Federal Aviation Administration
Aviation Rulemaking Advisory Committee

Air Carrier/General Aviation Maintenance Issue Area
Maintenance Training Program Working Group

Task 1 – Review Title 14, Chapter I

Task Assignment

[Federal Register: August 15, 1995 (Volume 60, Number 157)]
[Notices]
[Page 42212]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr15au95-134]

==========

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Maintenance Issues--New Task

AGENCY: Federal Aviation Administration (**FAA**), DOT.

ACTION: Notice of new task assignment for the Aviation Rulemaking Advisory Committee (ARAC).

SUMMARY: Notice is given of a new task assigned to and accepted by the Aviation Rulemaking Advisory Committee (ARAC). This notice informs the public of the activities of ARAC.

FOR FURTHER INFORMATION CONTACT:
Frederick J. Leonelli, Assistant Executive Director for Air Carrier/ General Aviation Maintenance Issues, Flight Standards Service (AFS-300), 800 Independence Avenue SW., Washington, DC 20591, telephone: (202) 267-3546; fax: (202) 267-5230.

SUPPLEMENTARY INFORMATION:

Background

The **FAA** has established an Aviation Rulemaking Advisory Committee to provide advice and recommendations to the **FAA** Administrator, through the Associate Administrator for Regulation and Certification, on the full range of the **FAA**'s rulemaking activities with respect to aviation-related issues. This includes obtaining advice and recommendations on the **FAA**'s commitment to harmonize its Federal Aviation Regulations (FAR) and practices with its trading partners in Europe and Canada.

One area ARAC deals with is air carrier/general aviation maintenance issues. These issues involve mechanic certification and approved training schools outlined in parts 65 and 147 and the maintenance standards for parts 23, 25, 27, 29, 31, 33, and 35 aircraft, engines, propellers, and their component parts and parallel provisions in parts 21, 43, 91, 121, 125, 127, 129, 133, 135, and 137 of the Federal Aviation Regulations, which are the responsibility of the **FAA** Director, Flight Standards Service.

The Task

This notice is to inform the public that the **FAA** has asked ARAC to provide advice and recommendation on the following task:

Review Title 14 of the Code of Federal Regulations, Chapter I: Federal Aviation Administration, Department of Transportation, and supporting policy and guidance material for the purpose of determining the course of action to be taken for rulemaking and/or policy relative to the issue of requirements for maintenance and preventive maintenance training programs, specifically as they pertain to Sections 121.375 and 135.433 of the Federal Aviation Regulations.

The **FAA** also has asked that ARAC determine if rulemaking action (e.g., NPRM) should be taken, or advisory material should be issued. If so, ARAC has been asked to prepare the necessary documents, including economic analysis, to justify and carry out its recommendation(s).

ARAC Acceptance of Task

ARAC has accepted the task and has chosen to establish a new Maintenance Training Program Working Group. The working group will serve as staff to ARAC to assist the ARAC in the analysis of the assigned task. Working group recommendations must be reviewed and approved by ARAC. If ARAC accepts the working group's recommendations, it forwards them to the **FAA** as ARAC recommendations.

Working Group Activity

The Maintenance Training Program Working Group is expected to comply with the procedures adopted by ARAC. As part of the procedures, the working group is expected to:

1. Recommend a work plan for completion of the task, including the rationale supporting such a plan, for consideration at the meeting of ARAC to consider air carrier/general aviation maintenance issues held following publication of this notice.
2. Give a detailed conceptual presentation of the proposed recommendations, prior to proceeding with the work stated in item 3 below.
3. For each task, draft appropriate regulatory documents with supporting economic and other required analyses, and/or any other related guidance material or collateral documents the working group determines to be appropriate; or, if new or revised requirements or compliance methods are not recommended, a draft report stating the rationale for not making such recommendations.
4. Provide a status report at each meeting of ARAC held to consider air carrier/general aviation maintenance issues.

Participation in the Working Group

The Maintenance Training Program Working Group will be composed of experts having an interest in the assigned task. A working group member need not be a representative of a member of the full committee.

An individual who has expertise in the subject matter and wishes to become a member of the working group should write to the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire, describing his or her interest in the task, and stating the expertise he or she would bring to the working group. The request will

be reviewed by the assistant chair, the assistant executive director, and the working group chair, and the individual will be advised whether or not the request can be accommodated.

The Secretary of Transportation has determined that the formation and use of ARAC are necessary and in the public interest in connection with the performance of duties imposed on the **FAA** by law.

Meetings of ARAC will be open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act. Meetings of the Maintenance Training Program Working Group will not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on August 9, 1995.

Frederick J. Leonelli,

Assistant Executive Director for Air Carrier/General Aviation Maintenance Issues, Aviation Rulemaking Advisory Committee.

[FR Doc. 95-20129 Filed 8-14-95; 8:45 am]
BILLING CODE 4910-13-M

Recommendation Letter

121 North Henry Street
Alexandria, VA 22314
TEL: 703-739-9543
FAX: 703-739-9488

February 27, 1997

Guy Gardner
Associate Administrator
Regulation and Certification
Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591

Dear Mr. Gardner:

Please accept my apologies for taking so long to forward this Aviation Rulemaking Advisory Committee for General Aviation and Air Carrier Maintenance Issues document entitled "Maintenance and Preventive Maintenance Training Programs".

During its December 13, 1996 meeting, the ARAC for Maintenance Issues voted unanimously to exclude the second sentence at Paragraph 5(b) in its entirety from the document. (I have highlighted the sentence for your convenience). After that unanimous decision, the ARAC voted 6 to 5 to forward the document to the Federal Aviation Administration for further disposition. Several comments in opposition of the document were made part of the ARAC's minutes.

If you have any questions, please do not hesitate contacting me.

Sincerely,

Sarah MacLeod
Assistant Chair for the Aviation Rulemaking
Advisory Committee for General Aviation
and Air Carrier Maintenance Issues

cc: ARAC for Main[illegible]ues (w/o enclosure)
David Higginbotham (w/o enclosure)

Acknowledgement Letter

U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

APR - 2 1997

Ms. Sarah MacLeod
Assistant Chair for Air Carrier/General
Aviation Maintenance Issues
Aeronautical Repair Station Association
Alexandria, VA 22314-2903

Dear Ms. MacLeod:

Thank you for your February 27, 1997, letter forwarding the Aviation Rulemaking Advisory Committee (ARAC) recommendations regarding maintenance and preventive maintenance training programs.

The recommendations were submitted in a format suitable for processing and, therefore, will be presented to the Federal Aviation Administration (FAA) management as quickly as possible. If management agrees with the recommendations, a notice will be published in the Federal Register announcing the availability of the draft Advisory Circular.

I would like to thank the aviation community for its commitment to ARAC and its expenditure of resources in the development of this recommendation. We in the FAA pledge to process the recommendation expeditiously as a high-priority action.

Again, let me thank the ARAC and, in particular, the Maintenance Training Program Working Group for its prompt action on the tasks assigned by the FAA.

Sincerely,

Guy Gardner
Associate Administrator for
Regulation and Certification

Recommendation

(9)

Comments in Response to

DRAFT Notice of Proposed Rulemaking

Prior to FAA submission
&
Prior to Federal Register publication

Submitted by the

Aeronautical Repair Station Association

ONE COPY BY FACSIMILE TRANSMISSION

MEMORANDUM

TO: Aviation Rulemaking Advisory Committee

FROM: Jason Dickstein

DATE: August 15, 1997

RE: Proposed Draft NPRM for Recordkeeping

The Aeronautical Repair Station Association (ARSA) submits these comments in reference to the Proposed Draft Notice of Proposed Rulemaking for recordkeeping that is being considered by the Aviation Rulemaking Advisory Committee.

1 GENERAL CONCERNS

.1 Some Costs May Outweigh the Benefits

The proposal would vastly increase the records that must be maintained and transferred with products and parts. While many of these records exist for products in today's market, most parts in today's market do not have the records that this proposal would require. The proposal would require manufacturers to create 'birth records' for new parts that provide an appropriate foundation for the new recordkeeping requirements; however this does not solve the problems associated with records for parts that are already in the marketplace.

Participants in the marketplace that possess such parts would be required to develop complete historical records on the parts in order to make them economically viable under the proposed system. In many cases, this would represent an onerous and perhaps impossible job of detective work. Certainly the research and investigation necessary to develop the records anticipated under this system would cost more than the value of many parts.

Under this proposed system, the only other alternative is to scrap all of these parts that do not have complete historical records. This would render a tremendous inventory of otherwise airworthy parts to be ineligible for installation and transfer.

.2 Maintenance Certificated Entities Would Lose Certain Privileges

Under the current system, it is possible for a repair station or mechanic to take a part that has no documentation and determine its airworthiness through inspection, test and computation. The precise method for doing this depends on the part and its airworthiness characteristics. In some non-critical applications, dimensional testing may be sufficient; in other cases, a full range of engineering computations, like metallurgical analysis and magnetic/fluorescent testing, may be necessary to accurately determine airworthiness. If the part is airworthy with respect to the intended use, then part 43 permits installation.

The proposed regulations would limit the ability of a repair station to transfer a product or part following maintenance unless that product or part bears appropriate historical documentation, regardless of the airworthiness of the part.

.3 Definitions

The draft proposal introduces a wide variety of new definitions. Many of these definitions will be useful to the industry; however, the draft spreads these definitions throughout the FARs, often repeating definitions in several different parts.

There is no reason not to place the definitions in section 1.1. This is the appropriate place for definitions unless there is a specific reason for making a definition applicable only to a particular part or subpart.

The recommended definitions found in proposed sections 21.7(c), 43.1(c), 91.2, and 119.3 should all be moved to section 1.1.

.4 Using the Term "Part" Instead of "Component Part"

The Federal Aviation Regulations use the term "part" to refer to a logical division within the regulations (e.g. Part 11 represents the FAA's general rulemaking procedures). To distinguish this usage from the items that make up products, the regulations have referred to "component parts." This longer term is used, rather than just using the term "parts," because using the term "part" to describe both of these concepts could lead to confusion in the regulations.

The draft proposes to replace the term "component parts" with the phrase "components and parts." The preambulatory explanation for this change is that

component and part are distinguished in the industry. Nonetheless, they are not distinguished in the regulations. As a consequence, there is no sound regulatory reason for distinguishing "components" from "parts," so this regulatory distinction should not be made. The term "component parts" should remain and, if necessary, this term should be better described through a definition in section 1.1.

2 SPECIFIC CONCERNS, BY FAR SECTION

.1 **new section 21.7(a)(1)** - This new section would require that all products and parts must be serialized, including all parts manufactured under approved processes. Many non-life limited parts today are not serialized. There is no regulatory requirement to serialize these parts because there is no safety justification for serialization. As there is regulatory requirement to serialize all parts, the requirement to record a serial number should be modified to apply only to serialized parts.

.2 **new section 21.7(a)(3)** - This new section would require that the manufacturer track all airworthiness directives (ADs) that could be applicable to the part. Some parts are eligible for installation in more than one place, or in more than one type of aircraft. If the part is subject to one AD in one installation and to a different AD in another installation then each would have to be separately referenced by the documentation. This would be onerous and confusing. It would also be difficult to track for parts because ADs are issued against products and appliances, and not against parts. This AD tracking requirement under 21.7 should only be applied to products and appliances.

.3 **amendment to 43.5** - The current version of this section does not include component parts. The proposal includes both components and parts. 14 C.F.R. § 43.5 directs the person performing maintenance to record changes in operating limitations as prescribed in 14 C.F.R. § 91.9. If the final "product" installation of the part is unknown, then it may be impossible to know whether the maintenance causes changes in operating limitations. It is also likely to be impossible to make the required record in the operating limitations to the extent that this provision is extended to parts. Therefore this section should not reference "components or parts."

.4 **amendment to 43.7(d)** - The proposal would provide manufacturers with the authority to approve for return to service after repair; however manufacturers do not have the authority to perform a repair under 14 C.F.R. § 43.3(j) - only rebuild or alteration. There is inspection authority (which is not the same as repair) under 43.3(j)(3); therefore it may be appropriate to permit a manufacturer to approve an

item for return to service following rebuild, alteration or successful inspection pursuant to section 43.3(j)(3).

.5 **amendment to 43.7(e)** - The proposal would permit a holder of a Part 119 certificate to approve a product or part for return to service. Part 119 does not authorize performance of maintenance by a certificate holder, so this subsection should not permit the 119 certificate holder to approve for return for service following maintenance.

.6 **new subsection 43.9(a)(2)** - The proposed language includes a list of species of maintenance and directs the type of information that must be retained in the records reflecting such maintenance. The description of information to be kept under the proposal is specific as to certain functions and lacking as to others. This runs the risk of being inapplicable to special cases of maintenance that may require reference to alternate records in order to be accurate and useful; it also provides insufficient comparable guidance for non-listed species of maintenance.

This proposed language is more appropriate to an Advisory Circular (AC) than to a regulation. If it is to be published in an AC, then it should also be redrafted to make it clear that each of the subsections that describe a form of maintenance provides only an example of information that shall be included in the event that the maintenance or alteration performed is described by one or more of these subsections; the "as applicable" header language is both insufficient and confusing.

The solution to our immediate problem, what to do with the 43.9 regulatory language, is to replace the proposed 43.9(a)(2) in its entirety with the following text:

A description of work performed, and a reference to data acceptable to or approved by the Administrator.

.7 **new subsection 43.9(b)** - The proposal would add a section that directs compliance with appendix B. This provision is redundant and should be omitted. It adds nothing that does not already exist in appendix B.

.8 **amendment to subsection 43.9(c)** - This proposed exclusion for inspection records would include part 121, which is not currently included, and all of part 135 (currently only certain inspections are addressed). In the current form, holders of certificates issued under Parts 121 and 135 are only excluded from compliance with 14 C.F.R. § 43.9 if they have continuous airworthiness maintenance programs under their certificates - the proposal would exclude the inspections conducted by these certificate holders from section 43.9 even if they did not have continuous airworthiness maintenance programs. Also, holders of certificates issued under Parts 121 and 135 with continuous airworthiness maintenance programs are currently excluded from 43.9 because their own approved recordkeeping systems

are sufficient. The proposal would only exclude them for purposes of inspections, but not other maintenance - there is no safety justification for this change.

.9 **amendment to 43.11(a)** - Air carriers holding certificates issued under parts 121 and 129 are currently excluded from compliance with 14 C.F.R. § 43.11. The proposal would require them to comply with section 43.11. Note that Part 43 is not applicable to aircraft operated under Part 129 (except certain aircraft operated under section 129(b)); as a consequence, this change should not be made unless the applicability statement of part 43 is to be comparably amended.

.10 **amendment to 43.15(a)** - Air carriers holding certificates issued under parts 121 and 129 are currently excluded from compliance with 14 C.F.R. § 43.15. The proposal would require them to follow the inspection program for the aircraft. It should be made clear that the FAA interprets "inspection program for the aircraft" to mean the air carrier's inspection program, as opposed to the manufacturer's. Note that Part 43 is not applicable to aircraft operated under Part 129 (except certain aircraft operated under section 129(b)); as a consequence, this proposed change should not be made unless the applicability statement of part 43 is to be comparably amended.

.11 **amendment to 43.16** - Air carriers holding certificates issued under part 129 are currently excluded from compliance with 14 C.F.R. § 43.16. That section requires performance of all maintenance according to instructions published either in the Instructions for Continued Airworthiness or the carrier's approved operating specifications. The proposal would require them to follow the inspection program for the aircraft. It should be made clear that the FAA interprets "inspection program for the aircraft" to mean the air carrier's inspection program, as opposed to the manufacturer's. Note that Part 43 is not applicable to aircraft operated under Part 129 (except certain aircraft operated under section 129(b)); as a consequence, this proposed change should not be made unless the applicability statement of part 43 is to be comparably amended.

.12 **amendment to Part 43 Appendix Bx(a)(2)** - The present version of this provision requires that the duplicate 337 be provided to the owner of the part or product. The proposal would permit the mechanic or air agency to provide that information to the owner or operator. In some cases, where the operator bears contractual responsibility for maintenance, it may be burdensome for the mechanic or air agency to identify the owner. The mechanic or air agency may not realize that the operator is not the owner. This appears to be a sound change - by permitting the mechanic or air agency to provide the duplicate 337 to the operator with which it is conducting business, this rule change will facilitate appropriate recordkeeping while

eliminating a potentially burdensome or confusing requirement to provide the duplicate 337 to the owner.

.13 **amendment to section 91.401** - Under current regulations, those who hold certificates issued under parts 121, 129, or 135 do not need to comply with the recordkeeping requirements of 14 C.F.R. § 91.417, nor the transfer of maintenance record requirements of 14 C.F.R. § 91.419. The proposed changes would make those two sections applicable to the above-listed certificate holders. Under current regulations, these certificate holders must comply with the transponder test requirements of 14 C.F.R. § 91.413, and they must periodically test their emergency locator transmitters. The proposed changes would change these requirements such that no transponder test nor ELT test would be required by Part 91 for such certificate holders, as long as they had a continuous maintenance program. This appears to remove the regulatory basis for performing such tests according to the FAR standards, which means that a continuous maintenance program could be certificated with much less stringent standards.

.14 **amendment to 91.417** - Subsection (a)(9) would require the owner or operator of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part to maintain the current status of applicable airworthiness directives for each aircraft, airframe, aircraft engine, propeller, appliance, component, or part. An airworthiness directive may only be applied against an aircraft, aircraft engine, propeller or appliance. See 14 C.F.R. 39.1. Therefore, this new language should be limited to only apply to records kept on an aircraft, aircraft engine, propeller or appliance.

.15 **amendment to 91.417** - subsection (a)(12) would require the owner or operator of a product or part to maintain evidence indicating that the product or part has been produced pursuant to a certificate, approval, or authorization provided by the Administrator. There is no regulatory requirement imposed on the owner or operator to possess an "approved" product or part; therefore it does not make sense to require a record of such.

.16 **amendment to 91.417** - subsection (c) would require the owner or operator who receives a discrepancy list to retain that list with the aircraft records until the discrepancies are repaired. Repair is not the only possible resolution to a discrepancy. This language should be reworded to reflect this. A solution would be to replace the word "repaired" with the word "corrected":

Each owner or operator who receives a list of discrepancies furnished under Section 43.11(b) of this chapter must retain a list of these discrepancies until the discrepancies are corrected and the aircraft is

approved for return to service, or until the aircraft and the list of discrepancies is transferred.

.17 **amendment to 91.419** - proposed subsection (c) would requires owner and operators who transfer an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for the purpose of maintenance, preventive maintenance, rebuilding, or alteration to concurrently transfer information sufficient to ensure completion of the work to be performed. No document transferred to the repair station will "ensure" completion of the work performed. The word "ensure" should be changed to "support":

Each owner or operator who transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for the purpose of maintenance, preventive maintenance, rebuilding, or alteration must concurrently transfer information sufficient to support completion of the work to be performed.

.18 **new section 91.425** - proposed subsection (b) would make commission of an offense listed in this section punishable against airman certificates and air agency certificates. Part 91 is not applicable to airmen nor to air agencies. Further, this expanded applicability is redundant of existing 14 C.F.R. § 43.12(b). This language should be limited only to the scope of applicability of part 91.

The commission by any person of an act prohibited under paragraph (a) of this section is a basis for suspending or revoking any applicable aircraft operation certificate held by that person.

.19 **amendment to 129.14** - Proposed subsection (a)(2) would require a review of records to assure compliance with 14 C.F.R. § 91.420. Part 129 permits operation of foreign registered aircraft. 91.401(a) makes Subpart E of Part 91 generally applicable only to aircraft registered in the United States. Therefore, many Part 129 aircraft will not be subject to Part 91's maintenance requirements. Since the aircraft are not subject to the requirements of 14 C.F.R. § 91.420, it does not make sense to review records for compliance to that section.

.20 **new section 145.65** - Proposed subsection (b) would require any repair station that keeps records in an electronic recordkeeping system to make all of those records available to the FAA and to the NTSB. To maximize the efficiency of an electronic recordkeeping system, the repair station is likely to want to include commercial data that falls outside the FAA's regulatory scope. It is easy to design report formats that will permit the viewing of the regulatory data by FAA personnel while protecting the commercial data from FAA inspection. To protect the repair

station confidential commercial and financial information as well as its proprietary data, the requirement to make records available to the FAA should be limited only to those records required to be kept under the Federal Aviation regulations.

Further, the NTSB does not have an absolute right to examine repair station records. The NTSB's investigative power is limited to records related to an accident investigation under chapter 11 of title 49, United States Code. The repair station's regulatory obligation to provide records to the NTSB should be no greater than the NTSB's statutory right to the records. The following language may represent an acceptable substitute.

Each repair station must, upon request, make the maintenance records that are required to be kept under this part and that are contained in the electronic recordkeeping system available to the Administrator or if the records are related to an accident investigation conducted under 49 U.S.C. chapter 11, then to any authorized representative of the National Transportation Safety Board.

.21 **new section 145.67** - Proposed subsection (a)(1) would require that the repair station transfer the records specified in section 91.417(a), (b), (c), (d), and (g) to the receiving owner or operator. Many parts currently "in the system" do not bear these historical records. Some parts that are produced after the new rule is implemented will not necessarily bear this documentation, like standard parts and commercial parts. Further, if the repair station does not receive the product or part from a certificated entity (e.g. receipt from a distributor), the product or part may not bear all of these records. It would be overly burdensome to require repair stations to develop these records. This subsection should be removed from the draft.

.22 **new section 145.67** - Proposed subsection (a)(2) would require that the repair station provide a basis for any decision not to approve an item for return to service. A repair station does not need a basis for a decision to refrain from approving an item for return to service. The decision to refrain from performing work may be purely a business decision, that falls outside of the FAA's safety jurisdiction. This subsection should be removed from the draft.

.23 **new section 145.67** - Proposed subsection (a)(3) would require that the repair station certify the authenticity of the information contained in any records required to be transferred. Where the repair station has received the records from a third party and has not prepared them itself, the repair station has no basis upon which to certify the authenticity of the records. It would be impossible for a repair station to certify to the authenticity of records it had not prepared. This subsection should be removed from the draft.

.24 **new section 145.67** - Proposed subsection (b) would require a repair station that transfers a product or part for the purpose of maintenance, preventive maintenance, or alteration to concurrently transfer information sufficient to ensure completion of the work to be performed. No document transferred to the repair station will "ensure" completion of the work performed. The word "ensure" should be changed to "support."

A repair station that transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for the purpose of maintenance, preventive maintenance, or alteration must concurrently transfer information sufficient to support completion of the work to be performed.

.25 **new section 145.69** - Proposed subsection (a) would require that a repair station obtain copies of the records prepared pursuant to 14 C.F.R. § 21.7 when it acquires a product or part from a manufacturer. Some manufacturers may act as parts distributors as well. Such a manufacturer may not have complete 21.7 information for parts that it did not fabricate, especially if the parts were fabricated before the implementation date of the new rule. This subsection should be limited to circumstances where the manufacturer that is transferring the product or part actually fabricated the product or part.

.26 **new section 145.69** - Proposed subsection (b) would require that the repair station obtain certain records at the time it accepts any product or part that is approved for return to service. Certain parts in the aviation industry will have been approved for return to service before the implementation date of these changes in this proposed recordkeeping rule. These parts are unlikely to bear the appropriate documentation required by the proposed rule change. This could have a devastating effect on the value of certain parts inventories. This subsection should be removed from the draft, or it should be limited to parts that were manufactured after a certain record date (such as the implementation date of the rule).

.27 **new section 145.69** - Proposed subsection (c) would require that the repair station obtain a basis for any transferor's decision not to approve an item for return to service. No party needs a basis for a decision to refrain from approving an item for return to service. The decision to refrain from performing work may be purely a business decision, that falls outside of the FAA's safety jurisdiction. This subsection should be removed from the draft.

.28 **new section 145.69** - Proposed subsection (d) would require a repair station that receives a product or part for the purpose of maintenance, preventive maintenance or alteration to concurrently transfer information sufficient to ensure completion of the work to be performed. No document transferred to the repair station will

"ensure" completion of the work performed. The word "ensure" should be changed to "support."

A repair station that receives an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, for the purpose of performing maintenance, preventive maintenance, or alteration must ensure the receipt of the records sufficient to support completion of the work to be performed.

Regional Airline Association
1200 19th Street, NW, Suite 300
Washington, DC 20036-2422

8

RAA

FAX TRANSMITTAL SHEET

TO: ARAC MAINTENANCE ISSUES GROUP- ACTIVE MEMBERS

FROM: DAVID LOTTERER PHONE: 202 857-1140 FAX: 202 429-5113
E-mail: david_lotterer@sba.com

THIS FAX CONSISTS OF 5 PAGES

SUBJECT: **PROPOSED ARAC RECORDKEEPING RULE**

The following comments express the RAA's analysis and recommendations on the proposed recordkeeping rule:

In evaluating this NPRM, I looked for the safety benefit that this rule would provide and if that was not present, then I for any other remedial feature such as making the existing rule more understandable. I did not find any safety benefit nor did I find the NPRM to be more understandable than the current rulemaking.

Obviously all regulations should provide a safety benefit since the FAA routinely fine people/companies or revoke their license for violating the regulations. Requirements that are not specifically related to safety or are administrative in nature (e.g. rules that are helpful to the FAA in conducting surveillance actions) should first be addressed by revising commercial contracts and FAA advisory materials before rulemaking changes are considered.

NPRM has No Safety Benefit:

AVIATION DAILY, June 18, 1997

> *FAA said it plans to fine FedEx $187,500 for "failure to properly maintain records for 21 aircraft engines". FAA said an audit showed the JT8D engines were not in the carrier's computerized records management system, which tracks time takeoffs, landings and maintenance schedules. FAA said that for three engines, FedEX "lacked documentation regarding compliance with airworthiness directives, the time of last required overhaul and status of life-limited parts."*

The stated justification of the subject NPRM focused on the ability to facilitate (i.e. make easier) the transfer of aircraft but that is more an economic issue than a safety issue. Under the existing rules, if the seller (or lessee) transfers the aircraft and the pertinent records for AD's, major structural repairs,

etc. are not available, the seller must conduct whatever conformity inspections are needed in order to satisfy the FAA that the aircraft is airworthy. This process has shown to be extremely effective in preventing unairworthy aircraft into operation. Are the existing rules on the book insufficient such that the FAA cannot determine from existing records that the aircraft is unsafe? The above Aviation Daily quote would lead you to believe that the FAA has adequate rulemaking now. **Nothing was stated in the NPRM for us to conclude that current regulations are inadequate.** If the seller now has more records does that provide the buyer the opportunity to conduct less inspections to determine the condition of the airplane? That may be a benefit to the buyer but again that is simply a contractual issue that can be resolved in most cases by thorough conformity inspections. If the Aloha accident taught our industry one thing, it is that aircraft records are no guarantee of an airplane's condition.

NPRM is Not Harmonized

Adoption of the proposed rule will only impose additional obligations on U.S. operators. Many aircraft are transferred from operators/owners in other countries. Nothing was mentioned in the supplementary information to suggest that the proposed rule had been harmonized. If the (foreign) operator holds a FAA-approved FAR Part 129 maintenance program, that approval includes the records requirements of International Civil Aviation Organization (ICAO) Annex 6. Currently the FAA accepts the records of an aircraft purchased from a foreign operator if the operator's records are in compliance with the ICAO requirements and an operator certified record of current status. The proposed rule makes no mention of ICAO Annex 6. Operators from other countries will be unaffected by the adoption of this rulemaking to the economic detriment of U.S. operators and manufacturers.

NPRM is Not Cost Justified

Since the cost-benefit analysis was not provided, RAA assumes that the savings to industry that have been touted at the various briefing session are based upon the ability to digitize the recordkeeping data. RAA submits that the majority of changes provided in the NPRM are not necessary in order for the FAA to approve the conversion of paper to a digital data process. The NPRM states often that operators can continue to maintain paper records if they so choose. The NPRM's cost justification should therefore not be based on savings from converting to digital data process when it is considered as an **option.**

NPRM does Not Clarify the Existing Rule:

If the proposed rule will not improve on safety and is not harmonized, will it then make the existing rules on recordkeeping more understandable? The fact that the NPRM is 220 pages long is not a good indication. Specific comments on where the NPRM is confusing are provided below.

RAA Supports Conversion to Digital Data

RAA supports rulemaking that provide operators the ability to convert maintenance records to a digital data process as an option and suggest that ARAC separate these provisions of the NPRM from the document so the FAA can process such changes as a Miscellaneous Amendment. The FAA did this for manual requirements rule [FAR 121.133(b)]. This rule used to say that the manuals had to be in either paper or microfilm and they simply added the phrase "or other form acceptable to the Administrator. The FAA is proceeding with a conversion of Operation Specification paragraphs to a digital format for operators without any rulemaking changes being considered. In the Ops Spec

conversion program, the FAA is working with ARINC to provide the needed requirements for acceptance of a digital signature. Other ARAC groups have developed Advisory Circulars which could easily be converted to support a simple rulemaking change to provide for maintenance records in either paper or digital data formats.

COMMENTS ON SPECIFIC PROVISIONS

Section 21.7

(1) The FAA recently proposed a TSO for fasteners and will shortly propose other TSO's for seals and bearings. Presently the only category of parts that do not have direct FAA oversight are "standard parts". The ARAC Production Certification Issue group is working on a definition to account for some other parts by creating a "commercial part" category. This definition is not yet recognized by the FAA however. The FAA may in fact create many more TSO's to account for other proprietary parts that are routinely used on aircraft. If the NPRM is adopted in its current form it will impose the recordkeeping requirements for the millions of fasteners, seals, bearings, etc. that are used on aircraft and are scheduled to become TSO'd parts. The proposed language that distinguishes part from component leaves us no room to duck the issue. SECTION 21.7 SHOULD NOT BE REVISED UNTIL THE APPROVED PARTS ISSUE IS RESOLVED.

(2) "Part": The current term "component part" may be somewhat confusing but the distinction between component and part is no less confusing. The definition of part "one piece or two or more pieces that are joined together..." sounds like a component. What about a fire extinguishing bottle? Is it a part or component? The bottle may be several parts that are welded together. When you test the bottle you saw the neck off but reweld it back on after the test. It seems more accurate to state that a part is a part when it is identified by the manufacturer as a part; Similarly a component is a component when the manufacturer identifies it as a component. A rulemaking definition that distinguishes between parts and components serves no useful purpose. THE CURRENT TERM "COMPONENT PART" SEEMS WELL UNDERSTOOD AND SHOULD NOT BE CHANGED UNLESS SOMEONE COMES UP WITH A BETTER TERM.

(3) "Applicable Standard": The term "Applicable Standard" is too broad in meaning to be used as a unique term. All the regulations are referenced as "standards" and the adjective "applicable" does not narrow its meaning. Even the proposed definition is confusing. What the working group seems to be concerned about is to make sure that the unit of (interval) measurement does not change in mid-stream. It would be clearer to simply state the document that specifies the interval. For example, proposed 21.7 (a)(3) (iv) states:

The total time-in-service of the item to which the airworthiness directive applies when the required action was accomplished, as expressed by each applicable standard, if required by the airworthiness directive.

Why not simply state: *If additional actions are required, the measured interval since accomplishment of the required action, as expressed in the interval specified by the airworthiness directive.* In defining "*applicable standard*", the term "approved or acceptable to the Administrator" is simply a catch all phrase and does little to assist the reader in defining the term. *APPLICABLE STANDARD* IS AN AWKWARD TERM AND SHOULD NOT BE USED.

Sections 43.1 through 43.11

See comments on "component" and "part" in (Section 21.7); see comments on "English language" in Section 91.417; see comments on reference to a part's "name, number, and serial number and work order number" in Section 91.417.

Section 91.417

The phase- in period for compliance with these rules is stated only for (a)(6); yet other provisions go beyond what is now required. The Section-by-Section Analysis comments indicate that the phase-in period for compliance is as of the effective date. This of course is unacceptable since every owner/operator would be in non-compliance if it were adopted today. An analysis needs to be done to determine how much time owner/operators need to be in compliance with the provisions.

(a)(5), (6), (7) The terms time-in-service, specified time basis, etc. contradict with the term "each applicable standard" if the interval is expressed in cycles.

(a)(6) This should be part of (a)(5). The use of the word "history" is inappropriate in rulemaking. It is too board in scope. If (a)(6) were made part of (a)(5), it should be (a)(5)(iii) and read "A record of any action that has altered the life limit of the part." . What does the phrase "changed the parameters" add that is not provided by term "altered"?

(a)(12) This provision seems to be a catch-all provision that accounts for anything beyond those records required by (a)(1) thru (a)(11). The summary of this provision seems to exempt part 91 operation but it doesn't state that in the rule. Would this be applicable to accomplishment of a minor repair outside of a scheduled letter check? For example what about a minor repair in which a certain fastener is replaced. When this fastener is installed on an airplane, does this provision require that an operator keep the purchase records **on the fastener** until the aircraft is transferred? The requirements of (a)(12) plus (b)(4) seem to require that procurement records be kept on any change to the airplane. The reader needs to know what (a)(12) affects . If it is simply that owner/operators should use only approved parts, then the proposed provision is redundant. The use of the word "evidence" is inappropriate for this type of rulemaking. It is simply too broad in scope. The Section-by Section Analysis section seems to indicate that the part's acceptance documents would constitute acceptable "evidence". If that is the case then simply state it. The "parts" issue alluded to under Section 23.7 regarding fasteners, seals and bearings creates confusion for this requirement as well. Even under the current "approved" parts confusion, propriatary fastener installed on aircraft and purchased directly from a non-PMA source is considered an approved part (at least by the operators).

Placing maintenance records requirements for everyone (91, 121, 135, etc.) into one provision may have been a good idea at the beginning but it is very confusing to determine what records are needed to be kept for each type of operation. You should not have to rely on the preamble in order to determine what records need to be kept.

(b)(3) &(4) Records in the English language:

The proposed requirement to have all the records in English will certainly make the records more understandable but this mean that an aircraft purchased from a foreign operator (e.g. Turkish Airlines) will have all the records in English at the time of transfer? If the seller does not choose to contract for

an English conversion of the records, this becomes a requirement that will have to be done by the buyer of the aircraft before the aircraft can be transferred. In a number of instances where the records may be unclear, the new owner may consider it cheaper to do conformity inspections but under the proposed rule, the new owner would have to obtain an exemption to deviate from the regulation in order to put the aircraft into service. I know of no U.S. carrier now that is preparing records in a language other than English. Why then is this requirement needed? **This type of requirement should be harmonized first before it is adopted.**

(b)(4) The reference to *transferred* is a condition that may never happen. Parts are scrapped, airplanes are scrapped. I assume then, that under this provision, the records should be maintained as long as the aircraft, engine, part, etc. remains in the possession (inventory) of the owner/operator. This of course brings us back to the problems associated with "approved parts" as previously discussed. RAA reads this as requiring purchase records for virtually every part on every airplane (the only exception being *standard parts*; e.g. NAS bolts, resisters, etc.). The FAA SUPS group recently proposed a draft AC (21-29B) which attempts to define approved parts. The industry has submitted requests for major changes to this document. Since this NPRM is dependant on FAA policy of what constitutes an approved part, ARAC should not release this NPRM until we know what FAA policy on approved parts really is.

Sections 91.419 and 91.420

Many of the problems described in 21.7 and 91.417 apply to these provisions since they refer back to the earlier provisions. There is also not an "escape" from the requirements of the provisions such that if the records are not complete, both the buyer and seller are in non-compliance with the regulations. To request an exemption under such circumstances in order to complete the transfer would of course be very time-consuming. These are the type of regulations (administrative) where adding the phrase "in any manner acceptable to the Administrator" makes sense.

DRAFT (1)
MAY 20 1997

[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR parts 21, 43, 91, 119, 121, 125, 129, 135, and 145

[Docket No. ; Notice No.]

RIN 2120-AD25

Maintenance Recordkeeping Requirements

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes amendments to the regulations that prescribe the recording, retention, and transfer requirements for certain maintenance records. Current regulations prescribing these requirements do not reflect advances that have occurred in aviation maintenance technology, aircraft maintenance operations, and information storage and retrieval systems used in maintenance recordkeeping. The proposal would standardize maintenance recordkeeping requirements and would facilitate the transfer of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts among owners, operators, manufacturers, and maintenance facilities. The proposed rule also would permit the use of electronic signatures to satisfy maintenance and certain operational record retention requirements and set forth provisions for the optional use of electronic maintenance recordkeeping systems.

DATES: Comments must be received on or before [*insert date XX days after date of publication in the Federal Register*].

ADDRESSES: Comments on this notice should be delivered, in triplicate, to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-200), 800 Independence Avenue, SW., Washington, DC 20591. Comments delivered must be marked Docket No. . Comments also may be submitted electronically to the following Internet address: 9-nprm-cmts@faa.dot.gov. Comments may be examined in Room 915G weekdays between 8:30 a.m. and 5 p.m., except on Federal holidays.

FOR FURTHER INFORMATION CONTACT: William Henry, Avionics and Air Agency Branch (AFS-350), Aircraft Maintenance Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267-3804.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that may result from adopting the proposals in this notice also are invited. Substantive comments should be accompanied by cost estimates. Comments should identify the regulatory docket or notice number and should be submitted

in triplicate to the Rules Docket address specified above. All comments received on or before the closing date for comments specified will be considered by the Administrator before taking action on this proposed rulemaking. The proposals contained in this notice may be changed in light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes any contact with Federal Aviation Administration (FAA) personnel concerning the substance of this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a preaddressed, stamped postcard on which the following statement is made: "Comments to Docket No. ." The postcard will be date-stamped and returned to the commenter.

Availability of NPRM's

Any person may obtain a copy of this Notice of Proposed Rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Rulemaking, Attention: ARM-1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-9677. Communications must identify the notice number of this NPRM.

Persons interested in being placed on the mailing list for future NPRM's should request from the above office a

copy of Advisory Circular No. 11-2A, "Notice of Proposed Rulemaking Distribution System," which describes the application procedure.

Background

The regulations governing the content, retention, and transfer of maintenance records have changed little since they were first enacted. These rules were developed when aviation maintenance technology, aircraft maintenance operations, and information storage and retrieval systems were far less complex than the systems and technology used today. The growing complexity of aircraft and their systems has caused a corresponding increase in the complexity of maintenance tasks that are required to be accomplished to ensure an aircraft's safe and efficient operation. Transfers of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts among owners and operators, which were relatively infrequent when these regulations were enacted, have now become commonplace. For example, according to FAA estimates, more than 50 percent of the air carrier fleet is now leased, and 80 to 90 percent of the fleet is forecast to be leased by the end of the century.

In addition to the aircraft leasing arrangements that permeate the air transportation industry, other types of transfers among manufacturers, owners, operators, and repair facilities, which were unknown when these regulations were

enacted, now also have become routine. A large number of these transfers occur among owners and operators who conduct their operations pursuant to sections of the regulations with differing maintenance recordkeeping requirements. Maintenance records accompanying these transfers, which meet the recordkeeping requirements of the previous owner or operator, must therefore be reviewed carefully to ensure compliance with the maintenance recordkeeping requirements that apply to the new owner or operator.

As both the complexity of aircraft maintenance processes and the number of transfers of aircraft, airframes, aircraft engines, appliances, propellers, components, and parts has increased, the number of maintenance records generated and required to be transferred has grown accordingly. In an environment where leases and other forms of transfers are common, information necessary to document the airworthiness of an aircraft can become exceedingly difficult to locate within the large quantity of maintenance records that are required to be transferred concurrent with the transfer of an aircraft. Inspections conducted pursuant to the FAA's National Air Transportation Inspection Program and its subsequent National Aviation Safety Inspection Program (NASIP) have revealed a number of instances where operators could not successfully document the airworthiness of an aircraft following a transfer because supporting maintenance records were unavailable.

To help the industry integrate new methods of maintenance recordkeeping into the current regulatory structure and to facilitate the transfer of items, while continuing to ensure that adequate records are retained to demonstrate airworthiness, the FAA designated maintenance recordkeeping practices as an area for review by the Aviation Rulemaking Advisory Committee (ARAC). The FAA established the ARAC in February 1991 to provide advice and recommendations to the Administrator concerning the full range of the FAA's rulemaking activity with respect to safety-related issues.

In August 1991, the Air Carrier/General Aviation Maintenance Issues Group of the ARAC established the Maintenance Recordkeeping Requirements Working Group. This working group was tasked with the "development of an advisory circular that will address the recordkeeping requirements of the present FAR and development of an NPRM that may include additional items and utilize the present state-of-the-art for recording and retention of records" (56 FR 42373, August 27, 1991). The Maintenance Recordkeeping Requirements Working Group conducted its first of 14 meetings in November 1991 and presented its recommendations to the ARAC on [*insert date*]. The ARAC accepted these recommendations, which now form the basis for the changes proposed by the FAA in this NPRM.

General Discussion of the Proposals

The proposals would establish a uniform system of maintenance record entry, record retention, and record transfer requirements for aircraft manufacturers, owners, operators, and repair stations. Standardizing these requirements would simplify an owner's or operator's task of demonstrating the airworthiness of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, and would permit an owner, operator, or repair station to more readily use state-of-the-art electronic recordkeeping systems to retain and transfer all required maintenance records. The increased use of electronic recordkeeping systems, which would occur as a result of the standardization of maintenance recordkeeping requirements and the recognition of electronic signatures as set forth in this proposal, would result in significant cost reductions to the aviation maintenance community and also facilitate the transfer of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts among manufacturers, owners, operators, repair facilities, and maintenance personnel. Owners, operators, repair facilities, and maintenance personnel also would be able to more rapidly and accurately assess the airworthiness of any item received, at a significant reduction in cost.

The proposal would ensure that a consistent set of maintenance records accompanies an aircraft, airframe, aircraft engine, propeller, appliance, component, or

part throughout its useful life. Specifically, the proposal would: (1) define critical terms that relate to the creation of maintenance record entries, the retention and transfer of maintenance records, and the use and acceptance of electronic and other forms of signatures; (2) expand and standardize the required minimum content of a maintenance record entry after the performance of maintenance, preventive maintenance, rebuilding, or alterations; (3) require manufacturers to provide specific records when a new or remanufactured aircraft, airframe, aircraft engine, propeller, appliance, component, or part is delivered; (4) expand and standardize maintenance records that must be retained and transferred with an aircraft, airframe, aircraft engine, propeller, appliance, component, or part by an owner or operator and centralize these record retention and transfer requirements in 14 CFR part 91; (5) establish provisions for the optional use of electronic recordkeeping systems to retain and transfer all required maintenance records and record entries; (6) revise the content requirements for certificate holders' manuals to reflect the use of standardized recordkeeping systems and permit certificate holders to furnish the maintenance part of their manuals to appropriate personnel by making it available in printed form, or other form acceptable to the Administrator that is retrievable in the English language; (7) establish a requirement that in-service history records used to

determine the current status of life-limited parts be retained by each owner or operator until transfer; (8) revise the requirements for the transfer of records pertaining to major repairs and allow Canadian maintenance personnel to document major repairs and major alterations of U.S.-registered aircraft with a Transport Canada Conformity Certificate (Transport Canada Form 24-0045); (9) require certificate holders with a Continuous Airworthiness Maintenance Program approved under 14 CFR part 121 or 125, or 14 CFR § 135.411(a)(2); repair stations certificated under 14 CFR part 145; and persons operating U.S.-registered aircraft pursuant to 14 CFR part 129 to include a review of maintenance records in their inspection of incoming aircraft, airframes, aircraft engines, propellers, appliances, components, and parts; and (10) include a section in part 91 prohibiting the falsification of maintenance records required by that part. This preamble will address the proposed changes; first through a discussion of the principal issues, then in a section-by-section analysis of the proposed rule.

Definition of Terms

To ensure a uniform understanding of terms included in this proposal, the FAA would define in parts 21, 43, and 91 the terms "applicable standard," "component," "life-limited part," "part," and "transfer." The FAA proposes to define the term "signature" in parts 43, 91, and 119.

Throughout this proposal, the FAA intends to delete the term "rotor" where the current rule refers to "airframe and rotor," because "rotor" is included in the definition of "airframe" found in § 1.1.

Applicable Standard

Currently, the FAA requires that the status of life-limited parts, overhauls, inspections, and other maintenance actions be recorded on a periodic basis. These actions are measured according to various intervals. To ensure that any maintenance action required to be performed on a periodic basis is monitored according to hours, cycles, calendar time, or another measuring parameter approved by or acceptable to the Administrator, the FAA proposes to include these intervals in its definition of the term "applicable standard."

An applicable standard could be specified by: a regulatory requirement; a maintenance program approved under § 91.409(f)(4) or § 129.14; a Type Certificate, Provisional Type Certificate, or Supplemental Type Certificate; an operator's Operations Specifications; an approved maintenance program; a Parts Manufacturer Approval; a Technical Standard Order, special conditions, certification maintenance requirements, or airworthiness limitations.

An applicable standard also could be found in regulatory requirements such as airworthiness directives (AD's). AD's frequently require that actions be repeated

and the applicable interval for the completion of these repetitive maintenance actions found in the text of the AD also would be considered an applicable standard. Operations Specifications also could set an applicable standard, as certain actions may need to be performed in accordance with an operator's reliability program, which is contained or referenced in an operator's Operations Specifications. Applicable standards for periodic maintenance actions also are frequently found on a Type Certificate Data Sheet, which is part of a Type Certificate.

Component

Although many sections of the rules refer to the term "component part," this term has not been defined in the regulations. As industry practices differentiate between the use of the terms "component" and "part," references to the term "component part" in the regulations frequently lead to varying interpretations by the public regarding the applicability of the term to a specific item. This ambiguity has prompted the industry and other regulatory bodies to undertake actions to clarify the definition of "component" and "part." For example, the Air Transport Association (ATA)/International Air Transport Association (IATA)/International Coordinating Council of Aerospace Industries Association (ICCAIA) has separately defined the terms "component" and "part" in the World Airlines Technical Operations Glossary (WATOG). Canadian regulations clearly

distinguish between the terms; current § 43.17, which authorizes Canadian persons to perform maintenance on U.S. aeronautical products, separates the terms "component" and "part" in its definition of the term "aeronautical product." Additionally, requirements implemented by the Joint Aviation Authorities (JAA) refer to either aircraft "components" or aircraft "parts" but do not use the term "component part."

In an effort to recognize current industry practices and enhance the congruency between the regulations and other international agreements and regulations, the FAA proposes to define the term "component" as any self-contained part or any combination of parts, subassemblies, or units that perform a distinctive function necessary to operate a system. All references to the term "component part" would be deleted and replaced with the term "component or part".

Life-Limited Part

The preamble to Amendment No. 121-94, "Aircraft Maintenance and Related Records," (37 FR 15981, August 9, 1972), states that the term "life-limited parts" refers to parts for which retirement times, service-life limitations, parts-retirement limitations, retirement-life limitations, or life limitations exist; however, the term "life-limited part" is not defined in the regulations. Because the FAA proposes to require the retention and transfer of information pertaining to the current status of

life-limited parts, the proposal would define the term "life-limited part" as any part for which a retirement-life, service-life, part-retirement, or life limitation exists in the type certificate for a product. These parts are identified in accordance with § 45.14 or have been given a life limit after delivery. An AD also may establish a life limit for a part.

Part

For those reasons specified above in the discussion of the definition of the term "component," the FAA proposes to define the term "part" as one piece or two or more pieces that are joined together and that are not normally subject to disassembly without destruction of the designed use. Standard parts, owner-produced parts, and parts produced pursuant to Special Federal Aviation Regulation (SFAR) No. 36 would specifically be included under the terms of this definition of "part."

Signature

The proposal would define the term "signature" as a form of identification used as a means of attesting to the completion of an act and that authenticates a record entry. A signature would be required to be traceable to the person making the entry and would be permitted to be in handwritten, electronic, or other form acceptable to the Administrator. Affixation of a signature indicates the completion of a record or record entry that may not be

altered except through the creation of a subsequent superseding record.

The term "signature" in the current rules does not contemplate electronic signatures. This limitation has restricted owners, operators, and repair stations from implementing complete electronic recordkeeping systems. The proposed definition would permit an electronic entry or other unique form of individual identification in lieu of a handwritten signature on a record if adequate guarantees of its authenticity are met. To be considered acceptable, an electronic signature should retain the qualities of a handwritten signature that guarantee its uniqueness. The electronic signature would serve as an attestation of the authenticity of a record or record entry and should contain sufficient safeguards to prevent falsification of the signature. The signature should not be affixed automatically, but only through deliberate action of the individual whose signature is represented.

An electronic signature could be in the form of a digital signature (e.g., a message transformation using an asymmetric crypto-system), a digitized image of a paper signature, typed notations, or an electronic code. A mechanic's stamp also could serve as a "signature." If a form of identification other than a handwritten signature is used, access to the use of that identification should be limited to the named individual only. For example, a stamp

used as a signature should be secured when not in use by the individual whom the stamp identifies. A computer entry that is used as a signature should have restricted access that is limited by an authentication code (password) that is changed periodically. Access to stamps and authentication codes should be limited to the user and security personnel. The FAA emphasizes that all electronic entries may not necessarily satisfy the criteria that would qualify an electronic entry as an acceptable signature (i.e., be a form of identification used as a means of attesting to the completion of an act and as an authentication of a record entry traceable to the person making the entry).

Adoption of the proposed definition of the term "signature" would permit the use of an electronic maintenance recordkeeping system and certain operational recordkeeping systems (such as those that generate load manifest, flight release, or airworthiness release records) in which recourse to paper or other hard-copy documents would not be required.

Transfer

The requirements of §§ 91.419, 121.380a, and 135.441 address the transfer of maintenance records pursuant to a sale. In the current aviation environment, many different types of transfers of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts frequently occur. In recognition of these practices, the term

"transfer" would be defined as "the conveyance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part." A transfer signifies the change of any right, title, or interest in the item transferred. A sale, conditional sale, lease, rental, or borrow arrangement would therefore constitute a transfer under the proposed definition. A transfer also may occur when a person turns over physical possession of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part solely for the purpose of having work performed. Additionally, a transfer may occur when physical possession of an item is given to another party, even if this is done without payment. Gifts and donations would be examples of such transfers, as would be marketing arrangements in which supplemental (nonrequired) equipment, such as entertainment systems or telephones, are installed in an aircraft at no cost to the operator. A loan or borrow of any aeronautical product in accordance with approved Operations Specifications would also constitute a transfer under this proposal. The proposed definition would encompass not only current methods of conveying items but also would anticipate future methods of transferring an aircraft, airframe, aircraft engine, propeller, appliance, component, or part.

Records transferred with an item could be transferred in paper or microfilm form, as an electronic data transferal, on a computer disk, or using any other coded,

electronic, or paper means acceptable to the Administrator. The FAA emphasizes that although a transfer may occur in a number of forms, an owner or operator need not provide the transferee with physical custody of the accompanying records. Such an occurrence typically would occur in the case of an aircraft rental or in certain types of leases. Proposed § 91.420(d) would permit the preceding owner or operator to retain physical custody of the records; however, the receiving owner or operator would not be relieved of the responsibility to ensure that the records meet applicable regulatory requirements and to make the records available for inspection by appropriate FAA or NTSB personnel.

Other Terms

The proposal also addresses the concepts of "current status" and "method of compliance," although they are not specifically defined in the sections of the proposed rule.

Current Status

The FAA uses the term "current status" to denote the existing airworthiness condition of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part. This designation is expressed in terms of an applicable standard, and the FAA may require an owner or operator to demonstrate that an aircraft is airworthy through the use of any appropriate records.

Method of Compliance

In the proposed rule, the term "method of compliance" refers to actions taken to comply with the requirements of an AD. A reference to the specific method would be required if more than one method of compliance were permitted. The reference to the specific method could include a reference to the particular paragraph of an AD, a manufacturer's service bulletin referenced in the AD, or an owner- or operator-directed maintenance order that describes the actual method of compliance. If an alternative method of compliance were used, any reference should include a complete description of the alternative method of compliance used and a copy of the FAA approval. If the method of compliance were a reference to a manufacturer's service bulletin and the service bulletin has more than one method of accomplishment, the reference would need to indicate the specific method used.

Expansion and Standardization of the Minimum Content Requirements for a Maintenance Record Entry

Current Requirements

Current § 43.9 establishes the requirements for a maintenance record entry after a person performs maintenance, preventive maintenance, rebuilding, or alteration of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part. Currently a maintenance record entry, as specified under § 43.9(a), must

include: (1) a description (or reference to data acceptable to the Administrator) of the work performed; (2) the date of completion of the work performed; (3) the name of the person performing the work if other than the person who approved the item for return to service; and (4) the signature, certificate number, and kind of certificate held by the person who approves an item for return to service.

Maintenance record retention and transfer requirements for aircraft, airframes, aircraft engines, propellers, appliances, components, and parts are governed by the rules for the operation in which the items are used. As a result of this practice, identical items can be accompanied by different sets of maintenance records, depending on the type of operation in which the item has been used. Many aircraft parts and components, especially avionics, can be used on numerous types of aircraft that may be operated under different operating rules. Such items may be used on an aircraft engaged in a specific operation governed by one part of the regulations and may later be removed from that aircraft, and either sold, placed in storage, or installed on an aircraft engaged in an operation governed by a different part of the regulations with different maintenance recordkeeping requirements. Under the current rules, two identical parts or components held by an owner, operator, or repair station can be accompanied by different sets of maintenance records. These differences between the

maintenance recordkeeping requirements for each operating rule greatly hinder the ability of owners, operators, and repair stations to transfer items among persons operating under different parts of the regulations. Such differences are apparent in recordkeeping systems where operators' stock numbers, traceable to manufacturers' parts numbers, are used.

Proposed Requirements

To standardize the contents of maintenance record entries and facilitate not only the maintenance but also the transfer of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts, the proposed rule would establish one set of maintenance record entry requirements. By specifying the minimum elements of a maintenance record entry for all owners, operators, maintenance personnel, and repair stations and by more accurately explaining what information is required when providing a description of work performed, the proposed rule would establish a foundation upon which a standardized system for the retention and transfer of maintenance records would be based. By establishing these consistent maintenance record entry requirements, the rule also would ensure that a standard set of data would be used as the basis for determining the airworthiness of any aircraft, airframe, aircraft engine, propeller, appliance, component,

or part, regardless of the type of operation in which the item has been or is currently being used.

Current § 43.9 requirements mandating that a maintenance record entry contain the date on which the maintenance, preventive maintenance, rebuilding, or alteration was completed, and the name, signature, certificate number, and kind of certificate held by the person approving the work would remain unchanged in the proposed rule. In addition to these requirements, the proposal also would require that a specific reference identifying the name, number, and serial number of an appliance, component, or part (correlating to the manufacturer's appliance, component, or part name, number, and serial number), and applicable work order number(s), be included in each maintenance record entry, if applicable.

The proposal also would permit a person to approve an item for return to service by using other positive identification that complies with the provisions of a certificate holder's manual in lieu of that person's handwritten signature, certificate number, and kind of certificate. Such a change would further facilitate the use of practices such as electronic maintenance entries, employee stamps, and authorization codes, and would provide certificate holders with greater flexibility in implementing their maintenance programs.

Under the current rule, the inclusion of information describing the work performed is required to be stated in a maintenance record entry; however, the exact information to be included is implied rather than specifically stated. The proposal would delineate those particular actions that should be specifically described in any maintenance record entry. These would include, but not be limited to: (1) compliance with an AD; (2) the performance of a major repair, to include reference to data used to complete the major repair; (3) the performance of a major alteration, to include reference to data used to complete the major alteration; (4) the performance of an overhaul; (5) the replacement of a life-limited part; (6) the accomplishment of a task in a maintenance program; (7) the performance of any actions specified in the Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness.

Only the accomplishment of an AD would require the individual making the maintenance record entry to include specific information in the description of work performed (e.g., specific AD number; revision number, revision date, or amendment number; and method of compliance).

Although the inclusion of a service bulletin's or owner-operator directed maintenance order's number is encouraged in a maintenance record entry (and may be the easiest means of providing a succinct description of the

work performed), it would not be required to be included in a maintenance record entry, provided that an adequate description of the work performed is included.

The FAA also proposes that the description of work performed in a maintenance record entry include the time-in-service of any life-limited part that has been installed. It would not be required as a maintenance record entry for work performed on other items. Time-in-service with respect to maintenance time records is defined in § 1.1 as "the time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing" and may be measured in hours, cycles, or any other applicable standard.

Current 14 CFR §§ 91.417, 121.380, and 135.439 require all operators to retain records containing information specifying the total time-in-service of the airframe (and each engine, propeller, and rotor for part 91 and 135 operators and each engine and propeller, subject to certain limitations for part 121). These regulations also require the retention of records specifying the current status of life-limited parts. Although time-in-service is not currently required as a maintenance record entry, a requirement to include it as a maintenance record entry for life-limited parts would facilitate the compilation of the data used to determine current status information for life-limited parts. It would ensure that the data upon

which this current status information is based could be collected.

The FAA also proposes to require that a maintenance record entry include the specific work order number(s) for any maintenance, preventive maintenance, rebuilding, or alteration performed, if such numbers are used by owners, operators, or maintenance personnel in performing work on an item. This new requirement would facilitate the retrieval of any additional information that pertains to work that has been accomplished but that is not contained in a particular maintenance record entry. Entries of work order numbers are required on FAA Form 8130-3 and JAA Form One. Work order numbers could be provided by the owner, operator, or repair facility. All applicable work order numbers would be required to be listed in the maintenance record entry. The FAA recognizes that certain work, especially work done in support of general aviation, may not be identified by a work order number or numbers. The proposal would not require the creation of such numbers; it would only require the recording of such numbers if used by maintenance personnel.

The proposal would further assist maintenance organizations or persons conducting subsequent maintenance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part by requiring that a part's name, number, and serial number (if applicable) be recorded in a maintenance record entry so that it correlates to the

manufacturer's part number and serial number. By requiring the inclusion of this data, the rule would ensure that the owner or operator is aware of the specific part that has been used in any work performed. Operators frequently use their own internal systems to identify interchangeable parts. These parts may have been manufactured by any one of a number of manufacturers. Consequently, these owners' or operators' references to a part cannot always be correlated to a specific part from a single manufacturer. Because the method of performance of subsequent maintenance actions may depend on the conclusive identification of a part previously used, the ability to verify the origin of a part from a specific manufacturer is essential. The proposal, however, would not require the creation of part numbers or serial numbers for unnumbered or unserialized parts.

The FAA recognizes that current § 43.9(b) requires operators issued certificates under part 121 or part 135 that have approved Continuous Airworthiness Maintenance Programs to make maintenance record entries in accordance with the applicable provisions of the chapters under which their operations are conducted. Although the manner in which these records are retained may vary, the information contained within these records should correspond to that required by proposed § 43.9(a). The FAA contends that by specifying the types of work that should be specifically described in a maintenance record entry, it would establish

the foundation upon which a system of readily transferable records could be based that would benefit the entire aviation maintenance industry, as well as aircraft owners and operators. The information that describes any work performed, therefore, would be the same, regardless of the operating rule under which the items were used. Use of these standard maintenance record entry requirements would ensure that records of work performed on any aircraft, airframe, aircraft engine, propeller, appliance, component, or part could be readily integrated into the maintenance recordkeeping system of any owner, operator, or repair station. A provision similar to current § 43.9(b) therefore would not be contained in the proposed rule.

Although the proposed rule specifies the information to be included in a maintenance record entry, maintenance personnel would retain the flexibility to use a variety of methods to create a maintenance record entry, such as an entry in a logbook, an electronic record, FAA Form 337, FAA Form 8130-3, or JAA Form One. The proposal would also specifically permit an individual approving the work performed to use other positive identification that complies with the provisions of a certificate holder's manual to indicate that an item has been approved for return to service.

In seeking to develop a maintenance recordkeeping system that better facilitates the transfer of items among

owners, operators, and maintenance facilities, the FAA, through ARAC, has considered the recommendations of all segments of the aviation industry involved in aircraft production, maintenance, and operations. The FAA also has reviewed methods of documenting airworthiness, such as FAA Form 8130-3 "Airworthiness Approval Tag" and Joint Aviation Authorities (JAA) Form One, to determine the types of data that should constitute the proposed minimum maintenance record entry requirements. The FAA's proposed changes to the requirements for a maintenance record entry would ensure that the maintenance record entries specified on currently used forms be included in FAA recordkeeping requirements. The proposal also would increase the level of similarity between JAA and FAA maintenance record entry requirements and place no unreasonable burden on owners, operators, or maintenance personnel. The proposal would not change current rules pertaining to the international transfer of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts.

Although the FAA, in response to a petition for rulemaking submitted by Mr. Grant W. Young on behalf of Aviation Records Management Co., Inc. (Docket No. 26864, 59 FR 5554, Feb. 7, 1994), considered requiring part 121, 125, and 135 operators and third-party facilities to use standardized forms when performing routine and nonroutine maintenance at the C-check level and above, the FAA deemed

such a proposal to be overly burdensome to the aviation maintenance industry. The proposal and the existing regulations do not prohibit a maintenance facility from developing a suitable format for recording maintenance record entries that comply with § 43.9.

The establishment of a standardized set of data to be created after the performance of maintenance, preventive maintenance, rebuilding, or alterations would facilitate the use of electronic maintenance recordkeeping systems to retain and store the data created. Only one set of data would be necessary to describe all maintenance actions accomplished on an item, regardless of the operating rule under which the item was or is being used. Such records uniformity would greatly aid the industry in developing and using electronic recordkeeping systems for the retention of maintenance records. This proposal is not, however, intended to preclude the use of paper-based recordkeeping systems.

Transfer of Initial Certification Information From Manufacturers

Current Requirements

The scope of the requirements for the transfer of information concurrent with the delivery of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part from a manufacturer is limited. Current

14 CFR § 21.5 states that each airplane or rotorcraft that was not type certificated with an Airplane or Rotorcraft Flight Manual and that has no flight time before March 1, 1979, must be delivered with a current approved Airplane or Rotorcraft Flight Manual. Although the flight manual provides significant information pertaining to the operating limitations, operating procedures, and performance limitations of the aircraft, it provides little information regarding an aircraft's current maintenance status.

The regulations do not explicitly require a manufacturer to provide maintenance records or other information that an operator would be required to retain regarding the maintenance status of an aircraft engine or propeller. Similarly, the regulations do not explicitly require a manufacturer of an appliance, component, or part to provide maintenance documentation. The lack of such information hinders the ability of an owner or operator to verify the airworthiness of items received from manufacturers.

Proposed Requirements

As noted earlier, a major goal of this proposal is to facilitate the development of a standardized maintenance recordkeeping system that would enable owners and operators to ensure that a standard set of maintenance records accompanies an aircraft, airframe, aircraft engine, propeller, appliance, component, or part throughout its

life. To achieve this goal, it is critical that owners and operators have access to information that would establish the initial maintenance status of these items.

This proposal would require any person who produces an aircraft, airframe, aircraft engine, propeller, appliance, component, or part pursuant to a certificate, approval, or authorization provided by the Administrator to maintain the minimum amount of information necessary to establish the current maintenance status and airworthiness of the item. A manufacturer would be required to provide this information to the recipient of an item at the time of its delivery commencing 1 year after the effective date of the rule.

The proposal would therefore help the recipient to verify any maintenance actions that may have been taken before delivery, which could affect the current status or future airworthiness of the item. It would not require that this information be provided for owner-produced parts or for standard parts because those parts are not produced pursuant to requirements contained in 14 CFR part 21.

The information required would include: the name, number, and serial number of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part; the weight and center of gravity for aircraft (and the conditions under which these values were determined); the current status of applicable AD's (to include AD's that have been accomplished during the production process, but not

AD's that have been completely included as a result of an approved design change); the part number and serial number of any life-limited part and the part's total time-in-service and life limit; a description of any alterations or modifications accomplished in accordance with a Supplemental Type Certificate; the airworthiness certificate, if applicable; and evidence indicating that the item was produced pursuant to a certificate, approval, or authorization provided by the Administrator.

The proposed rule introduces the concept of "evidence" of production pursuant to a certificate, approval, or authorization. The FAA recognizes that there are varying types of evidence of production pursuant to a certificate, approval, or authorization. Such evidence can be in the form of documentation, a packing list, invoice, or material certification. Evidence also can consist of part markings.

Examples of evidence sufficient to indicate production pursuant to a certificate, approval, or authorization could consist of a type certificate number, or a Parts Manufacturer Approval (PMA) or Technical Standard Order (TSO) number. Products manufactured according to a TSO, for example, require that the TSO number be marked on the product's data plate and parts manufactured pursuant to a PMA are required to be marked "FAA-PMA." Any purchase records used to demonstrate compliance with the proposed requirement must indicate the specific certification,

approval, or authorization basis used for the production of the item or refer to documentation on which the specific certification, approval, or authorization basis for the production of the item can be found. Sufficient documentation, however, need not consist of the original certificate, authorization, or approval issued to the manufacturer but may include a copy of such documentation. For items delivered in lots, a single document may be used to determine the status of each item contained within the lot. If an item was removed from the lot and evidence of its status was required, documentation indicating that the removed item had been part of the lot and the certification, approval, or authorization status of the lot would provide sufficient evidence of the individual item's status. Additional documentation may not be needed if the markings on an item provide the required information; e.g., for TSO products.

Since the proposed rule also requires verification of this evidence at each transfer by a certificated entity, acceptable evidence may consist of a certification that the product's production status was reviewed during a required receiving inspection. Acceptable evidence also could consist of the results of a conformity inspection conducted to determine if the item meets all requirements for its production. Evidence of production pursuant to a certificate, approval, or authorization would not be

required to be in the form of paper documentation. The FAA contends that the provision of this information by manufacturers will greatly assist an owner or operator in determining the modification status of any item that is delivered.

The proposal would not require that this information be provided for parts produced by an owner or operator for maintaining the owner's or operator's own product. Such parts are frequently produced under part 43 during the accomplishment of a major repair. The documentation associated with the manufacture of these parts is required to be retained under proposed § 91.417 and transferred under proposed § 91.419. The proposal also would not require manufacturers to provide this information for standard parts produced in accordance with industry or U.S. specifications. These parts are not produced in accordance with a formal FAA approval process.

The recipient subject to the proposed recordkeeping requirements would not be required to retain the original certification and maintenance records provided by the manufacturer. The recipient could integrate the information contained within these records into its own recordkeeping system and not retain the original certification and maintenance records, yet still satisfy all applicable regulatory requirements.

Retention of these records by persons not subject to the proposed maintenance recordkeeping requirements is encouraged to facilitate the subsequent transfer of aviation products to persons subject to these requirements. The FAA contends that although suppliers and distributors would not be subject to these proposed requirements, virtually all suppliers and distributors would retain these records because the information contained in the records would be required by their customers to meet the proposed requirements.

The receiving owner, operator, or repair station would use this information as the basis for integrating an aircraft, airframe, aircraft engine, propeller, appliance, component, or part into its own maintenance recordkeeping system. In so doing, the recipient would be ensured of possessing the information necessary to ensure initial compliance with the record retention requirements of proposed § 91.417. These records would be continually updated as work is performed on the item.

The original information provided by a manufacturer under proposed 14 CFR § 21.7 could be transferred by the manufacturer in paper, electronic, microfilm, or another equivalent format. The information would be required to be retained by the aircraft's owner or operator only if required to comply with the requirements of proposed § 91.417, and would not be required to be retained when no

longer required to document the status of an item (i.e., when the information has been transferred with the item from one certificate holder to another certificate holder or when the information has been transferred to an electronic recordkeeping system that meets the requirements of proposed § 91.423 or § 145.65). Although the proposal would address only manufacturers and, therefore, would place no requirement on suppliers and distributors to transfer or retain such data, the proposal would require certificate holders and operators to obtain this information under proposed §§ 91.420(a) and 145.69(a). The requirements placed on certificate holders and operators to obtain such data should therefore result in the provision of this information by suppliers and distributors.

Manufacturers would be required to maintain this information and to provide it to all recipients for each aircraft, airframe, aircraft engine, propeller, appliance, component, and part produced after [*1 year after the effective date of the rule*]. A manufacturer would not be required to provide this information for items produced and transferred prior to [*1 year after the effective date of the rule*], however the proposed requirement would apply to items produced prior to [*1 year after the effective date of the rule*], (i.e., inventory items) that are transferred after that time.

Additionally, a manufacturer would not be required to provide the name, number, and serial number of all subcomponents or parts that comprise an item that is being delivered. This information would already have been provided to the manufacturer of the larger item during the production process. The manufacturer may choose to provide this information, but it would not be required by the proposed rule. This subcomponent/parts listing would only be required for any item on which certain maintenance actions had been performed prior to delivery (AD's, or any alterations or modifications accomplished in accordance with an STC) to identify the item on which work was performed and to identify life-limited parts. Current status information for AD's, however, would be required to be provided not only for the item delivered but also for any item that forms a portion of the larger item delivered, as such AD's would be considered "applicable" to the item delivered.

Initial certification records would be required to be provided to noncertificated aviation parts distributors and suppliers, as well as to owners and operators of aircraft. The proposed rule would only establish this requirement for manufacturers producing items pursuant to an FAA certificate, approval, or authorization. While the proposal would not require parts distributors and suppliers to provide this information to their customers, it does require an operator to receive this information in accordance with

proposed § 91.420 and a repair station to receive this information in accordance with § 145.69. The proposal would not require producers of standard parts, or owners or operators who produce parts for use on their own aircraft, to provide this information. Aircraft owners, operators, and repair stations would continue to be required to ensure the airworthiness of any standard part, or part produced by an owner or operator, installed on a type-certificated product, even though initial certification records would not be required from the manufacturer of any of these products. A standard part's conformity to industry or U.S. standards and applicable marking requirements, or certification that a part was produced by an owner or operator, should provide evidence of such compliance.

Although the FAA does not propose to regulate noncertificated distributors and suppliers, these entities would be encouraged to provide the records specified in proposed § 21.7 to all aircraft owners, operators, and repair stations with whom they conduct business. These noncertificated entities and suppliers should note that the requirements for aircraft owners, operators, and repair stations in proposed §§ 91.420 and 145.69 would result in requests for this information. An owner, operator, or repair station that chooses to accept an item from a noncertificated entity without certification information

would be required to complete a full conformity inspection of the item upon receipt.

Under proposed §§ 91.420 and 145.69, aircraft owners, operators, and repair stations would be required to obtain the records specified in proposed § 21.7, upon the receipt of an item from its manufacturer. However, if the owner, operator, or repair station receives an item from a person other than its manufacturer, it must obtain either the records specified in proposed § 21.7, or the information contained in those certification records in a form that meets the requirements of proposed § 91.417, at the time of transfer. If a transferor other than a manufacturer can provide the information contained in the records specified in proposed § 21.7, to the receiving owner, operator, or repair station in the form of records that meet the provisions of proposed § 91.417(a), (b), (c), (d), and (g), the recipient would not need to obtain the records specified in proposed § 21.7.

Aircraft owners, operators, and repair stations, therefore, would be ensured of obtaining the information contained in the records noted in proposed § 21.7, either in the form of original certification records or their equivalent (e.g., copies of the original records or the information contained in those records). Aircraft owners, operators, and repair stations that obtain aircraft parts from distributors, for example, would be required to obtain

either the records specified in proposed § 21.7, or records containing this information, that meet the applicable portions of proposed § 91.417.

If the item was received from a person required to conduct a receiving inspection of the item's records as specified under proposed 14 CFR §§ 121.369(b)(10), 125.249(a)(3)(viii), 129.14(a)(2), and 135.427(b)(10), or the applicable provisions of part 145, or the item was previously owned, operated, or maintained by a person required to conduct such an inspection, the FAA would not consider the specific certificate, approval, or authorization provided by the Administrator to be the sole means of meeting the requirement of proposed § 21.7(a)(7). The FAA also would consider evidence indicating that the item was properly inspected and accepted by a person required by regulation to conduct a receiving inspection, or evidence indicating that the item was removed from a higher-level assembly, produced pursuant to a certificate, approval, or authorization provided by the Administrator as being sufficient to conclusively indicate that the item itself was produced pursuant to a certificate, approval, or authorization provided by the Administrator.

Although the FAA is not proposing the creation of a mandatory removal record, such documentation (e.g., FAA Form 8130-3) would assist in identifying airworthy parts that are not subject to PMA or TSO marking

requirements, facilitate the transfer of parts for subsequent maintenance or "cannibalization," and serve as an acceptable method of meeting the requirements of proposed § 91.417(a)(12) in any subsequent transfer of the item. If the owner, operator, or repair station does not have a record indicating that an item was produced pursuant to some form of certificate, approval, or authorization, the item would be required to be inspected for conformity with design requirements prior to its installation on a certificated aircraft.

Although the FAA considered imposing a specific requirement on owners, operators, and repair stations to provide original certification, approval, or authorization documentation to indicate an item's status with all transfers, the FAA determined that such a requirement would be overly burdensome. The original certification information only would be required with the initial transfer of an item from its manufacturer or when no other evidence could be provided that the item had previously been produced or maintained in accordance with regulatory requirements. In many transfers, an item already will have been inspected to determine its status. Additionally the item's accompanying maintenance records will have been reviewed for compliance with proposed regulatory requirements. Repeated inspections of an item's original certification, approval, or authorization documents would not be considered

necessary, provided that a subsequent owner, operator, or repair station could determine that a receiving inspection, mandated by regulation, had been accomplished and that the item had indeed been accepted by the operator that conducted the inspection, or that the item had been removed from a higher-level component whose status could be documented.

Both the FAA and the aviation maintenance industry are firmly committed to ensuring that unapproved parts do not enter the aviation maintenance system. The FAA recognizes the difficulty that manufacturers, owners, operators, and repair stations have in determining an item's status, especially for those items that have been removed for repair, reinstallation, exchange, or transfer. This concern was noted in the October 6, 1995, report of the FAA's Suspected Unapproved Parts Task Force, which specifically cited industry-wide problems in ensuring that parts conform to type design and are in a condition for safe operation prior to installation on an aircraft. The report also noted the aviation maintenance industry's difficulties in maintaining a record of a part's approval status after its removal from an aircraft.

The FAA contends that this proposal would provide the recipients of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts with sufficient documentation or equivalent evidence to ensure that the items they receive have been manufactured in

accordance with proper certification, approval, or authorization procedures, thereby decreasing the presence of unapproved parts within the aviation community. The proposal would establish an initial "filter," which would ensure that upon the first entry of an item into the aviation maintenance industry, there would be sufficient indication of its proper status. The specific certification, authorization, or approval would be initially provided by the manufacturer and would accompany the item as an indication of its status until the item had been inspected and accepted by a certificate holder required to possess an inspection program under proposed §§ 121.369(b)(10), 125.249(a)(3)(viii), 129.14(a)(2), 135.427(b)(10), or part 145. After the item had been subjected to such an inspection and accepted by the operator, evidence of compliance with the inspection or evidence indicating that the item had been removed from a higher-level component whose proper status could be documented would constitute sufficient documentation. Such evidence would provide sufficient information upon which to formulate those maintenance records required by proposed § 91.417. If an item was not subjected to an inspection program, such as upon transfer to a person conducting operations under part 91, the original certification records should accompany the item.

Expansion of the Scope of Maintenance Records Retained for an Aircraft, Airframe, Aircraft Engine, Propeller, Appliance, Component, or Part

Current Requirements

Maintenance record retention requirements are specified in §§ 91.417, 121.380, 135.439, and 145.61. Part 125 operators and foreign operators of U.S.-registered aircraft under part 129 are subject to the record retention requirements of § 91.417.

The maintenance record retention requirements of § 121.380 require that each certificate holder retain the following specific information: (1) the total time-in-service of an airframe; (2) the total time-in-service for each engine and propeller (subject to certain limitations as specified in § 121.380(b); (3) the current status of life-limited parts of each airframe, engine, propeller, and appliance; (4) the time since the last overhaul of items that are required to be overhauled on a specific time basis; (5) the current inspection status of the aircraft; (6) the current status of applicable AD's, including the date and method of compliance and if the AD involves recurring action, the time and date when the next action is required; and (7) a list of current major alterations to each airframe, engine, propeller, and

appliance. These records must be retained and transferred with the aircraft at the time the aircraft is sold.

Current § 121.380 also requires a certificate holder to retain all the records necessary to show that all the requirements for the issuance of an airworthiness release have been met for 1 year after the work is performed or until the work is repeated or superseded by other work. However, the records of the last complete overhaul of each airframe, engine, propeller, and appliance are required to be retained until the work is superseded by work of equivalent scope and detail.

The maintenance record retention requirements of § 135.439 are virtually identical to those of § 121.380, with only a minor difference relating to total time-in-service records. In § 135.439, total time-in-service records are required for airframes, engines, propellers, and rotors; § 121.380 requires these records for airframes, and in limited cases, for engines and propellers.

Maintenance record retention and transfer requirements for owners and operators under parts 91 and 125, and foreign operators of U.S.-registered aircraft under part 129 are found in § 91.417. The § 91.417 record retention requirements that pertain to total time-in-service, current status of life-limited parts, time since overhaul, current inspection status, and current status of applicable AD's are identical to the requirements of § 135.439.

Current § 91.417 requires that forms prescribed by § 43.9(a) be retained only for major alterations to the airframe and currently installed engines, rotors, propellers and appliances, whereas § 135.439 requires that a list of major alterations and major repairs to each airframe, engine, propeller, rotor, and appliance be retained. Current § 121.380 only requires that a list of major alterations to each airframe, engine, propeller, and appliance be retained. Current §§ 121.380 and 135.439 do not refer to the forms specified in current § 43.9(a).

Current § 91.417 also differs from current §§ 121.380 and 135.439 in that it does not refer to an airworthiness release, which is not required for part 91 operations. However, for each aircraft, airframe, engine, propeller, rotor, and appliance, current § 91.417 does require that each owner or operator retain records of maintenance, preventive maintenance, or alteration, as well as records of 100-hour, annual, progressive, and other required or approved inspections until the work is repeated or superseded by other work or for 1 year after the work is performed. These records must include: (1) a description (or reference to acceptable data) of the work performed; (2) the date of completion of the work performed; and (3) the signature and certificate number of the person approving the aircraft for return to service.

As a result of the development of maintenance record retention requirements over an extended period of time, parts 91, 121, and 135 set forth slightly different minimum regulatory requirements for owners and operators.

Proposed Requirements

The FAA proposes to standardize minimum record content and retention requirements by consolidating all current requirements for owners and operators into proposed § 91.417. The record retention requirements found in current §§ 121.380 and 135.439 would be deleted. Owners, operators, and repair stations, however, would not be required to modify or create any additional records to document work accomplished prior to the effective date of the rule.

The provisions contained in § 91.417 now would apply to all operators. This change would ensure the availability of standardized records for aircraft that are transferred between persons conducting operations under different operating regulations. In addition, it would eliminate problems encountered in documenting previous aircraft maintenance when an aircraft (or other item) operated under the maintenance record retention provisions of one part of the regulations is transferred to an owner or operator operating pursuant to another part of the regulations that has different maintenance record retention requirements.

The proposed rule also would specify that current status information for overhauls, inspections, and AD compliance would pertain to all airframes, aircraft engines, propellers, appliances, components, and parts. Current status information for AD's would include those applicable AD's accomplished during manufacture. Including current status information for these items would ensure consistency between the maintenance record entry requirements in proposed § 43.9 and the record retention requirements proposed for all owners and operators.

Records for each major repair also would have to be retained and transferred, as would documentation of the status of any item produced pursuant to any certificate, authorization, or approval provided by the Administrator. These requirements are discussed separately in the proposal. Current requirements for the retention of major alteration records would be consolidated in proposed § 91.417.

Records of the maintenance, preventive maintenance, rebuilding, or alteration of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, and records pertaining to the completion of 100-hour, annual, progressive, or other required or approved inspections would continue to be required to be retained for 1 year or until the work is superseded, whichever occurs sooner. The FAA recognizes that many owners and operators retain these records for longer periods of time, however, the proposal

would continue to permit the disposal of these records after 1 year, when superseded, or also when repeated. Additionally, the FAA would permit these records to be retained in accordance with a certificate holder's manual.

The proposed changes to § 91.417 also would permit certificate holders operating under part 121 to retain the last complete overhaul records of an item for 1 year, until the work is superseded, or in accordance with its manual. The current rule requires that these operators retain records of the last complete overhaul of each airframe, engine, propeller, rotor, and appliance until the work is superseded by work of equivalent scope and detail.

With the emergence of modular maintenance, the FAA contends that many maintenance tasks previously accomplished through complete overhauls are now accomplished through a series of modular repairs. The FAA has perceived no need to differentiate the retention requirements for overhaul records from those of other maintenance actions and, therefore, proposes that these records be retained for 1 year, until repeated or superseded, or in accordance with a certificate holder's manual.

The FAA also proposes contends that owners and operators with maintenance programs should retain records of scheduled inspection program tasks until the underlying work is repeated or superseded. The FAA asserts that records of this work continue to retain their value in determining an

item's airworthiness even after a period of 1 year if the work has not been repeated or superseded. Such information may be of critical importance in the conduct of any investigation and may provide the most recent and relevant information regarding the nature of the work performed.

The proposed rule would not require that records of work performed in those portions of progressive inspections that have been repeated or superseded be retained, even though the entire progressive inspection has not been completed. Many tasks completed during a progressive inspection are identical and repeated over the course of that progressive inspection. The FAA contends that the retention of records documenting the earlier accomplishment of an identical task imposes an unwarranted burden on the operator and that only the records of the last accomplishment of a specific task should be required. Additionally, the proposal would require records of nonroutine tasks that are not part of an inspection, yet which are accomplished as part of a required inspection, to be retained for 1 year, until repeated or superseded, or in accordance with a certificate holder's manual. To retain congruency with current international practices and to ensure the adequate regulation of maintenance practices at FAA-certificated repair stations, the current requirement for repair stations to retain records of work accomplished for 2 years after the performance of the work would remain

unchanged in the proposal. Owners or operators that engage in the practice of permitting repair stations to retain custody of their maintenance records should note that the current requirement for repair stations to retain records of work accomplished for 2 years does not relieve the owner or operator of other applicable regulatory requirements to retain records of work that has been accomplished.

The FAA also proposes to integrate weight and balance information for aircraft into the standardized maintenance recordkeeping system proposed in this NPRM. This information is crucial to the safety of flight because it is a prerequisite to the development of current, accurate operating limitations for an aircraft. The possession of accurate weight and balance information by an owner or operator also is necessary to comply with current § 43.5(c), which requires that operating limitations or flight data contained in the aircraft flight manual be revised if a repair or alteration changes any of the parameters. This proposal would immediately provide the owner or operator with an aircraft's weight and balance (and its resulting operating limitations) after a transfer and, therefore, help owners and operators ensure that their aircraft are operated within specific weight and balance limitations and other limitations derived from this information.

During the development of this proposal, the FAA considered standardizing the current maintenance record

retention and transfer requirements found in parts 91, 121, 125, and 135 without deleting the sections in these individual parts pertaining to maintenance recordkeeping and without consolidating the proposed requirements within part 91. The FAA contends that the proposed standardized maintenance record retention and transfer requirements constitute the minimum maintenance recordkeeping requirements necessary to ascertain the airworthiness of all aircraft, airframes, aircraft engines, propellers, appliances, components, and parts. As such, these requirements should be included within part 91, which sets forth all basic minimum requirements for all owners and operators, to include those operating under parts 121, 125, 129, and 135. The FAA emphasizes, however, that compliance with these minimum maintenance recordkeeping requirements, in and of itself, does not ensure the airworthiness of an item.

As the FAA recognizes that maintenance records may be retained in a variety of possible formats, the proposal would require an owner or operator to provide the FAA or NTSB with a copy of any maintenance record required to be retained by this proposal in a suitable format. During the conduct of an investigation, FAA and NTSB investigators must frequently review a wide variety of maintenance records over an extended period of time. Although the Administrator may find the use of electronic and other methods of maintenance

recordkeeping acceptable, the records retained by an owner or operator may not be in a format compatible with FAA systems. Because records reviews may be conducted away from the owner's, operator's, or repair station's records storage area, the ability to remove such records to facilitate the review of their contents by a variety of investigative personnel is essential to the expeditious conduct of any investigation. The FAA, therefore, proposes in § 91.417(f) that any maintenance record required to be maintained by an owner or operator, be provided in English, either in paper or other media acceptable to the FAA or NTSB, upon request.

The FAA is neither encouraging or discouraging the use of paper records to satisfy the proposed requirement. If electronic records retained by an operator are not in a format compatible with FAA systems, an owner or operator may, for example, satisfy the proposed requirement by providing the FAA with electronic records in disk format together with whatever computer hardware or software would be necessary to create a paper copy of the desired records. If the records were maintained in a format compatible with FAA or NTSB systems, only an electronic copy of the records would be required to be provided to the FAA or NTSB. The use of paper records would not be the only means necessary to satisfy proposed record retention requirements or any proposed requirements for FAA or NTSB review of records.

The FAA additionally considered requiring owners and operators to retain and transfer the current status of accomplished manufacturers' service bulletins and owner- or operator-directed maintenance orders. Service bulletins and owner- or operator-directed maintenance orders frequently involve detailed work that may, be the subject of a future AD or may affect subsequent maintenance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part. Such information could give a subsequent owner or operator of an item a readily available source to determine whether the work required by a future AD may have been accomplished through the completion of a service bulletin or owner- or operator-directed maintenance order. If a new owner or operator were aware that a service bulletin (or owner- or operator-directed maintenance order that incorporates a service bulletin) recognized by the FAA as a permissible way to comply with an AD has already been performed on an item, the new owner or operator may not be required to repeat the maintenance actions specified in the AD. Current status information also would provide the owner or operator with information that also may affect the future maintenance, preventive maintenance, rebuilding, or alteration of an item.

Even though information pertaining to the accomplishment of service bulletins and owner- or operator-directed maintenance orders may be found in an

item's maintenance records, the owner or operator of the item is presently not required to retain or transfer any records that would provide the current status of these maintenance actions.

Additionally, the accomplishment of some service bulletins and owner- or operator-directed maintenance orders is not mandatory; however, if the work specified in a service bulletin or owner- or operator-directed maintenance order were accomplished, a record of that accomplishment would be created in accordance with both current and proposed § 43.9. Although information pertaining to the accomplishment of these actions may facilitate future maintenance actions, much of this information would be made available to a subsequent owner or operator through the records required to be retained and transferred pursuant to proposed §§ 91.417 and 91.419.

In reviewing proposals to specifically retain and transfer this current status information, the FAA noted a number of difficulties that the implementation of such a proposal would cause for owners and operators. Aviation maintenance personnel frequently accomplish maintenance tasks that may constitute the accomplishment of a service bulletin; however, the accomplishment of such tasks may be embodied in a work order or owner- or operator-directed maintenance order that does not specifically reference the service bulletin accomplished. Some maintenance orders may

modify service bulletins in recognition of the maintenance practices used by an operator. Many older service bulletins also have been incorporated into current maintenance publications. Maintenance personnel may therefore often perform work that accomplishes a service bulletin without being immediately aware that the work performed correlates to a specific numbered service bulletin.

Requiring aviation maintenance personnel to correlate all work performed with the provisions of specific numbered service bulletins in order to complete a maintenance record entry and develop a current status listing of accomplished service bulletins for all aircraft, aircraft engines, propellers, appliances, components, and parts would often entail significant and unnecessary records reviews that would prove to be costly and overly burdensome. Additionally, the intent of a service bulletin may be met through actions that may differ from the specific actions called for in a service bulletin. Owners or operators also may decide to only accomplish a portion of a service bulletin. Such actions would not be referenced in any current status listing of accomplished manufacturers' service bulletins.

After analyzing the costs and benefits of requiring owners and operators to retain and transfer the current status of accomplished manufacturer's service bulletins, the FAA determined that the costs of requiring owners and

operators to retain and transfer this information for all items would far outweigh any purported safety benefits due to the inherent difficulties in compiling a complete list of all accomplished service bulletins. As the intent of requiring owners and operators to retain and transfer the current status of owner- or operator-directed maintenance orders would primarily be to obtain information regarding specific service bulletin accomplishments, the FAA has not proposed that owners and operators retain and transfer the current status of owner- or operator-directed maintenance orders.

The method of accomplishing all service bulletins and owner- or operator-directed maintenance orders, however, would continue to be recorded as a description of work performed in a maintenance record entry made pursuant to § 43.9, but the proposal would not specifically require that any description of work performed include a contemporaneous recording of the service bulletin number, maintenance order number, and revision number (if applicable) corresponding to the actual work performed, nor would it require a record to be maintained of the current status of accomplished service bulletins or owner- or operator-directed maintenance orders. Service bulletins that affect safety would be mandated by an AD and, therefore, would be subject to the recordkeeping requirements that pertain to AD's. The recording of this information would result in the retention of information

relating to the performance of work that affects airworthiness, which frequently also has been directed by service bulletins. Manufacturers also publish service bulletins, or operators may issue work orders for economic reasons, which may not directly affect the airworthiness of an aircraft or other item. The FAA also considered requiring that only those accomplished manufacturers' service bulletins and owner- or operator-directed maintenance orders that effect airworthiness be retained and transferred. Because of the difficulty of implementing such a proposal, the FAA has not proposed that owners and operators retain and transfer the current status of all manufacturers' service bulletins or owner- or operator-directed maintenance orders that affect airworthiness.

Expansion of the Scope of Maintenance Record Transfer Requirements

In today's aviation environment, aircraft, airframes, aircraft engines, propellers, appliances, components, and parts are frequently transferred among persons operating pursuant to different operating requirements. Because various maintenance recordkeeping systems with their own specific maintenance record entry and record retention requirements exist, the minimum information necessary to determine the airworthiness of an item in some cases may not

have been available to the operator, the subsequent transferee, or a repair facility tasked with performing work on the item. This inconsistency frequently requires extensive records research to verify that required maintenance has been accomplished. Problems in maintenance record transfers are especially acute in instances where leasing companies, whose aircraft may be operated under the maintenance recordkeeping requirements of one section of the regulations, either lease or receive an item from an owner or operator conducting maintenance tasks pursuant to another section of the regulations.

Additionally, when the necessary record verification cannot be located, previously accomplished maintenance may need to be repeated. In other instances, new work that is to be performed may be adversely affected by previously accomplished, yet unrecorded, work.

Maintenance recordkeeping systems give owners and operators a means to demonstrate the airworthiness of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, and to transfer such items from one owner or operator to another. The FAA contends that by requiring all owners, operators, and repair stations to comply with a standardized system of maintenance record entry and record transfer procedures, the transfer of aircraft, airframes, aircraft engines, propellers, appliances, components, and parts, with sufficient

information to document the airworthiness of these items, would be better guaranteed.

The proposal would consolidate the requirements for the transfer of maintenance records for all owners and operators into proposed § 91.419 and for repair stations into proposed § 145.67. This proposal would encompass the current requirement to transfer required maintenance records at the time a U.S.-registered aircraft is sold and would expand the applicability of the current rule to require the transfer of all maintenance records that are required to be retained under the provisions of proposed § 91.417 whenever any aircraft, airframe, aircraft engine, propeller, appliance, component, or part is transferred for a purpose other than having work performed. The proposal, however, would limit this requirement to items that are approved for return to service.

By proposing that this requirement apply to items that are approved for return to service, the FAA would not only expand the number of instances in which records would be required to be transferred but also would provide an owner or operator with a means to adequately dispose of items not approved for return to service which it may, for economic or other reasons, desire to transfer to a person not subject to the requirements of this part without the maintenance records specified in proposed § 91.417. Such transfers

frequently occur when an owner or operator intends to dispose of an item for its scrap or residual value.

Because the current maintenance record retention and transfer requirements for aircraft, airframes, aircraft engines, propellers, appliances, components, and parts are governed by the operating rules under which the items are used, transfers of these items would be greatly simplified by adopting the standardized maintenance record retention and transfer requirements proposed for all owners, operators, and repair stations. The standardization of the information transferred through the consolidation of maintenance record retention and transfer requirements in part 91, for owners and operators, and part 145, for repair stations, should decrease the time and expense incurred in ensuring that transferred maintenance records comply with all provisions of the part under which an aircraft or other item is currently being operated. The transferal of this standardized information should greatly assist owners and operators in controlling scheduled and unscheduled maintenance, evaluating the quality of maintenance sources and maintenance programs, and eliminating reinspections of items to establish airworthiness. It also should decrease the time and expense incurred in records research when an aircraft or other item is transferred to a subsequent owner or operator and should provide recipients of an item removed from a serviceable aircraft with an adequate record to

document that item's maintenance status. Standardized maintenance record retention and transfer requirements would be the basis for an internally consistent maintenance recordkeeping system that can be readily implemented by any owner, operator, or repair station.

Additionally, by requiring owners, operators, and repair stations to provide the proposed records with the transfer of all aircraft, airframes, aircraft engines, propellers, appliances, components, and parts (except for items that are not approved for return to service, where records would not be required to be transferred, and for the purpose of performing work on the item, where only those records necessary for the performance of the work would be transferred), the FAA contends that recipients of these items would be able to more rapidly and accurately assess and confirm the airworthiness of the items transferred, thereby improving safety. Possession of this information would greatly facilitate the integration of each transferred item into any maintenance program used by the recipient.

The information contained in those maintenance records retained and transferred with an item approved for return to service would constitute a "data frame set." The term "data frame set" is a recognized term used in the aviation maintenance industry to describe the content of maintenance record entries and maintenance records described in proposed §§ 43.9 and 91.417, respectively. This data frame set would

provide owners, operators, maintenance personnel, and inspectors with the essential minimum information necessary to assess the airworthiness of an item. The creation of this information would be initiated through the transferal of information from manufacturers when any manufacturer delivers an item under the provisions of proposed § 21.7. The information would be updated as maintenance record entries are made pursuant to proposed § 43.9 and retained in the records that would be required to be retained pursuant to proposed § 91.417.

The FAA, as stated earlier, also proposes to expand the definition of the term "transfer" to reflect current industry practices. The maintenance records specified in proposed § 91.417 would be required to be transferred at every conveyance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part among owners and operators, rather than under the more limited circumstances noted in the current rule.

An owner or operator would be permitted to transfer an item that is not approved for return to service without the maintenance records specified in proposed § 91.417. If the owner or operator transfers an item that is not approved for return to service, the owner would be required to provide a statement to that effect that includes the basis for that determination under the provisions of proposed § 91.419(b).

A similar provision would be established for repair stations in proposed § 145.67(a)(2).

The FAA notes that virtually all transfers of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part between owners and operators should therefore include a transfer of the item's corresponding maintenance records because each owner or operator would be required to maintain these records for the item pursuant to proposed § 91.417. An owner or operator who receives an item, however, would still be permitted to allow the preceding owner or operator to retain physical custody of the records as set forth under proposed § 91.420(d). Such a practice would be common in many rental, leasing, and parts borrowing agreements. The receiving owner or operator would continue to be responsible for the regulatory compliance of the required records.

A more limited transfer requirement, discussed below, would apply only when the product is transferred for the purpose of having work performed, and the item will be returned after completing the work. In this instance, an operator would still have the option of permitting another person, such as a repair station, to retain the required maintenance records under proposed § 91.420(d).

The proposal would not introduce any new requirements for distributors or suppliers that operate without any form of production approval, as these persons are not required to

retain the maintenance records mandated by proposed § 91.417. The FAA contends that the applicability of proposed record transfer requirements that mandate not only the transfer but also the receipt of specific information by owners and operators upon delivery of an item is sufficient to ensure the integrity of the proposed recordkeeping system and the adequacy of maintenance information.

The proposal also would require that the authenticity of the records transferred by a certificate holder with an item be certified by a person authorized by the transferor. The proposal would require an owner or operator to authenticate the maintenance records contained in any recordkeeping system. Methods to authenticate information (records/reports) produced from a recordkeeping system may be accomplished by various means. This may be accomplished in the form of a certification that the current information contained in the recordkeeping system conforms to the information supplied at the original data entry. When used with an electronic recordkeeping system acceptable to the Administrator, this would not be an attestation of the accuracy of each task represented in the records; however, it would be a certification of data output from the recordkeeping system. Such authenticity of the data is all that is necessary for records acceptance and to place an aircraft on an operating certificate. No other authentication of the maintenance records would be required.

Certifying the authenticity of the transferred records would only establish their conformance to the original documentation on which records are based. It would not certify the accuracy of the information contained in the original documents. The FAA recognizes that copies of records in either paper, microfilm, or electronic form, and not the original work documents, may be used to satisfy record transfer requirements. The FAA considers actual work documents, regardless of their form, to be self-authenticating. The FAA contends, however, that a record authentication requirement should be mandated because of the greater extent to which consolidated status information would be transferred with aircraft, airframes, aircraft engines, propellers, appliances, components, and parts under the proposed rule. Because this information would frequently be kept in automated records systems, the FAA contends that verification of this information at the time of transfer is essential to concurrently ensure the recipient of the completeness and accuracy of the transferred records. The person certifying the records may be the transferor or a person specifically designated by the owner or operator to perform this function (e.g., the director of quality assurance). In view of the increased use of electronic maintenance recordkeeping systems, this certification also may be accomplished electronically; however, the guarantees inherent in using an electronic

signature must be met for an electronic certification to be acceptable.

When an aircraft, airframe, aircraft engine, propeller, appliance, component, or part is transferred to have work performed, the transferor only would be required to transfer information sufficient to complete that work. Existing regulations do not require the transfer of any maintenance records to a person or repair facility performing work on an item for an owner or operator. As a result, maintenance personnel frequently receive items with insufficient documentation to perform the work necessary to ensure their approval for return to service. Without sufficient information describing the current status and previous work performed on an item, maintenance personnel may be unaware of previous maintenance, preventive maintenance, rebuilding, or alterations that could have a significant impact on the manner in which they conduct any subsequent work. This information also could help the repair facility determine whether an item was involved in an accident or incident for which specific action would be required. It also would facilitate the subsequent exchange of an item to another operator by the repair facility. In an exchange (i.e., when a repair station provides a substitute equivalent item to an owner or operator to replace an item originally received from the owner or operator), the repair station would be

required to provide those records required to be maintained by proposed § 91.417 for the item.

To ensure that these maintenance personnel receive all documentation needed to assess the current status of an item and to evaluate past work that may significantly affect the manner in which subsequent work is performed, the FAA proposes that all owners and operators provide information necessary for the performance of the work to the individual or maintenance facility that will be performing that work. The FAA has not specifically defined the precise information that would be provided to a maintenance facility because this information would vary depending on the type of item transferred and the specific nature of the work to be performed.

Current §§ 91.419, 121.380a, and 135.441, which relate to records transfers, refer to the transferal of records kept "in plain language or in coded form." Because the proposal would recognize maintenance recordkeeping systems that permit the retention of records in paper, microfilm, electronic, or any other form acceptable to the Administrator that would permit their retrieval for use or inspection by the Administrator, similar formats also would be permitted for the transfer of these maintenance records. The current language in these sections referring to the transfer of records "in plain language or in coded form" would be deleted.

Use of Electronic Recordkeeping Systems To Retain and Transfer Required Maintenance Records and Record Entries

Current Requirements

Current maintenance recordkeeping regulations were not drafted to contend with the intricacies of the complex electronic recordkeeping systems available today. Although maintenance records may be retained and transferred in paper, microfilm, or electronic media, or any other format that would permit their retrieval for use or inspection by the Administrator, the requirements that would ensure the integrity of the data contained in complex electronic recordkeeping systems have not been promulgated. These complex electronic maintenance recordkeeping systems did not exist when the current regulations were enacted.

Because the regulations do not recognize the use of an electronic signature, an owner, operator, or repair station cannot readily implement a complete electronic recordkeeping system for the retention and transfer of maintenance records.

Proposed Requirements

In view of the expanding use of electronic media to store maintenance records, the FAA proposes specific requirements for electronic recordkeeping systems used to retain and transfer maintenance records required by §§ 91.417 and 91.419. Compliance with these proposed

requirements for electronic recordkeeping systems will ensure the accuracy of any maintenance record, record entry, or other information entered into an electronic recordkeeping system. Such accuracy is essential to the integrity of an electronic recordkeeping system. The proposal also would permit a person who uses an electronic recordkeeping system that complies with the proposed requirements to transfer information contained in any received maintenance record or record entry into an electronic recordkeeping system. The proposal also would permit that person to use the resulting record to satisfy the record retention and transfer requirements of proposed §§ 91.417 and 91.419. Because the proposal also would permit the use of electronic signatures, the proposed rule would permit all maintenance activity to be performed on an aircraft, airframe, aircraft engine, propeller, appliance, component, or part without recourse to the use of any paper records. The proposal also would enable owners, operators, and maintenance personnel to use electronic maintenance logbooks to document work performed. Although the FAA considered proposing requirements for electronic recordkeeping systems that retain and transfer other types of records, the FAA has not proposed any requirements for these systems in this proposal.

Any person using an electronic recordkeeping system to retain and transfer the maintenance records specified in

proposed §§ 91.417 and 91.419 would be required to ensure that the system provides timely, reliable, and accurate access to those maintenance records contained in the electronic recordkeeping system. The user would be required to ensure that the system contains audit procedures that ensure the accuracy of any maintenance record, maintenance record entry, or other information entered into the system. The electronic recordkeeping system also would be required to contain a security system that would protect the system from any unauthorized use.

The security system would be required to monitor user access, record and report any attempted unauthorized access, and provide a record of any addition, change, or deletion of any maintenance record, maintenance record entry, or other information contained in the electronic recordkeeping system. To ensure against possible destruction or loss of the information contained in the electronic recordkeeping system, the recordkeeping system also would be required to provide for the backup of information entered into the electronic recordkeeping system. These backup records should be stored at a location separate from the primary information storage facility and could be stored in paper, microfilm, electronic, or any other form acceptable to the Administrator.

To afford recipients of items whose maintenance records are stored in the electronic recordkeeping system with the

requisite guarantee of the authenticity of the accompanying maintenance records upon transfer of an item, the system would be required to provide for the certification of transferred maintenance records. Such certification would indicate that the electronic records constitute the original work documents or are composed of the exact information input from original work documents (if the information were not originally input into the system at the time the work was actually performed). Again, the certification is not an attestation as to the accuracy of the information contained in the original documents, but rather a confirmation that the information contained in the recordkeeping system conforms to the information contained in the original documentation. This certification need not be accomplished by electronic means and should fulfill the requirement of proposed § 91.419(a)(2).

Each electronic maintenance recordkeeping system would be subject to inspection by the Administrator or any authorized representative of the NTSB at any time. Each owner or operator would be required to make available to the Administrator or any authorized representative of the NTSB any of the records contained in the system upon their request.

To minimize the possibility of erroneous information being entered into the system, the proposal also would require that a person using such a system have a manual,

acceptable to the Administrator, that describes the operation and use of the electronic recordkeeping system. The manual would be required to include a description of the electronic recordkeeping system, security provisions to include a listing of those persons with the authority to grant individuals access to the electronic recordkeeping system, instructions for using system commands, and a description of individual responsibilities necessary to maintain system security. Those portions of the manual that detail instructions for using system commands and contain a description of individual responsibilities necessary to maintain system security would be made available to every individual with access to the electronic recordkeeping system.

Adoption of the proposed requirements for electronic recordkeeping systems and the proposed changes in the definition of "signature" would permit an operator under part 91, 121, 125, or 135; repair stations certificated under part 145; and persons operating U.S.-registered aircraft pursuant to part 129 to transfer all maintenance records to an electronic recordkeeping system. The proposal would therefore eliminate the need for retaining paper or other hard copy records of work performed. In addition, this proposal would allow maintenance records to be indexed more easily, thereby decreasing the time necessary to locate a maintenance record, which would eliminate hard copy

storage costs and expedite the transfer of items by permitting the electronic transfer of maintenance records.

References requiring a certificate holder to set forth in its manual a suitable system (including a coded system) for the preservation and retrieval of information as specified in §§ 121.369, 125.249, and 135.427 would be revised to require the certificate holder to set forth in its manual a system, acceptable to the Administrator, to obtain, store, and retrieve required maintenance records. Because § 91.423 of the proposal would specifically permit the use of an electronic recordkeeping system, the current references to "coded systems" in the aforementioned sections would be deleted. Certificate holders would be permitted to use maintenance recordkeeping systems that would provide for the retention of records in paper, electronic, microfilm, or any other format that would permit their retrieval for use or inspection by the Administrator. Because the proposal also establishes standardized record retention requirements for all certificate holders and consolidates these requirements in part 91, references in §§ 121.369, 125.249, and 135.427 to the types of information that would be stored in such a system would be deleted.

Because part 91 does not apply to repair stations, the proposal sets forth similar requirements in proposed § 145.65 that also would permit repair stations to use electronic recordkeeping systems to satisfy their

maintenance recordkeeping requirements. Such provisions would provide repair stations with the same benefits available to owners or operators using an electronic recordkeeping system. In addition to the benefits mentioned above, electronic recordkeeping systems would facilitate the transfer of items to repair stations for the purpose of performing work and would expedite the integration of the repair station's maintenance records with the records retained in the owner's or operator's maintenance recordkeeping system.

Description of Maintenance Recordkeeping Systems and the Content, Distribution, and Form of Certificate Holder's Manuals

Current Requirements

Sections 121.369(c) and 135.427(c) require that an operator set forth in its manual a suitable system (which may include a coded system) that preserves and retrieves information in a manner acceptable to the Administrator, and which provides: (1) a description (or reference to acceptable data) of the work performed; (2) the name of the person performing the work; and (3) the name or other positive identification of the person approving the work.

Section 125.249(b) places a similar requirement on part 125 operators; however, the person's certificate type and number also are required. Although maintenance recordkeeping requirements for part 91 and 125 operators are

specified in § 91.417, these operators are not required to describe any record preservation and retrieval provisions in a manual. Additionally, under § 129.14, persons operating U.S.-registered aircraft pursuant to part 129 are required to maintain each aircraft in accordance with a program approved by the Administrator, but no requirement to place this information in a maintenance manual exists.

Current § 121.133 details the requirements for preparing manuals by certificate holders under part 121. Paragraph (b) of this section permits a certificate holder to prepare that part of its manual containing maintenance information and instructions in printed form or other form acceptable to the Administrator.

Current §§ 121.137, 125.71, and 135.21 specify the requirements for the distribution of the maintenance part of a certificate holder's manual to those individuals specified in the manual. Current §§ 121.139 and 125.71 set forth requirements to carry the maintenance portion of the manual aboard aircraft used by certain certificate holders. These sections state that if a certificate holder carries any part of its maintenance manual aboard an aircraft in other than printed form, it must carry a compatible reading device that produces a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions in the English language. Section 135.21 formerly addressed the requirements

for certificate holders to carry manuals aboard an aircraft when away from the principal base of operations. This requirement was inadvertently deleted in Amendment Nos. 135-66 (60 FR 13257, March 19, 1997).

Proposed Requirements

The proposal significantly revises the requirements for completing maintenance record entries and for retaining and transferring the information that must be contained in any maintenance record. The specific capabilities of a maintenance recordkeeping system, required to be described in the manuals referred to in current §§ 121.369(c), 125.249(b), and 135.427(c), however, do not reflect the changes that have been proposed to maintenance record entry and record retention requirements, which may enhance the recordkeeping systems of owners, operators, and repair stations. Any description of a maintenance recordkeeping system in a required manual should describe how the recordkeeping system complies with all regulatory requirements as specified in parts 43 and 91.

Current references to the specific types of information that a maintenance recordkeeping system would be required to provide would be deleted from §§ 121.369(c), 125.249(b), and 135.427(c). These requirements are specifically stated in § 43.9, which describes the content of maintenance records. The proposal would revise current §§ 121.369(c), 125.249(b), and 135.427(c) to require a certificate holder

to set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. This description should indicate how a recordkeeping system complies with all applicable maintenance recordkeeping requirements.

Additionally, to reduce confusion between current references to maintenance manuals developed by product manufacturers and maintenance manuals developed by certificate holders under part 121, 125, 135, or 145 that set forth maintenance policy and procedures, current references to maintenance manuals developed by a certificate holder would be revised to refer to a "certificate holder's manual" or "manual."

The proposal also would require that the maintenance record retention and transfer system used by an operator under part 121, 125, 135, or foreign operators of U.S.-registered aircraft under part 129, be protected from unauthorized use. Nonelectronic recordkeeping systems, for example, could use a system of secure filing cabinets with access limited to specific personnel. Electronic recordkeeping systems could use a security system that includes many of the safeguards described in the previous discussion of electronic signatures.

A description by an owner or operator of its maintenance recordkeeping system also could include a description of the recordkeeping system of another person

that supports the operations of the owner or operator and is being used by the owner or operator to comply with its maintenance recordkeeping requirements. This alternative recordkeeping system would be required to comply with the same provisions (except those relating to records authentication) that an owner or operator would be required to meet. The responsibility for compliance with any applicable maintenance recordkeeping requirements, however, would continue to remain with the owner or operator and not with the party used by the owner or operator to satisfy its recordkeeping requirements. Because the owner or operator would continue to retain the overall responsibility for regulatory compliance, authentication of any maintenance records transferred from a recordkeeping system maintained on behalf of the owner or operator would have to be accomplished by the owner or operator; the responsibility could not be delegated.

In view of the widespread use of electronic media not contemplated by the existing rules, the FAA also proposes to revise § 121.133(b) and add §§ 125.249(c) and 135.427(d) to specifically permit an operator to prepare the portion of its manual that contains maintenance information and instructions in printed form, or other form acceptable to the Administrator, that is in English or is retrievable in the English language. Paper and microfilm formats would continue to be permitted, as would electronic formats.

Prior to the recent implementation of a rule change to § 121.133 (60 FR 65832, December 20, 1995) permitting part 121 certificate holders to maintain that portion of their manual containing maintenance information and instructions in a form acceptable to the Administrator, these portions of the manual could only be maintained in paper or microfilm form. The FAA had previously granted exemptions from the regulations to operators permitting some uses of electronic recordkeeping, and the FAA's favorable experience with these exemptions permits the agency to propose expanding this relief to certificate holders' manuals maintained pursuant to parts 125 and 135. The FAA, however, would require that any certificate holder's manual be retained in a format that would be in English or retrievable in the English language. The manual's format also should provide the FAA with readily available access to its contents (e.g., in an electronic format compatible with FAA systems or, if retained in a noncompatible format, with the necessary hardware and software to provide the FAA with ready access to its contents).

Because the proposal would permit a certificate holder to prepare the maintenance part of its manual in any form acceptable to the Administrator that is in English or retrievable in the English language, the FAA also proposes to clarify and revise the distribution requirements for this part of a certificate holder's manual found in §§ 121.137,

125.71, and 135.21. To provide maintenance personnel with the ability to effectively use new forms of technology to access maintenance information and instructions, the proposal would permit a certificate holder to meet its requirement to furnish this part of its manual to appropriate maintenance personnel by making it available in printed form or other form acceptable to the Administrator. A certificate holder would not be required to furnish each of these persons with a paper copy of this portion of its manual. A certificate holder therefore could provide these persons with an electronic copy of this part of its manual or provide on-line access to the manual. The proposal, however, would require a certificate holder to ensure there is a compatible reading device available that provides a legible image of the maintenance information and instructions or is able to retrieve the maintenance information and instructions when that part of the manual is made available in other than printed form.

The proposal also would revise the requirements in §§ 121.139, 125.71, and 135.21 pertaining to the carriage of the manual aboard an aircraft. The proposal would only require the certificate holder to have access to appropriate parts of its manual when operating away from its principal base. The proposal would not require appropriate parts of the manual to be carried aboard an aircraft when operated away from its principal base. The proposed change would

permit these operators to benefit from the use of on-line data systems and other forms of electronic information retrieval systems that are used to access maintenance information and instructions at locations other than the operator's principal base. If a certificate holder, however, chooses to carry aboard an aircraft all or any portion of the maintenance part of its manual in other than printed form, it would be required to have access to a compatible reading device that produces a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions when that part of the manual. This device would not be required to be carried aboard the aircraft.

Retention of In-Service History Records for Life-Limited Parts

Current Requirements

Sections 91.417, 121.380, and 135.439 require the retention of a record specifying the current status of life-limited parts. The FAA has determined that the term "current status," as it applies to life-limited parts, refers to a record indicating the time-in-service of a part at the present (current) time and its specified life limit. The FAA has required that records be kept from which the current status of a life-limited part could be determined. The FAA asserts that the current regulations do not require historical records that are complete from the date of manufacture; however, such records may be required where

there are insufficient records to determine the current status of a life-limited part. The FAA's policy has been to support the concept of minimal historical records, provided that these records could be traced to historical source documents from which the current status of a part could be determined. Current regulations require that current status records for life-limited parts be retained until an aircraft is sold.

Proposed Requirements

The FAA's proposal continues to recognize that the complete historical records used to determine the current status of life-limited parts is the ideal situation. The FAA also recognizes that other documentation short of complete historical records may satisfy this requirement. Therefore, the proposal would retain the current requirement that a record of the current status of life-limited parts be retained by owners and operators. It would, however, specifically define those records that would be required and, therefore, be considered sufficient to document the current status of a life-limited part.

The FAA also proposes to require the retention of records of the in-service history of the part for the period of its service commencing 1 year after [*the effective date of the rule*]. In service history records are not intended to be the actual "dirty fingerprint" record of prior installations and removals; however, as a minimum, the

in-service history record should include the same information required to determine current status information. It also should include: the total time of the life-limited part as expressed in hours, cycles, or calendar time, as applicable at each installation and removal of the subject life-limited part from its corresponding higher assembly; the total time of each higher assembly as expressed in hours, cycles, or calendar time, as applicable at each installation and removal; identification of each higher assembly including the aircraft on which the part is installed to include a description, manufacturer's part number, and serial number; identification of any action that has altered the part's life limit or changes the parameters of its life limit (e.g., when an engine disk that was installed on a low-thrust-rated engine is later installed on a higher-thrust-rated engine, which requires a reduction in the part's life limit). In-service history records pertaining to the period prior to 1 year after [*the effective date of the rule*] would not be required for life-limited parts.

In accordance with the FAA's use of the more encompassing term "transfer," an owner or operator would be required to retain in-service history records of these items until the part is transferred (as opposed to sold). The owner or operator would provide these in-service history records to the subsequent owner or operator concurrent with

the transfer of the item. The FAA contends that the ability of an owner or operator to determine the current status of life-limited parts is critical to aviation safety. By designating those specific records that would be necessary to determine the current status of life-limited parts, the ability of owners, operators, and the FAA to ensure that this information can be readily determined for every life-limited part would be greatly enhanced.

The FAA will continue to require an owner or operator to be able to demonstrate the current status of a life-limited part that has been in service prior to the effective date of the rule. Although the retention of in-service records would not be specifically required to demonstrate the current status of such a part, these records are effectively the easiest means through which to obtain current status information. In-service history records, however, are only one of many tools that have been used to demonstrate the current status of a life-limited part and of the aircraft on which the part is installed.

The proposal to require owners and operators to specifically retain in-service history records for a life-limited part for which current status information is already required should not be overly burdensome to owners and operators, as this practice is widely accepted throughout the industry as the predominant means of determining the current status of life-limited parts. The

retention of such records, however, could be used to determine the total time-in-service of a life-limited part and avoid the possibility of differing interpretations among owners and operators regarding what alternative records may be used to determine the current status of an item in a variety of unique situations.

The FAA considered limiting the retention of in-service history records of life-limited parts for a period of time equal to a percentage of a life-limited part's total life limit or for a specific time period. The FAA rejected these alternatives because it concluded that the actual period for which such records would be required was unrelated to the need for that information. A part's life limit may change, based on the type of component upon which it is installed or upon other operational parameters. Installation of a part on a higher-level component could, therefore, feasibly shorten a part's life limit such that in-service records that were not required at an earlier time would later be required.

Additionally, the FAA does not possess data that would support limiting the retention of these critical records to any specific period. The FAA determined that retention of records based upon the concept "operational use" also could lead to the possibility of significant confusion in the implementation of the proposed rule.

Retention and Transfer of Records Pertaining to Major Repairs

Current Requirements

Part 43, appendix B, explains the procedures for recording major alterations and major repairs to aircraft, airframes, aircraft engines, propellers, and appliances. Section 135.439(a)(2)(vi) requires the retention of a current list of major alterations and repairs to each airframe, engine, propeller, rotor, and appliance. This list must be transferred with the aircraft. Section 121.380(a)(2)(vi) has similar requirements but only for major alterations; § 121.707 requires operators to complete a report of each major repair that must be available for inspection by the Administrator. Section 91.417(a)(2)(vi) requires that the forms required by § 43.9(a) be retained only for major alterations.

Proposed Requirements

The FAA proposes to require each owner or operator to retain and transfer records of major repairs to each airframe, aircraft engine, propeller, appliance, component and part. Information from the FAA's Aging Aircraft Evaluation Program indicates that some operators do not maintain a complete history of major repairs and that this major repair information is not being transferred with aircraft that are approved for return to service. During the investigation of recent incidents, including an engine failure, major repair data have not been available to

investigators. Based on the information from the Aging Aircraft Evaluation Program and recent investigations, the FAA has determined that a record of major repairs should be maintained and that a receiving operator should be informed of earlier major repairs to aircraft, airframes, aircraft engines, propellers, appliances, components, and parts. Transferring this critical information would enable a person to verify the structural integrity of the aircraft or item on which a major repair was performed.

Possession of this major repair information would be crucial if a contemplated repair were required in proximity to a previous major repair. The data used for the previous major repair would help maintenance personnel analyze the effect of the contemplated repair according to the design criteria of the item and ensure that the repair would not adversely affect the overall structural integrity of the area where work would be performed. It also would facilitate the completion of any other required analyses of the contemplated repair, such as a required aeroelasticity analysis, which could have a significant bearing on the manner in which the contemplated repair would be accomplished. Additionally, if an owner or operator were aware of a major repair made to a specific area, the owner or operator could ensure that any future inspection of the area take into account any specific effects of the previous major repair.

The proposal would not require the transfer of the actual FAA-approved data if a reference to information available from the manufacturer, repair station, person performing the repair, or a public record, which contains the data on which the repair is based, also were transferred. The FAA would not require the supporting engineering data for the repair to be transferred. However, a technical reference, from which a description of the manner and composition of the repair could be obtained, would be required to be transferred. For example, if a major repair to an airframe were performed according to the specifications in the Structural Repair Manual, the name, date, and appropriate pages of the manual would be an acceptable reference. If the major repair data were generated under SFAR No. 36 or by a designated engineering representative, a specific reference to the technical data file would be required to be provided to the subsequent owner or operator. Actual work documents for the major repair would not have to be provided. According to paragraph 13(a) of SFAR No. 36, a technical data file must include "all data and amendments thereto (including drawings, photographs, specifications, instructions, and reports) necessary to accomplish the major repair." References to records of repairs that relied on promulgated revisions of maintenance manuals, drawings, wiring diagrams, or an illustrated parts catalog also would be examples of

the types of records that would be required to be retained and transferred with an item. References to approved or acceptable data also would have to be provided with the record.

The proposal would also revise the requirements for the submission of FAA Form 337. Currently the form must be provided to the local Flight Standards District Office within 48 hours after the item has been approved for return to service. The FAA recognizes that major repairs are frequently performed on items that may not be installed on an aircraft until a substantial period of time after the completion of the major repair. To afford persons performing major repairs greater flexibility in the submission of the FAA Form 337, the proposal would permit a person to forward the FAA Form 337 to the local FSDO within 48 hours prior to the installation of the item on an aircraft. Additionally the proposal would revise current paragraph (a)(2) of appendix B to indicate that the owner of an item, not only an aircraft, should be provided with a copy of FAA Form 337.

Under the U.S.-Canada Bilateral Airworthiness Agreement and pursuant to § 43.17, Canadian maintenance personnel may perform a wide variety of maintenance tasks on U.S.-registered aircraft. In view of this special relationship, the FAA proposes that Canadian maintenance personnel be permitted to use the Transport Canada

Conformity Certificate (Transport Canada Form 24-0045), to document major repairs or major alterations made by authorized Canadian Aircraft Maintenance Engineers and Approved Maintenance Organizations to U.S.-registered aircraft, airframes, aircraft engines, propellers, appliances, and components. This form is essentially equivalent to FAA Form 337 and would be treated by the FAA as such; its use would serve merely to decrease the administrative burden of obtaining a specific FAA form when the Canadian equivalent provides the same information. The processing of the Transport Canada Conformity Certificate and FAA Form 337 would be identical.

Current § 91.203 requires that a fuel tank installed within the passenger compartment or a baggage compartment of an aircraft be installed pursuant to part 43 and that a copy of the FAA Form 337 be carried aboard the aircraft. As the FAA has received and granted petitions for exemption from this requirement, based on the installation of these fuel tanks by a manufacturer pursuant to part 21, the FAA proposes to revise § 91.203 to permit persons to operate an aircraft with a fuel tank installed within the passenger compartment or a baggage compartment if the installation was accomplished pursuant to part 21.

Review of Maintenance and Certification Records of Incoming Items by Certificate Holders Operating Under Part 121, 125,

or § 135.411(a)(2), and Persons Operating U.S.-registered Aircraft Pursuant to Part 129

To enhance the reliability of an operator's maintenance recordkeeping system, the FAA proposes to require that the manual of a certificate holder with a Continuous Airworthiness Maintenance Program approved under part 121 or part 125, or § 135.411(a)(2) include, in the manual's provisions-for-receiving procedures, a review of the maintenance and certification records for all aircraft, airframes, aircraft engines, propellers, appliances, components, and parts. Currently, such procedures are common in a certificate holder's operation but are not required to be stipulated in the certificate holder's manual. A similar requirement is proposed for persons operating U.S.-registered aircraft pursuant to part 129. Compliance with this proposal would ensure that aircraft, airframes, aircraft engines, propellers, appliances, components, and parts transferred with inadequate records are promptly identified. Such a review would ensure that an incoming item would only be integrated into the transferee's maintenance program upon compliance with all maintenance recordkeeping requirements.

If the records reviewed do not comply with regulatory requirements (i.e., the missing information has a direct negative impact on the determination of airworthiness), the

receiving owner or operator would be required to correct such a deficiency prior to approving the item for return to service. Such a requirement would be imposed on both certificated operators, and owners and operators conducting operations pursuant to part 91.

The review would determine whether the item's maintenance and records complied with the requirements of proposed § 91.420. For example, the review should include, but not be limited to, a review of the records of: the item's last scheduled inspection; the current status of AD's, life-limited parts, major repairs, and major alterations; any supplemental structural inspections or damage tolerance inspections; and certification maintenance requirements. If an item is received from a foreign source, an owner or operator may find it necessary to evaluate the recordkeeping system used by the foreign owner or operator for compliance with International Civil Aviation Organization or other applicable requirements.

Inclusion of a Section in Part 91 Prohibiting the Falsification, Fraudulent Reproduction, or Alteration of Maintenance Records Required by that Part

The proposal would require the creation and retention of records not currently required under the provisions of part 91. Current § 43.12 precludes the falsification or fraudulent reproduction of records produced under the provisions of part 43; however, this section pertains solely

to maintenance records and maintenance record entries produced pursuant to part 43 but not to maintenance records produced pursuant to the requirements of part 91. To ensure a standardized system of record, production, retention, and transfer, the FAA proposes that a similar provision, § 91.425, be added to part 91, subpart E – "Maintenance, Preventive Maintenance, and Alterations." This provision would provide certificate holders with a regulatory basis on which to counter any possible demands to falsify required maintenance records. It also would ensure that effective action could be taken against fraudulent practices associated with the production, retention, and transfer of maintenance records.

Section-by-Section Analysis

§ 21.7

Proposed § 21.7 would establish a new requirement for persons who produce items pursuant to a certificate, authorization, approval, or authorization provided by the Administrator. Proposed paragraph (a) would require these persons to maintain certain records for an aircraft, airframe, aircraft engine, propeller, appliance, component, or part produced pursuant to that certification, approval, or authorization after [*1 year after the effective date of the rule*]. The proposed section would require the following information to be maintained and transferred: (1) the name, number, and serial number of the item; (2) weight and

balance information for any aircraft; (3) current status information of applicable AD's; (4) the part and serial number of any life-limited part, its total time-in-service, and specified life limit; (5) a description of any alterations or modifications accomplished in accordance with a Supplemental Type Certificate; (6) the airworthiness certificate, if applicable; and (7) evidence of the item's production pursuant to a certificate, approval, or authorization provided by the Administrator.

Proposed paragraph (b) would require these persons to provide this information for an item transferred after [*1 year after the effective date of the rule*].

Proposed paragraph (c) would define the terms "applicable standard," "component," "life-limited part," "part," and "transfer."

§ 43.1

The heading of § 43.1 would be revised from "Applicability" to "Applicability and definitions." The proposal would revise paragraph (a)(3) by deleting the term "component parts" and replacing it with the term "component, or part". All other plural references in this paragraph would be changed to the singular.

The proposal also would add paragraph (c) to the current section. This new paragraph would define the terms "applicable standard," "component," "life-limited part," "part," "signature," and "transfer."

§ 43.2

The proposal would revise the introductory language of paragraph (a) and paragraph (b) by deleting the term "component part" and replacing it with the term "component, or part."

§ 43.3

The proposal would revise paragraph (a) by deleting the term "component part" and replacing it with the term "component, or part".

§ 43.5

This proposal would revise the section by adding the term "component, or part" to the introductory language. Current § 43.5 specifies the requirements for approval for return to service of an aircraft, airframe, aircraft engine, propeller, or appliance, but omits the term "component, or part." The proposal would correct this omission by including components and parts in the list of items that may be approved for return to service. This change would make this section consistent with proposed § 43.7 (which would specify those persons "authorized to approve aircraft, airframes, aircraft engines, propellers, appliances, components, or parts for return to service after maintenance, preventive maintenance, rebuilding, or alteration") and proposed § 43.9 (which would require that a maintenance record entry be made after a person performed maintenance, preventive maintenance, rebuilding, or

alteration to an aircraft, airframe, aircraft engine, propeller, appliance, component, or part).

§ 43.7

The proposal would revise paragraphs (a) through (e) by deleting the term "component part" and replacing it with the term "component, or part." It also would revise paragraph (d) by replacing the current reference to § 43.3(h) with § 43.3(j), remove obsolete references to part 127 from paragraph (e), and include a reference to part 119 in paragraph (e).

§ 43.9

The proposal would revise the section heading to read "Content of maintenance, preventive maintenance, rebuilding, and alteration records (except inspections)," thereby deleting any reference to CFR parts or sections to which this section is not applicable. The proposal also would revise the introductory language of paragraph (a) by deleting the term "component part" and replacing it with the term "component, or part."

The proposed section would specify the information to be included in a maintenance record entry after work is performed. Record entries would be required to be made in English or retrievable in the English language. In addition to the items currently required to be contained in a maintenance record entry, the proposal would specifically require that a reference to an appliance's, component's, or

part's name, number, and serial number (correlating to the name, number, and serial number given to the appliance, component, or part by its manufacturer) and the work order number(s) be included in a maintenance record entry, as applicable.

The proposal also would list certain specific actions that should be recorded in a maintenance record entry as a description of work performed. These actions would include, but not be limited to: (1) compliance with an AD; (2) the performance of a major repair (to include a reference to approved technical data or technical data developed under SFAR No. 36); (3) the performance of a major alteration (to include a reference to approved technical data); (4) the performance of an overhaul; (5) the installation of a life-limited part; (6) the accomplishment of any task in a maintenance program; and (7) the accomplishment of any action specified in the Airworthiness Limitations section of a manufacturer's maintenance manual or in the Instructions for Continued Airworthiness. The reference to entries for major repairs and major alterations currently found in paragraph (a)(4) would be placed in proposed paragraph (b).

Provisions currently found in paragraph (b) permitting certificate holders under parts 121 or 135 to make maintenance record entries in accordance with the applicable provisions of those parts would be deleted, and those provisions pertaining to maintenance record entries made in

accordance with Continuous Airworthiness Maintenance Programs currently found in paragraph (b) would be placed in proposed paragraph (a)(2)(vi), which would refer to a "maintenance program." Proposed paragraph (a)(6) would permit an individual to use other positive identification that complies with a certificate holder's manual in lieu of using the individual's handwritten signature, certificate number, and kind of certificate when approving an item for return to service. Obsolete references to part 127 would be deleted.

The proposal also would revise paragraph (c) to reflect the nonapplicability of the section's requirements to persons performing inspections in accordance with part 91, 121, 125, 129, or 135.

§ 43.11

Current § 43.11 is applicable only to the performance of inspections conducted under 14 CFR parts 91, 123, and 125, and §§ 135.411(a)(1) and 135.419. The proposal would revise the applicability of this section to encompass inspections conducted under parts 91, 121, 125, 129, and 135. It also would delete the obsolete reference pertaining to the applicability of this section to inspections conducted under part 123. These changes would be reflected in the section heading and in paragraphs (a), (a)(7), and (b). Proposed paragraph (a)(3) would be revised to indicate that an individual may use other positive

identification that complies with a certificate holder's manual in lieu of using the individual's handwritten signature, certificate number, and kind of certificate when approving or disapproving an item for return to service.

The proposal would revise the introductory language of paragraph (a) by deleting the term "component part" and replacing it with the term "component, or part." It also would require that records of inspections made pursuant to this section be made in English or be retrievable in the English language.

The reference to "owner or lessee" in paragraph (b) of this section would be replaced with "owner or operator." The FAA has determined that a reference to "owner or operator" is sufficient to include lessees as persons responsible for maintaining an aircraft and its records. A reference to inoperative instruments and equipment currently specified in § 91.30 would be corrected by replacing the reference with § 91.213, the correct section.

§ 43.15

The proposal would revise paragraphs (a) and (a)(2) by deleting an obsolete reference to part 123 and by expanding the applicability of the section to inspections conducted under parts 121 and 129.

§ 43.16

The proposal would revise the section by deleting an obsolete reference to part 123, by referencing Operations

Specifications approved under parts 121 and 129, and by referring to inspection programs selected under § 91.409(e).

Appendix B to Part 43

The proposal would revise paragraph (a) by changing the reference to "aircraft owner" in paragraph (a)(2) to "owner or operator." A similar change also would be made in paragraphs (b)(2) and (c). Paragraph (a) also would be revised to require a person performing a major repair or major alteration to give a signed copy of FAA Form 337 to the owner or operator of the item (not just an aircraft) on which the major repair or major alteration was performed. The paragraph would also be revised to permit a person performing a major repair or major alteration to provide the local FSDO with a copy of FAA Form 337 within 48 hours after the item has been installed on an aircraft.

The proposal would delete the provision in paragraph (b)(3), permitting a repair station to provide a maintenance release as one of the required alternative means of complying with the requirements of current paragraph (a). The proposal, however, would not prohibit a repair station from issuing a maintenance release. The proposal would require a repair station to include on the customer's work order certain information that is currently required on the maintenance release. The information specified on the work order would include the identity of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part,

and either: (1) the make, model, serial number, registration marks, and location of the repaired area for an aircraft; or (2) the manufacturer's name, the part name, the model, and serial numbers for an airframe, aircraft engine, propeller, appliance, component, or part.

If a repair station records a major repair, the proposal would continue to require it to supply a statement attesting that the repair and inspection had been accomplished in accordance with the regulations and that the item had been approved for return to service. The statement would be identical to the current requirement, except that the reference to the "Federal Aviation Agency" would be revised to refer to the "Federal Aviation Administration," and the statement would indicate that the approval for return to service is only with respect to the work performed.

Paragraph (c) would be revised to clarify that a person authorized by § 43.17 who performs a major repair or major alteration, and not the person authorized to approve that work, would be singularly responsible for ensuring that FAA Form 337 or Transport Canada Form 24-0045 (Conformity Certificate) is executed. Proposed paragraph (d) also would be revised to clarify that separate copies of the completed FAA Form 337 or Transport Canada Form 24-0045 must be given to both the owner or operator and the FAA.

Paragraph (d) would be revised to permit a person installing a fuel tank in a passenger or baggage compartment under § 43.17 to use Transport Canada Form 24-0045 in lieu of FAA Form 337. The proposal also would make the person performing the installation of the fuel tank singularly responsible for the execution of FAA Form 337 or Transport Canada Form 24-0045, as appropriate.

§ 91.2

The proposed section would define the terms "applicable standard," "component," "life-limited part," "part," and "transfer."

§ 91.203

The proposal would revise paragraph (c) by permitting the operation of an aircraft with a fuel tank installed within the passenger compartment or baggage compartment pursuant to part 21. It also would permit the operation of an aircraft with a fuel tank installed within the passenger compartment or baggage compartment when a copy of Transport Canada Form 24-0045 authorizing the installation is on board the aircraft.

§ 91.401

The proposal would consolidate maintenance recordkeeping and transfer requirements for all owners and operators in proposed §§ 91.417 and 91.419. Paragraph (b) of this section would therefore be revised by deleting the reference to §§ 91.417 and 91.419, which are sections that

currently do not apply to aircraft maintained under a Continuous Airworthiness Maintenance Program as provided in part 121, 125, or 129, or § 135.411(a)(2). Proposed paragraph (b) would be revised to indicate that §§ 91.207(d) and 91.413 do not apply to aircraft maintained under a Continuous Airworthiness Maintenance Program as provided in part 121, 125, or 129, or § 135.411(a)(2).

§ 91.417

Proposed § 91.417 would consolidate the maintenance record retention requirements for all certificate holders operating under part 121, 125, or 135; persons operating aircraft pursuant to part 91; and persons operating U.S.-registered aircraft pursuant to part 129 in one single section of the regulations. Proposed § 91.417 would prescribe the minimum maintenance recordkeeping requirements for all owners and operators, regardless of the operational rule under which an aircraft or other item is used. The section heading would be revised to read "Maintenance records." This section would supersede the requirements currently found in §§ 121.380, and 135.439, which would be deleted.

Paragraph (a) would be revised to delete the exception for work performed in accordance with current §§ 91.411 and 91.413.

Paragraph (a)(1) would revise the current section by specifically requiring the retention of maintenance,

preventive maintenance, rebuilding, and alteration records for components and parts made in accordance with § 43.9. The proposal, in paragraph (b)(1), would require that these records be retained for 1 year, until repeated or superseded, or in accordance with a certificate holder's manual.

Paragraph (a)(2) would revise the current section by specifically requiring the retention of records of any inspection required to be performed on a component or part made in accordance with § 43.11. As the proposal would consolidate the retention of maintenance recordkeeping requirements in part 91, the current exception pertaining to the retention of records for work performed in accordance with §§ 91.411 and 91.413 would be deleted (as mentioned above). Records of inspection program tasks also would be included specifically among those records required to be retained by this section. Records of work performed in accordance with this section would be retained until superseded or repeated, as noted in proposed paragraph (b)(2).

Currently, the records referred to in the preceding two paragraphs are required to be retained only for aircraft (including the airframe), aircraft engines, propellers, rotors, and appliances. Proposed paragraphs (a)(1) and (a)(2) would remove any reference to the term "rotor"

because that term is encompassed in the definition of "airframe," and would add the terms "component" and "part."

Proposed paragraph (a)(3) would require all owners and operators to retain weight and balance records for each aircraft. The proposal, in paragraph (b)(3), would require that these records be in English or retrievable in the English language.

Proposed paragraph (a)(4) would keep the current requirement to retain total time-in-service information for airframes, aircraft engines, and propellers. The reference to the term "rotor" would be deleted.

Proposed paragraph (a)(5) would revise the requirement to retain current status information for life-limited parts by requiring that retained current status information include a record of the cumulative time since manufacture, rebuilding, or overhaul (total time-in-service), and the part's specified life limit. The records specified in this paragraph would be required to be retained by each owner or operator until the item is transferred.

Proposed paragraph (a)(6) would require retention of an in-service history of each life-limited part beginning 1 year after the effective date of the rule. The in-service history would be required to include a record of the removal and installation of the part and a record of any action that has altered a part's life limit or changed the parameters of its life limit. The records specified in this

paragraph also would be required to be retained by each owner or operator until the item is transferred.

Proposed paragraph (a)(7) would specify the records that all owners or operators must retain to document the current overhaul status of each airframe, aircraft engine, propeller, appliance, component, or part that is required to be overhauled on a specified time basis under the inspection or maintenance program approved for the owner or operator. The overhaul interval and the time when the last overhaul was performed would be required to be retained.

Proposed paragraph (a)(8) would expand the requirement for the retention of records of current inspection status by requiring these records for airframes, aircraft engines, propellers, and appliances. The current rule requires that these records be retained for aircraft only. The proposed rule would specify that this information include the inspection interval and the time when the last inspection was performed.

Proposed paragraph (a)(9) would set forth the specific information that would be required to document the current status of AD's. It also would require that the current status of applicable AD's for all airframes, aircraft engines, propellers, appliances, components, and parts would be retained by all owners and operators. A revision number, revision date, or amendment number would be required to

refer to an AD to which a revision or amendment has been made.

Current language requiring the time and date of the next required action for a recurring AD would be revised to require an entry stating the interval to the next required action, as expressed by the applicable standard. It also would require that the record identify the particular item to which the AD applies, the date when the required action was last accomplished, and the time-in-service of the item if required by the AD. The proposal also would require that the method of compliance be indicated by reference to a specific action described in the AD, a specific description of the work performed, or a description of an alternative method approved by the Administrator.

Proposed paragraphs (a)(10) and (a)(11) would require that records of major alterations and major repairs be retained for aircraft, airframes, aircraft engines, propellers, and appliances. References to approved technical data, data developed under SFAR NO. 36, or, in the case of experimental aircraft not previously issued another type of airworthiness certificate, technical data used as a basis for certification also would have to be retained. The current section requires only that copies of the forms prescribed by § 43.9(a), for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances, be retained.

Proposed paragraph (a)(12) would require an owner or operator to retain evidence indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part was produced pursuant to a certificate, approval, or authorization provided by the Administrator. This evidence could consist of actual approval documents or records indicating that an item had been inspected and accepted by a person required to conduct a receiving inspection of the item's records as specified under §§ 121.369(b)(10), 125.249(a)(3)(viii), 129.14(a)(2), 135.427(b)(10), or part 145.

Proposed paragraph (b) would clarify record retention requirements. The records specified in proposed paragraph (a)(1) would be required to be retained for 1 year, until the work has been superseded or repeated, or in accordance with a certificate holder's manual; however, records of the 100-hour, annual, progressive, and other inspection program tasks would be required to be retained until the work is superseded or repeated. All other records referenced in § 91.417 would be required to be in English or retrievable in the English language by each operator and be retained until the item is transferred; however, the proposed records of an aircraft's weight and balance would be required to be retained only until superseded. Those records specified in proposed paragraphs (a)(1) and (a)(2), would not be required to be in English or retrievable in

English. The applicability of any additional record-retention requirements not specified in the current rule would commence with the corresponding effective date specified in the proposed rule.

Current § 43.11 refers to the creation of a "list of discrepancies" after an inspection is performed. The proposed revision to paragraph (c) would replace the term "defects" with "discrepancies" to bring the terminology of these two sections into agreement.

Proposed paragraph (d) would consolidate the current requirements for the retention of airworthiness releases. It would contain the requirements currently found in §§ 121.380(a)(1) and 135.439(a)(1) for a certificate holder to retain the records necessary to demonstrate that the requirements for an airworthiness release had been met. The proposal also would permit the use of an equivalent log entry. The proposal would require that an owner or operator retain these records only for 1 year or until the work is repeated or superseded by work of equal scope.

Proposed paragraph (e) would require that each owner or operator, who is required to have set forth in its manual a recordkeeping system acceptable to the Administrator in order to obtain, store, and retrieve required maintenance records, use that system to retain the records specified in proposed § 91.417.

Proposed paragraphs (f) and (g) would permit owners and operators to use the Transport Canada Conformity Certificate (Transport Canada Form 24-0045) to document the installation of a fuel tank installed within the passenger or baggage compartment of an aircraft under the provisions of § 43.17. Proposed paragraph (f) would require an owner or operator to provide the Administrator, or any authorized representative of the NTSB, with a copy of any maintenance record required to be retained by this section. The record would be required to be in English, either in paper or other media acceptable to the requester.

§ 91.419

Section 91.419 requires the transfer of those maintenance records specified in § 91.417 upon the sale of a U.S.-registered aircraft. Paragraph (a)(1) would require that all maintenance records required to be retained by proposed § 91.417(a), (b), (c), (d), and (g) be transferred not only upon the sale of a U.S.-registered aircraft, but also upon any transfer of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is approved for return to service. Proposed paragraph (a)(2) would require the transferor to certify the authenticity (but not accuracy) of the information contained in all transferred records. If the item is not approved for return to service, the transferor would be required under proposed paragraph (b) to provide the recipient with a statement

indicating that the item is not approved for return to service and the basis for that determination.

Proposed paragraph (c) would require any owner or operator who transfers an item for the purpose of having work performed, to transfer information sufficient to ensure completion of the work to be performed.

§ 91.420

This proposed new section would require an owner or operator receiving an aircraft, airframe, aircraft engine, propeller, appliance, component, or part produced pursuant to a certificate, approval, or authorization provided by the Administrator after *[1 year after the effective date of the rule]* to obtain, at the time of receipt, the records listed in § 21.7, or equivalent information contained in records that meet the requirements of § 91.417.

Proposed paragraph (b) would require each owner or operator who receives an aircraft, airframe, aircraft engine, propeller, appliance, component, or part to obtain the records listed in § 91.417(a), (b), (c), (d), and (g) at the time of transfer.

Proposed paragraph (c) retains the requirements of current § 91.419(b) and would continue to permit the preceding owner or operator to keep physical custody of records for items transferred to a subsequent owner or operator. It also would continue to require the owner or operator to make such records available for inspection.

§ 91.423

This proposed new section would establish requirements for persons using an electronic recordkeeping system for the retention and transfer of maintenance records. The proposed section would mandate user access requirements, audit procedures, security requirements, required system records, system backup procedures, and record certification provisions. These requirements would be found in proposed paragraph (a).

Proposed paragraph (b) would require an owner or operator to make the records contained in the electronic recordkeeping system available to the Administrator or NTSB upon request.

Proposed paragraph (c) would permit certificate holders to transfer information contained on any maintenance record or record entry to the electronic recordkeeping system and to use the resulting electronic record to satisfy the record retention and transfer requirements of §§ 91.417 and 91.419.

Proposed paragraph (d) establishes a requirement for the user of an electronic recordkeeping system to possess a manual that describes the operation and use of the electronic recordkeeping system.

§ 91.425

This proposed new section is based on similar requirements found in current § 43.12. The section would prohibit any fraudulent or intentionally false entry in, or

any reproduction or alteration for fraudulent purpose of, any document, form, report, or record required to be made, kept, or used to show compliance with any requirement under the recordkeeping requirements of part 91, subpart E.

§ 119.3

The proposal would add the term "signature" to the list of definitions that are applicable to subchapter G. The proposed definition would facilitate the use of electronic and other acceptable forms of signatures by owners, operators, and certificate holders subject to the requirements of that subchapter.

§ 121.133

The proposal would revise paragraph (b) by requiring that portion of a certificate holder's manual containing maintenance information and instructions to be prepared in English or be retrievable in the English language. The proposed language is identical to that found in proposed §§ 125.249(c) and 135.427(d).

§ 121.137

The proposal would revise paragraph (c) by permitting a certificate holder to comply with the distribution requirements of paragraph (a) by making the maintenance part of its manual available in printed form or other form acceptable to the Administrator that is in English or retrievable in the English language. It would also require a certificate holder to ensure there is a compatible reading

device or system available to those persons to whom it furnishes the maintenance part of its manual in other than printed form. The device or system would be required to be able to provide a legible image of the maintenance information and instructions or be able to retrieve the maintenance information and instructions in the English language.

§ 121.139

The proposal would revise paragraph (a) by requiring a certificate holder conducting supplemental operations to only have access to appropriate parts of it manual when the aircraft is away from the principal base. If the certificate carries appropriate parts of its manual aboard the aircraft in other than printed form, it must have access to a reading device, or a system able to produce a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information instructions in English.

§ 121.369

The proposal would revise this section by requiring a certificate holder to include in its manual a description of procedures that would be used to ensure that the records and record entries transferred with any item it receives are reviewed for compliance with proposed § 91.420. The proposal also would modify the current language of the rule by requiring a certificate holder to set forth in its manual

a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. The proposal would require this system to be protected from unauthorized use and access. Because any acceptable system would be required to meet the provisions of proposed §§ 43.9 and 91.417, the information requirements of current paragraphs (c)(1), (c)(2), and (c)(3) would be deleted.

§ 121.380

This section would be removed and reserved. All maintenance record retention requirements for certificate holders under this part would be found in proposed § 91.417.

§ 121.380a

This section would be removed and reserved. All maintenance record transfer requirements for certificate holders under this part would be found in proposed § 91.419.

§ 125.71

The proposal would revise paragraph (f) by permitting a certificate holder to comply with the distribution requirements of paragraph (d) by making the maintenance part of its manual available in printed form or other form acceptable to the Administrator that is in English or retrievable in the English language. It would also require a certificate holder to ensure there is a compatible reading device or system available to those persons to whom it furnishes the maintenance part of its manual in other than printed form. The device or system would be required to be

able to provide a legible image of the maintenance information and instructions or be able to retrieve the maintenance information and instructions in the English language.

The proposal would revise paragraph (g) by requiring a certificate holder to only have access to appropriate parts of it manual for each airplane when the aircraft is away from the principal operations base. If the certificate holder carries appropriate parts of its manual aboard the aircraft in other than printed form, it would be required to have access to a reading device, or a system able to produce a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information instructions in English.

§ 125.249

The proposal would revise the section heading from "Maintenance manual requirements" to "Manual requirements." The proposal also would revise this section by requiring that an operator set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. This system would be required to be protected from unauthorized use and access. This requirement would be identical to those in proposed §§ 121.369 and 135.427. Because any acceptable system would be required to meet the provisions of proposed §§ 43.9 and 91.417, the information requirements of current

paragraphs (b)(1), (b)(2), and (b)(3) would be deleted. The proposal to add paragraph (a)(3)(viii), which would establish a requirement to review the maintenance and certification records of any item received for compliance with § 91.420, would necessitate minor editorial revisions to current paragraphs (a)(3)(vi) and (a)(3)(vii).

The proposal would add proposed paragraph (c), which would require certificate holders to prepare that part of their manuals containing maintenance information and instructions in printed form or other form acceptable to the Administrator that is in English or retrievable in the English language. The proposed language is identical to that found in proposed §§ 121.133(b) and 135.427(d).

§ 129.14

This section would be revised by modifying the title to read "Maintenance program, maintenance recordkeeping, and minimum equipment list requirements for U.S.-registered aircraft." Paragraph (a) would be revised to require operators to ensure that any record transferred with an item is reviewed for compliance with proposed § 91.420. The proposal also would require an operator to use a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. This system would be required to be protected from unauthorized use and access.

§ 135.21

The proposal would revise paragraph (f) by permitting a certificate holder to comply with the distribution requirements of paragraph (d) by making the maintenance part of its manual available in printed form or other form acceptable to the Administrator that is in English or retrievable in the English language. It would also require a certificate holder to ensure there is a compatible reading device or system available to those persons to whom it furnishes the maintenance part of its manual in other than printed form. The device or system would be required to be able to provide a legible image of the maintenance information and instructions or be able to retrieve the maintenance information and instructions in the English language.

The proposal would revise paragraph (g) by requiring a certificate holder to only have access to appropriate parts of it manual for each airplane when the aircraft is away from the principal operations base. If the certificate holder carries appropriate parts of its manual aboard the aircraft in other than printed form, it would be required to have access to a reading device, or a system able to produce a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information instructions in English.

§ 135.427

The proposal would revise this section by adding paragraph (b)(10), which would require an operator to set forth in its manual procedures to review any maintenance records and record entries transferred with an item for compliance with § 91.420. The FAA also proposes to revise this section by adding paragraph (c), which would require an operator to set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. This system would be required to be protected from unauthorized use and access. These requirements would be identical to those set forth in proposed §§ 121.369 and 125.249. Because any acceptable system would be required to meet the provisions of proposed § 91.419, the information requirements of current paragraphs (c)(1), (c)(2), and (c)(3) would be deleted.

The proposal would add proposed paragraph (d), which would require a certificate holder to prepare that part of its manual containing maintenance information and instructions in printed form, or other form acceptable to the Administrator that is in English or retrievable in the English language. The proposed language is identical to that found in proposed §§ 121.133(b) and 125.249(c).

§ 135.439

This section would be removed and reserved. All maintenance record retention requirements for certificate holders under this part would be found in proposed § 91.417.

§ 135.441

This section would be removed and reserved. All maintenance record transfer requirements for certificate holders under this part would be found in proposed § 91.419.

§ 145.65

The proposed section would establish requirements for a repair station using an electronic recordkeeping system to retain and transfer maintenance records. The proposed section would specify user access requirements, audit procedures, security requirements, required system records, system backup procedures and record certification provisions. These requirements would be found in proposed paragraph (a).

Proposed paragraph (b) would require an owner or operator to make the records contained in the electronic recordkeeping system available to the Administrator or NTSB upon request.

Proposed paragraph (c) would permit a repair station to transfer information contained in any maintenance record or record entry to the electronic recordkeeping system and use the resulting electronic record to satisfy the record retention requirements of the chapter.

Proposed paragraph (d) would establish a requirement for the user of an electronic recordkeeping system to possess a manual that describes the operation and use of the electronic recordkeeping system.

§ 145.67

The proposed section would establish requirements for the transfer of maintenance records from a repair station when the repair station transfers any item. Except in those instances when an item is transferred for the purpose of having work performed, proposed paragraph (a)(1) would require a repair station transferring an aircraft, aircraft engine, propeller, appliance, component, or part that is approved for return to service to transfer those maintenance records required by proposed § 91.417(a), (b), (c), (d), and (g).

In those instances where a repair station transfers an item that is not approved for return to service, proposed paragraph (a)(2) would permit a repair station to transfer the item with a statement indicating that the item is not approved for return to service which would contain the basis for that determination.

Proposed paragraph (a)(3) would require the repair station to certify the authenticity of any records transferred.

In those instances where an item is being transferred for the purpose of having work performed, proposed

paragraph (b) would require only the transferal of information sufficient to ensure completion of the work.

§ 145.69

This proposed new section would require a repair station receiving an aircraft, airframe, aircraft engine, propeller, appliance, component, or part produced pursuant to a certificate, approval, or authorization provided by the Administrator after *[1 year after the effective date of the rule]* to obtain, at the time of receipt, the records listed in § 21.7, or equivalent information contained in records that meet the requirements of § 91.417.

Proposed paragraph (b) would require each repair station that receives an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is approved for return to service to obtain the records listed in § 91.417(a), (b), (c), (d), and (g) at the time of transfer.

Proposed paragraph (c) would require each repair station that receives an item that is not approved for return to service to obtain a statement indicating that the item is not approved for return to service and the basis for that determination.

Proposed paragraphs (d) would require a repair station receiving an item for the purpose of performing work on that item to ensure the receipt of records sufficient to ensure completion of the work.

Paperwork Reduction Act

TO BE PROVIDED LATER.

Regulatory Evaluation Summary

TO BE PROVIDED LATER.

International Trade Impact Analysis

TO BE PROVIDED LATER.

Regulatory Flexibility Determination

TO BE PROVIDED LATER.

Federalism Implications

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

International Civil Aviation Organization and Joint Aviation Requirements

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with the Standards and Recommended Practices of the International Civil Aviation Organization to the maximum extent practicable. The FAA is not aware of any differences that this proposal would present if adopted. Any differences that may be presented in comments to this proposal, however, will be taken into consideration.

Conclusion

TO BE PROVIDED LATER.

List of Subjects

14 CFR Part 21

Air transportation, Aircraft, Aviation safety, Safety.

14 CFR Part 43

Air carriers, Air transportation, Aircraft, Aviation Safety, Reporting and recordkeeping requirements, Safety.

14 CFR Part 91

Aircraft, Airmen, Air carriers, Air transportation, Aircraft, Airworthiness directives and standards, Aviation safety, Reporting and recordkeeping requirements, Safety.

14 CFR Part 119

Administrative practice and procedures, Air carriers, Air transportation, Air taxis, Aircraft, Aviation safety, Charter flights, Commuter operations, Reporting and recordkeeping requirements.

14 CFR Part 121

Air carriers, Air transportation, Aircraft, Airworthiness directives and standards, Aviation safety, Reporting and recordkeeping requirements, Safety.

14 CFR Part 125

Air transportation, Aircraft, Airplanes, Airworthiness, Aviation safety, Reporting and recordkeeping requirements, Safety.

14 CFR Part 129

Air carrier, Aircraft, Airworthiness, Aviation safety, Reporting and recordkeeping requirements, Safety.

14 CFR Part 135

Air carriers, Air taxi, Air transportation, Aircraft, Airworthiness, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.

14 CFR Part 145

Air carriers, Air transportation, Aircraft, Airworthiness, Aviation safety, Reporting and recordkeeping requirements, Safety.

THE PROPOSED AMENDMENT

In consideration of the foregoing, the Federal Aviation Administration proposes to amend parts 21, 43, 91, 119, 121, 125, 129, 135, and 145 of the Federal Aviation Regulations (14 CFR parts 21, 43, 91, 119, 121, 125, 129, 135, and 145) as follows:

PART 21—CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS

1. The authority citation for part 21 continues to read as follows:

Authority: 42 U.S.C. 7572; 49 U.S.C. 106(g), 40105, 40113, 44701-44702, 44707, 44709, 44711, 44713, 44715, 45303.

2. Section 21.7 is added to read as follows:

§ 21.7 Certification records.

(a) After [*1 year after the effective date of the rule*], any person who produces an aircraft, airframe, aircraft engine propeller, appliance, component, or part pursuant to a certificate, approval, or authorization provided by the Administrator must maintain the following information prior to the item's transfer–

(1) A record of the name, number, and serial number of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part;

(2) A record of the weight and center of gravity for each aircraft, and the conditions under which these values were determined (including reference to any fixed ballast, unusable fuel, or operating fluids);

(3) The current status of any applicable airworthiness directives, including–

(i) The identification of the particular aircraft, airframe, aircraft engine, propeller, appliance, component, or part to which the airworthiness directive applies;

(ii) The airworthiness directive number and, if applicable, its revision number, revision date, or amendment number;

(iii) The date on which the action required by the airworthiness directive was accomplished;

(iv) The total time-in-service of the item to which the airworthiness directive applies when the required action

was accomplished, as expressed by each applicable standard, if required by the airworthiness directive;

(v) The method of compliance, by reference to a specific action described in the airworthiness directive, a specific description of the work performed, or a description of the approved alternative method of compliance; and

(vi) If recurring action is required by the airworthiness directive, the interval to the next required action, as expressed by each applicable standard.

(4) A record of the part number and serial number of any life-limited part, and the part's total time-in-service and specified life limit, as expressed by each applicable standard;

(5) A description of any alterations or modifications accomplished in accordance with a Supplemental Type Certificate;

(6) The airworthiness certificate, if applicable; and

(7) Evidence indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part has been produced pursuant to a certificate, approval, or authorization provided by the Administrator.

(b) Any person who produces an aircraft, airframe, aircraft engine, propeller, appliance, component, or part pursuant to a certificate, approval, or authorization provided by the Administrator and subsequently transfers that item after [*1 year after the effective date of the*

rule], must provide the transferee with the information specified in paragraph (a) of this section.

(c) For the purposes of this section, the following definitions apply:

(1) Applicable standard means an interval measured by hours, cycles, calendar time, or another measuring parameter approved by or acceptable to the Administrator.

(2) Component means any self-contained part, or any combination of parts, subassemblies, or units that perform a distinctive function necessary to operate a system.

(3) Life-limited part means any part for which a retirement-life, service-life, or life limitation exists in the type certificate for a product.

(4) Part means one piece, or two or more pieces that are joined together and which are not normally subject to disassembly without destruction of the designed use.

(5) Transfer means the conveyance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part.

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

3. The authority citation for part 43 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44703, 44705, 44707, 44711, 44713, 44717.

4. Section 43.1 is amended by revising the section heading and paragraph (a)(3), and by adding paragraph (c) to read as follows:

§ 43.1 Applicability and definitions.

(a) * * *

(3) Airframe, aircraft engine, propeller, appliance, component, or part of those aircraft specified in paragraphs (a)(1) and (a)(2) of this section.

* * * * *

(c) For the purposes of this part, the following definitions apply:

(1) Applicable standard means an interval, measured by hours, cycles, calendar time, or another measuring parameter approved by or acceptable to the Administrator.

(2) Component means any self-contained part, or any combination of parts, subassemblies, or units that perform a distinctive function necessary to operate a system.

(3) Life-limited part means any part for which a retirement-life, service-life, or life limitation exists in the type certificate for a product.

(4) Part means one piece, or two or more pieces that are joined together and which are not normally subject to disassembly without destruction of the designed use.

(5) Signature means a form of identification used as a means of attesting to the completion of an act and that

authenticates a record entry. A signature must be traceable to the person making the entry and may be in handwritten, electronic, or other form acceptable to the Administrator.

(6) Transfer means the conveyance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part.

5. Section 43.2 is amended by revising the introductory language in paragraph (a) and (b) to read as follows:

§ 43.2 Records of overhaul and rebuilding.

(a) No person may describe, in any required maintenance entry or form, an aircraft, airframe, aircraft engine, propeller, appliance, component, or part as being overhauled unless—

* * *

(b) No person may describe, in any required maintenance entry or form, an aircraft, airframe, aircraft engine, propeller, appliance, component, or part as being rebuilt unless it has been disassembled, cleaned, inspected, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item, using either new parts or used parts that either conform to new part tolerances and limits or to approved oversized or undersized dimensions.

6. Section 43.3 is amended by revising paragraph (a) to read as follows:

§ 43.3 Persons authorized to perform maintenance, preventive maintenance, rebuilding, and alterations.

(a) Except as provided in this section and § 43.17 of this part, no person may maintain, rebuild, alter, or perform preventive maintenance on an aircraft, airframe, aircraft engine, propeller, appliance, component, or part to which this part applies. Those items, the performance of which is a major alteration, a major repair, or preventive maintenance, are listed in appendix A.

* * * * *

7. Section 43.5 is amended by revising the introductory paragraph to read as follows:

§ 43.5 Approval for return to service after maintenance, preventive maintenance, rebuilding, or alteration.

No person may approve for return to service any aircraft, airframe, aircraft engine, propeller, appliance, component, or part that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—

* * * * *

8. Section 43.7 is amended by revising the section heading and paragraphs (a) through (e) to read as follows:

§ 43.7 Persons authorized to approve aircraft, airframes, aircraft engines, propellers, appliances, components, or parts for return to service after maintenance, preventive maintenance, rebuilding, or alteration.

(a) Except as provided in this section and § 43.17 of this part, no person, other than the Administrator, may approve an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for return to service after it has undergone maintenance, preventive maintenance, rebuilding, or alteration.

(b) The holder of a mechanic certificate or an inspection authorization may approve an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for return to service as provided in part 65 of this chapter.

(c) The holder of a repair station certificate may approve an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for return to service as provided in part 145 of this chapter.

(d) A manufacturer may approve for return to service any aircraft, airframe, aircraft engine, propeller, appliance, component, or part on which that manufacturer has worked under § 43.3(j) of this part. However, except for minor repairs and minor alterations, the work must have been done in accordance with approved technical data.

(e) The holder of an air carrier operating certificate, or an operating certificate issued under part 119, 121, or 135, may approve an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for return to service as provided in part 121 or part 135 of this chapter, as applicable.

* * * * *

9. Section 43.9 is revised to read as follows:

§ 43.9 Content of maintenance, preventive maintenance, rebuilding, and alteration records (except inspections).

(a) Maintenance record entries. Except as provided in paragraph (c) of this section, each person who maintains, performs preventive maintenance on, rebuilds, or alters an aircraft, airframe, aircraft engine, propeller, appliance, component, or part must make in the maintenance record of that equipment, an entry, in English or retrievable in the English language, and in a manner acceptable to the Administrator, that contains—

(1) The name of the person who performed the maintenance, preventive maintenance, rebuilding, or alteration;

(2) A description of the work performed, to include, as applicable, a description of—

(i) Compliance with an airworthiness directive, including—

(A) The airworthiness directive number and, if applicable, its revision number, revision date, or amendment number; and

(B) The method of compliance, by reference to a specific action described in the airworthiness directive, a specific description of the work performed, or a description of an approved alternative method of compliance;

(ii) The performance of a major repair, including a reference to approved technical data or technical data developed under SFAR No. 36;

(iii) The performance of a major alteration, including a reference to approved technical data used in completing the major alteration;

(iv) The performance of an overhaul;

(v) The installation of a life-limited part, including the part's total time-in-service as expressed by each applicable standard;

(vi) The accomplishment of a task in a maintenance program; and

(vii) The performance of actions specified in the Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness.

(3) The date the work was completed;

(4) Work order number(s), if applicable;

(5) For any appliance, component, or part on which work is performed, the name, number, and serial number, as applicable, of the appliance, component, or part correlating to the manufacturer's appliance, component, or part name, number, and serial number; and

(6) If the work performed on the aircraft, airframe, aircraft engine, propeller, appliance, component, or part has been performed satisfactorily, the signature, certificate number, and kind of certificate held by the person approving the work or other positive identification of the person approving the work that complies with the provisions of a certificate holder's manual. The signature, or other positive identification that complies with the provisions of a certificate holder's manual, constitutes the approval for return to service based only on the work performed.

(b) If the work performed constitutes a major repair or major alteration, the person performing the maintenance, preventive maintenance, rebuilding, or alteration must comply with appendix B of this part.

(c) This section does not apply to persons performing inspections in accordance with part 91, 121, 125, 129, or 135 of this chapter.

10. Section 43.11 is amended by revising the section heading, the introductory text of paragraph (a), and paragraphs (a)(3), (a)(7), and (b) to read as follows:

§ 43.11 Content, form, and disposition of records for inspections conducted under parts 91, 121, 125, 129, and 135 of this chapter.

(a) Maintenance record entries. A person approving or disapproving for return to service an aircraft, airframe, aircraft engine, propeller, appliance, component, or part after any inspection performed in accordance with part 91, 121, 125, 129, or 135 of this chapter must make in the maintenance record of that equipment, an entry, in English or retrievable in the English language, that contains the following information:

* * * * *

(3) The signature, certificate number, and kind of certificate that is held by the person approving or disapproving for return to service the aircraft, airframe, aircraft engine, propeller, appliance, component, part, or portions thereof, or other positive identification of the person that complies with the provisions of a certificate holder's manual.

* * * * *

(7) If an inspection is conducted under an inspection program required by part 91, 121, 125, 129, or 135 of this chapter, the entry must identify the inspection program and the segment of the inspection program accomplished, and must

state that the inspection was performed in accordance with the inspections and procedures for that particular program.

(b) Listing of discrepancies and placards. If the person performing any inspection required by part 91, 121, 125, 129, or 135 of this chapter finds that the aircraft is not airworthy or does not meet the applicable type certificate data, airworthiness directives, or other approved data upon which its airworthiness depends, that person must give the owner or operator a signed and dated list of those discrepancies. For items permitted to be inoperative under § 91.213 of this chapter, the person performing the inspection must place a placard that meets the aircraft's airworthiness certification regulations on each inoperative instrument and on the cockpit control of each item of inoperative equipment, mark it "Inoperative," and add the items to the signed and dated list of discrepancies that must be given to the owner or operator.

11. Section 43.15 is amended by revising the introductory text of paragraph (a) and paragraph (a)(2) to read as follows:

§ 43.15 Additional performance rules for inspections.

(a) General. Each person performing an inspection required by part 91, 121, 125, 129, or 135 of this chapter must—

* * *

(2) If the inspection is required by part 121, 125, 129, or 135, or § 91.409(e) of this chapter, perform the inspection in accordance with the instructions and procedures set forth in the inspection program for the aircraft being inspected.

* * * * *

12. Section 43.16 is revised to read as follows:

§ 43.16 Airworthiness limitations.

Each person performing an inspection, or other maintenance specified in an Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness, must perform the inspection or other maintenance in accordance with that section, or in accordance with Operations Specifications approved by the Administrator under part 121, 125, 129, or 135 of this chapter, or an inspection program selected under § 91.409(e) of this chapter.

13. Part 43, appendix B, is revised to read as follows:

APPENDIX B TO PART 43—RECORDING OF MAJOR REPAIRS AND MAJOR ALTERATIONS

(a) Except as provided in paragraphs (b), (c), and (d) of this appendix, each person performing a major repair or major alteration must—

(1) Execute FAA Form 337 in duplicate;

(2) Give a signed copy of that form to the owner or operator of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part on which the major repair or major alteration was performed; and

(3) Forward a copy of that form to the local Flight Standards District Office—

(i) Within 48 hours after the aircraft, airframe, aircraft engine, propeller, appliance, component, or part is approved for return to service, or

(ii) For a major repair or major alteration performed on an aircraft engine, propeller, appliance, component or part, within 48 hours after the aircraft engine, propeller, appliance, component, or part has been installed on an aircraft.

(b) For major repairs made in accordance with a manual or specifications approved by or acceptable to the Administrator, a certificated repair station may, in place of the requirements of paragraph (a), use the customer's work order to record the major repair.

(1) The customer's work order must include—

(i) The identity of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part, as applicable;

(ii) In the case of an aircraft, the make, model, serial number, registration marks, and location of the repaired area;

(iii) In the case of an airframe, aircraft engine, propeller, appliance, component, or part, its name, the manufacturer's name, the model, and serial numbers (if any); and

(iv) The following or a similarly worded statement: "The aircraft, airframe, aircraft engine, propeller, appliance, component, or part identified above was repaired and inspected in accordance with current regulations of the Federal Aviation Administration and is approved for return to service with respect to the work performed.

Pertinent details of the repair are on file at this repair station under Order No._____.

Date_____

Signed_____

(For signature of authorized representative)

_____

(Repair station name) (Certificate No.)

_____.

(Address)".

(2) The owner or operator must be given a signed copy of the work order, and the repair station must retain a duplicate copy for at least 2 years from the date of approval for return to service of the aircraft, airframe, aircraft engine, propeller, appliance, component, or part.

(c) For a major repair or major alteration made by a person authorized by § 43.17 of this part, the person who

performs the major repair or major alteration must execute an FAA Form 337 or a Transport Canada Conformity Certificate (Transport Canada Form 24-0045). The person who performs the major repair or major alteration must give a completed copy of that form to the owner or operator and forward a second completed copy of the form to the Federal Aviation Administration, Aircraft Registration Branch, Post Office Box 25082, Oklahoma City, OK 73125, within 48 hours after the work is inspected.

(d) For a fuel tank installed within the passenger compartment or a baggage compartment, the person who performs the work must execute an FAA Form 337 in triplicate; however, if the work is performed under § 43.17 of this part, a Transport Canada Conformity Certificate (Transport Canada Form 24-0045) may be used. One (1) copy of the form must be placed aboard the aircraft as specified in § 91.417 of this chapter. The remaining forms must be distributed as required by paragraphs (a)(2) and (a)(3), or by paragraph (c) of this appendix, as appropriate.

PART 91—GENERAL OPERATING AND FLIGHT RULES

14. The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40113, 40120, 44101, 44111, 44701, 44709, 44711, 44712, 44715, 44716,

44717, 44722, 46306, 46315, 46316, 46502, 46504, 46506-46507, 47122, 47508, 47528-47531.

15. Section 91.2 is added to read as follows:

§ 91.2 Definitions.

For the purposes of this part, the following definitions apply:

(a) Applicable standard means an interval, measured by hours, cycles, calendar time, or another measuring parameter, approved by or acceptable to the Administrator.

(b) Component means any self-contained part, or any combination of parts, subassemblies, or units that perform a distinctive function necessary to operate a system.

(c) Life-limited part means any part for which a retirement-life, service-life, or life limitation exists in the type certificate for a product.

(d) Part means one piece, or two or more pieces that are joined together and that are not normally subject to disassembly without destruction of the designed use.

(e) Signature means a form of identification used as a means of attesting to the completion of an act and that authenticates a record entry. A signature must be traceable to the person making the entry and may be in handwritten, electronic, or other form acceptable to the Administrator.

(f) Transfer means the conveyance of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part.

16. Section 91.203 is amended by revising paragraph (c) to read as follows:

§ 91.203 Civil aircraft: Certifications required.

* * * * *

(c) No person may operate an aircraft with a fuel tank installed within the passenger compartment or a baggage compartment unless the installation was accomplished pursuant to part 21 or part 43 of this chapter and, for those fuel tanks installed pursuant to part 43, a copy of FAA Form 337 or a Transport Canada Conformity Certificate (Transport Canada Form 24-0045), which authorizes the installation, is aboard the aircraft.

* * * * *

17. Section 91.401 is amended by revising paragraph (b) to read as follows:

§ 91.401 Applicability.

* * * * *

(b) Sections 91.207(d), 91.405, 91.409, 91.411, and 91.413 of this subpart do not apply to an aircraft maintained in accordance with a Continuous Airworthiness

Maintenance Program, as provided in part 121, 125, or 129, or § 135.411(a)(2) of this chapter.

* * * * *

18. Section 91.417 is revised to read as follows:

§ 91.417 Maintenance records.

(a) Each owner or operator of an aircraft, airframe, aircraft engine, propeller, appliance, component, or part must maintain—

(1) Records of the maintenance, preventive maintenance, and alteration for each aircraft, airframe, aircraft engine, propeller, appliance, component, or part made in accordance with § 43.9 of this chapter;

(2) Records of 100-hour, annual, progressive, and other required or approved inspections or inspection program tasks, for each aircraft, airframe, aircraft engine, propeller, appliance, component, or part made in accordance with § 43.11 of this chapter;

(3) A record of the weight and balance of each aircraft;

(4) A record of the total time-in-service of the airframe, aircraft engine, and propeller, as expressed by each applicable standard;

(5) The current status of each life-limited part, including—

(i) A record of the total time-in-service of the part, as expressed by each applicable standard; and

(ii) The specified life limit, as expressed by each applicable standard.

(6) An in-service history of each life-limited part for the period after [*1 year after the effective date of the rule*], including—

(i) A record of each removal and installation of a life-limited part, as expressed in each applicable standard;

(ii) A record of any action that has altered the part's life limit or has changed the parameters of the life limit.

(7) The current overhaul status for each airframe, aircraft engine, propeller, appliance, component, and part that is required to be overhauled on a specified time basis under the maintenance or inspection program used by the owner or operator, including—

(i) The overhaul interval, as expressed by each applicable standard; and

(ii) When the last overhaul was performed, as expressed by each applicable standard.

(8) The current inspection status for each aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is required to be inspected under the maintenance or inspection program used by the owner or operator, including—

(i) The inspection interval, as expressed by each applicable standard; and

(ii) When the last inspection was performed, as expressed by each applicable standard.

(9) The current status of applicable airworthiness directives for each aircraft, airframe, aircraft engine, propeller, appliance, component, or part, including—

(i) The identification of the particular airframe, aircraft engine, propeller, appliance, component, or part to which the airworthiness directive applies;

(ii) The airworthiness directive number and, if applicable, its revision number, revision date, or amendment number;

(iii) The date on which the required action was last accomplished;

(iv) The total time-in-service, as expressed by each applicable standard, if required by the airworthiness directive;

(v) The method of compliance, by reference to a specific action described in the airworthiness directive, a specific description of the work performed, or a description of an approved alternative method of compliance with a copy of the FAA approval; and

(vi) If recurring action is required by the airworthiness directive, the interval to the next required action, as expressed by each applicable standard.

(10) Records for each major alteration to each aircraft, airframe, aircraft engine, propeller, appliance, component, or part including—

(i) The identification of the particular aircraft, airframe, aircraft engine, propeller, appliance, component, or part to which the major alteration applies;

(ii) The date on which the major alteration was accomplished;

(iii) The method of accomplishment; and

(iv) References to approved technical data or, in the case of experimental aircraft not previously issued another type of airworthiness certificate, technical data used as a basis for certification.

(11) Records for each major repair to each aircraft, airframe, aircraft engine, propeller, appliance, component, or part, including—

(i) The identification of the particular aircraft, airframe, aircraft engine, propeller, appliance, component, or part to which the major repair applies;

(ii) The date on which the major repair was accomplished;

(iii) The method of accomplishment; and

(iv) References to approved technical data, technical data developed under SFAR No. 36, or, in the case of experimental aircraft not previously issued another type of

airworthiness certificate, technical data used as a basis for certification.

(12) Evidence indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part has been produced pursuant to a certificate, approval, or authorization provided by the Administrator.

(b) Each owner or operator must retain—

(1) The records specified in paragraph (a)(1) of this section for 1 year, until the work is superseded or repeated, or in accordance with a certificate holder's manual;

(2) The records specified in paragraph (a)(2) of this section until the work is superseded or repeated;

(3) The records specified in paragraph (a)(3) of this section in English or retrievable in the English language until superseded; and

(4) The records specified in paragraphs (a)(4) through (a)(12) of this section in English or retrievable in the English language, until the aircraft, airframe, aircraft engine, propeller, appliance, component, or part is transferred.

(c) Each owner or operator who receives a list of discrepancies furnished under § 43.11(b) of this chapter must retain a list of these discrepancies until the discrepancies are repaired and the aircraft is approved for

return to service, or until the aircraft and the list of discrepancies is transferred.

(d) Each certificate holder under part 119, 121, 125, or 135 of this chapter that is required to prepare an airworthiness release or equivalent log entry must retain the records necessary to show that all requirements for the issuance of the airworthiness release or equivalent log entry have been met. These records must be retained for 1 year, or until the work is repeated or superseded by other work of equal scope.

(e) Each owner or operator that is required to set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records must use that system to meet the provisions of this section.

(f) The owner or operator must make all maintenance records required to be kept by this section available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB). Upon request of the Administrator or any authorized representative of the NTSB, the owner or operator must provide the requesting official with a copy of any maintenance record required to be retained by this section. The record must be provided in English, either in paper or other media acceptable to the requester. An owner or operator also must present FAA Form 337 or a Transport Canada Conformity Certificate (Transport Canada Form

24-0045) described in paragraph (g) of this section for inspection upon request of any law enforcement officer.

(g) When a fuel tank is installed within the passenger compartment or a baggage compartment pursuant to part 43 of this chapter, the owner or operator must keep a copy of FAA Form 337 or a Transport Canada Conformity Certificate (Transport Canada Form 24-0045) for the installation aboard the modified aircraft.

19. Section 91.419 is revised to read as follows:

§ 91.419 Transfer of maintenance records.

(a) Except as provided in paragraph (c) of this section, each owner or operator who transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is approved for return to service must–

(1) Concurrently transfer the records specified in § 91.417(a), (b), (c), (d), and (g) of this part to the receiving owner or operator; and

(2) Certify the authenticity of the information contained in the records that are transferred.

(b) Except as provided in paragraph (c) of this section, each owner or operator who transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is not approved for return to service must provide the transferee with a statement in written, electronic, or other form acceptable to the Administrator

indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part is not approved for return to service and the basis for that determination.

(c) Each owner or operator who transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part for the purpose of maintenance, preventive maintenance, rebuilding, or alteration must concurrently transfer information sufficient to ensure completion of the work to be performed.

20. Section 91.420 is added to read as follows:

§ 91.420 Receipt of certification and maintenance records.

(a) Except as provided in paragraph (c) of this section, each owner or operator that receives from a manufacturer an aircraft, airframe, aircraft engine, propeller, appliance, component, or part produced after *[1 year after the effective date of the rule]* and pursuant to a certificate, approval, or authorization provided by the Administrator must, at the time of receipt, obtain the records listed in § 21.7 of this chapter or equivalent information contained in records that meet the requirements of § 91.417 of this chapter.

(b) Except as provided in paragraph (c) of this section, each owner or operator that receives an aircraft, airframe, aircraft engine, propeller, appliance, component,

or part must obtain the records listed in § 91.417(a), (b), (c), (d), and (g) of this part from the preceding owner or operator at the time of the transfer.

(c) The receiving owner or operator may permit the preceding owner or operator to keep physical custody of the records specified in § 91.417(a), (b), (c), and (d) of this part. However, the preceding owner or operator's custody of such records does not relieve the receiving owner or operator of the responsibility under § 91.417(f) of this part to make the records available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board.

21. Section 91.423 is added to read as follows:

§ 91.423 Electronic recordkeeping systems.

(a) An owner or operator using an electronic recordkeeping system for the retention or transfer of maintenance records required by §§ 91.417 and 91.419 of this part must ensure that the system—

(1) Provides the user with timely, reliable, and accurate access to those maintenance records;

(2) Contains audit procedures that ensure the accuracy of any maintenance record, maintenance record entry, or other information entered into the system;

(3) Contains a security system that—

(i) Protects the electronic recordkeeping system from any unauthorized use;

(ii) Monitors user access; and

(iii) Records and reports any attempted unauthorized access.

(4) Provides a record of any addition, change, or deletion of any maintenance record, maintenance record entry, or other information contained in the system;

(5) Provides for the backup of any maintenance record, maintenance record entry, or other information entered into the system; and

(6) Provides a means to certify the authenticity of maintenance records, maintenance record entries, or other information entered into the electronic recordkeeping system.

(b) Each owner or operator must, upon request, make the maintenance records contained in the electronic recordkeeping system specified in paragraph (a) of this section available to the Administrator or any authorized representative of the National Transportation Safety Board.

(c) An owner or operator using an electronic recordkeeping system that complies with the requirements of this section may transfer the information contained in any received maintenance record or maintenance record entry to its electronic recordkeeping system and use the resulting

electronic record to satisfy the record retention and transfer requirements of §§ 91.417 and 91.419 of this part.

(d) An owner or operator using an electronic recordkeeping system for the retention or transfer of maintenance records required by §§ 91.417 and 91.419 of this part must possess a manual, acceptable to the Administrator, that describes the operation and use of the electronic recordkeeping system. This manual must include—

(1) A description of the system;

(2) Security provisions and a listing of those persons with the authority to provide individuals access to the system;

(3) Instructions for using commands involved in data entry, data processing, data retrieval, and report generation; and

(4) A description of individual responsibilities necessary to maintain system security.

(e) Those portions of the manual specified in paragraphs (d)(3) and (d)(4) of this section must be made available to every individual with authorized access to the electronic recordkeeping system.

22. Section 91.425 is added to read as follows:

§ 91.425 Maintenance records: Falsification, reproduction, or alteration.

(a) No person may make or cause to be made—

(1) Any fraudulent or intentionally false entry in any document, form, report, or record required to be made, kept, or used to show compliance with any requirement under this subpart;

(2) Any reproduction, for fraudulent purpose, of any document, form, report, or record required to be made, kept, or used to show compliance with any requirement under this subpart; or

(3) Any alteration, for fraudulent purpose, of any document, form, report, or record required to be made, kept, or used to show compliance with any requirement under this subpart.

(b) The commission by any person of an act prohibited under paragraph (a) of this section is a basis for suspending or revoking any applicable airman, operator, or air agency certificate held by that person.

PART 119 CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS

23. The authority citation for part 119 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1153, 40101, 40102, 40103, 40113, 44105, 44106, 44111, 44701-44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105.

24. Section 119.3 is amended by adding the definition of Signature between the definitions of Scheduled operation and Supplemental operation to read as follows:

§ 119.3 Definitions.

* * * * *

Signature means a form of identification used as a means of attesting to the completion of an act and that authenticates a record entry. A signature must be traceable to the person making the entry and may be in handwritten, electronic, or other form acceptable to the Administrator.

* * * * *

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

25. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701-44702, 44705, 44709-44711, 44713, 44716-44717, 44722, 44901, 44903-44904, 44912, 46105.

26. Section 121.133 is amended by revising paragraph (b) to read as follows:

§ 121.133 Preparation.

* * * * *

(b) For the purposes of this subpart, the certificate holder must prepare that part of its manual containing maintenance information and instructions in whole, or in

part, in printed form or other form acceptable to the Administrator that is in English or retrievable in the English language.

27. Section 121.137 is amended by revising paragraph (c) to read as follows:

§ 121.137 Distribution and availability.

* * * * *

(c) For the purpose of complying with paragraph (a) of this section, a certificate holder may furnish the persons listed therein with the maintenance part of its manual by making it available in printed form or other form acceptable to the Administrator that is in English or is retrievable in the English language. If the certificate holder makes the maintenance part of the manual available in other than printed form, it must ensure there is a compatible reading device available to those persons that provides a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions in English.

28. Section 121.139 is amended by revising paragraph (a) to read as follows:

§ 121.139 Requirement for manual aboard aircraft: Supplemental operations.

(a) Except as provided in paragraph (b) of this section, each certificate holder conducting supplemental operations must have access to appropriate parts of the manual for each aircraft when away from the principal base. The appropriate parts must be available for use by ground or flight personnel. If a supplemental air carrier or commercial operator carries aboard an aircraft all or any portion of the maintenance part of its manual in other than printed form, it must have access to a compatible reading device that produces a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions in English.

* * * * *

29. Section 121.369 is amended by adding paragraph (b)(10) and revising paragraph (c) to read as follows:

§ 121.369 Manual requirements.

* * * * *

(b) * * *

(10) Procedures to ensure that the records and record entries transferred with an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that the

certificate holder receives are reviewed for compliance with the provisions of § 91.420 of this chapter.

(c) The certificate holder must set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. The system must be protected from unauthorized use and access.

30. Section 121.380 is removed and reserved.

§ 121.380 [Reserved]

31. Section 121.380a is removed and reserved.

§ 121.380a [Reserved]

PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE

32. The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44705, 44710-44711, 44713, 44716-44717, 44722.

33. Section 125.71 is amended by revising paragraphs (f) and (g) to read as follows:

§ 125.71 Preparation.

* * * * *

(f) For the purpose of complying with paragraph (d) of this section, a certificate holder may furnish the persons listed therein with the maintenance part of its manual by making it available in printed form or other form acceptable to the Administrator that is in English or is retrievable in

the English language. If the certificate holder makes the maintenance part of the manual available in other than printed form, it must ensure that there is a compatible reading device available to those persons that provides a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions in English.

(g) Each certificate holder must have access to appropriate parts of the manual for each airplane when away from the principal operations base. The appropriate parts must be available for use by ground or flight personnel. If a certificate holder carries aboard an airplane all or any portion of the maintenance part of its manual in other than printed form, it must have access to a compatible reading device that produces a legible image of the maintenance information and instructions or a system that is able to retrieve the maintenance information and instructions in English.

34. Section 125.249 is amended by revising the section heading, revising paragraphs (a)(3)(vi), (a)(3)(vii), and (b), and adding paragraphs (a)(3)(viii) and (c) to read as follows:

§ 125.249 Manual requirements.

(a) * * *

(3) * * *

(vi) Instructions to prevent each person who performs any item of work from performing any required inspection of that work;

(vii) Procedures to ensure that work interruptions do not adversely affect required inspections and to ensure that required inspections are properly completed before the airplane is returned to service; and

(viii) Procedures to ensure that the records and record entries transferred with an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that the certificate holder receives are reviewed for compliance with the provisions of § 91.420 of this chapter, if applicable.

(b) The certificate holder must set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. The system must be protected from unauthorized use and access.

(c) For the purposes of this subpart, the certificate holder must prepare that part of its manual containing maintenance information and instructions, in whole or in part, in printed form or other form acceptable to the Administrator that is in English or is retrievable in the English language.

PART 129—OPERATIONS: FOREIGN AIR CARRIERS AND FOREIGN OPERATORS OF U.S.-REGISTERED AIRCRAFT ENGAGED IN COMMON CARRIAGE

35. The authority citation for part 129 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40104-40105, 40113, 40119, 44701-44702, 44712, 44716-44717, 44722, 44901-44904, 44906.

36. Section 129.14 is revised by amending the title and paragraph (a) to read as follows:

§ 129.14 Maintenance program, maintenance recordkeeping, and minimum equipment list requirements for U.S.-registered aircraft.

(a) Each foreign air carrier and each foreign person operating a U.S.-registered aircraft within or outside the United States in common carriage must ensure that—

(1) Each aircraft is maintained in accordance with a program approved by the Administrator;

(2) The records and record entries transferred with an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that the operator receives are reviewed for compliance with the provisions of § 91.420 of this chapter; and

(3) The operator possesses a system acceptable to the Administrator to obtain, store, and retrieve required

maintenance records. The system must be protected from unauthorized use and access.

* * * * *

PART 135—OPERATING REQUIREMENTS: COMMUTER AND ON-DEMAND OPERATIONS

37. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44705, 44709, 44711-44713, 44715-44717, 44722.

38. Section 135.21 is amended by revising paragraphs (f) and (g) to read as follows:

§ 135.21 Manual requirements.

* * * * *

(f) For the purpose of complying with paragraph (d) of this section, a certificate holder may furnish the persons listed therein with the maintenance part of its manual by making it available in printed form or other form acceptable to the Administrator that is in English or is retrievable in the English language. If the certificate holder makes the maintenance part of the manual available in other than printed form, it must ensure there is a compatible reading device available to those persons that provides a legible image of the maintenance information and instructions, or a system that is able to retrieve the maintenance information and instructions in English.

(g) Each certificate holder must have access to appropriate parts of the manual for each aircraft when away from the principal operations base. The appropriate parts must be available for use by ground or flight personnel. If a certificate holder carries aboard an aircraft all or any portion of the maintenance part of its manual in other than printed form, it must have access to a compatible reading device that produces a legible image of the maintenance information and instructions or is able to retrieve the maintenance information and instructions in English.

39. Section 135.427 is amended by adding paragraph (b)(10), revising paragraph (c), and adding paragraph (d) to read as follows:

§ 135.427 Manual requirements.

* * * * *

(b) * * *

(10) Procedures to ensure that the records and record entries transferred with an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that the certificate holder receives are reviewed for compliance with the provisions of § 91.420 of this chapter, if applicable.

(c) The certificate holder must set forth in its manual a system acceptable to the Administrator to obtain, store, and retrieve required maintenance records. The system must be protected from unauthorized use and access.

(d) For the purposes of this subpart, the certificate holder must prepare that part of its manual containing maintenance information and instructions, in whole or in part, in printed form or other form acceptable to the Administrator that is in English or is retrievable in the English language.

40. Section 135.439 is removed and reserved.

§ 135.439 [Reserved]

41. Section 135.441 is removed and reserved.

§ 135.441 [Reserved]

PART 145—REPAIR STATIONS

42. The authority citation for part 145 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44707, 44717.

43. Section 145.65 is added to read as follows:

§ 145.65 Electronic recordkeeping systems.

(a) A repair station using an electronic recordkeeping system for the retention or transfer of maintenance records required by this chapter must ensure that the system—

(1) Provides the user with timely, reliable, and accurate access to those maintenance records;

(2) Contains audit procedures that ensure the accuracy of any maintenance record, maintenance record entry, or other information entered into the system;

(3) Contains a security system that—

(i) Protects the electronic recordkeeping system from any unauthorized use;

(ii) Monitors user access; and

(iii) Records and reports any attempted unauthorized access.

(4) Provides a record of any addition, change, or deletion of any maintenance record, maintenance record entry, or other information contained in the system;

(5) Provides for the backup of any maintenance record, maintenance record entry, or other information entered into the system; and

(6) Provides a means to certify the authenticity of the maintenance records, maintenance record entries, or other information entered into the electronic recordkeeping system.

(b) Each repair station must, upon request, make the maintenance records contained in the electronic recordkeeping system available to the Administrator or any authorized representative of the National Transportation Safety Board.

(c) A repair station using an electronic recordkeeping system may transfer the information contained in any

received maintenance record or record entry to its electronic recordkeeping system and use the resulting electronic record to satisfy the record retention requirements of this chapter, provided that the electronic recordkeeping system complies with the requirements of this section.

(d) A repair station using an electronic recordkeeping system for the retention or transfer of maintenance records required by this chapter must possess a manual, acceptable to the Administrator, that describes the operation and use of the electronic recordkeeping system. This manual must be made available to every individual with access to the electronic recordkeeping system. This manual must include—

(1) A description of the system;

(2) Security provisions and a listing of those persons with the authority to provide individuals access to the system;

(3) Instructions for using commands involved in data entry, data processing, data retrieval, and report generation; and

(4) A description of individual responsibilities necessary to maintain system security.

(e) Those portions of the manual specified in paragraphs (d)(3) and (d)(4) of this section must be made available to every individual with authorized access to the electronic recordkeeping system.

44. Section 145.67 is added to read as follows:

§ 145.67 Transfer of maintenance records.

(a) Except as specified in paragraph (b) of this section, a repair station that transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that was not received from that owner or operator under the provisions of § 91.419(c) of this chapter must—

(1) For an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is approved for return to service, concurrently transfer the records specified in § 91.417(a), (b), (c), (d), and (g) of this chapter to the receiving owner or operator;

(2) For an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that is not approved for return to service, provide the transferee with a statement in written, electronic, or other form acceptable to the Administrator indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part has not been approved for return to service and the basis for that determination; and

(3) Certify the authenticity of the information contained in any records required to be transferred.

(b) A repair station that transfers an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, for the purpose of maintenance, preventive

maintenance, or alteration, must concurrently transfer information sufficient to ensure completion of the work to be performed.

45. Section 145.69 is added to read as follows:

§ 145.69 Receipt of certification and maintenance records.

(a) Except as specified in paragraph (d) of this section, a repair station that receives from a manufacturer an aircraft, airframe, aircraft engine, propeller, appliance, component, or part produced after [*1 year after the effective date of the rule*] and pursuant to a certificate, approval, or authorization provided by the Administrator, must obtain, at the time of receipt, the records listed in § 21.7 or equivalent information contained in records that meet the requirements of § 91.417 of this chapter.

(b) Except as specified in paragraph (d) of this section, any repair station that receives an aircraft, or any airframe, aircraft engine, propeller, appliance, component, or part that is approved for return to service must obtain the records specified in § 91.417(a), (b), (c), (d), and (g) of this chapter at the time of transfer.

(c) Except as specified in paragraph (d) of this section, any repair station that receives an aircraft, airframe, aircraft engine, propeller, appliance, component, or part that has not been approved for return to service

must obtain a statement in written, electronic, or other form acceptable to the Administrator indicating that the aircraft, airframe, aircraft engine, propeller, appliance, component, or part is not approved for return to service.

(d) A repair station that receives an aircraft, airframe, aircraft engine, propeller, appliance, component, or part, for the purpose of performing maintenance, preventive maintenance, or alteration must ensure the receipt of the records sufficient to ensure completion of the work to be performed.

Issued in Washington, D.C., on

DRAFT

U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

OCT 25 19

Subject: MAINTENANCE AND PREVENTIVE MAINTENANCE TRAINING PROGRAMS

Date:
Initiated by: AFS-330

AC No: 121-XXX
Change:

1. PURPOSE. This advisory circular (AC) provides guidance on the types of training that may be provided to meet maintenance and preventive maintenance training requirements for air carriers conducting domestic, flag, and supplemental operations..

2. FOCUS. This AC applies to certificate holders who are required by part 121 of Title 14, Code of Federal Regulations (14 CFR) to have a maintenance and preventive maintenance training program. Operators under 14 CFR parts 125 and 135 may use the guidance provided in this AC to the extent that its provisions are pertinent to their operations.

3. RELATED FEDERAL AVIATION REGULATION SECTIONS.

a. 14 CFR part 121, subpart G — Manual Requirements, § 121.133, Preparation.

b. 14 CFR part 121, subpart G — Manual Requirements, § 121.135, Contents.

c. 14 CFR part 121, subpart L — Maintenance, Preventive Maintenance, and Alterations, § 121.367, Maintenance, preventive maintenance, and alterations programs.

d. 14 CFR part 121, subpart L — Maintenance, Preventive Maintenance, and Alterations, § 121.369, Manual requirements.

e. 14 CFR part 121, subpart L — Maintenance, Preventive Maintenance, and Alterations, § 121.375, Maintenance and preventive maintenance training program.

f. 14 CFR part 121, subpart L — Maintenance, Preventive Maintenance, and Alterations, § 121.380, Maintenance recording requirements.

g. 14 CFR part 121, subpart N — Training Program, § 121.401, Training program: General.

h. 14 CFR part 121, subpart U – Dispatching and Flight Release Rules, § 121.629, Operation in icing conditions.

i. 14 CFR part 121, subpart V – Records and Reports, § 121.701, Maintenance log: Aircraft.

j. 14 CFR part 121, subpart V – Records and Reports, § 121.703, Mechanical reliability reports.

k. 14 CFR part 121, subpart V – Records and Reports, § 121.709, Airworthiness release or aircraft log entry.

l. 14 CFR part 121, appendix I – Drug Testing Program.

m. 14 CFR part 121, appendix J – Alcohol Misuse Prevention Program.

4. RELATED READING MATERIAL.

a. AC 120-28C, Criteria for Approval of Category III Landing Weather Minima.

b. AC 120-29, Criteria for Approving Category I and Category II Landing Minima for FAR 121 Operators.

c. AC 120-42A, Extended Range Operations with Two-Engine Airplanes (ETOPS).

d. AC 120-60, Ground Deicing and Anti-Icing Program.

e. AC 121-21B, Guide for Training Programs and Manual Requirements in the Air Transportation of Hazardous Materials.

f. AC 121-30, Guidelines for Developing an Anti-Drug Plan for Aviation Personnel.

g. FAA Order 8300.10, Airworthiness Inspector's Handbook, Chapter 70, Evaluate FAR Part 121/135.411(a)(2) Maintenance Training Program/Record.

5. BACKGROUND.

a. Section 121.375 of the Federal Aviation Regulations sets forth requirements for part 121 operators to "have a training program to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform his duties." This section, however, does not provide any detailed information on the types of training an operator needs to provide to its personnel.

b. The FAA found that the majority of training provided by operators was based on requirements found in FAA Order 8300.10, Airworthiness Inspector's Handbook, or in FAA advisory material. The FAA also determined that many operators previously operating under part 135 and now operating under part 121 may not be fully aware of all of the part 121 training requirements. Therefore, the FAA determined that publication of the guidance material contained in this AC explaining maintenance and preventive maintenance training requirements would help to ensure compliance with pertinent maintenance training requirements.

c. The impetus for the publication of this guidance occurred in December 1994 when the U.S. Secretary of Transportation invited representatives of manufacturers, trade associations, aviation unions, academic institutions, and all airlines operating aircraft with 10 or more seats to participate in an unprecedented aviation safety conference. This safety conference took place during January 1995. Its objective was to identify issues that these industry representatives believed could contribute to improvements in aviation safety, and to identify approaches to resolving the identified safety issues.

d. Following the safety conference, an action plan and timetables were developed that set forth the U.S. Department of Transportation's and the FAA's responses to the issues identified at the conference. These responses were used to create a joint action plan reflecting the safety priorities and commitment of the entire aviation community.

e. The FAA published a report on February 9, 1995, detailing the results of the safety conference. One objective identified during the safety conference was the need to define effective procedures and processes to eliminate maintenance-related discrepancies.

f. To meet the goal of eliminating maintenance-related discrepancies, the safety conference participants determined the following:

(1) The qualification standards and training for aircraft maintenance personnel should receive the same focus and attention from industry and Government as the standards and training for aircraft crewmembers.

(2) Maintenance process reengineering is required to improve error detection and prevention by incorporating crew resource management and human factors principles, and by removing impediments to sharing and disclosing maintenance data.

(3) Industry and Government need to place emphasis and resources beyond the current minimum regulatory requirements on airline internal audit programs and the current limited oversight of parts suppliers and vendors.

g. To immediately address the issues listed above, the safety conference participants recommended that maintenance and preventive maintenance training programs be revised to better enhance aviation safety.

h. The results of the safety conference indicated that the FAA should:

(1) Revise the current maintenance and preventive maintenance training requirements to set clear minimum standards;

(2) Detail the training requirements for required inspection items (RII);

(3) Identify initial and recurrent training requirements for aircraft types; and

(4) Determine training requirements for contract maintenance personnel and service providers.

i. After reviewing current training requirements, the recommendations derived from the safety conference, and the detailed training requirements found in subparts N and O of part 121, the FAA determined that additional guidance material should be published to include more detailed information, such as that found in other FAA publications that would ensure compliance with the requirements of § 121.375.

6. TRAINING PROGRAM CONTENT.

a. The FAA determined that the majority of the training described in this AC was already being provided by part 121 certificate holders, even though there are no detailed regulatory requirements in § 121.375. Because many of the training issues were addressed in publications other than the Federal Aviation Regulations, such as advisory material or FAA Inspectors' Handbooks, the FAA determined that consolidation of guidance material in a single AC would help to ensure consistent interpretation and awareness of requirements by the public and FAA inspection personnel.

b. To comply with the requirements of § 121.375, each certificate holder should provide the following operator-specific training, as appropriate, to the particular assignment of its employee, outside vendor, or on-call maintenance personnel:

(1) Certificate holder's policies, procedures, and manuals.

(2) Maintenance, preventive maintenance, and alterations.

(3) Required inspection items.

(4) Deicing procedures.

(5) Fueling procedures.

(6) Airworthiness release or aircraft log entry.

(7) Human factors and maintenance resource management.

(8) Extended range operations with two-engine airplanes (ETOPS).

(9) Category I/II operations.

(10) Category III operations.

7. COMPETENCE-BASED TRAINING STANDARDS.

a. To ensure personnel remain competent to perform the tasks appropriate to their assignment, each certificate holder, or person performing work for it, should ensure that each person who determines the adequacy of work performed is competent to perform assigned duties. Historically, operators have provided a specified number of hours of training to personnel each year to meet similar requirements. However, currency also may be maintained through training to a competence-based standard. Operators do not need to assign a specified number of training hours to ensure currency and competence of maintenance personnel.

b. In using training to a competence-based standard rather than training based on completion of specified hour requirements, the FAA notes that certain maintenance personnel may not receive adequate or timely training. However, specified hourly training requirements or specific training intervals are not always the solution to the problem. A defined program implemented by an operator that ensures the competence of maintenance personnel is a solution that ensures training to an established and measurable standard.

8. GENERAL.

a. Specific details are not prescribed for developing the training program in § 121.375. Therefore, certificate holders may use various methods for ensuring the competence of their maintenance personnel and for determining the needs of those personnel who require training. As described in paragraph 7.a., operators may train to a competence-based standard in lieu of using specified training intervals and training hour requirements prescribed by a course syllabus.

b. Training to competence permits operators to tailor their training programs to the needs of their maintenance personnel and service providers. In evaluating the training needs of maintenance personnel, operators may conduct pre-tests before providing training. These tests may be used to identify those personnel who retain a high level of subject area competence, and who may not need to receive a particular block of instruction.

c. Competence-based training permits operators to use other methods of disseminating information to maintenance personnel and service providers. Operators may also use periodic training bulletins, bulletin board items, self-study materials, computer-based instruction, and other means of providing information to personnel.

9. TRAINING RECORDS RETENTION.

a. Maintenance training records are often reviewed during scheduled or unscheduled inspections of operators; however, opinions have varied on the content, form, and disposition of the records a certificate holder keeps to document that personnel are adequately trained.

b. Maintenance training record retention requirements have been described in guidance to FAA inspectors. FAA Order 8300.10, Chapter 70, Evaluate FAR Part 121/135.411(a)(2) Maintenance Training Program/Record, states that training records must be retained by the operator/applicant to document that personnel are adequately trained.

c. Each certificate holder should maintain (at a minimum) training records that include the trainee's identification, course identification, and training completion date. Operators may include as much additional information as is useful to their purposes. For example, operators may include the name of the person who performed the training; however, because of the shift in training from instructors to computer-based instruction, technical bulletin distribution, and other more informal training techniques, inclusion of a trainer's name may not be necessary.

Operators also may choose to record the number of hours of instruction each individual has received, depending upon whether the operator uses required hours per calendar year or competence-based training.

d. Certificate holders may retain training records in either a paper format or in an automated data processing system that is protected from unauthorized access.

e. Certificate holders may include in training records information on training that an employee received while working for another certificate holder or other entity. Because a certificate holder may not provide training on a subject that another entity provides (e.g., composite materials repair, manufacturer training), it may be helpful to include the identity of other training providers in the manner discussed in paragraph 9.c.

10. TYPES OF TRAINING.

a. Initial Training.

(1) Initial training for maintenance personnel is the training necessary to permit an individual to demonstrate a particular level of competence in that individual's work assignment. This training is not to be considered ab initio training (basic aviation maintenance training required for certification), but rather, it is the training provided to personnel who have not previously qualified or served in a particular capacity for the certificate holder. The content of an operator's initial training program may be defined by the certificate holder as a part of its entire training program.

(2) The certificate holder's initial training program may include training on the certificate holder's aircraft or ground equipment, specific initial skills (e.g., avionics, composite repair), skills upgrade, human factors, new hire indoctrination, task-specific training, and familiarization on applicable Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations. The initial training program also may include a competence-based assessment process. Such an assessment process would evaluate an employee's previous training and experience. The assessment may then be used to identify what additional training (if any) the individual requires.

b. Continuance Training.

(1) Continuance training is the training necessary to permit an individual to maintain a level of competence, and to

accommodate the introduction of new procedures, techniques, and equipment in use. This term is differentiated from the term "recurrent training." Some operators may consider recurrent training to be repetitive; such training may provide the same material to personnel regardless of competence or previous performance. The continuance training concept is based on the principle that a person who performs a particular task on a day-to-day basis need not receive training on that task at a predetermined interval. Rather, continuance training is used to provide information on changes or updates of procedures, and may be used to minimize the expenses associated with certain recurrent training programs.

(2) Continuance training may provide instruction on changes in existing procedures or practices, changes in existing systems or equipment, or other new information. Another element of the continuance training concept is that a certificate holder may conduct evaluations to determine if further training in a particular subject is necessary. If a certificate holder's employees demonstrate competence, the required subsequent training may then be avoided, thereby reducing training expenses for the certificate holder.

(3) Continuance training may consist of, but need not be limited to, the following:

(i) On-going competency training to maintain regulatory and certificate currency requirements (includes recurrent training if the certificate holder elects, but does not need to repeat previous instruction);

(ii) Refresher training on a particular task or skill when that task has not been performed recently;

(iii) Update events for particular tasks or skills (update events include training bulletins, bulletin-board items, self-study tasks, computer-based instruction);

(iv) Training on deficiencies identified through the certificate holder's continuous analysis and surveillance and/or reliability programs (remedial training);

(v) A competence-based assessment process to identify additional individual training needs; or

(vi) Any other continuing education or training as needed that may not be provided on a defined schedule.

c. Specialized training is the training necessary to ensure competence on specific tasks or areas of responsibility. Such training may be provided in association with initial or

continuance training. Specialized training may be used to provide focused training on specific subjects or tasks. Specialized training need not be limited to maintenance subjects or tasks, but may include management training for newly promoted supervisors, or other similar training necessary because of a change in an individual's duties and responsibilities.

d. Operator-specific Training.

(1) Certificate holders should provide applicable operator-specific training to each employee, outside vendor, or on-call maintenance provider, appropriate to each person's job assignment or area of responsibility. Because the training may be tailored to the job assignment, operators need not provide, but should ensure provision of that training. For example, operators need not provide hazardous material (HAZMAT) or drug and alcohol training to vendor personnel, when each individual's employer is responsible for this type of training. Operators also need not provide detailed training in maintenance log procedures to outside vendors who provide services such as aircraft cleaning, because such services usually do not include a maintenance log sign-off.

(2) When a certificate holder provides training to an outside vendor, the certificate holder need not provide training to all of the outside vendor's personnel. Training may be provided to a cadre of vendor personnel who then ensure that all vendor personnel are appropriately trained.

11. POLICIES AND PROCEDURES.

a. Elements. The elements of an operator's policies and procedures on which training should be provided as appropriate to the particular assignment of the employee, outside vendor, or on-call maintenance provider are:

(1) Manual requirements,

(2) Maintenance recording requirements,

(3) Hazardous material awareness,

(4) Testing for prohibited drugs,

(5) Misuse of alcohol,

(6) Maintenance log procedures, and

(7) Maintenance reliability reporting.

These training elements may be provided during a company indoctrination training course, and some may be included when providing training to a vendor or on-call maintenance personnel.

b. Manual Requirements and Maintenance Recording Requirements. Manual requirements are prescribed by § 121.369 (and § 135.427 for part 135 operators). Maintenance recording requirements are prescribed by § 121.380 (and § 135.439 for part 135 operators). Training on these subjects may be used to familiarize new-hire personnel with the contents of a certificate holder's manual and the certificate holder's method for recording maintenance actions that take place on an aircraft.

c. Hazardous Materials.

(1) Amendment No. 121-104 (38 FR 14914, June 7, 1973) required certificate holders under part 121 (or part 135) to establish a means for training personnel who have duties and responsibilities for the carriage and handling of dangerous articles and magnetized materials. At the time of the amendment, the FAA contended that safety in air commerce required the training of these personnel to ensure that they had been instructed regarding the applicable regulations governing proper packaging, marking, labeling, and documentation of dangerous articles and magnetic materials, and had been instructed regarding the compatibility, loading, storage, and handling characteristics of such articles.

(2) Amendment No. 121-104 stated that personnel requiring this type of training included the pilot in command of the particular aircraft carrying the shipment, any other crewmember assigned specific duties and responsibilities for the shipment during flight, and those ground personnel who handled the article for the purpose of preparing it for shipment, loading it on the aircraft, or unloading it from the aircraft. These requirements were placed in § 121.401, which prescribes training program requirements for operations personnel.

(3) Amendment No. 121-162 (45 FR 46736, July 10, 1980) required that part 121 certificate holders provide guidance that would permit their flight and ground operations personnel to recognize and handle packages containing hazardous materials. This rule includes the requirement that operators who do not carry hazardous materials have procedures and instructions of sufficient detail to ensure that their employees can recognize shipments of these materials. This requirement was placed in § 121.135(b)(23) as one element of the contents of the manual prescribed by § 121.133.

(4) Certain maintenance personnel have the potential to encounter dangerous or hazardous materials shipments during the performance of their normal duties. Because of the potential for these encounters, certificate holders may provide training on hazardous materials packaging, marking, labeling, and handling, if appropriate to an individual's job duties.

d. Testing for Prohibited Drugs. Certificate holders must provide training on the abuse of prohibited drugs to those persons who perform aircraft maintenance or preventive maintenance duties. This training may be provided by the certificate holder's maintenance training organization, another organization of the certificate holder, or a contracted organization selected by the certificate holder. If the certificate holder manages the program under which vendor or on-call maintenance personnel are tested, training on the abuse of prohibited drugs must also be provided to these persons.

e. Misuse of Alcohol. Certificate holders must provide training on alcohol misuse to those persons who perform aircraft maintenance or preventive maintenance duties. As with training on testing for prohibited drugs, this training must be provided by the certificate holder's maintenance training organization, another organization of the certificate holder, or a contracted organization selected by the certificate holder. If the certificate holder manages the program under which vendor or on-call maintenance personnel are tested, training on misuse of alcohol must also be provided to these persons.

f. Maintenance Log Procedures. Section 121.701 states that each person who takes action in the case of a reported or observed failure or malfunction of an airframe, engine, propeller, or appliance that is critical to the safety of flight shall make, or have made, a record of that action in the airplane's maintenance log. Details of these procedures are usually operator-specific and are normally taught to new-hire personnel. The proper recording of maintenance action on an aircraft is critical to its continued airworthiness. Therefore, certificate holders may provide training on this subject to those personnel who, as part of their job duties, will make entries in an aircraft's maintenance log.

g. Maintenance Reliability Reporting.

(1) Section 121.703 requires that certificate holders submit reports on certain specified failures, malfunctions, defects of specific systems, and all other failures, malfunctions, or defects that, in the opinion of the certificate holder, have endangered or may endanger the safe operation of one

of its aircraft. These reports are referred to as service difficulty reports (SDRs), and are submitted to the FAA within 72 hours of the occurrence.

(2) Often, maintenance personnel are the first to discover malfunctions or defects of the type described in § 121.703; these personnel may be a critical link in the SDR system. Therefore, if this subject is appropriate to an individual's duties, certificate holders may provide training on the SDR system and the role of maintenance personnel who discover discrepancies that would precipitate the submission of an SDR.

12. MAINTENANCE, PREVENTIVE MAINTENANCE, AND ALTERATIONS PROGRAMS.

a. Section 121.367 requires that each certificate holder have an inspection program and a program covering other aircraft maintenance, preventive maintenance, and alterations that ensure that certain conditions are met, and that aircraft remain airworthy. Historically, certificate holders have included in their training programs instruction on the regulatory requirements of § 121.367.

b. Because of the importance of maintenance, preventive maintenance, and alterations programs as they relate to approval for return to service, and the determination of the adequacy of work performed, certificate holders may provide training on the structure of these programs to those personnel whose duties require such training. Training on these programs may include information on program structure, inspection intervals, time limits, and life-limited part information.

13. REQUIRED INSPECTION ITEMS.

a. Section 121.369(b)(2) states that a certificate holder's manual must include a designation of the items of maintenance and alteration that must be inspected (required inspections), including at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or materials are used.

b. As with maintenance training programs, guidance on specific requirements of an RII training program has been provided primarily to FAA Inspectors. The Airworthiness Inspector's Handbook describes the specific requirements for an RII training program. Because certain employees, outside vendors, or on-call maintenance personnel may require knowledge

of an operator's RII program and the items that constitute an operator's RII, certificate holders may provide training on this subject.

14. DEICING PROCEDURES.

a. Section 121.629 prescribes certain requirements for operations conducted in icing conditions. This section includes the requirement that for operations in icing conditions, an operator have an approved ground deicing/anti-icing training program.

b. Section 121.629 requires that training and testing be provided to crewmembers, and that all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) be provided with training concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program.

c. Because some operators rely on maintenance personnel to perform aircraft deicing or anti-icing when conditions dictate, and because maintenance personnel have the potential to perform aircraft deicing or anti-icing, training on this subject may be provided to those personnel whose duties include such activities. For situations involving deicing service providers, training may be provided to a cadre of vendor personnel who then ensure that all vendor personnel are appropriately trained.

15. FUELING PROCEDURES. Because either a vendor's or a certificate holder's employees may conduct fueling operations, certificate holders may provide training on fueling procedures to appropriate personnel. In situations involving fuel vendors, certificate holders may provide training to the vendor in the operation of fueling panels, or the certificate holder's grounding/bonding policies, etc. For situations involving contract fuel providers, training may be provided to a cadre of vendor personnel who then ensure that all vendor personnel are appropriately trained.

16. AIRWORTHINESS RELEASE OR AIRCRAFT LOG ENTRY.

a. Section 121.709 prescribes the requirements for completion of an airworthiness release or aircraft log entry. The section states that a certificate holder may not operate an aircraft after maintenance, preventive maintenance, or alterations are performed unless an airworthiness release is prepared or an appropriate entry is made in the aircraft log.

b. The entry required by § 121.709 must be prepared in accordance with the certificate holder's manual, include certification that certain requirements have been met, and be signed by an authorized certificated mechanic or repairman.

c. Personnel who may have the opportunity to prepare an airworthiness release or other aircraft log entry may be trained on the detailed requirements that must be met when preparing such an entry, and the associated responsibility that an individual assumes when making this entry.

17. HUMAN FACTORS AND MAINTENANCE RESOURCE MANAGEMENT.

a. The study of human factors seeks to understand human behavior, the capabilities and limits of individuals, and the effects of environmental factors and other factors on human behavior. A goal of these studies is to optimize the use of people in an operating system or environment.

b. Examples of factors that could affect maintenance performance include communication breakdowns, shift changes, unusual work periods, complex and repetitive assembly tasks, and work-area lighting and/or temperature. The FAA continues to conduct ongoing research concerning human factors and maintenance resource management so that human performance can be enhanced in the aviation maintenance environment and to ensure continuing flight safety and operational efficiency.

c. Elements of maintenance resource management training courses under development by air carriers, the FAA, and other training organizations include such subjects as situation awareness, error chains, communications, teamwork, and decisionmaking.

d. Human factors issues have been cited as contributing factors to past accidents. In 1991, an accident occurred after an aircraft experienced a structural failure in flight. The National Transportation Safety Board (NTSB) determined the probable cause of the accident to be the failure of maintenance and inspection personnel to adhere to proper maintenance and quality assurance procedures for the airplane's horizontal stabilizer deice boots.

e. Details of the NTSB's report included that proper shift turnover procedures were not followed prior to the accident, and that had the required communication taken place, the accident most likely would not have occurred.

f. As research continues on human factors related to maintenance performance, the FAA expects that maintenance resource management programs will continue to evolve until an industry standard is established and accepted. Although training programs also will continue to evolve as a result, certificate holders may provide training on human factors and maintenance resource management to appropriate personnel as these programs continue to evolve.

18. EXTENDED-RANGE OPERATIONS WITH TWO-ENGINE AIRPLANES.

a. Certificate holders may provide training on extended-range requirements with two-engine airplanes, if appropriate to an individual's job responsibilities. AC 120-42A provides guidance on ETOPS and includes information on maintenance training.

b. Certificate holders may refer to AC 120-42A to determine what the appropriate elements of an ETOPS maintenance training program are, and to determine what training should be provided to maintenance personnel.

19. CATEGORY (CAT) I/II OPERATIONS AND CAT III/AUTOLAND OPERATIONS.

a. Certificate holders may provide training on CAT I/II operations and CAT III/autoland operations if appropriate to an individual's job responsibilities. AC 120-29 and AC 120-28C prescribe the maintenance training requirements that are associated with such operations.

b. Certificate holders may refer to AC 120-29 and AC 120-28C to determine what the appropriate elements of CAT I/II and CAT III/autoland maintenance training program are, and to determine what training should be provided to maintenance personnel.

William J. White
Director, Flight Standards Service