

Airworthiness Directive

Federal Register Information

Header Information

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 18052 NO. 80 04/24/96]

Docket No. 96-ANE-05; Amendment 39-9568; **AD 96-08-02**

Hamilton Standard Models 14RF-9, 14RF-19, 14RF-21; and 14SF-5, 14SF-7, 14SF-11, 14SFL11, 14SF-15, 14SF-17, 14SF-19, and 14SF-23; and Hamilton Standard/British Aerospace 6/5500/F Propellers

PDF Copy (If Available):

Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to Hamilton Standard Models 14RF-9, 14RF-19, 14RF-21; and 14SF-5, 14SF-7, 14SF-11, 14SFL11, 14SF-15, 14SF-17, 14SF-19, and 14SF-23; and Hamilton Standard/British Aerospace 6/5500/F propellers, that currently requires that all blades of applicable Hamilton Standard propellers be calibrated for ultrasonic transmissibility before conducting the ultrasonic shear wave inspection. In addition, that AD decreases the repetitive inspection interval for the Hamilton Standard Models 14RF-9, 14SF-5, -7, -11, -15, -17, -19, and -23 propellers from 1,250 flight cycles to 500 flight cycles. That AD also establishes a new ultrasonic shear wave inspection interval of 1,000 flight cycles for the Hamilton Standard Model 14RF-19, and 2,500 flight cycles for the Hamilton Standard Models 14RF-21 and Hamilton Standard/British Aerospace Model 6/5500/F. Also, that AD removes Hamilton Standard Model 14SFL11 propellers from service. This amendment requires a blade repair that constitutes terminating action to the repetitive ultrasonic taper bore

inspections. Repetitive ultrasonic taper bore inspections are required until the blade is repaired in accordance with this AD. This amendment is prompted by the development of a taper bore repair process that removes the damaged material and returns the blade to a condition that does not require repetitive ultrasonic taper bore inspections. The actions specified by this AD are intended to prevent separation of a propeller blade due to cracks initiating in the blade taper bore, that can result in aircraft damage, and possible loss of aircraft control.

DATES: Effective May 9, 1996.

ADDRESSES:

Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 96-ANE-05, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be submitted to the following Internet address: "epd-adcomments@mail.hq.faa.gov".

The service information referenced in this AD may be obtained from Hamilton Standard, One Hamilton Road, Windsor Locks, CT 06096-1010; telephone (203) 654-6876. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Frank Walsh, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (617) 238-7152, fax (617) 238-7199.

SUPPLEMENTARY INFORMATION:

On December 26, 1995, the Federal Aviation Administration (FAA) issued airworthiness directive (AD) 96-01-01, Amendment 39-9477 (61 FR 617, January 9, 1996), applicable to Hamilton Standard Models 14RF-9, -19, -21; and 14SF-5, -7, -11, -15, -17, -19, and -23; and Hamilton Standard/British Aerospace 6/5500/F propellers, to require all blades of applicable Hamilton Standard propellers be calibrated for ultrasonic transmissibility before conducting the ultrasonic shear wave inspection. In addition, that AD decreases the repetitive inspection interval for the Hamilton Standard Models

14RF-9, 14SF-5, -7, -11, -15, -17, -19, and -23 propellers from 1,250 flight cycles to 500 flight cycles. That AD also establishes a new ultrasonic shear wave inspection interval of 1,000 flight cycles for the Hamilton Standard Model 14RF-19, and 2,500 flight cycles for the Hamilton Standard Models 14RF-21 and Hamilton Standard/British Aerospace Model 6/5500/F. Also, that AD removes Hamilton Standard Model 14SFL11 propellers from service. That action was prompted by improvements in the crack detection capability of the ultrasonic inspection method as well as redefinition of crack growth rate. That condition, if not corrected, could result in separation of a propeller blade due to cracks initiating in the blade taper bore, that can result in aircraft damage, and possible loss of aircraft control.

Since the issuance of that AD, the manufacturer has developed a new taper bore repair process that consists of reaming damaged material out of the taper bore, eddy current inspection (ECI) and fluorescent penetrant inspection (FPI) of the taper bore, followed by a wall thickness check and shotpeening. The FAA has evaluated the structural adequacy of the repair action and has determined that design structural integrity is maintained. In addition, the FAA has revised the cyclic count determination procedure for Canadair CL215T and CL415 water bomber aircraft. The FAA has determined that the water scoop mission profile creates less stress than a touch-and-go or normal takeoff and landing, and has therefore revised this AD to include the new cyclic count definition of one-half flight cycle per each water scoop.

The FAA has reviewed and approved the technical contents of the following Hamilton Standard Alert Service Bulletins (ASB's): No. 14RF-9-61-A91, No. 14RF-19-61-A55, No. 14RF-21-61-A73, No. 14SF-61-A93, and No. 6/5500/F-61-A41, all dated December 7, 1995, and No. 14RF-9-61-A91, Revision 1, No. 14RF-19-61-A55, Revision 1, No. 14RF-21-61-A73, Revision 1, No. 14SF-61-A93, Revision 1, all dated December 15, 1995, and No. 6/5500/F-61-A41, Revision 1, dated December 18, 1995, that describe procedures for ultrasonic shear wave inspections of the blade taper bores for cracks after the lead wool has been removed. The Revision 1 ASB's permit the installation of a plastic cone in the taper bore that will enhance resistance to corrosion and mechanical damage. Inspection procedures are the same.

In addition, the FAA has reviewed and approved the technical contents of Hamilton Standard ASB's No. 14RF-9-61-A95, No. 14RF-19-61-A57, No. 14RF-21-61-A75, No. 14SF-61-A95, and No. 6/5500/F-61-A43, all dated December 18, 1995, and No. 14RF-9-61-A95, Revision 1, No. 14RF-19-61-A57, Revision 1, No. 14RF-21-61-A75, Revision 1, No. 14SF-61-A95,

Revision 1, and No. 6/5500/F-61-A43, Revision 1, all dated December 21, 1995, that describe ultrasonic shear wave inspection that can be accomplished without removing the lead from the taper bore which permits an on-wing inspection of the blade taper bores for cracks. The Revision 1 ASB's do not require immediate removal of the blades that cannot be inspected for cracks due to the lead wool absorbing the ultrasonic signal. These blades may be removed at any time within the applicable compliance period. Inspection procedures are the same.

Also, the FAA has reviewed and approved technical contents of Hamilton Standard ASB's No. 14RF-9-61-A94, Revision 1, dated March 6, 1996; No. 14RF-19-61-A53, Revision 1, dated March 6, 1996; No. 14RF-21-61-A72, Revision 1, dated March 6, 1996; No. 14SF-61-A92, Revision 1, dated March 6, 1996; and No. 6/5500/F-61-A39, Revision 1, dated March 6, 1996; that describe procedures for the new taper bore repair process.

Since an unsafe condition has been identified that is likely to exist or develop on other propellers of this same type design, this AD supersedes AD 96-01-01 to require an ultrasonic shear wave inspection of the propeller blade taper bore for cracks. Propeller blades with ultrasonic shear wave readings that exceed the acceptable limits described in the applicable ASB's must be removed from service and replaced with serviceable propeller blades prior to further flight. In addition, this AD requires the new taper bore repair for all Model 14RF-9 propellers no later than July 31, 1996, and for all other affected propeller models February 28, 1997. Propeller blades that cannot be repaired within the repair limits specified in the applicable Hamilton Standard ASB's must be removed from service and replaced with serviceable propeller blades prior to further flight. The calendar end-date was determined based upon fracture mechanics and engineering analysis, as well as logistics considerations, that support the specified calendar end-date. This taper bore repair constitutes terminating action to the repetitive ultrasonic taper bore inspections required by this AD. The actions are required to be accomplished in accordance with the service documents described previously.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted 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 each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 96-ANE-05." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if

filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.
Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 USC 106(g), 40113, 44701. §39.13 - [AMENDED]

2. Section 39.13 is amended by removing Amendment 39-9477, (61 FR 617, January 9, 1996), and by adding a new airworthiness directive, Amendment 39-9568, to read as follows:

Regulatory Information

96-08-02 Hamilton Standard: Amendment 39-9568. Docket 96-ANE-05.
Supersedes AD 96-01-01, Amendment 39-9477.

Applicability: Hamilton Standard Models 14RF-9, 14RF-19, 14RF-21; and 14SF-5, 14SF-7, 14SF-11, 14SFL11, 14SF-15, 14SF-17, 14SF-19, and 14SF-23; and Hamilton Standard/British Aerospace 6/5500/F propellers installed on but not limited to Embraer EMB-120, EMB-120RT; Aerospatiale ATR42-100, ATR42-300, ATR42-320, ATR72, ATR72-210; deHavilland DHC-8-100 series, DHC-8-200 series, DHC-8-300 series; SAAB-SCANIA SF 340B; Canadair CL-215T, CL-415; Construcciones Aeronauticas SA (CASA) CN-235 series; and British Aerospace ATP aircraft. NOTE: This airworthiness directive (AD) applies to each propeller identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For propellers that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (u) to request approval from the Federal Aviation Administration (FAA). This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or

repair remove any propeller from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent separation of a propeller blade due to cracks initiating in the blade taper bore, that can result in aircraft damage, and possible loss of aircraft control, accomplish the following:

(a) For Hamilton Standard Model 14RF-9 propeller blades, with Serial Numbers less than 882038 and listed in Hamilton Standard Alert Service Bulletins (ASB's) No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, installed on but not limited to Embraer EMB-120 and EMB-120RT series aircraft, accomplish the following:

(1) Within the next 150 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, within 500 flight cycles since last inspection or 150 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, within the next 150 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21,

1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A91 dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1 dated December 15, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(b) For Hamilton Standard Models 14SF-5, -7, -11, -15, and -23 propeller blades with Serial Numbers less than 882038 and listed in Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, installed on but not limited to Aerospatiale ATR42-100, ATR42-300, ATR42-320, ATR72 and deHavilland DHC-8-100, DHC-8-200, DHC-8-300 series aircraft, accomplish the following:
(1) Within the next 150 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, within 500 flight cycles since last inspection or 150 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, within the next 150 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(c) For Hamilton Standard Model 14RF-9 propeller blades with Serial Numbers less than 882038 and not listed in Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, installed on but not limited to Embraer EMB 120 and EMB 120RT series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-61-A95, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, within 500 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or

No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-9-61-A95, dated December 18, 1995, or No. 14RF-9-61-A95, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-9-61-A91, dated December 7, 1995, or No. 14RF-9-61-A91, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(d) For Hamilton Standard Models 14SF-5, -7, -11, -15, and -23 propeller blades with Serial Numbers less than 882038 and not listed in ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, installed on but not limited to Aerospatiale ATR42-100, ATR42-300, ATR42-320, ATR72, ATR72-210 and deHavilland DHC-8-100, DHC-8-200, DHC-8-300 series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment

Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, within 500 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(e) For all Hamilton Standard Models 14SF-17, and -19 propeller blades with Serial Numbers less than 882038, installed on but not limited to Canadair CL-215T and CL-415 series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance

with Hamilton Standards ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, within 500 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A95, dated December 18, 1995, or No. 14SF-61-A95, Revision 1, dated December 21, 1995, must be removed from service and inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-A93, Revision 1, dated December 15, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14SF-61-A93, dated December 7, 1995, or No. 14SF-61-93, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(f) For all Hamilton Standard Models 14RF-19 propeller blades with Serial Numbers less than 882038, installed on but not limited to SAAB-SCANIA SF 340B series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's

No. 14RF-19-61-A57, dated December 18, 1995, or No. 14RF-19-61-A57, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 14RF-19-61-A55, dated December 7, 1995, or No. 14RF-19-61-A55, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-19-61-A57, dated December 18, 1995, or No. 14RF-19-61-A57, Revision 1, dated December 21, 1995, within 1,000 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14RF-19-61-A57, dated December 18, 1995, or No. 14RF-19-61-A57, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-19-61-A55, dated December 7, 1995, or No. 14RF-19-61-A55, Revision 1, dated December 15, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's 14RF-19-61-A57, dated December 18, 1995, or No. 14RF-19-61-A57, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-19-61-A55, dated December 7, 1995, or No. 14RF-19-61-A55, Revision 1, dated December 15, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 1,000 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-19-61-A55, dated December 7, 1995, or No. 14RF-19-61-A55, Revision 1, dated December 15, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(g) For all Hamilton Standard Model 14RF-21 propeller blades with Serial Numbers less than 882038, installed on but not limited to Construcciones

Aeronauticas SA (CASA) CN-235 series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-21-61-A75, dated December 18, 1995, or No. 14RF-21-61-A75, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standard ASB's No. 14RF-21-61-A73, dated December 7, 1995, or No. 14RF-21-61-A73, Revision 1, dated December 15, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-21-61-A75, dated December 18, 1995, or No. 14RF-21-61-A75, Revision 1, dated December 21, 1995, within 2,500 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 14RF-21-61-A75, dated December 18, 1995, or No. 14RF-21-61-A75, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-21-61-A73, dated December 7, 1995, or No. 14RF-21-61-A73, Revision 1, dated December 15, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-21-61-A75, dated December 18, 1995, or No. 14RF-21-61-A75, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 14RF-21-61-A73, dated December 7, 1995, or No. 14RF-21-61-A73, Revision 1, dated December 18, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at intervals not to exceed 2,500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 14RF-21-61-A73, dated December 7, 1995, or No. 14RF-21-61-A73, Revision 1, dated December 15,

1995, must be removed from service and replaced with a serviceable part prior to further flight.

(h) For all Hamilton Standard/British Aerospace 6/5500/F propeller blades, with Serial Numbers less than 882038, installed on but not limited to British Aerospace ATP series aircraft, accomplish the following:

(1) Within the next 300 flight cycles, after the effective date of this AD, perform an ultrasonic shear wave inspection for cracks in the blade taper bore in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 6/5500/F-61-A43, dated December 18, 1995, or No. 6/5500/F-61-A43, Revision 1, dated December 21, 1995.

(2) For propeller blades that have been previously inspected in accordance with Hamilton Standards ASB's No. 6/5500/F-61-A41, dated December 7, 1995, or No. 6/5500/F-61-A41, Revision 1, dated December 18, 1995, perform an ultrasonic shear wave inspection in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 6/5500/F-61-A43, dated December 18, 1995, or No. 6/5500/F-61-A43, Revision 1, dated December 21, 1995, as applicable within 2,500 flight cycles since last inspection or 300 flight cycles after the effective date of this AD, whichever occurs later.

(3) Propeller blades that cannot be inspected for cracks in accordance with Hamilton Standard ASB's No. 6/5500/F-61-A43, dated December 18, 1995, or No. 6/5500/F-61-A43, Revision 1, dated December 21, 1995, due to the lead wool absorbing the ultrasonic signal, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 6/5500/F-61-A41, dated December 7, 1995, or No. 6/5500/F-61-A41, Revision 1, dated December 18, 1995, within the next 300 flight cycles after the effective date of this AD.

(4) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 6/5500/F-61-A43, dated December 18, 1995, or No. 6/5500/F-61-A43, Revision 1, dated December 21, 1995, must be inspected in accordance with the Accomplishment Instructions of Hamilton Standard ASB's No. 6/5500/F-61-A41, dated December 7, 1995, or No. 6/5500/F-61-A41 Revision 1, dated December 18, 1995.

(5) Thereafter, perform repetitive ultrasonic shear wave inspections at

intervals not to exceed 2,500 flight cycles in accordance with the applicable ASB's.

(6) Propeller blades that have ultrasonic shear wave indications that exceed the limits specified in Hamilton Standard ASB's No. 6/5500/F-61-A41, dated December 7, 1995, or No. 6/5500/F-61-A41, Revision 1, dated December 18, 1995, must be removed from service and replaced with a serviceable part prior to further flight.

(i) For all Hamilton Standard Model 14SFL11 propellers installed on Aerospatiale ATR72- 210 series aircraft, remove these propellers from service prior to further flight, and replace with serviceable Hamilton Standard 247F propellers.

(j) The ultrasonic inspection of the propeller blade taper bore must be performed by a Level II or III inspector who is qualified under the guidelines established by the American Society of Nondestructive Testing or MIL-STD-410 or FAA-approved equivalent, and must be trained by Hamilton Standard-approved personnel on how to do this inspection procedure. The individual returning the aircraft to service is required to verify that the ultrasonic inspection was accomplished in accordance with the requirements of this paragraph.

(k) For repetitive inspections, propeller blades may be evaluated to determine if the lead wool is absorbing the ultrasonic signal at any time during the respective flight cycle repetitive inspection interval to determine if the lead wool removal is required to complete the ultrasonic shear wave inspection.

(l) No later than August 31, 1996, for all Model 14RF-9 propeller blades with S/N's less than 885718, perform the taper bore repair, eddy current inspect (ECI) and fluorescent penetrant inspect (FPI) the taper bore, perform a wall thickness check, and shotpeen, in accordance with the procedures described in Hamilton Standard ASB No. 14RF-9-61-A94, Revision 1, dated March 6, 1996. Propeller blades repaired in accordance with the original issuance of Hamilton Standard ASB No. 14RF-9-61-A94, dated February 6, 1996, need not be repaired again. Propeller blades found to be beyond repair limits specified in these ASB's must be removed from service.

(m) No later than February 28, 1997, for all Model 14RF-19 propeller blades with S/N's less than 885718, perform the taper bore repair, ECI and FPI the taper bore, perform a wall thickness check, and shotpeen, in accordance with

the procedures described in Hamilton Standard ASB No. 14RF-19-61-A53, Revision 1, dated March 6, 1996. Propeller blades repaired in accordance with the original issuance of Hamilton Standard ASB No. 14RF-19-61-A53, dated February 6, 1996, need not be repaired again. Propeller blades found to be beyond repair limits specified in these ASB's must be removed from service.

(n) No later than February 28, 1997, for all Model 14RF-21 propeller blades with S/N's less than 885718, perform the taper bore repair, ECI and FPI the taper bore, perform a wall thickness check, and shotpeen, in accordance with the procedures described in Hamilton Standard ASB No. 14RF-21-61-A72, Revision 1, dated March 6, 1996. Propeller blades repaired in accordance with the original issuance of Hamilton Standard ASB No. 14RF-21-61-A72, dated February 6, 1996, need not be repaired again. Propeller blades found to be beyond repair limits specified in these ASB's must be removed from service.

(o) No later than February 28, 1997, for all Model 14SF propeller blades with S/N's less than 885718, perform the taper bore repair, ECI and FPI the taper bore, perform a wall thickness check, and shotpeen, in accordance with the procedures described in Hamilton Standard ASB No. 14SF-61-A92, Revision 1, dated March 6, 1996. Propeller blades repaired in accordance with the original issuance of Hamilton Standard ASB No. 14SF-61-A92, dated February 6, 1996, need not be repaired again. Propeller blades found to be beyond repair limits specified in these ASB's must be removed from service.

(p) No later than February 28, 1997, for all Model 6/5500/F propeller blades with S/N's less than 885718, perform the taper bore repair, ECI and FPI the taper bore, perform a wall thickness check, and shotpeen, in accordance with the procedures described in Hamilton Standard ASB No. 6/5500/F-61-A39, Revision 1, dated March 6, 1996. Propeller blades repaired in accordance with the original issuance of Hamilton Standard ASB No. 6/5500/F-61-A39, dated February 6, 1996, need not be repaired again. Propeller blades found to be beyond repair limits specified in these ASB's must be removed from service.

(q) Performing the requirements of paragraphs (l), (m), (n), (o), or (p) of this AD, as applicable, constitutes terminating action to the repetitive ultrasonic shear wave inspection requirements of this AD.

(r) For the purpose of this AD, a flight cycle is defined as one takeoff and the

next landing of an aircraft. In addition, each touch and go is defined as a flight cycle.

(s) For propellers installed on Canadair CL-215T and CL-415 water bomber aircraft, each water scoop constitutes one-half flight cycle.

(t) Propeller blades removed from service after inspections performed in accordance with AD 95-18-06 R1 or 96-01-01, and subsequently repaired in accordance with the requirements of this AD and found to be serviceable, may be returned to service.

(u) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Boston Aircraft Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Boston Aircraft Certification Office. NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Boston Aircraft Certification Office.

(v) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

(w) The actions required by this AD shall be done in accordance with the following service documents:

Document No.	Pages	Revision	Date
No. 14RF-9-61-A91	1-40	Original	December 7, 1995
Total Pages: 40			
No. 14RF-9-61-A91	1-42	1	December 15, 1995
Total Pages: 42			
No. 14RF-19-61-A55	1-40	Original	December 7, 1995
Total Pages: 40			
No. 14RF-19-61-A55	1-42	1	December 15, 1995
Total Pages: 42			
No. 14RF-21-61-A73	1-40	Original	December 7, 1995
Total Pages: 40			
No. 14RF-21-61-A73	1-42	1	December 15, 1995

Total Pages: 42			
No. 14SF-61-A93	1-40	Original	December 7, 1995
Total Pages: 40			
No. 14SF-61-A93	1-42	1	December 15, 1995
Total Pages: 42			
No. 6/5500/F-61-A41	1-40	Original	December 7, 1995
Total Pages: 40			
No. 6/5500/F-61-A41	1-42	1	December 18, 1995
Total Pages: 42			
No. 14RF-9-61-A95	1-36	Original	December 18, 1995
Total Pages: 36			
No. 14RF-9-61-A95	1-36	1	December 21, 1995
Total Pages: 36			
No. 14RF-19-61-A57	1-35	Original	December 18, 1995
Total Pages: 35			
No. 14RF-19-61-A57	1-35	1	December 21, 1995
Total Pages: 35			
No. 14RF-21-61-A75	1-35	Original	December 18, 1995
Total Pages: 35			
No. 14RF-21-61-A75	1-35	1	December 21, 1995
Total Pages: 35			
No. 14SF-61-A95	1-37	Original	December 18, 1995
Total Pages: 37			
No. 14SF-61-A95	1-37	1	December 21, 1995
Total Pages: 37			
No. 6/5500/F-61-A43	1-35	Original	December 18, 1995
Total Pages: 35			
No. 6/5500/F-61-A43	1-35	1	December 21, 1995
Total Pages: 35			
No. 14RF-9-61-A94	1-80	1	March 6, 1996
Total Pages: 80			
No. 14RF-19-61-A53	1-77	1	March 6, 1996
Total Pages: 77			
No. 14RF-21-61-A72	1-77	1	March 6, 1996
Total Pages: 77			

No. 14SF-61-A92	1-79	1	March 6, 1996
Total Pages: 79			
No. 6/5500/F-61-A39	1-77	1	March 6, 1996
Total Pages: 77			

The incorporation by reference of Hamilton Standard Alert Service Bulletins (ASB's): No. 14RF-9-61-A91, No. 14RF-19-61-A55, No. 14RF-21-61-A73, No. 14SF-61-A93, and No. 6/5500/F-61-A41, all dated December 7, 1995, and Hamilton Standard ASB's No. 14RF-9-61-A91, Revision 1, No. 14RF-19-61-A55, Revision 1, No. 14RF-21-61-A73, and Revision 1, No. 14SF-61-A93, all dated December 15, 1995, and No. 6/5500/F-61-A41, Revision 1, dated December 18, 1995; and Hamilton Standard ASB's No. 14RF-9-61-A95, No. 14RF-19-61-A57, No. 14RF-21-61-A75, No. 14SF-61-A95, and No. 6/5500/F-61-A43, all dated December 18, 1995, and Hamilton Standard ASB's No. 14RF-9-61-A95, Revision 1, No. 14RF-19-61-A57, Revision 1, No. 14RF-21-61-A75, Revision 1, No. 14SF-61-A95, Revision 1, and No. 6/5500/F-61-A43, Revision 1, all dated December 21, 1995, was previously approved by the Director of the Federal Register as of January 9, 1996, (61 FR 617). For those documents not previously approved for incorporation by reference, the incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 for those documents not previously approved. Copies may be obtained from Hamilton Standard, One Hamilton Road, Windsor Locks, CT 06096-1010; telephone (203) 654-6876. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(x) This amendment becomes effective on May 9, 1996.