



Advisory Circular

Subject: Maintenance Programs for
U.S.-Registered Aircraft Operated
Under 14 CFR Part 129

Date: 9/30/09
Initiated by: AFS-50

AC No: 129-4A
Change:

1. PURPOSE. This advisory circular (AC) provides information on maintenance programs to foreign air carriers and foreign persons operating U.S.-registered aircraft under Title 14 of the Code of Federal Regulations (14 CFR) part 129. Part 129, § 129.14(a) requires that each foreign air carrier and each foreign person operating a U.S.-registered aircraft within or outside the United States in common carriage shall ensure that each aircraft is maintained in accordance with a program approved by the FAA. Title 14 CFR part 43 prescribes the rules governing the performance of maintenance, preventive maintenance, and alterations of aircraft having a U.S. airworthiness certificate. You may submit an alternate maintenance program to the Federal Aviation Administration (FAA) if you ascertain the maintenance program meets the requirements of the pertinent FAA regulations. However, if you use the means described in this AC, you should conform to it in all important respects to assure acceptability.

2. CANCELLATION. This AC cancels AC 129-4, Maintenance Programs for U.S.-Registered Aircraft Under FAR Part 129, dated March 1, 1988.

3. DEFINITIONS. For purposes of this AC, the following definitions apply:

a. Airworthiness Directive (AD). A legally enforceable rule issued by the FAA that applies to a product when an unsafe condition exists in the product and the condition is likely to exist or develop in other products of the same type design. The purpose of an AD is to resolve an unsafe condition.

b. Airworthy. An aircraft is considered airworthy when it conforms to its type certificate, including applicable supplemental type certificates and airworthiness directives, and is in condition for safe operation.

c. Approved Maintenance Organization (AMO). An organization approved by a Contracting State, in accordance with the requirements of Annex 6—Part I—Chapter 8—Aeroplane Maintenance, and Annex 6—Part III—Section II—Chapter 6—Helicopter Maintenance, to perform maintenance of aircraft or parts thereof and operating under supervision approved by that State. In the United States, 14 CFR part 145 governs this annex requirement, and an AMO is referred to as a part 145 repair station.

NOTE: Nothing in this definition is intended to preclude approval and supervision of the organization by more than one International Civil Aviation Organization (ICAO) Contracting State.

- d. Assigned Inspector.** The FAA inspector assigned compliance responsibility for maintenance programs approved under § 129.14.
- e. Certificate of Airworthiness.** A document issued by the State of Registry on the basis of satisfactory evidence that the aircraft complies with the design aspects of the appropriate airworthiness requirements. For U.S.-registered aircraft, an Airworthiness Certificate may be issued by the FAA upon a showing that the aircraft conforms to its type certificate and, after inspection, is in condition for safe operation.
- f. CFRs.** Code of Federal Regulations.
- g. Common Carriage.** An aircraft operation for compensation or hire that involves a holding out to others
- h. CMR.** Certification Management Requirements.
- i. Extended Operations (ETOPS).** An airplane's flight operation in which a portion of the flight is operated beyond a predetermined time threshold, as identified in parts 121 and 135 and Annex 6, Part 1, from an adequate airport based on an approved one engine inoperative cruise speed under standard conditions in still air.
- j. CAA.** Foreign Civil Aviation Authority.
- k. ICA.** Instructions for continued airworthiness.
- l. Major Alteration.** An alteration not listed in the aircraft, aircraft engine, or propeller specifications that might appreciably affect weight, balance, structural strength, performance, power plant operation, flight characteristics, or other qualities affecting airworthiness; or that is not done according to accepted practices, or cannot be done by elementary operations.
- m. Major Repair.** Any repair that, if improperly done, might appreciably affect weight, balance, structural strength, performance, power plant operation, flight characteristics, or other qualities affecting airworthiness; or that is not done according to accepted practices, or cannot be done by elementary operations.
- n. Maintenance.** The inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance.
- o. Maintenance Program.** The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of an alteration or repair.
- p. Maintenance Organization Procedures Manual.** A program that describes the necessary procedures to follow when performing maintenance tasks and the interval at which

these are to be completed, taking into account the operating environment of the aircraft. The maintenance program should include procedures for the accomplishment of unscheduled maintenance tasks. When applicable, the maintenance program should explain the system used for adjusting the frequency and content of certain maintenance program tasks. When applicable, the maintenance program should describe the tasks included in a continuing structural inspection program, condition monitoring process, and the reliability program for the aircraft, aircraft systems, components, and powerplants.

q. Maintenance Release. A document that contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organization's procedures manual, or under an equivalent system.

r. MEL. Minimum equipment list.

s. Operations Specifications (OpSpecs). The authorizations, limitations, and certain procedures under which each kind of operation, if applicable, is to be conducted.

t. Operator. A person, organization, or enterprise engaged in, or offering to engage in, an aircraft operation.

u. Operator Maintenance Control Manual. A document that describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner.

v. Part 145 Repair Station. An FAA-certificated repair station having appropriate rating(s) to perform maintenance, preventive maintenance, or alterations in accordance with part 43, within the limitations in its operations specifications (OpSpecs).

w. State of the Operator. The country in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

x. State of Registry. The country on whose register the aircraft is entered.

4. FOCUS. As discussed below, Annex 6 of the Chicago Convention requires each operator, in accordance with procedures acceptable to the State of Registry, to comply with the terms of the aircraft's certificate of airworthiness and to maintain the aircraft in an airworthy condition. To meet these requirements, each foreign operator of a U.S.-registered aircraft must ensure that the aircraft is maintained in accordance with the requirements outlined in the relevant sections of parts 43 and 129. FAA monitors compliance with this international obligation by approving maintenance programs for U.S.-registered aircraft operated in common carriage by foreign air carriers and foreign persons.

5. RELATED DOCUMENTS. The FAA has published ACs addressing the development of aircraft maintenance programs used commonly in air transportation. Information in several of those ACs may be helpful for part 129 operators developing a maintenance program. These ACs have been referenced below for your information. Users should consult the current version of each AC.

- AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts.
- AC 20-65, U.S. Airworthiness Certificates and Authorizations for Operation of Domestic and Foreign Aircraft.
- AC 25-19, Certification Maintenance Requirements.
- AC 39-7, Airworthiness Directives.
- AC 43-208, Maintenance of Emergency Evacuation Systems for Aircraft Operating Under Part 121.
- AC 91-56, Continuing Structural Integrity Program for Airplanes.
- AC 120-16, Air Carrier Maintenance Programs.
- AC 120-17, Maintenance Control by Reliability Methods.
- AC 120-27, Aircraft Weight and Balance Control.
- AC 120-42, Extended Operations (ETOPS and Polar Operations).
- AC 120-59, Air Carrier Internal Evaluation Programs.
- AC 120-72, Maintenance Resource Management Training.
- AC 120-73, Damage Tolerance Assessment of Repairs to Pressurized Fuselages.
- AC 120-77, Maintenance and Alteration Data.
- AC 120-78, Acceptance and Use of Electronic Signatures, Electronic Recordkeeping Systems, and Electronic Manuals.
- AC 120-79, Developing and Implementing a Continuing Analysis and Surveillance System.
- AC 120-84, Aging Airplanes Inspections and Records Reviews.
- AC 121-22, Maintenance Review Board Procedures.
- AC 145-9, Guide for Developing and Evaluating Repair Station and Quality Control Manuals.

6. OBTAIN PUBLICATIONS.

- a. Fee Publications.** Orders and those ACs for which there is a fee are available from:

Superintendent of Documents
PO Box 371954
Pittsburgh, PA 15250-7954
Or <http://bookstore.gpo.gov/index.jsp>.

- b. Online.** View a list of all ACs at <http://rgl.faa.gov>. Orders are available at <http://fsims.faa.gov/>.

- c. Code of Federal Regulations.** View the Code of Federal Regulations at <http://ecfr.gpoaccess.gov/>.

- d. Free Publications.** Request free ACs:

U.S. Department of Transportation
Subsequent Distribution Office
Ardmore East Business Center
3341 Q 75th Ave.
Landover, MD 20785

- e. Mailing List.** To be placed on FAA's mailing list for free ACs, contact:

U.S. Department of Transportation
Distribution Requirements Section, M-30
Washington, D.C. 20590

- f. International.** International Civil Aviation Organization (ICAO) documents can be obtained at http://www.icao.int/icao/en/m_publications.html.

7. STATUTORY AND REGULATORY BASIS.

a. Statutory Basis for Part 129 Aircraft Maintenance Program Approval. Title 49 of the United States Code (49 U.S.C.) § 44701 empowers the FAA to promote safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards in the interest of safety for inspecting, servicing, and overhauling aircraft, aircraft engines, propellers, and appliances.

b. Re-inspection. As provided in 49 U.S.C. § 44709(a), the Administrator may re-inspect at any time a civil aircraft, aircraft engine, propeller or appliance.

- c. Regulations.**

(1) On May 28, 1987, the FAA amended § 129.14 to require each foreign air carrier and each foreign person operating a U.S.-registered aircraft within or outside the United States in common carriage to ensure the U.S.-registered aircraft is maintained in accordance with a

program approved by the Administrator. Under part 43, § 43.13(c) a continuous airworthiness maintenance inspection program authorized in part 129 OpSpecs constitutes acceptable means of compliance.

(2) Section 129.14(a) contains the regulatory authority for approval of the maintenance program and part 43 contains the standards for performing maintenance. The maintenance program required by § 129.14 and the maintenance, preventative maintenance, rebuilding, and alteration performance requirements contained in part 43 promote compliance with U.S. international airworthiness obligations.

8. INTERNATIONAL OBLIGATIONS. The Convention on International Civil Aviation signed at Chicago on December 7, 1944 (the Chicago Convention), facilitates the promotion of, and cooperation of signatory States in, the safe and orderly development of civil aviation and international air transportation.

a. International Flights. Under Article 5 of the Chicago Convention, Contracting States, subject to specific conditions, agree to allow aircraft from other Contracting States not engaged in scheduled international air services to make flights into or across their territories, and to make stops for non-traffic purposes without prior approval of the Contracting State.

b. Airworthiness and Licenses. Article 33 of the Chicago Convention provides that certificates of airworthiness and licenses issued or rendered valid by a Contracting State are recognized as valid, provided the requirements under which such certificates and licenses were issued or rendered valid are equal to or above the minimum standards established from time to time pursuant to the Chicago Convention.

c. Navigation. Article 37 of the Chicago Convention requires each Contracting State to collaborate in achieving the highest degree of uniformity in all matters where standardization will facilitate and improve air navigation

d. Standards and Recommended Practices (SARPs). Article 37 of the Chicago Convention allows ICAO to adopt and amend SARPs for the purpose of facilitating and improving air navigation. Under Article 54 of the Chicago Convention, SARPs are designated as annexes to the Chicago Convention.

e. Specific ICAO Annexes. The annexes most often associated with the review and approval of aircraft maintenance programs are Annex 1—Personnel Licensing; Annex 6—Operation of Aircraft; and Annex 8—Airworthiness of Aircraft.

(1) Annex 1—Personnel Licensing. Annex 1 contains the international standards and recommended practices for licensing of flight crew. Chapter 4 contains the standards for training and certification (licensing) of an aircraft maintenance technician/engineer/mechanic.

(2) Annex 6—Operation of Aircraft. Part I—International Commercial Air Transport Aeroplanes. Chapter 8 describes airplane maintenance: the operator's maintenance responsibilities (approved maintenance program), the operator's maintenance control manual, maintenance programs, maintenance records, continuing airworthiness information, modifications and repairs, approved maintenance organization, and maintenance release. An

operator shall not operate an airplane unless it is maintained and approved for return to service by an approved maintenance organization or a properly certificated mechanic.

(3) Annex 6—Part III—International Operations—Helicopters. Section II applies to helicopters engaged in international commercial air transport operations. Chapter 6 describes the operator's maintenance responsibilities (approved maintenance program), the operator's maintenance records, continuing airworthiness information, modifications and repairs, and maintenance release requirements. The helicopter shall not be operated unless it is maintained and released to service by an approved maintenance organization or a certificated mechanic.

(4) Annex 8—Airworthiness of Aircraft. Annex 8 describes the standards for the type design, certificate of airworthiness, and continuing airworthiness information requirements.

NOTE: ICAO Guidance Document No. 9760, Airworthiness Manual, provides useful information on compliance with airworthiness standards for aircraft involved in international civil aviation.

9. STATE OF THE OPERATOR AND STATE OF REGISTRY RESPONSIBILITIES.

a. State of the Operator. Annex 6 of the Chicago Convention (Part I and Part III, Section II) places the responsibility for initial certification, issuance of the Aircraft Operator Certificate, and on-going inspection/surveillance of an air operator on the State of the Operator. Annex 6 requires each operator, in accordance with procedures acceptable to the State of Registry, to comply with the terms of the aircraft's certificate of airworthiness and to maintain the aircraft in an airworthy condition. To satisfy these requirements, each foreign operator of a U.S.-registered aircraft must ensure that the aircraft is maintained in accordance with the requirements outlined in the relevant provisions of parts 43 and 129. FAA monitors compliance with this international obligation by approving maintenance programs for U.S.-registered aircraft operated in common carriage by foreign air carriers and foreign persons.

b. State of Registry's Responsibility for Airworthiness. The State of Registry is responsible for the issuance of a certificate of airworthiness and compliance with pertinent airworthiness requirements of aircraft on its registry. This includes operation of aircraft in accordance with the approved MEL. The State of the Operator should become thoroughly familiar with the arrangements by which its air operators use aircraft on the registry of another State, e.g., the aircraft maintenance program, MEL, and AMO. The State of the Operator should review such arrangements in coordination with the air operator and State of Registry. It is also important that the State of the Operator become familiar with the State of Registry's regulatory requirements for the continued airworthiness of its aircraft.

10. DOCUMENTS TO BE SUBMITTED TO THE FAA FOR APPROVAL OF SECTION 129.14 AIRCRAFT MAINTENANCE PROGRAM. The operator should submit the following documents to the FAA for each U.S.-registered aircraft operated in common carriage.

- Application letter for issuance of OpSpecs, (see part 129 appendix A).
- U.S. aircraft registration information.

- U.S.-issued Certificate of Airworthiness.
- The lease agreement or written memorandum of the terms signed by both parties, if applicable.
- An operator maintenance control manual that satisfies the requirements of Annex 6, Part I or Part III, if applicable.
- A maintenance program that satisfies the requirements of § 129.14, and Annex 6, Parts I or III, as applicable. When applicable, a continuing structural integrity program, condition monitoring and reliability program, and maintenance task intervals specified as mandatory in the approval of the type design.
- Inspection and maintenance requirements of required equipment, including altimeters, transponders, and avionics equipment.
- Status of life-limited parts.
- Status of applicable ADs.
- Current inspection status of the aircraft.
- Aircraft specifications.
- List of major alterations and major repairs.
- Aircraft minimum equipment list.
- Weight and balance information.
- Names of personnel responsible for the performance of maintenance, inspection, and return to service of aircraft.
- Letter of compliance for pertinent FAA regulations.

11. RESPONSIBILITY FOR AIRCRAFT MAINTENANCE PROGRAMS.

a. Operator. The owner or operator should use one of the following inspection programs as appropriate for the aircraft and the type of operation.

- (1) Approved Aircraft Inspection Program (AAIP),
- (2) Annual/100-hour inspections,
- (3) Progressive, or
- (4) Continuous Airworthiness Maintenance Program (CAMP).

b. AMO or Equivalent System. The operator must ensure that its aircraft are maintained by an AMO or under an equivalent system acceptable to the FAA. If using an equivalent system, a duly certificated person must approve the aircraft for return to service. The operator must employ a qualified person or group of persons to ensure its maintenance functions are carried out in accordance with the operator's maintenance control manual.

c. Part 129 Maintenance Program. The aircraft maintenance program required by part 129 requires operators to ensure that the maintenance performed on their aircraft is conducted in accordance with the approved maintenance program requirements. Further, all maintenance tasks and intervals defined as mandatory in the approved aircraft/engine type design should be identified as mandatory in the maintenance program (certification maintenance requirements (CMR) and airworthiness limitations). You should base the maintenance program on the information provided by the manufacturer holding design approval for the aircraft. For large aircraft, this information is usually found in a maintenance planning document or equivalent.

NOTE: The objective of a maintenance program is to assure that each aircraft returned to service is airworthy and has been properly maintained. The maintenance program prescribes the specific maintenance tasks and their frequency to ensure the continued safe operation of the aircraft.

d. Additional Maintenance Program Requirements. A maintenance program should also contain the following:

- (1) When applicable, the procedures for the supplemental inspections required by § 129.109;
- (2) When applicable, the special inspections and procedures for operations at increased zero fuel and landing weights required by § 129.23;
- (3) When applicable, the repair assessment guidelines required by § 129.107;
- (4) When applicable, records of Aging Airplane inspections required by § 129.105;
- (5) Fuel tank maintenance system program required by § 129.113; and
- (6) Electrical wiring interconnection system (EWIS) maintenance program required by § 129.111.

e. Initial Concerns. An operator should base its maintenance program upon the manufacturer's recommended ICA, (e.g., Maintenance Review Board (MRB) report and maintenance planning document or manufacturer's recommended maintenance/inspection program).

(1) The operator should tailor the maintenance program to its operating utilization environment. The operator should work closely with the manufacturer in the development of the maintenance program, especially if no previously approved maintenance programs exist for the make and model aircraft.

(2) For existing aircraft models, the operator may make comparisons to previously approved maintenance programs. An applicant should not assume that a maintenance program approved for one operator will be automatically approved for another operator. Careful consideration of the operator's type of operation, fleet, utilization, landings, and the experience of the operator and maintenance organization may require additional maintenance tasks or de-escalated inspection intervals at the initial inception of the maintenance program..

f. Revisions to Program. Maintenance program revisions may be necessary from time to time to reflect AD requirements, a manufacturer's service experience, aircraft alterations, or revisions to the maintenance program made necessary by the FAA. An operator may amend an interval prescribed in its maintenance program only with the approval of the FAA. Each operator should periodically review its maintenance program to ensure the program meets the maintenance needs of each aircraft relative to its utilization history and the operator's experience.

12. ADOPTING A CURRENTLY FAA-APPROVED AIRCRAFT MAINTENANCE PROGRAM. An operator under part 129 may adopt all or part of another operator's FAA-approved maintenance program. Maintenance programs eligible for adoption are those currently approved under 14 CFR parts 121, 129, or 135. The adopted maintenance program may be approved provided:

- The arrangement is subject to a written agreement between the operator and the holder of the approved maintenance program.
- The program is evaluated and adjusted as necessary for environmental and operational differences of the adopting operator and for differences in aircraft configuration.
- Special tasks to phase the aircraft into the new program are accomplished prior to its operation.
- The adopting operator's maintenance program under part 129 includes a system for ensuring the adopted aircraft maintenance program is properly administered, e.g., continuing analysis and recordkeeping reviews, etc.
- Performance of all maintenance of the adopting operator's aircraft is under the control of the operator with the approved program.
- The adopting operator's maintenance program under part 129 includes procedures to ensure the arrangement satisfies part 43 requirements.

13. MINIMUM EQUIPMENT LIST (MEL).

a. Requirements. Section 129.14(b) prescribes minimum equipment list requirements for U.S.-registered aircraft operated by a foreign air carrier or foreign person. Each foreign operator of a U.S.-registered aircraft must ensure the maintenance of the aircraft is in accordance with a program consistent with the aircraft maintenance program requirements.

b. Continuing Airworthiness. The State of Registry will determine the continuing airworthiness of an aircraft in relation to the appropriate airworthiness requirements for that

aircraft. In the case of foreign air carriers or foreign persons operating U.S.-registered aircraft in common carriage under part 129, this requires the FAA to evaluate and approve the foreign air carrier or foreign person's MEL.

c. Master Minimum Equipment List (MMEL). The foreign operator may develop its own MEL based on the MMEL approved by the FAA for the specific aircraft type. In preparing the MEL procedures, the foreign operator should ensure the maintenance procedures in its maintenance program are adequate to support the use of its MEL. If the foreign operator has leased a U.S.-registered aircraft from a U.S. air carrier, the foreign operator may decide to maintain and operate the aircraft in accordance with the U.S. air carrier's Continuous Airworthiness Maintenance Program (CAMP) and the U.S. air carrier's FAA-approved MEL. The foreign operator will have to show that it is capable of operating under the lessor's approved CAMP and that it is also capable of meeting the maintenance and operational requirements specified in the lessor-approved MEL.

d. Inspector Responsibility. In all cases, the foreign operator should submit both the MEL and the maintenance program to the FAA-assigned inspector. The assigned inspector will perform a detailed analysis of the MEL and further evaluate the maintenance procedures in the maintenance program to ensure the procedures adequately support the MEL. The assigned inspector will notify the foreign operator of any discrepancies or outstanding issues. All discrepancies must be resolved before the MEL can be approved. Upon successful evaluation of the MEL, the assigned inspector will indicate MEL approval by signing the MEL control page or the individual pages to signify approval. If the foreign operator does not hold previous authorization to operate under an MEL, the assigned inspector will facilitate the issuance of OpSpec paragraph D095.

14. CERTIFICATE OF AIRWORTHINESS. Each U.S.-registered aircraft must have a Certificate of Airworthiness issued by the FAA. The Certificate of Airworthiness indicates that the aircraft conforms to its type certificate and is in a condition for safe operation.

15. SECTION 129.14, MAINTENANCE PROGRAM APPROVAL PROCESS.

a. Procedures.

(1) The process for approval of the maintenance program begins when the foreign air carrier or foreign operator submits an application for issuance of part 129 OpSpecs. The applicant should submit all the necessary documents to show the maintenance program complies with the pertinent regulations. It is important for the applicant to become familiar with FAA's procedures and regulatory requirements.

(2) Additionally, the applicant should have the appropriate technical background necessary to answer questions or provide additional information that the FAA-assigned inspector may request.

(3) The assigned inspector should advise the applicant of the necessary forms and documents that are required for formal submission to the FAA. The assigned inspector should ensure the applicant has a clear understanding that, although the assigned inspector may provide

advice and guidance, the responsibility for development of the maintenance program documents lies solely with the applicant.

(4) The applicant should also submit the documents in a timely manner so that an ongoing approval process does not adversely affect operation of the aircraft.

b. Review Process. The maintenance program and MEL when submitted, must be complete and detailed enough to permit a thorough technical evaluation to ensure they meet the applicable regulations for the safe operation of the aircraft.

(1) The inspector will return unacceptable submissions to the applicant with a written explanation of the reasons for the return. In some cases the applicant may request a meeting with the assigned inspector to gain a better understanding of the reasons for return of the maintenance program and/or MEL, in order to facilitate appropriate corrective action. During the review process the assigned inspector may contact the applicant to resolve minor discrepancies or to provide additional information.

(2) If the results of the evaluation continue to be unacceptable, the assigned inspector will return all submissions to the applicant with a written explanation and terminate the approval process.

(3) If the results of the n are acceptable, the assigned inspector will indicate approval of the maintenance program and MEL with appropriate endorsements and/or issuance of FAA-approved OpSpecs to the applicant.

16. FAA APPROVAL OF MAINTENANCE PROGRAMS.

a. Regulations. Section 129.14(a) establishes the regulatory basis for the approved maintenance program. Pertinent sections in part 43 establish the regulatory basis for the performance standards for maintenance functions associated with the maintenance program.

b. Evaluation. The FAA will evaluate aircraft maintenance programs based on the MRB report, maintenance planning document, or other related documents. Operators should base maintenance programs on the manufacturer's recommended ICA (e.g., MRB report, maintenance planning document, or the manufacturer's recommended maintenance program contained in the maintenance manual, and Supplemental Type Certificates). The manufacturer's documents may not contain all of the maintenance tasks, intervals, and maintenance processes necessary for the current configuration and operating environment of the aircraft (e.g., alterations and/or operation in extreme temperatures or highly corrosive environments may require additional maintenance tasks in the maintenance program). Operators may be required to justify all maintenance task contents and interval changes in the maintenance program that are not referenced in the MRB report.

c. Responsibility. The pertinent FAA region and the specific International Field Office (IFO) having jurisdiction where the operator is located is responsible for receiving, evaluating, and approving the maintenance program. Any office other than the assigned FAA IFO receiving a request to approve a part 129 maintenance program must forward the request to the appropriate regional office.

d. Approval. Maintenance program approval is indicated by the FAA's issuance of OpSpec paragraph D072, Aircraft Maintenance – Approval of Aircraft Maintenance Program for U.S.-Registered Aircraft.

17. COMPLIANCE WITH TYPE CERTIFICATE (TC) STANDARDS.

a. U.S.-Registered Aircraft with a U.S. Standard Airworthiness Certificate.

(1) Aircraft must conform to the type design (or properly altered condition) and be maintained as such to ensure that the aircraft is in a condition for safe operation. The aircraft may operate with certain inoperative equipment, provided an FAA-approved MEL exists with appropriate operational and maintenance procedures that enable the safe operation of the aircraft with the inoperative equipment.

(2) Major repairs and alterations must be accomplished in accordance with FAA-approved technical data.

(3) Minor repairs and alterations may be performed in accordance with FAA-approved or acceptable technical data.

(4) Replacement components, parts, and materials intended for installation on U.S.-registered aircraft must meet the quality, eligibility, and traceability requirements for the type-certificated product and be shown to be in compliance with applicable sections of 14 CFR part 21.

(5) As required by the regulations, no person may operate a U.S.-registered aircraft unless the operated product meets all applicable AD requirements.

(6) Operators must comply with time limits for life-limited parts.

b. Manufacturer's Maintenance Manuals. Operators of U.S.-registered aircraft for which applicable manufacturer's maintenance manuals or ICAs have been issued that contain an Airworthiness Limitations Section, must comply with the mandatory replacement times, inspection intervals, and related procedures specified in that section, or alternative inspection intervals and related procedures set forth in an OpSpec approved by the Administrator.

c. CMR. Operators of U.S.-registered aircraft must comply with the applicable CMR established during the design certification of the aircraft as an operating limitation of the TC. The CMR is a required periodic maintenance task designed to preclude the occurrence of any failure that would prevent the continued safe flight and landing of the aircraft. The MRB report contains these tasks.

d. Maintenance Planning Document. U.S.-registered aircraft operators should implement the maintenance and inspection requirements contained in the applicable approved transport category aircraft/engine maintenance planning document or manufacturer's recommendations.

18. AIRCRAFT RELIABILITY PROGRAM.

a. Reliability Programs. Reliability programs may be required if

- The maintenance program for the aircraft is based on Maintenance Steering Group (MSG)-3 logic,
- The airplane maintenance program includes Condition Monitoring of components,
- The maintenance program does not contain overhaul time periods for all significant systems, or
- When specified by the manufacturer.

b. Effect and Purpose. An aircraft reliability program supplements the maintenance program and helps ensure that maintenance program tasks are effective. A reliability program establishes time limitations or processes for determining intervals between overhauls, inspections, and checks of airframes, engines, propellers, appliances, and emergency equipment. An acceptable program includes the continuous monitoring, recording, and analysis of the operation and condition of components and systems. Its purpose is to promote recognition of and corrective action on potential deficiencies before they occur. Resultant actions may include the escalation or de-escalation of a time interval or the addition or removal of a maintenance task for a related item or system.

c. Incorporation in an FAA-Approved Maintenance Program. An aircraft reliability program should be a part of the maintenance program for specific aircraft. The FAA will not accept aircraft maintenance program changes based on an operator's reliability control data that exceed the scope of the reliability program. The assigned FAA inspector reviewing the maintenance program will determine what documents and reports must be supplied to the FAA to enable effective monitoring of the operator's reliability program. Each part 129 operator should provide the assigned inspector with access to reliability control data in English. Provisions for inspector access should be incorporated in the operator's FAA maintenance program description.

19. PART 129 REQUIREMENTS FOR ETOPS. Although the State of the Operator grants ETOPS approval, the maintenance program may have ETOPS requirements that the FAA may need to address with the foreign CAA. This may require coordination between both authorities and the operator. Operators without prior ETOPS experience should establish a program that will result in a high degree of confidence that the propulsion system reliability is appropriate to the extended diversion time operations.

20. MAINTENANCE RECORDS TO BE RETAINED.

a. Regulatory Authority. The recordkeeping requirements of part 91, § 91.417 apply to the maintenance, preventive maintenance, and alterations of U.S.-registered civil aircraft operating within or outside the United States, except for those aircraft maintained in accordance with a CAMP, as provided in part 129 (see §§ 91.401 and 129.14). Make and retain maintenance records to show that the aircraft was maintained properly by authorized persons using

appropriate techniques, practices, equipment, and materials to return the aircraft to its approved configuration and in a condition for safe operation. Accurate and timely maintenance record entries will show whether the aircraft is maintained in an airworthy condition.

b. Records Contents.

(1) Operators should ensure that maintenance records completely describe:

- What was accomplished,
- When it was accomplished,
- Who accomplished the maintenance, and
- How they accomplished the maintenance.

(2) In all cases an AMO, or a person conducting maintenance under an equivalent system, which shall be acceptable to the State of Registry (the FAA for US-registered aircraft), may approve for return to service an aircraft after maintenance. When the State of Registry accepts an equivalent system, the person signing the maintenance release shall be licensed in accordance with Annex 1. When recording maintenance performed to comply with ADs, identify the aircraft or component and describe the work in detail with the identification and certificate number of the person who approves the aircraft or component for return to service.

c. Level of Detail. Appropriate details of inspections, repairs, and alterations should include enough detail to completely describe the work performed as well as the identity and certificate number of the person approving the aircraft or component for return to service. Retain the current status of applicable ADs, as well as the current status of inspections, required maintenance, and the total time in service of the aircraft, aircraft engine, and life-limited components. Support the maintenance release for the aircraft with the detailed maintenance records showing that all airworthiness requirements have been met. For major repairs and alterations performed on U.S.-registered aircraft or components, the technical data used to return the aircraft or component to service must be FAA-approved.

d. Records Retention. Maintain the maintenance records required by part 43 in the form and manner acceptable to the State of Registry. Include maintenance recordkeeping procedures in the maintenance manual.

21. MAINTENANCE CONTROL MANUAL.

a. Purpose. Each operator must ensure that each aircraft it operates is in an airworthy condition and that the aircraft's certificate of airworthiness remains valid. Therefore, each operator must provide, for the use and guidance of its maintenance and operational personnel, a maintenance control manual acceptable to the State of Registry that will enable its personnel to carry out their safety responsibilities. The manual should be designed so that those persons using it will clearly understand the information.

b. Contents.

(1) The manual should contain information required by pertinent FAA regulations. The manual may include additional items at the discretion of the operator.

(2) The manual should include policies and procedures for administering the inspection and maintenance requirements for the aircraft, and it should explain the maintenance responsibilities of the operator.

(3) The manual should stipulate the specific forms, documents, instructions, technical manuals, and the recordkeeping system the maintenance organization will use in maintaining the operator's aircraft.

c. Manual Distribution and Revisions.

(1) The operator shall amend the manual as necessary to keep the manual up to date. Each operator must promptly provide copies of all revisions to the manual to all persons to whom the manual has been issued.

(2) The operator shall provide the State of Registry and the State of the Operator with copies of the manual and ensure incorporation of mandatory information in the manual.

(3) The operator must make the manual available in English.

d. Monitoring and Assessing. The manual should contain a complete description of the arrangements made with other maintenance providers and how the operator will ensure that the maintenance is performed in accordance with the requirements contained in the aircraft maintenance program. The manual should also include the procedures for monitoring and assessing the operator's maintenance and operational experience in order to make improvements to the maintenance program.

e. Manual Control. An Operator's maintenance control manual should be easy to revise and must have a page control system that will allow the FAA to determine the latest or current status of the manual. All discrepancies noted during the evaluation of the manual must be corrected before the FAA can accept the manual.

22. PART 145 REPAIR STATIONS AND EQUIVALENT SYSTEMS.

a. Requirement. An AMO must be certificated as a part 145 repair station in order to perform maintenance on U.S.-registered aircraft.

b. Equivalent System. A person operating a U.S.-registered aircraft under part 129 that chooses not to maintain the aircraft in a part 145 repair station must use an equivalent system acceptable to the FAA. The equivalent system should provide, for the use of its maintenance personnel, a manual containing procedures and necessary information to enable its maintenance personnel to carry out maintenance in accordance with in accordance with FAA regulatory requirements.

(1) The manual should describe, in clear detail, information that explains the:

- Organization's maintenance capabilities,
- Organization's management structure,
- Layout of the facility,
- Qualifications of its maintenance personnel (including training),
- Availability of tools, special tools, materials, technical data, and
- Necessary procedures to perform service, maintenance, inspection, repairs, and alterations necessary for release to service of the aircraft in accordance with pertinent FAA airworthiness requirements.

(2) The maintenance organization should have a quality assurance system or provide a system of inspections to ensure the proper performance of maintenance.

c. Performance Standards. Maintenance on U.S.-registered aircraft may be performed only by persons authorized in part 43, §§ 43.3 and 43.7. Part 129 operators utilizing U.S.-registered aircraft should take preliminary steps to ensure their maintenance providers meet the requirements of pertinent 14 CFR regulations.

(1) Some operators may have a maintenance facility within their organization. Other operators may contract out their maintenance needs to a separate AMO. In all cases the operator shall ensure its aircraft are maintained in an airworthy condition and the aircraft's certificate of airworthiness remains valid when operating the aircraft.

(2) Part 145 appropriately rated repair stations and/or an appropriately certificated and rated airman under part 65 may complete, sign, and certify a maintenance release attesting that the work performed has been satisfactorily completed in accordance with approved/accepted data and the procedures outlined in the maintenance organization's procedures manual and/or operator's maintenance control manual.

23. FAA INSPECTIONS UNDER § 129.14.

a. FAA Responsibility. Consistent with its international obligations as the State of Registry, the FAA is responsible for approving maintenance programs for U.S.-registered aircraft under § 129.14.

b. The Following Guidance Applies:

(1) Approval of the maintenance program does not constitute approval of the foreign operator's maintenance facility or capability. The operator is responsible for ensuring maintenance of the aircraft in accordance with its approved maintenance program. Additionally, regulating and overseeing how a foreign operator integrates a U.S.-registered aircraft, including

the FAA-approved maintenance program, into its operations and maintenance systems, is the responsibility of the State of the Operator under the Chicago Convention.

(2) In carrying out its State of Registry responsibilities, the FAA has authority to inspect aircraft on the U.S. registry even when located outside the United States. Notwithstanding paragraph (1) of this section, upon approval of the § 129.14 maintenance program, the FAA may elect to conduct an in-country visit to validate that a U.S.-registered aircraft operated in common carriage by a foreign air carrier or foreign person maintained in accordance with its approved maintenance program.

ORIGINAL SIGNED by
Chester D. Dalbey for

John M. Allen
Director, Flight Standards Service