[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 92-ANE-54; Amendment 39-8659; AD 93-16-02]

Airworthiness Directives; Hamilton Standard 14RF, 247F, 14SF, and 6/5500/F Series Propellers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to Hamilton Standard Model 14RF-9 propellers, that currently requires inspections for tooth wear, and replacement, if necessary, of propeller control unit (PCU) servo ballscrew internal spline (BIS) assemblies. This amendment requires inspections for tooth wear in additional propeller models, and decreases the interval between repetitive inspections for Hamilton Standard Model 14RF-9 propellers. This amendment is prompted by a recent aircraft incident, design similarities between the additional propeller models and the Hamilton Standard 14RF-9 propellers, and by inspection data received since the publication of the current AD. The actions specified by this AD are intended to prevent the inability to control the propeller blade angle due to tooth wear in the PCU servo BIS assembly.

DATES: Effective [Insert date 15 days after date of publication in the **Federal Register**].

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of [Insert date 15 days after date of publication in the **Federal Register**].

Comments for inclusion in the Rules Docket must be received on or before [Insert date 60 days after date of publication in the **Federal Register**].

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92-ANE-54, 12 New England Executive Park, Burlington, MA 01803-5299.

The service information referenced in this AD may be obtained from Hamilton Standard, One Hamilton Road, Windsor Locks, CT 06096-1010. 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) 238-7158, fax (617) 238-7199.

SUPPLEMENTARY INFORMATION: On April 10, 1992, the Federal Aviation Administration (FAA) issued AD 92-08-03, Amendment 39-8214 (57 FR 13641, April 17, 1992), to require initial and repetitive inspections for wear of the propeller control unit (PCU) servo ballscrew internal spline (BIS) teeth on Hamilton Standard Model 14RF-9 propellers, and replacement, if necessary, of PCU servo BIS assemblies. That action was prompted by a report that the crew of an Embraer EMB-120 aircraft was unable to fully feather the propeller. Subsequent inspection of the PCU servo BIS assembly revealed excessively worn spline teeth. In three incidents, difficulties were reported in feathering and controlling the propeller blade angle on other Embraer EMB-120 aircraft. All of the aircraft were found to have excessively worn PCU servo BIS teeth. That condition, if not corrected, can result in the inability to control the propeller blade angle.

Since the issuance of that AD, the FAA has received a report of an incident where the crew experienced difficulties in feathering and controlling the propeller blade angle on a Dehavilland DHC-8-100 series aircraft. The propellers on the incident aircraft had less than 900 hours TIS since the last inspection. The propeller blade configuration and control system on the Dehavilland DHC-8-100 series aircraft have similar characteristics to that on the Embraer EMB-120 series aircraft. In addition, the FAA

received data through the reporting requirements of AD 92-08-03 on ballscrew inspections of the Hamilton Standard Model 14RF-9 propellers. The FAA has determined that the repetitive inspection interval of 900 hours time in service (TIS) between inspections must be reduced to 500 hours TIS.

The FAA has reviewed and approved the technical contents of the following Hamilton Standard Alert Service Bulletins (ASB): 14RF-9-61-A53, Revision 3, dated July 28, 1993; 14RF-19-61-A25, Revision 2, dated July 28, 1993; 14RF-21-61-A38, Revision 2, dated July 28, 1993; 14SF-61-A59, Revision 2, dated July 28, 1993; 247F-61-A3, Revision 1, dated July 28, 1993; and 6/5500/F-61-A11, Revision 2, dated July 28, 1993. All of these ASB's describe procedures for inspection of the PCU servo BIS for tooth wear, and replacement, if necessary, of PCU servo BIS assemblies.

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 92-08-03 to require initial and repetitive inspections of the PCU servo BIS teeth for wear, and replacement, if necessary, of PCU servo BIS assemblies. The actions are required to be accomplished in accordance with the service bulletins described previously.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and

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 92-ANE-54." 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 and that it is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. 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 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

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

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§39.13 - [AMENDED]

2. Section 39.13 is amended by removing Amendment 39-39-8214 (57 FR 13641, April 17, 1992), and by adding a new airworthiness directive, Amendment 39-8659, to read as follows:

93-16-02 Hamilton Standard: Amendment 39-8659. Docket 92-ANE-54. Supersedes AD 92-08-03, Amendment 39-8214.

Applicability: Hamilton Standard Models 14RF-9, 14RF-19, 14RF-21, and 14RF-23; 247F; 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 and EMB-120RT; SAAB-SCANIA SF340B; Aerospatiale ATR42-100, ATR42-300, ATR42-320, ATR72, ATR72-210; DeHavilland DHC-8-100 series, DHC-8-300; Construcciones Aeronauticas SA (CASA) CN-235 and CN-235-100; Canadair CL215T and CL415; and British Aerospace ATP airplanes.

Compliance: Required as indicated, unless accomplished previously.

To prevent the inability to control the propeller blade angle due to tooth wear in the PCU servo BIS assembly, accomplish the following:

(a) Inspect the propeller control unit (PCU) servo ballscrew internal spline (BIS) assembly for tooth wear in accordance with the Accomplishment Instructions of the following Hamilton Standard Alert Service Bulletins (ASB), all dated July 28, 1993, as applicable: No. 14RF-9-61-A53, Revision 3; No. 14RF-19-61-A25, Revision 2; No. 14RF-21-61-A38, Revision 2; No. 247F-61-A3, Revision 1; No. 14SF-61-A59, Revision 2; and No. 6/5500/F-61-A11, Revision 2; as follows:

(1) For a PCU with unknown time in service (TIS) on the effective date of this AD, inspect within 200 hours TIS after the effective date of this AD.

(2) For a PCU with 1,800 or more hours TIS on the effective date of this AD, which has not been inspected, or which has been inspected more than 500 hours prior to the effective date of this AD, in accordance with the applicable Hamilton Standard ASB listed in paragraph (a) of this AD, inspect within 200 hours TIS after the effective date of this AD.

(3) For a PCU with 1,800 or more hours TIS on the effective date of this AD, that has had a new servo ballscrew quill installed prior to the effective date of this AD, regardless of time accumulated since the last inspection in accordance with the applicable Hamilton Standard ASB listed in paragraph (a) of this AD, inspect within 300 hours TIS after the effective date of this AD.

(4) For a PCU with 1,800 or more hours TIS on the effective date of this AD, which has been inspected within the previous 500 hours TIS in accordance with the applicable Hamilton Standard ASB listed in paragraph (a) of this AD, inspect prior to accumulating 300 hours TIS after the effective date of this AD, or within 500 hours TIS since the last inspection in accordance with the applicable Hamilton Standard ASB listed in paragraph (a) of this AD, whichever occurs later.

(5) For a PCU with less than 1,800 hours TIS on the effective date of this AD, inspect prior to accumulating 1,800 hours TIS, or within 300 hours TIS after the effective date of this AD, whichever occurs later.

(6) Thereafter, inspect at intervals not to exceed 500 hours TIS since the last inspection required by this AD.

(7) If PCU servo BIS teeth are worn beyond the limits specified in the Accomplishment Instructions of the applicable Hamilton Standard ASB's listed in paragraph (a) of this AD, prior to further flight, replace the PCU with a serviceable assembly in accordance with the Accomplishment Instructions of the applicable Hamilton Standard ASB's listed in paragraph (a) of this AD, and thereafter inspect in accordance with paragraphs (a)(6) and (a)(7) of this AD.

(b) Report the results of the initial and repetitive inspections required by paragraph (a) of this AD by utilizing Appendix 1, "Ballscrew Inspection Data," within 72 hours of the inspection to the Manager, Boston Aircraft Certification Office, Engine and Propeller Directorate, Aircraft Certification Service, FAA, 12 New England Executive Park, Burlington, MA 01803-5299; Telex Number 949301 FAAANE BURL; fax (617) 238-7199. The reporting requirements of this AD terminate on December 31, 1994. Information collection requirements contained in this regulation have been approved by the Office of Management

and Budget (OMB) under the provision of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

APPENDIX 1
BALLSCREW INSPECTION DATA

The following information must be reported and sent as soon as possible but no later than 72 hours after inspection to:

Manager, Boston Aircraft Certification Office
Engine and Propeller Directorate
Aircraft Certification Service
Federal Aviation Administration
12 New England Executive Park
Burlington, MA 01803-5299
Fax: (617) 238-7199

Operator/Repair Station_____

Date of Inspection_____

PCU Part Number_____

PCU Serial Number_____

Aircraft Model_____

Aircraft Serial Number_____

Position: Left Engine_____
Right Engine_____
(please check)

(please circle):
Estimated Time On PCU Actual Time On PCU

Time Since New (Hours)_____
Time Since Last Ballscrew Inspection/Repair (Hours)_____

Inspection: Accepted_____ *Rejected_____

*Please indicate in comments if unit was rejected as part of the functional check.

No. of left side teeth with steps_____
No. of right side teeth with steps_____

Comments:_____
_____

(c) The inspections, and replacement, if necessary, shall be done in accordance with the following Hamilton Standard Alert Service Bulletins:

Document No.	Pages	Revision	Date
14RF-9-61-A53	1-16	3	July 28, 1993
Total pages: 16.			
14RF-19-61-A25	1-16	2	July 28, 1993
Total pages: 16.			
14RF-21-61-A38	1-16	2	July 28, 1993
Total pages: 16.			
14SF-61-A59	1-16	2	July 28, 1993
Total pages: 16.			
247F-61-A3	1-16	1	July 28, 1993
Total pages: 16.			
6/5500/F-61-A11	1-17	2	July 28, 1993
Total pages: 17.			

This 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. Copies may be obtained from Hamilton Standard, One Hamilton Road, Windsor Locks, CT 06096-1010. 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.

(d) This amendment becomes effective on [Insert date 15 days after date of publication in the **Federal Register**].

Issued in Burlington, Massachusetts, on August 13, 1993.

Jack A. Sain,
Manager, Engine and Propeller Directorate,
Aircraft Certification Service.