRAFT ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> ICA for each engine.	G23.1(b)	
<input type="checkbox"/> ICA for each propeller.	G23.1(b)	
<input type="checkbox"/> ICA for each appliance required by this chapter.	G23.1(b)	
<input type="checkbox"/> Required information on the interface of <input type="checkbox"/> appliances, <input type="checkbox"/> engines, and <input type="checkbox"/> propellers with the aircraft.	G23.1(b)	
<input type="checkbox"/> If ICA are not supplied by the manufacturer of an <input type="checkbox"/> appliance, <input type="checkbox"/> engine, or <input type="checkbox"/> propeller installed on the aircraft, the ICA for the aircraft must include <input type="checkbox"/> the information essential to the continued airworthiness of the aircraft.	G23.1(b)	
<input type="checkbox"/> Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	G23.1(c)	
<input type="checkbox"/> ICA in a manual or manuals. <input type="checkbox"/> Manuals arranged for easy and practical use.	G23.2(a)	
<input type="checkbox"/> Manuals prepared in English.	G23.3	
<input type="checkbox"/> Manual's introduction includes an explanation of the airplane's features and data for maintenance or preventive maintenance.	G23.3(a)(1)	
<input type="checkbox"/> Description of the <input type="checkbox"/> aircraft and its systems and installations, <input type="checkbox"/> engines and its systems and installations, <input type="checkbox"/> propellers and its systems and installations, and <input type="checkbox"/> appliances and its systems and installations.	G23.3(a)(2)	
<input type="checkbox"/> Basic descriptions of <input type="checkbox"/> how the aircraft components and systems are controlled and <input type="checkbox"/> how the aircraft components and systems are operated, including <input type="checkbox"/> any special procedure and limitations.	G23.3(a)(3)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> servicing points, <input type="checkbox"/> capacities of tanks, <input type="checkbox"/> capacities of reservoirs, <input type="checkbox"/> types of fluids used, and <input type="checkbox"/> pressures applicable to the various systems.	G23.3(a)(4)	
<input type="checkbox"/> Location of access panels for <input type="checkbox"/> inspection and <input type="checkbox"/> servicing.	G23.3(a)(4)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> locations of lube points and <input type="checkbox"/> lube used.	G23.3(a)(4)	

**APPENDIX 1. SMALL AIRCRAFT ICA CHECKLIST (continued)**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Equipment required for servicing.	G23.3(a)(4)	
( ) Tow instructions and limitations.	G23.3(a)(4)	
( ) Mooring information	G23.3(a)(4)	
( ) Jacking information	G233(a)(4)	
( ) Leveling information	G33(a)(4)	
( ) Scheduling information for each part of the ( ) aircraft, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	G25.3(b)(1)	
( ) Scheduling information for ( ) aircraft engines, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.  <b>NOTE:</b> This information may be in the FAA accepted engine ICA.	G23.3(b)(1)	
( ) Scheduling information for ( ) the aircraft's auxiliary power unit, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	G23.3(b)(1)	
( ) Scheduling information for ( ) aircraft propellers, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	G23.3(b)(1)	
( ) Scheduling information for ( ) aircraft accessories, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	G23.3(b)(1)	
( ) Scheduling information for ( ) aircraft instruments, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	G23.3(b)(1)	

**APPENDIX 1. SMALL AIRCRAFT ICA CHECKLIST (continued)**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> Scheduling information for <input type="checkbox"/> aircraft equipment, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> inspecting, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; and <input type="checkbox"/> the work recommended at these periods.	G23.3(b)(1)	
<input type="checkbox"/> Degree of inspection for each part of the <input type="checkbox"/> aircraft and its <input type="checkbox"/> engines, <input type="checkbox"/> the auxiliary power unit, <input type="checkbox"/> propellers, <input type="checkbox"/> accessories, <input type="checkbox"/> instruments, and <input type="checkbox"/> equipment.	G23.3(b)(1)	
<input type="checkbox"/> Applicable wear tolerances.	G23.3(b)(1)	
Applicant may refer to an <input type="checkbox"/> accessory, <input type="checkbox"/> instrument, or <input type="checkbox"/> equipment manufacturer as the source of this information if applicant shows <input type="checkbox"/> that the item is exceptionally complex and requires specialized maintenance techniques, test equipment, or expertise.	G23.3(b)(1)	
<input type="checkbox"/> Recommended overhaul periods and necessary cross-references to the ALS.	G23.3(b)(1)	
<input type="checkbox"/> An inspection program that includes <input type="checkbox"/> the frequency and <input type="checkbox"/> extent of the inspection necessary to provide for continued airworthiness .	G23.3(b)(1)	
<input type="checkbox"/> Troubleshooting descriptions of <input type="checkbox"/> problem malfunctions, <input type="checkbox"/> how to recognize those malfunctions, and <input type="checkbox"/> remedies for them.	G23.3(b)(2)	
<input type="checkbox"/> Description of the order and method of <input type="checkbox"/> removing and <input type="checkbox"/> replacing products (engines and propellers) with any precautions.	G23.3(b)(3)	
<input type="checkbox"/> Description of the order and method of <input type="checkbox"/> removing and <input type="checkbox"/> replacing parts, with any precautions.	G23.3(b)(3)	
<input type="checkbox"/> Other instructions, including <input type="checkbox"/> storage limitations and procedures for <input type="checkbox"/> testing system during ground running, <input type="checkbox"/> making symmetry checks, <input type="checkbox"/> weighing and determining the center of gravity, <input type="checkbox"/> lifting, and <input type="checkbox"/> shoring.	G23.3(b)(4)	
<input type="checkbox"/> Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	G23.3(c)	
<input type="checkbox"/> Details for applying special inspection techniques, including radiographic and ultrasonic testing, where such processes are specified.	G23.3(d)	

**APPENDIX 1. SMALL AIRCRAFT ICA CHECKLIST (continued)**

REQUIREMENT	Regulation Appendix	Location In ICA
<input type="checkbox"/> Information needed to apply protective treatment to structure after inspection.	G23.3(e)	
<input type="checkbox"/> All data on structural fasteners, such as <input type="checkbox"/> identification, <input type="checkbox"/> discarded recommendations, and <input type="checkbox"/> torque values.	G23.3(f)	
<input type="checkbox"/> List of special tools needed.	G23.3(g)	
<input type="checkbox"/> For Commuter Category aircraft: electrical loads applicable to the various systems.	G23.3(h)(1)	
<input type="checkbox"/> For Commuter Category aircraft: methods of balancing control surfaces.	G23.3(h)(1)	
<input type="checkbox"/> For Commuter Category aircraft: identifying primary and secondary structures.	G23.3(h)(1)	
<input type="checkbox"/> For Commuter Category aircraft: any special repair methods applicable.	G23.3(h)(1)	
<input type="checkbox"/> ICA must contain a section, titled Airworthiness Limitations, that is <input type="checkbox"/> segregated and <input type="checkbox"/> clearly distinguishable from the rest of the document. <b>NOTE:</b> The appropriate FAA office will evaluate and approve the Airworthiness Limitations Section (ALS) in the applicant's ICA.	G23.4	
<input type="checkbox"/> If ICA consist of multiple manuals, the ALS required by this paragraph must be in the principal manual.	G23.4	
<input type="checkbox"/> ALS must contain a legible statement in a prominent location, saying: "The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	G23.4	

**APPENDIX 2. TRANSPORT CATEGORY AIRCRAFT ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> ICA for each engine.	H25.1(b)	
<input type="checkbox"/> ICA for each propeller.	H25.1(b)	
<input type="checkbox"/> ICA for each appliance required by this chapter.	H25.1(b)	
<input type="checkbox"/> Required information on the interface of <input type="checkbox"/> appliances, <input type="checkbox"/> engines, and <input type="checkbox"/> propellers with the aircraft.	H25.1(b)	
<input type="checkbox"/> If ICA are not supplied by the manufacturer of an <input type="checkbox"/> appliance, <input type="checkbox"/> engine, or <input type="checkbox"/> propeller installed on the aircraft, the ICA for the aircraft must include <input type="checkbox"/> the information essential to the continued airworthiness of the aircraft.	H25.1(b)	
<input type="checkbox"/> Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	H25.1(c)	
<input type="checkbox"/> ICA in a manual or manuals. <input type="checkbox"/> Manuals arranged for easy and practical use.	H25.2(a) H25.2(b)	
<input type="checkbox"/> Manuals prepared in English.	H25.3	
<input type="checkbox"/> Manual's introduction includes explanation of the airplane's features and data for maintenance or preventive maintenance.	H25.3(a)(1)	
<input type="checkbox"/> Description of the <input type="checkbox"/> aircraft and its systems and installations, <input type="checkbox"/> engines and its systems and installations, <input type="checkbox"/> propellers and its systems and installations, and <input type="checkbox"/> appliances and its systems and installations.	H25.3(a)(2)	
<input type="checkbox"/> Basic descriptions of <input type="checkbox"/> how aircraft components and systems are controlled and <input type="checkbox"/> operated, including <input type="checkbox"/> any special procedure and limitations.	H25.3(a)(3)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> servicing points, <input type="checkbox"/> capacities of tanks, <input type="checkbox"/> capacities of reservoirs, <input type="checkbox"/> types of fluids to be used, and <input type="checkbox"/> pressures applicable to the various systems.	H25.3(a)(4)	
<input type="checkbox"/> Location of access panels for <input type="checkbox"/> inspection and <input type="checkbox"/> servicing.	H25.3(a)(4)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> locations of lube points, <input type="checkbox"/> the lube used.	H25.3(a)(4)	
<input type="checkbox"/> Equipment required for servicing.	H25.3(a)(4)	
<input type="checkbox"/> Tow instructions and limitations.	H25.3(a)(4)	

**APPENDIX 2. TRANSPORT CATEGORY AIRCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Mooring information.	H25.3(a)(4)	
( ) Jacking information.	H25.3(a)(4)	
( ) Leveling information.	H25.3(a)(4)	
( ) Scheduling information for each part of ( ) aircraft, including periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	
( ) Scheduling information for ( ) aircraft engines, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.  <b>NOTE:</b> This information may be in the FAA accepted engine ICA.	H25.3(b)(1)	
( ) Scheduling information for ( ) the aircraft's auxiliary power unit, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	
( ) Scheduling information for ( ) aircraft propellers, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	
( ) Scheduling information for ( ) aircraft accessories, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	
( ) Scheduling information for ( ) aircraft instruments, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	

**APPENDIX 2. TRANSPORT CATEGORY AIRCRAFT ICA CHECKLIST, continued**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
( ) Scheduling information for ( ) aircraft equipment, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	H25.3(b)(1)	
( ) Degree of inspection for each part of ( ) aircraft and its ( ) engines, ( ) the auxiliary power unit, ( ) propellers, ( ) accessories, ( ) instruments, and ( ) equipment.	H25.3(b)(1)	
( ) The applicable wear tolerances.	H25.3(b)(1)	
Applicant may refer to an ( ) accessory, ( ) instrument, or ( ) equipment manufacturer as the source of this information if applicant shows ( ) that the item is exceptionally complex and requires specialized maintenance techniques, test equipment, or expertise.	H25.3(b)(1)	
( ) The recommended overhaul periods and necessary cross-references to the ALS.	H25.3(b)(1)	
( ) An inspection program that includes ( ) the frequency and ( ) extent of the inspection necessary to provide for continued airworthiness.	H25.3(b)(1)	
( ) Troubleshooting descriptions of ( ) malfunctions, ( ) how to recognize those malfunctions, and ( ) remedies for them.	H25.3(b)(2)	
( ) Descriptions of the order and method of ( ) removing and ( ) replacing products (engines and propellers) with any necessary precautions.	H25.3(b)(3)	
( ) Descriptions of the order and method of ( ) removing and ( ) replacing parts with any necessary precautions.	H25.3(b)(3)	
( ) Other instructions, including ( ) storage limitations and procedures for ( ) testing system during ground running, ( ) making symmetry checks, ( ) weighing and determining the center of gravity, ( ) lifting, and ( ) shoring.	H25.3(b)(4)	
( ) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	H25.3(c)	
( ) Details to apply special inspection techniques, including radiographic and ultrasonic testing where such processes are specified.	H25.3(d)	

**APPENDIX 2. TRANSPORT CATEGORY AIRCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Information needed to apply protective treatment to structure after inspection.	H25.3(e)	
( ) All data on structural fasteners, such as ( ) identification, ( ) discarded recommendations, and ( ) torque values.	H25.3(f)	
( ) List of special tools needed.	H25.3(g)	
( ) ICA must contain a section, titled Airworthiness Limitations that is ( ) segregated and ( ) clearly distinguishable from the rest of the document.  <b>NOTE:</b> The appropriate FAA office will evaluate and approve the Airworthiness Limitations Section (ALS) in the applicant's ICA.	H25.4(a)	
( ) ALS must explain each mandatory replacement time, structural inspection interval, and related structural inspection procedures approved under § 25.571.	H25.4(a)(1)	
( ) ALS must explain each mandatory replacement time, inspection interval, related inspection procedure, and all critical design configuration control limitations approved under § 25.981 for the fuel tank system.	H25.4(a)(2)	
( ) If the ICA consist of multiple manuals, the ALS required by this paragraph must be in the principal manual.	H25.4(b)	
( ) ALS must contain a legible statement in a prominent location saying: "The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	H25.4(b)	

**APPENDIX 3. SMALL ROTORCRAFT ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> ICA for each engine.	A27.1(b)	
<input type="checkbox"/> ICA for each rotor.	A27.1(b)	
<input type="checkbox"/> ICA for each appliance required by this chapter.	A27.1(b)	
<input type="checkbox"/> Required information on the interface of <input type="checkbox"/> appliances, <input type="checkbox"/> engines, and <input type="checkbox"/> rotors with the rotorcraft.	A27.1(b)	
<input type="checkbox"/> If ICA are not supplied by the manufacturer of an <input type="checkbox"/> appliance, <input type="checkbox"/> engine, or <input type="checkbox"/> rotor installed on the rotorcraft, the ICA for the rotorcraft must include the <input type="checkbox"/> information essential to the continued airworthiness of the rotorcraft.	A27.1(b)	
<input type="checkbox"/> Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	A27.1(c)	
<input type="checkbox"/> ICA in a manual or manuals.	A27.2(a)	
<input type="checkbox"/> Manuals arranged for easy and practical use.	A27.2(b)	
<input type="checkbox"/> Manuals prepared in English.	A27.3	
<input type="checkbox"/> Manual's introduction explains <input type="checkbox"/> the rotorcraft's features and <input type="checkbox"/> data for maintenance or preventive maintenance.	A27.3(a)(1)	
<input type="checkbox"/> Description of <input type="checkbox"/> rotorcraft and its systems and installations, <input type="checkbox"/> engines and its systems and installations, <input type="checkbox"/> rotors and its systems and installations, and <input type="checkbox"/> appliances and its systems and installations.	A27.3(a)(2)	
<input type="checkbox"/> Basic descriptions of <input type="checkbox"/> how the rotorcraft components and systems are controlled and <input type="checkbox"/> operated, including <input type="checkbox"/> any special procedure and limitations.	A27.3(a)(3)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> servicing points, <input type="checkbox"/> capacities of tanks, <input type="checkbox"/> capacities of reservoirs, <input type="checkbox"/> types of fluids used, and <input type="checkbox"/> pressures applicable to the various systems.	A27.3(a)(4)	
<input type="checkbox"/> Location of access panels for <input type="checkbox"/> inspection and <input type="checkbox"/> servicing.	A27.3(a)(4)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> locations of lube points and <input type="checkbox"/> the lube used.	A27.3(a)(4)	
<input type="checkbox"/> Equipment required for servicing.	A27.3(a)(4)	

**APPENDIX 3. SMALL ROTORCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Tow instructions and limitations.	A27.3(a)(4)	
( ) Mooring information.	A27.3(a)(4)	
( ) Jacking information.	A27.3(a)(4)	
( ) Leveling information.	A27.3(a)(4)	
( ) Scheduling information for each part of the ( ) rotorcraft, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A27.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft engines, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.  <b>NOTE:</b> This information may be in the FAA Authority accepted engine ICA.	A27.3(b)(1)	
( ) Scheduling information for ( ) the rotorcraft's auxiliary power unit, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A27.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft rotors, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A27.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft accessories, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A27.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft instruments, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A27.3(b)(1)	

**APPENDIX 3. SMALL ROTORCRAFT ICA CHECKLIST, continued**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> Scheduling information for <input type="checkbox"/> rotorcraft equipment, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> inspecting, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; and <input type="checkbox"/> the work recommended at these periods.	A27.3(b)(1)	
<input type="checkbox"/> Degree of inspection for each part of <input type="checkbox"/> rotorcraft and its <input type="checkbox"/> engines, <input type="checkbox"/> the auxiliary power unit, <input type="checkbox"/> rotors, <input type="checkbox"/> accessories, <input type="checkbox"/> instruments, and <input type="checkbox"/> equipment.	A27.3(b)(1)	
<input type="checkbox"/> The applicable wear tolerances.	A27.3(b)(1)	
Applicant may refer to an <input type="checkbox"/> accessory, <input type="checkbox"/> instrument, or <input type="checkbox"/> equipment manufacturer as the source of this information if applicant shows <input type="checkbox"/> that the item is exceptionally complex and requires specialized maintenance techniques, test equipment, or expertise.	A27.3(b)(1)	
<input type="checkbox"/> Recommended overhaul periods and necessary cross-references to the ALS.	A27.3(b)(1)	
<input type="checkbox"/> Inspection program that includes <input type="checkbox"/> the frequency and <input type="checkbox"/> extent of the inspection necessary to provide for continued airworthiness.	A27.3(b)(1)	
<input type="checkbox"/> Troubleshooting descriptions of <input type="checkbox"/> malfunctions, <input type="checkbox"/> how to recognize those malfunctions, and <input type="checkbox"/> remedies for them.	A27.3(b)(2)	
<input type="checkbox"/> Descriptions of the order and method of <input type="checkbox"/> removing and <input type="checkbox"/> replacing engines with any necessary precautions.	A27.3(b)(3)	
<input type="checkbox"/> Descriptions of the order and method of <input type="checkbox"/> removing and <input type="checkbox"/> replacing rotors with any necessary precautions.	A27.3(b)(3)	
<input type="checkbox"/> Descriptions of the order and method of <input type="checkbox"/> removing and <input type="checkbox"/> replacing parts with any necessary precautions.	A27.3(b)(3)	
<input type="checkbox"/> Other instructions, including <input type="checkbox"/> storage limitations and procedures for <input type="checkbox"/> testing system during ground running, <input type="checkbox"/> making symmetry checks, <input type="checkbox"/> weighing and determining the center of gravity, <input type="checkbox"/> lifting, and <input type="checkbox"/> shoring.	A27.3(b)(4)	
<input type="checkbox"/> Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	A27.3(c)	

**APPENDIX 3. SMALL ROTORCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Details to apply special inspection techniques, including radiographic and ultrasonic testing where such processes are specified.	A27.3(d)	
( ) Information needed to apply protective treatment to structure after inspection.	A27.3(e)	
( ) All data on structural fasteners, such as ( ) identification, ( ) discarded recommendations, and ( ) torque values.	A27.3(f)	
( ) List of special tools needed.	A27.3(g)	
<p>( ) ICA must contain a section, titled Airworthiness Limitations, that is ( ) segregated and ( ) clearly distinguishable from the rest of the document.</p> <p><b>NOTE:</b> The appropriate FAA office will evaluate and approve Airworthiness Limitations Section (ALS) in the applicant's ICA.</p>	A27.4(a)	
( ) ALS must explain each mandatory replacement time, structural inspection interval, and related structural inspection procedures approved under § 27.571.	A27.4(a)(1)	
( ) If the ICA consist of multiple manuals, the ALS required by this paragraph must be in the principal manual.	A27.4(b)	
( ) ALS must contain a legible statement in a prominent location saying: "The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved.	A27.4(b)	

**APPENDIX 4. TRANSPORT CATEGORY ROTORCRAFT ICA CHECKLIST**

REQUIREMENT	Regulation Appendix	Location In ICA
<input type="checkbox"/> ICA for each engine.	A29.1(b)	
<input type="checkbox"/> ICA for each rotor.	A29.1(b)	
<input type="checkbox"/> ICA for each appliance required by this chapter.	A29.1(b)	
<input type="checkbox"/> Any required information on the interface of the <input type="checkbox"/> appliances, <input type="checkbox"/> engines, and <input type="checkbox"/> rotors with the rotorcraft.	A29.1(b)	
<input type="checkbox"/> If ICA are not supplied by the manufacturer of an <input type="checkbox"/> appliance, <input type="checkbox"/> engine, or <input type="checkbox"/> rotor installed on the rotorcraft, the ICA for the rotorcraft must include <input type="checkbox"/> the information essential to the continued airworthiness of the rotorcraft.	A29.1(b)	
<input type="checkbox"/> Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	A29.1(c)	
<input type="checkbox"/> ICA in a manual or manuals. <input type="checkbox"/> Manuals arranged for easy and practical use.	A29.2(a) A29.2(b)	
<input type="checkbox"/> ICA manual prepared in English.	A29.3	
<input type="checkbox"/> Manual's introduction explains <input type="checkbox"/> the rotorcraft's features and <input type="checkbox"/> data for maintenance or preventive maintenance.	A29.3(a)(1)	
<input type="checkbox"/> Description of <input type="checkbox"/> rotorcraft and its systems and installations, <input type="checkbox"/> engines and its systems and installations, <input type="checkbox"/> rotors and its systems and installations, and <input type="checkbox"/> appliances and its systems and installations.	A29.3(a)(2)	
<input type="checkbox"/> Basic descriptions of <input type="checkbox"/> how rotorcraft components and systems are controlled and <input type="checkbox"/> operated, including <input type="checkbox"/> any special procedure and limitations.	A29.3(a)(3)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> servicing points, <input type="checkbox"/> capacities of tanks, <input type="checkbox"/> capacities of reservoirs, <input type="checkbox"/> types of fluids to be used, and <input type="checkbox"/> pressures applicable to the various systems.	A29.3(a)(4)	
<input type="checkbox"/> Location of access panels for <input type="checkbox"/> inspection and <input type="checkbox"/> servicing.	A29.3(a)(4)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> locations of lube points and <input type="checkbox"/> the lube used.	A29.3(a)(4)	
<input type="checkbox"/> Equipment required for servicing.	A29.3(a)(4)	
<input type="checkbox"/> Tow instructions and limitations.	A29.3(a)(4)	

**APPENDIX 4. TRANSPORT CATEGORY  
ROTORCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Mooring information.	A29.3(a)(4)	
( ) Jacking information.	A29.3(a)(4)	
( ) Leveling information.	A29.3(a)(4)	
( ) Scheduling information for each part of the ( ) rotorcraft, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and the ( ) work recommended at these periods.	A29.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft engines, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.  <b>NOTE:</b> This information may be in the FAA/Authority accepted engine ICA.	A29.3(b)(1)	
( ) Scheduling information for ( ) the rotorcraft auxiliary power unit, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A29.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft rotors, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and the ( ) work recommended at these periods.	A29.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft accessories, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A29.3(b)(1)	
( ) Scheduling information for ( ) rotorcraft instruments, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A29.3(b)(1)	
( ) Scheduling information for the ( ) rotorcraft equipment, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; and ( ) the work recommended at these periods.	A29.3(b)(1)	

**APPENDIX 4. TRANSPORT CATEGORY  
ROTORCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Degree of inspection for each part of the ( ) rotorcraft and its ( ) engines, ( ) the auxiliary power unit, ( ) rotors, ( ) accessories, ( ) instruments, and ( ) equipment.	A29.3(b)(1)	
( ) Applicable wear tolerances.	A29.3(b)(1)	
Applicant may refer to an ( ) accessory, ( ) instrument, or ( ) equipment manufacturer as the source of this information if applicant shows ( ) that the item is exceptionally complex and requires specialized maintenance techniques, test equipment, or expertise.	A29.3(b)(1)	
( ) Recommended overhaul periods and necessary cross-references to the ALS.	A29.3(b)(1)	
( ) Inspection program that includes ( ) the frequency and ( ) extent of the inspection necessary to provide for continued airworthiness.	A29.3(b)(1)	
( ) Troubleshooting descriptions of ( ) malfunctions, ( ) how to recognize those malfunctions, and ( ) remedies for them.	A29.3(b)(2)	
( ) Description of the order and method of ( ) removing and ( ) replacing engines with any necessary precautions.	A29.3(b)(3)	
( ) Description of the order and method of ( ) removing and ( ) replacing rotors with any necessary precautions.	A29.3(b)(3)	
( ) Description of the order and method of ( ) removing and ( ) replacing parts with any necessary precautions.	A29.3(b)(3)	
( ) Other instructions, including ( ) storage limitations and procedures for ( ) testing the system during ground running, ( ) making symmetry checks, ( ) weighing and determining the center of gravity, ( ) lifting, and ( ) shoring.	A29.3(b)(4)	
( ) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	A29.3(c)	
( ) Details for applying special inspection techniques, including radiographic and ultrasonic testing where such processes are specified.	A29.3(d)	
( ) Information needed to apply protective treatment to structure after inspection.	A29.3(e)	

**APPENDIX 4. TRANSPORT CATEGORY  
ROTORCRAFT ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) All data on structural fasteners, such as ( ) identification, ( ) discarded recommendations, and ( ) torque values.	A29.3(f)	
( ) List of special tools needed.	A29.3(g)	
( ) ICA must contain a section, titled Airworthiness Limitations, that is ( ) segregated and ( ) clearly distinguishable from the rest of the document.  <b>NOTE:</b> The appropriate FAA or authority will evaluate and approve the Airworthiness Limitations Section (ALS) in the applicant's ICA.	A29.4(a)	
( ) ALS must explain each mandatory replacement time, structural inspection interval, and related structural inspection procedures approved under § 29.571.	A29.4(a)(1)	
( ) If ICA consists of multiple manuals, ALS required by this paragraph must be in the principal manual.	A29.4(b)	
( ) ALS must contain a legible statement in a prominent location saying: "The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	A29.4(b)	

**APPENDIX 5. MANNED FREE BALLOON ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
<input type="checkbox"/> ICA includes ICA for all balloon parts required by this chapter.	A31.1(b)	
<input type="checkbox"/> ICA includes any required information on the interface of the balloon's required parts.	A31.1(b)	
<input type="checkbox"/> ICA includes information essential to the balloon's continued airworthiness.	A31.1(b)	
<input type="checkbox"/> Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	A31.1(c)	
<input type="checkbox"/> ICA in a manual or manuals.	A31.2(a)	
<input type="checkbox"/> Manuals arranged for easy and practical use.	A31.2(b)	
<input type="checkbox"/> The manuals prepared in English.	A31.3	
<input type="checkbox"/> Manual's introduction includes both an explanation of balloon's features and data for maintenance or preventive maintenance.	A31.3(a)	
<input type="checkbox"/> Description of balloon and its systems and installations.	A31.3(b)	
<input type="checkbox"/> Basic control and operating information for the balloon and its components and systems.	A31.3(c)	
<input type="checkbox"/> Servicing information covering <input type="checkbox"/> servicing of balloon components, <input type="checkbox"/> burner nozzles, <input type="checkbox"/> fuel tanks, and <input type="checkbox"/> valves during operations.	A31.3(d)	
<input type="checkbox"/> Maintenance information for each part of balloon with recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjustment, <input type="checkbox"/> test, <input type="checkbox"/> lubrication, <input type="checkbox"/> applicable wear tolerances, and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each part of the envelope with recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each part of the controls with recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	

**APPENDIX 5. MANNED FREE BALLOON ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
<input type="checkbox"/> Maintenance information for each part of the rigging, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each part of the basket structure, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each part of the fuel systems, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each of the instruments, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
<input type="checkbox"/> Maintenance information for each part of the heater assembly, including recommended periods for <input type="checkbox"/> cleaning, <input type="checkbox"/> adjusting, <input type="checkbox"/> testing, and <input type="checkbox"/> lubricating; <input type="checkbox"/> applicable wear tolerances; and <input type="checkbox"/> the work recommended.	A31.3(e)	
Applicant may refer to an <input type="checkbox"/> accessory, <input type="checkbox"/> instrument, or <input type="checkbox"/> equipment manufacturer as the source of this information if applicant shows <input type="checkbox"/> that the item is exceptionally complex and requires specialized maintenance techniques, test equipment, or expertise.	A31.3(e)	
<input type="checkbox"/> Recommended overhaul periods and necessary cross-references to the ALS must also be included.	A31.3(e)	
<input type="checkbox"/> Inspection program that includes <input type="checkbox"/> the frequency and <input type="checkbox"/> extent of the inspection necessary to provide for the balloon's continued airworthiness.	A31.3(e)	

**APPENDIX 5. MANNED FREE BALLOON ICA CHECKLIST, continued**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
( ) Troubleshooting descriptions of ( ) probable malfunctions, ( ) how to recognize those malfunctions, and ( ) remedies for them.	A31.3(f)	
( ) Details for what, and how, to inspect after a hard landing.	A31.3(g)	
( ) Instructions for storage preparation, including any storage limits.	A31.3(h)	
( ) Instructions for repair on the balloon envelope and its basket or trapeze.	A31.3(i)	
( ) ICA must contain a section, titled Airworthiness Limitations, that is ( ) segregated and ( ) clearly distinguishable from the rest of the document.	A31.4	
( ) ALS must explain each ( ) mandatory replacement time, ( ) structural inspection interval, and ( ) related structural inspection procedure, including ( ) envelope structural integrity, required for type certification.	A31.4	
( ) If ICA consist of multiple manuals, the ALS required by this paragraph must be in the principal manual.	A31.4	
( ) ALS must contain a legible statement in a prominent location saying: "The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	A31.4	



**APPENDIX 6. ENGINE ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
( ) ICA for each engine must include the ICA for all engine parts.	A33.1(b)	
( ) Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	A33.1(c)	
( ) ICA in a manual or manuals.	A33.2(a)	
( ) Manuals arranged for easy and practical use.	A33.2(b)	
( ) Manuals prepared in English.	A33.3	
( ) ICA must contain the following manuals or sections, as appropriate, and information: ( ) Engine Maintenance Manual or Section. ( ) Engine Overhaul Manual or Section.	A33.3(a)	
<b>Engine Maintenance Manual or Section.</b>	<b>A33.3(a)</b>	
( ) Introduction that explains engine's features and data for maintenance or preventive maintenance.	A33.3(a)(1)	
( ) Detailed description of the engine and its ( ) components, ( ) systems, ( ) and installations.	A33.3(a)(2)	
( ) Installation instructions, including proper procedures for ( ) uncrating, ( ) deinhbiting, ( ) acceptance checking, and ( ) lifting and attaching accessories, ( ) with any necessary checks.	A33.3(a)(3)	
( ) Basic description of how the engine components, systems, and installations ( ) operate, and description of the methods of ( ) starting, ( ) running, ( ) testing, and ( ) stopping the engine and its parts, including any ( ) special procedures and ( ) limitations that apply.	A33.3(a)(4)	
( ) Servicing information covering ( ) servicing points, ( ) capacities of tanks, ( ) reservoirs, ( ) types of fluids to be used, ( ) pressures applicable to the various systems, ( ) locations of lubrication points, ( ) lubricants to be used, and ( ) equipment required for servicing.	A33.3(a)(5)	

**APPENDIX 6. ENGINE ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Scheduling information for each part of the engine, including recommended periods for ( ) cleaning, ( ) inspecting, ( ) adjusting, ( ) testing, and ( ) lubricating; the ( ) degree of inspection; the applicable ( ) wear tolerances; and ( ) work recommended.	A33.3(a)(6)	
( ) Recommended ( ) overhaul periods and ( ) necessary cross-references to the ALS of the manual must also be included.	A33.3(a)(6)	
( ) Applicant must include an ( ) inspection program that includes the ( ) frequency and ( ) extent of the inspection necessary to provide for continued airworthiness.	A33.3(a)(6)	
( ) Troubleshooting descriptions of probable ( ) malfunctions, ( ) how to recognize those malfunctions, and ( ) remedies for them.	A33.3(a)(7)	
( ) Descriptions of the order and method of ( ) removing the engine and its parts and replacing ( ) parts, with any necessary ( ) precautions. Instructions for proper ( ) ground handling, ( ) crating, and ( ) shipping must also be included.	A33.3(a)(8)	
( ) List of the ( ) tools and ( ) equipment necessary for maintenance and directions for use.	A33.3(a)(9)	
<b>Engine Overhaul Manual or Section.</b>	<b>A33.3(b)</b>	
( ) Disassembly information, including the order and method of disassembly for overhaul.	A33.3(b)(1)	
( ) Cleaning and inspection ( ) instructions that cover the ( ) materials and ( ) apparatus to be used and ( ) methods and ( ) precautions during overhaul.	A33.3(b)(2)	
( ) Methods of overhaul inspection must also be included.	A33.3(b)(2)	
( ) Details of all fits and clearances relevant to overhaul.	A33.3(b)(3)	
( ) Details of repair methods for worn or otherwise substandard parts and components, with the information necessary to determine when replacement is necessary.	A33.3(b)(4)	
( ) Order and method of assembly at overhaul.	A33.3(b)(5)	
( ) Instruction for testing after overhaul.	A33.3(b)(6)	
( ) Instructions for ( ) storage preparation, including any ( ) storage limits.	A33.3(b)(7)	

**APPENDIX 6. ENGINE ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) A list of tools needed for overhaul.	A33.3(b)(8)	
( ) ICA must contain a section, titled Airworthiness Limitations, that is ( ) segregated and ( ) clearly distinguishable from the rest of the document. ALS will be evaluated and approved by the appropriate ACO.	A33.4	
( ) ALS must explain each ( ) mandatory replacement time, ( ) inspection interval, and ( ) related procedure required for type certification.	A33.4	
( ) If ICA consist of multiple manuals, the section required by this paragraph must be in the principal manual.	A33.4	
( ) Section must contain a legible statement in a prominent location saying: "The Airworthiness Limitations Section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	A33.4	

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**APPENDIX 7. PROPELLER ICA CHECKLIST**

<b>REQUIREMENT</b>	<b>Regulation Appendix</b>	<b>Location In ICA</b>
( ) ICA for each propeller must include ICA for all propeller parts.	A35.1(b)	
( ) Applicant's plan showing how they or the manufacturers of products and appliances installed on the airplane will distribute changes to the ICA.	A35.1(c)	
( ) ICA in a manual or manuals.	A35.2(a)	
( ) Manuals arranged for easy and practical use.	A35.2(b)	
( ) Manuals prepared in English.	A35.3	
( ) ICA must contain the following sections and information: ( ) Propeller Maintenance Section. ( ) Propeller Overhaul Section.	A35.3(a)	
<b>Propeller Maintenance Section.</b>	<b>A35.3(a)</b>	
( ) Introduction that explains propeller's features and data for maintenance or preventive maintenance.	A35.3(a)(1)	
( ) Detailed description of propeller and its ( ) systems, ( ) and installations.	A35.3(a)(2)	
( ) Basic descriptions of how propeller components and systems are ( ) controlled and how they ( ) operate, including any ( ) special procedures that apply.	A35.3(a)(3)	
( ) Instructions for ( ) uncrating, ( ) acceptance checking, ( ) lifting, and ( ) installing propeller.	A35.3(a)(4)	
( ) Instructions for propeller operational checks.	A35.3(a)(5)	
( ) Scheduling information for each part of propeller, including recommended periods for ( ) cleaning, ( ) adjusting, and ( ) testing; the applicable ( ) wear tolerances; and the ( ) work recommended.	A35.3(a)(6)	
( ) Recommended ( ) overhaul periods and ( ) necessary cross-references to the ALS of the manual must also be included.	A35.3(a)(6)	
( ) In addition, the applicant must include an ( ) inspection program that includes the ( ) frequency and ( ) extent of inspection necessary for propeller's continued airworthiness.	A35.3(a)(6)	
( ) Troubleshooting descriptions of probable ( ) malfunctions, how to recognize those ( ) malfunctions, and ( ) remedies for them.	A33.3(a)(7)	

**APPENDIX 7. PROPELLER ICA CHECKLIST, continued**

REQUIREMENT	Regulation Appendix	Location In ICA
( ) Description of order and method of ( ) removing and replacing ( ) propeller parts, with any ( ) necessary precautions.	A33.3(a)(8)	
( ) List of special tools for maintenance, other than for overhauls.	A35.3(a)(9)	
<b>Propeller Overhaul Section.</b>	<b>A35.3(b)</b>	
( ) Disassembly information, including ( ) order and method of disassembly for overhaul.	A35.3(b)(1)	
( ) Cleaning and inspection ( ) instructions covering the ( ) materials and ( ) apparatus used, and ( ) methods and ( ) precautions to take during overhaul.	A35.3(b)(2)	
( ) Include methods of overhaul inspection.	A35.3(b)(2)	
( ) Details of all fits and ( ) clearances relevant to overhaul.	A35.3(b)(3)	
( ) Details of repair methods for worn or otherwise substandard parts and components, with the ( ) information to determine when replacement is necessary	A35.3(b)(4)	
( ) Order and method of assembly at overhaul.	A35.3(b)(5)	
( ) Instruction for testing after overhaul.	A35.3(b)(6)	
( ) Instructions for storage preparation, including any ( ) storage limits.	A35.3(b)(7)	
( ) A list of tools needed for overhaul.	A35.3(b)(8)	
( ) ICA must contain a section, titled Airworthiness Limitations, that is ( ) segregated and ( ) clearly distinguishable from the rest of the document. The Airworthiness Limitations Section (ALS) will be evaluated and approved by the appropriate ACO.	A35.4	
( ) The ALS must explain each ( ) mandatory replacement time, ( ) inspection interval, and ( ) related procedure required for type certification.	A35.4	
( ) If ICA are in multiple manuals, the section required by this paragraph must be included in the principal manual. (Propeller Maintenance Section)	A35.4	
( ) Section must contain this legible statement prominently displayed: "The Airworthiness Limitations Section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of the Code of Federal Regulations, unless an alternative program has been FAA approved."	A35.4	

**APPENDIX 8. RELATED PUBLICATIONS**

**1. Code of Federal Regulations (CFR).** You can get copies of 14 CFR sections from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325. Telephone 202-512-1800; fax 202-512-2250. Alternatively, you can get copies online at <http://www.gpoaccess.gov/cfr/>.

**2. FAA Orders and Advisory Circulars (AC).** Copies of the following orders and ACs are available from the FAA website at <http://www.airweb.faa.gov/rgl>.

- a. FAA Order 8110.4, *Type Certification*
- b. FAA Order 8110.42, *Parts Manufacturer Approval Procedures*
- c. FAA Order 8300.10, *Airworthiness Inspectors Handbook* (**NOTE:** You can get copies of this order online at <http://www2.faa.gov/avr/afs/faq/8300/>.)
- d. FAA Order 8430.21, *Flight Standards Division, Aircraft Certification Division, and Aircraft Evaluation Group Responsibilities*
- e. AC 20-114, *Manufacturers' Service Documents*
- f. AC 21-40, *Application Guide for Obtaining a Supplemental Type Certificate*
- g. AC 25-19, *Certification Maintenance Requirements*
- h. AC 25.1529-1, *Instructions for Continued Airworthiness of Structural Repairs on Transport Airplanes*
- i. AC 33.4-1, *Instructions for Continued Airworthiness*
- j. AC 33.4-2, *Instructions for Continued Airworthiness: In-Service Inspection of Safety Critical Turbine Engine Parts at Piece-Part Opportunity*
- k. AC 35.4-1, *Propeller Instructions for Continued Airworthiness*
- l. AC 43-13, *Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair*
- m. AC 121-22, *Maintenance Review Board Procedures*

**3. Other FAA Documents.**

a. *The FAA and Industry Guide to Product Certification (CPI Guide)*, dated January 25, 1999, is available from the FAA website at <http://www2.faa.gov/certification/aircraft/av-info/dst/CPIGUIDE.pdf>.

**APPENDIX 8. RELATED PUBLICATIONS, continued**

**b.** TSO-C77b, *Gas Turbine Auxiliary Power Units*, is available from the FAA website at <http://av-info.faa.gov/tso/>.

**4. Air Transport Association (ATA) Document.** You can buy copies of ATA iSpec 2200, *Information Standards for Aviation Maintenance*, 2003 edition, from the ATA Distribution Center, P.O. Box 511, Annapolis Junction, MD 20701. Telephone 301-490-7951; fax 301-206-9789. Alternatively, you can buy copies on-line at <http://www.airlines.org/>.

**5. General Aviation Manufacturers Association (GAMA) Document.** You can buy copies of GAMA Specification No. 2, *Maintenance Manual*, dated September 1, 1982, from the General Aviation Manufacturers Association, 1400 K Street NW, Suite 801, Washington, D.C. 20005. Telephone 202-393-1500; fax 202-842-4063. Alternatively, you can buy copies on-line at <http://www.gama.aero/>.

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**APPENDIX 9. DEFINITIONS**

**ACO/ECO Engineer.** The aviation safety engineer responsible for making compliance findings and issuing design approvals.

**Aircraft Evaluation Group (AEG).** Flight standards representatives who know the operational and maintenance aspects of the certification project and are responsible for it.

**Airworthy.** A product conforms to its type design or properly altered condition and is in a condition for safe operation.

**Applicant.** An individual, firm, partnership, corporation, company, association, joint stock association, or governmental entity. This includes a trustee, receiver, assignee, or similar representative of any of them.

**Continued Airworthiness.** Certified aircraft, engines, propellers, and appliances operated safely for the intended purpose. They are maintained safely throughout their service life. The product meets its type design and is in a condition for safe operation.

**Design Approval Holder.** The holder of any design approval, including type certificate, amended type certificate, supplemental type certificate, amended supplemental type certificate, parts manufacturer approval, technical standard order (TSO) authorization, letter of TSO design approval, and field approvals (FAA Form 337).

**Field Approval.** A major repair or major alteration authorized by an aviation safety inspector for an individual aircraft, aircraft engine, propeller, or appliance. The approval is accomplished by either examination of data only, or by physical inspection, demonstration, testing, and so forth.

**Instructions for Continued Airworthiness.** The documented information (including airworthiness limitations) required to keep the product airworthy.

**Manufacturers' Service Documents.** Publications by a type certificate holder (or appliance or component manufacturer) about safety, product improvement, economics, and operational and/or maintenance practices. Typical publications include: service bulletins; all-operator's letters; service newsletters; and service digests or magazines. They do not include publications required for FAA type certification or approval, such as flight manuals and certain maintenance manuals.

**Operator.** A person who uses, or is authorized to use, aircraft for air navigation, including piloting the aircraft.

**APPENDIX 9. DEFINITIONS, continued**

**Owner.** A person who owns an aircraft, aircraft engines, or propellers.

**Product.** An aircraft, aircraft engine, or propeller. This includes parts, materials, and appliances, which have a technical standard order.

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**APPENDIX 10. ACRONYMS**

AC	Advisory Circular
ACO	Aircraft Certification Office
AEG	Aircraft Evaluation Group
AFS	Flight Standards Service
AIR	Aircraft Certification Service
ALS	Airworthiness Limitation Section
ATA	Air Transport Association
ATC	Amended Type Certificate
CAR	Civil Air Regulations
CFR	Code of Federal Regulations
CMM	Component Maintenance Manual
CMR	Certification Maintenance Requirements
ECO	Engine Certification Office
FAA	Federal Aviation Administration
GAMA	General Aviation Manufacturers Association
ICA	Instructions for Continued Airworthiness
IPC	Illustrated Parts Catalog
MRB	Maintenance Review Board
NDT	Non-Destructive Test
STC	Supplemental Type Certificate
TC	Type Certificate
TSO	Technical Standard Order





U.S. Department  
of Transportation

**Federal Aviation  
Administration**

**Directive Feedback Information**

Please submit any written comments or recommendations for improving this directive. You may also suggest new items or subjects that should be added. Please alert us if you find an error.

Subject: Order 8100.ICA

To: Directive Management Officer, AIR-530

*(Please check all appropriate line items)*

An error (procedural or typographical) has been noted in paragraph \_\_\_\_\_ on page \_\_\_\_\_.

Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:  
*(Attach separate sheet if necessary)*

In a future change to this directive, please include coverage on the following subject  
*(Briefly describe what you want added):*

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

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