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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0018; Directorate Identifier 2009-NE-01-AD; Amendment 39-16044; AD 2009-21-07]**

**RIN 2120-AA64**

#### **Airworthiness Directives; General Electric Company CF6-80C2 Series Turbofan Engines; Correction**

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

**ACTION:** Final rule; correction.

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**SUMMARY:** The FAA is correcting airworthiness directive (AD) 2009-21-07, which published in the Federal Register. That AD applies to General Electric Company (GE) CF6-80C2 series turbofan engines with certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators installed. The unsafe condition statement of "We are issuing this AD to prevent loss of asymmetric thrust and thrust control", and rod-end part number "MS2124S06" in paragraph (j) are incorrect. This document corrects the unsafe condition statement and the part number. In all other respects, the original document remains the same.

**DATES:** Effective December 14, 2009.

**FOR FURTHER INFORMATION CONTACT:** Christopher J. Richards, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: christopher.j.richards@faa.gov; telephone (781) 238-7133; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** On October 27, 2009 (74 FR 55126), we published a final rule AD, FR Doc. E9-24391, in the Federal Register. That AD applies to GE CF6-80C2 series turbofan engines with certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators installed. We need to make the following corrections:

**§ 39.13 [Corrected]**

On page 55126, in the second column, in the last sentence of the Summary Section, "We are issuing this AD to prevent loss of asymmetric thrust and thrust control." is corrected to read "We are issuing this AD to prevent asymmetric thrust and loss of thrust control."

On page 55129, in the third column, in the last sentence of paragraph (d), "We are issuing this AD to prevent loss of asymmetric thrust and thrust control." is corrected to read "We are issuing this AD to prevent asymmetric thrust and loss of thrust control."

On page 55130, in the first column, in paragraph (j), in the third line, "MS2124S06" is corrected to read "MS21242S06."

Issued in Burlington, Massachusetts, on December 4, 2009.

Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0018; Directorate Identifier 2009-NE-01-AD; Amendment 39-16044; AD 2009-21-07]**

**RIN 2120-AA64**

#### **Airworthiness Directives; General Electric Company CF6-80C2 Series Turbofan Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for General Electric Company (GE) CF6-80C2 series turbofan engines with certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators installed. This AD requires initial visual inspections and repetitive replacements of the 3/8-inch rod-ends installed on the thrust reverser ballscrew gearbox assembly adjustable-length end actuators. This AD also allows an optional terminating action to those repetitive replacements. This AD also requires initial visual inspections and replacements, if necessary, of the other hardware connecting the thrust reverser transcowls to the engine. This AD results from reports of four failures of rod-ends on certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators, leading to partial or complete separation of the transcowl from the engine and airplane during thrust reversal. We are issuing this AD to prevent asymmetric thrust and loss of thrust control.

**DATES:** This AD becomes effective December 1, 2009. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of December 1, 2009.

**ADDRESSES:** You can get the service information identified in this AD from Middle River Aircraft Systems, 103 Chesapeake Park Plaza, MF 46, Baltimore, MD 21220; telephone (410) 682-0080; fax (410) 682-0100; or e-mail: bulletins@mras-usa.com.

The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

**FOR FURTHER INFORMATION CONTACT:** Christopher J. Richards, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: christopher.j.richards@faa.gov; telephone (781) 238-7133; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to GE CF6-80C2 series turbofan engines with certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators installed. We published the proposed AD in the Federal Register on March 16, 2009 (74 FR 11043). That action proposed to require initial visual inspections and repetitive replacements of the 3/8-inch rod-ends installed on the thrust reverser ballscrew gearbox assembly adjustable-length end actuators. That action also proposed to allow optional terminating action to those repetitive replacements. That action also proposed to require initial visual inspections and replacements, if necessary, of the other hardware connecting the thrust reverser transcowls to the engine.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Continue Operating to Next C-Check**

Lufthansa Technik asks if the current risk assessment for the 3/8-inch rod-ends failure also takes into account mixed configurations, meaning lower or upper position with 7/16-inch or fixed configuration rod-ends. The commenter states that if so, then a mixed configuration should therefore allow the operator to continue operating until next C-Check without any higher risk. The commenter points out that transcowl liberations were already communicated via FAA Special Airworthiness Information Bulletin No. NE-08-44 and GE All Operators Wire 07/CF6/012, where it was stated that the thrust reverser is designed to be able to continue normal operation to the next C-Check with a single failed actuator at either the upper or lower position.

We do not agree. All of the failure events occurred following the failure of only one rod-end. Additionally, two of the four failures were partial liberations, where one rod-end stayed intact, and only the section of the transcowl near the failed rod-end tore apart and liberated from the engine and aircraft. Additionally, the manufacturer's life assessment shows that a thrust reverser operating with a failed rod-end may not be capable of operating safely until the next C-Check.

### **Proposal To Change Optional Terminating Action Paragraph**

Honeywell Engine Systems and Accessories proposes that the Optional Terminating Action paragraph should be changed to the following: "As an optional terminating action to the repetitive 3/8-inch rod-end replacements required by this AD, replace the 3/8-inch adjustable rod-ends with a 7/16-inch adjustable rod-end and nut, P/N 3238729-1 and 3238730-1 respectively, or you may replace the adjustable end actuator P/N 3272602-2, -3 with a fixed end actuator P/N 3275538-2, -3.

Use paragraph 3.E. (1) of Middle River Aircraft Systems (MRAS) Alert Service Bulletin (ASB) No CF6-80C2 S/B 78A1162, Revision 1, dated February 13, 2009, to do the replacements." The commenter states that a shop visit is required to upgrade 3/8-inch adjustable rod-end actuators P/N 3272602-2,-3 to the 7/16-inch adjustable rod-ends. In the proposed AD, there is a reference to replacing the 3/8-inch rod ends with either a fixed length rod-end, P/N 3238726-1, -2 or MS9560-08. These two parts, P/N 3238726-1,-2 and MS9560-08, are components of and designed for, the fixed length actuator P/N 3275538-2, -3. These parts will not fit onto an adjustable end actuator, P/N 3272602-2, -3.

We agree. However, we are not specifying the part numbers for the replacement rod-ends, to prevent prohibiting installation of third party equipment that has been certified to be installed on the aircraft and has not been shown to create a safety risk. We are also updating the referenced Service Bulletin to Revision 3, dated September 10, 2009, in place of Revision 1.

### **Proposal To Change Applicability Paragraph**

Onur Air proposes that applicability paragraph (c) be changed to state that if the lower end actuator is a locking actuator assembly (part number 3275546-1, 3275546-2, 3275548-1, or 3275548-2), then the AD does not apply. This change would establish the same effectivity of parts for both the AD and MRAS ASB, and would eliminate confusion.

We do not agree. Even if a locking actuator assembly is installed in the lower actuator position, a 3/8-inch rod-end may be installed in the upper actuator position. MRAS ASB No. 78A1162 Revision 1, dated February 13, 2009; Revision 2, dated June 22, 2009; and Revision 3, dated September 10, 2009, clarify that reverser halves that have a locking actuator assembly installed at the lower actuator position and an adjustable-length end actuator with 3/8-inch rod-end installed at the upper actuator position, are affected. We did not change the AD.

### **Request for Rod-End Serial Numbers**

Onur Air states that because the proposed AD and associated Service Bulletin require a repetitive replacement of 3/8-inch rod-ends at 11,000 flight cycle intervals, the rod-ends should have physical serial numbers associated with them. The rod-ends need to be traceable to comply with the 11,000 cycle repetitive inspection and without a serial number, replacement data cannot be monitored or proven.

We do not agree. The rod-ends themselves are not serialized, but they can be tracked through the actuator assemblies. Only one rod-end is installed per actuator, so tracking the actuator assembly will track the number of cycles that the rod-end has accumulated. We did not change the AD.

### **Extend the Compliance Time to Next C-Check**

Onur Air, FedEx Express, and Lufthansa Technik suggest that the initial compliance time be extended from within 500 flight cycles from the effective date of the AD to within the next C-Check after the effective date of the AD. The commenters cite that due to some airlines not having access to the MRAS component maintenance manual, it would be difficult to replace the clevis fasteners found failed as required in proposed AD paragraph (g)(4). Additionally, some replacement work would be more suitably done off-wing as opposed to at the next on-wing inspection.

We do not agree. The compliance time of 500 flight cycles is based on component life calculations. Additionally, a C-Check is not defined consistently across the industry, and may be performed at a variety of intervals depending on the operator's maintenance schedule, some of which may be significantly longer than the 500 flight-cycle-limit mandated in this AD.

## **Disagreement With the Unsafe Condition Statement**

Boeing, GE, and MRAS state that they disagree with the proposed AD unsafe condition statements of "possible loss of thrust control, asymmetric thrust, increased stopping distance". They state that conditions are not the expected result based on a review of the event on the Boeing 767 airplane. There was no indication, neither tactile nor flight deck light, that alerted the pilot that the event had occurred. The only effect from the failed rod-end at the airplane level was the parts on the runway. There was no reported thrust control problem or airplane control problem. The statement "hazardous debris on the runway" however, is accurate. The commenters state that this information was determined as not a safety matter. This was based on the analysis showing there was no control issue. Additionally, transcowl liberation does not result in the loss of engine thrust control.

We do not agree. Although one particular case may not have needed crew response, other instances of transcowl liberation that led to the development of this AD included reports of airplane yaw upon loss of the transcowl. The possibility of this occurring again led to the unsafe conditions of "possible loss of asymmetric thrust and thrust control." Loss of thrust control is included, because the asymmetric thrust created by transcowl liberation is not commanded by the crew. We changed the AD to simplify the unsafe condition by addressing only the conditions that pose an immediate threat to the aircraft.

## **Request To Re-Examine the Cost of Compliance**

FedEx Express, GE, and MRAS request that the FAA re-examine the criteria and considerations used to estimate the cost of compliance for accomplishing the proposed AD. The true costs to U.S. operators will be higher than the figures published in the NPRM. Revised cost estimates should be provided which also reflect transcowl rigging work-hours as well as cost for repetitive accomplishment (versus termination), reworking common end actuator hardware installed on non-CF6-80C2 engines, and include adjustment for higher levels of discrepant clevis fastener discoveries. The commenters state that the work-hours quoted, need for repetitive inspections, percentage of transcowls needing repair work, and parts replacement are not reflective of what the actual operating fleet will encounter.

We agree. We updated the number of work-hours to provide a more accurate accounting for the cost of this AD. Our best, and most substantiated, estimate of parts expected to fail is about 10%, therefore we did not change the percentage in our calculations.

## **Hardware Not Presently Installed**

FedEx Express requests that proposed AD paragraph (h) be clarified with regards to addressing what actions, if any, should be applied to end actuator assemblies with the 3/8-inch diameter rod-ends that are identical to the subject hardware specified in the proposed AD, but which are not presently installed on any CF6-80C2 series engine thrust reverser. After the initial 500 flight cycle compliance period, the installation of end actuators with such rod-ends could result in potential noncompliance with the intent of the AD. The commenter recommends additional language that will direct the inspection of such actuator rod-ends before installation on CF6-80C2 series engine thrust reversers, especially after the initial 500 flight-cycle compliance period has been exceeded.

We do not agree. This AD addresses what actions are required for end actuator assemblies installed on a CF6-80C2 engine. Any assembly installed on an engine affected by this AD is subject to the inspections and replacements as defined in this AD. Also, the AD limits which rod-ends may be installed on an engine. If an actuator assembly is to be installed on an engine, it must be verified that all parts comply with this AD. We did not change the AD.

## **Include Additional Part Numbers and Define Wear Limits**

American Airlines requests that additional part numbers for replacement parts should be included in paragraphs 1.E and 2.A.(1) of MRAS ASB No. 78A1162. Also, the commenter requests that paragraph 3.D.(3) of this ASB should define wear limits to the torsion arm to prevent structurally sound torsion arms from being removed due to minor surface damage. The additional part numbers would allow parts to be purchased from vendors other than Honeywell or MRAS.

We do not agree. We are not incorporating by reference Service Bulletin paragraphs 1.E., 3.D.(3), and 2.A.(1) in the AD. Therefore, these paragraphs are not mandated by the FAA. We did not change the AD.

## **Specifically Identify Items To Be Inspected**

American Airlines states that in the proposed AD in the "FAA's Determination and Requirements of the Proposed AD" section, it should not state generally that "the other hardware that connects the thrust reverser transcowl to the engine" is subject to initial inspection and replacement. Rather, this section should specifically identify the items to be targeted in the initial inspection and replacement actions.

We do not agree. The "FAA's Determination and Requirements of the Proposed AD" section is a summary. The specific hardware needing inspection per this AD is defined in paragraph (f) of this AD. We did not change the AD.

## **Request To Reference Alert Service Bulletin Revision 2**

GE and MRAS state that all references to ASB No. S/B 78A1162, Revision 1, should be changed to ASB No. S/B 78A1162, Revision 2, before the AD is issued.

We agree that we should reference the latest revision of the ASB. We changed the AD to reference the latest ASB revision which is Revision 3, dated September 10, 2009. We also updated the previous credit paragraph (k) to include Revision 1 and Revision 2.

## **Remove Phrase From Discussion Section**

GE and MRAS request that, in the proposed AD Discussion section, we remove the phrase "or the CDU clevis pin to lose its retaining capability". There has never been a field finding or event investigation that indicates that an actuator-out condition contributes to the CDU clevis pin losing its retaining capability.

We do not agree. Although the AD does not address the loss of CDU clevis pin retaining capability leading to the failure of an actuator rod end, the clevis pins should still be inspected to ensure the part is in good condition and is held securely in place. We did not change the AD.

## **Remove Repetitive Replacements of 3/8-Inch Rod-Ends From the AD**

GE and MRAS request that we remove the repetitive replacements of 3/8-inch rod-ends from the AD. The commenters do not envision the repetitive need for on-wing replacements of 3/8-inch rod-ends, and state that the replacement of 3/8-inch rod-ends with 7/16-inch or fixed length rod-ends would provide terminating action.

We do not agree. Repetitively replacing the 3/8-inch rod-ends within the cyclic accumulation defined in the AD provides an adequate level of safety. Requiring replacement of all 3/8-inch rod-ends with 7/16-inch or fixed length rod-ends would require considerably more effort for a number of engines. Although it is an acceptable terminating action, it is not the only course of action that resolves the unsafe condition. We did not change the AD.

## **Update the Applicability Section**

GE and MRAS request that the Applicability section be updated to take into account the possibility of 3/8-inch rod-ends with part numbers other than those defined in this AD being installed. They state that the AD should apply to all 3/8-inch rod-ends, including those which may be a third-party design which have not been validated through this AD.

We agree. The AD needs to ensure that all 3/8-inch rod-ends are replaced, except as noted in the AD itself. We updated the wording of the Applicability section, as well as other affected sections in the AD, to reflect this.

## **Inspection and Replacement Paragraphs Should Be Expanded**

GE and MRAS state that in the compliance section, under the "Visual Inspection and Fastening Hardware Replacements" heading, the paragraphs used for the inspection and replacement should be expanded to read "Use paragraph 3.B.(1) and 3.B.(2)". Additionally, the phrase "clevis brackets" should be replaced with "clevis assembly", because this is more appropriate nomenclature. These paragraphs were omitted in the proposed AD, but are needed to provide instructions on part inspection.

We agree. We incorporated by reference these paragraphs into the AD; however, we excluded the reporting requirements in those paragraphs, as they are not required by this AD. We also changed clevis bracket to clevis assembly.

## **Allow Deferral of the Repair and Deactivate the Thrust Reverser**

GE and MRAS state that in the compliance section, under the "Visual Inspection and Fastening Hardware Replacements" heading, the proposed AD paragraph (g)(4), should be reworded as follows: "If loose or missing clevis fasteners are found, remove and replace the clevis fasteners, or defer the repair and deactivate the thrust reverser per existing MEL limits. Use paragraph 3.F.(2) of MRAS CF6-80C2 ASB No. 78A1162 Revision 2, dated June 22, 2009, to do the replacements or to deactivate the thrust reverser. Deactivation is not allowed/specified if referring only to steps 3.F.(2)(a) through 3.F.(2)(c).

We agree that the AD needs to allow thrust reverser deactivation. We changed the AD to allow deactivation of the thrust reverser.

## **Change the Company Contact Information**

GE and MRAS request that under "Related Information" the company contact information be changed to "attn: Product Support Engineering; e-mail bulletins@mras-usa.com for a copy of the service information identified in this AD." MRAS Warranty Support does not provide service information. MRAS Product Support Engineering distributes service bulletins via e-mail, not by telephone or fax.

We partially agree. We added that contact information.

## **Remove Documentation Requirements**

GE and MRAS request that we remove from the AD the documentation requirements that are defined in paragraphs 3.C.(3)(b) and 3.E.(5) of the Service Bulletin.

We agree. We excluded those paragraphs from the incorporation by reference of the Service Bulletin, in the AD.



## **Conclusion**

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

We estimate that this AD will affect 750 GE CF6-80C2 series turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take about 1.5 work-hours per engine to perform the inspection, one work-hour per engine to perform the rod-end replacement, and 48 work-hours per engine to perform the clevis assembly replacement. The average labor rate is \$80 per work-hour. Required rod-ends will cost about \$508 per engine. We estimate that 75 engines will require clevis bracket replacement. Required replacement clevis assemblies and associated labor will cost about \$1,246,200. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$1,777,200.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect 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.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

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

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:



**FAA**  
**Aircraft Certification Service**

## AIRWORTHINESS DIRECTIVE

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

**CORRECTION:** [*Federal Register: December 14, 2009 (Volume 74, Number 238)*]; Page 66042;  
[www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html)]

**2009-21-07 General Electric Company:** Amendment 39-16044. Docket No. FAA-2009-0018;  
Directorate Identifier 2009-NE-01-AD.

### Effective Date

(a) This airworthiness directive (AD) becomes effective December 1, 2009.

### Affected ADs

(b) None.

### Applicability

(c) This AD applies to General Electric Company (GE) CF6-80C2 series turbofan engines with thrust reverser ballscrew gearbox assembly adjustable-length end actuators having 3/8-inch rod-ends installed. These engines are installed on, but not limited to, Airbus A300-600/R/F and A310-200/300, and Boeing 747-200B/300/400/400D/400F, 767-200/300/300F/400ER, and MD-11 airplanes.

### Unsafe Condition

(d) This AD results from reports of four failures of rod-ends on certain thrust reverser ballscrew gearbox assembly adjustable-length end actuators, leading to partial or complete separation of the transcowl from the engine and airplane during thrust reversal. We are issuing this AD to prevent asymmetric thrust and loss of thrust control.

### Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

### Visual Inspection and Fastening Hardware Replacements

(f) Within 500 flight cycles after the effective date of this AD, do the following:

(1) Inspect all translating cowl clevis pin retaining clips and associated fastening hardware, including those on the center drive unit (CDU), to ensure they are properly assembled and securely fastened in place. If a retaining clip is not completely covering the clevis pin and firmly attached to the clevis, remove and replace the fastening hardware. Use paragraphs 3.B.(1) and 3.B.(2), excluding 3.B.(2)(a), of Middle River Aircraft Systems (MRAS) Alert Service Bulletin (ASB) No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the inspections.

(2) Remove and inspect all clevis pins for physical damage or significant corrosion. Use paragraphs 3.C.(1) through 3.C.(3), excluding the recording requirement in paragraph 3.C.(3)(b) of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the removals, inspections, and part disposition as necessary.

(3) Inspect the clevis assemblies and four clevis fasteners at each of the clevis assemblies (upper, center, and lower) for structural integrity. Use paragraphs 3.F.(1), excluding 3.F.(1)(c) of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the inspections.

(4) If loose or missing clevis fasteners are found, remove and replace the clevis fasteners, or defer the repair and deactivate the thrust reverser. Use paragraph 3.F.(2) of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the replacements.

### **Initial Rod-End Replacements**

(g) For all 3/8-inch translating cowl adjustable-length actuator rod-ends having more than 600 flight cycles-since-new on the effective date of this AD, replace them with P/N M81935/1-6, or other approved part number, zero time rod-ends within 500 flight cycles after the effective date of this AD. Use paragraph 3.E., excluding both 3.E.(8) and the recording requirement in paragraph 3.E.(5) of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the replacements.

### **Repetitive 3/8-Inch Rod-End Replacements**

(h) Repetitively replace the 3/8-inch translating cowl adjustable-length actuator rod-ends that were installed as specified in paragraph (g) of this AD, before they accumulate 11,000 flight cycles, with a zero time 3/8-inch adjustable-length rod-end, P/N M81935/1-6 or other approved part number. Since the rod-ends are not serialized, track their life by using the associated actuator assembly's life. Use paragraphs 3.E., excluding both paragraph 3.E.(8) and the recording requirement in paragraph 3.E.(5), of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the replacements.

### **Optional Terminating Action**

(i) As an optional terminating action to the repetitive 3/8-inch rod-end replacements required by this AD, replace the 3/8-inch adjustable rod-ends with a 7/16-inch adjustable rod-end and nut or you may replace the adjustable end actuator with a fixed end actuator. Use paragraph 3.E.(1) of MRAS ASB No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to do the replacements.

### **Installation Prohibition**

(j) After the effective date of this AD, do not install rod-ends P/Ns KBE6-59, MS21242S06, B15946-13 or 15946000-13, on any engine subject to this AD. Rod-ends removed to comply with this AD are not eligible for installation on any aircraft.

### **Previous Credit**

(k) Inspections and replacements and optional terminating action performed before the effective date of this AD using MRAS ASB No. CF6-80C2 S/B 78A1162, dated December 30, 2008; Revision 1, dated February 13, 2009; or Revision 2, dated June 22, 2009, satisfy the required initial actions and optional terminating action of this AD.

### **Alternative Methods of Compliance**

(l) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Related Information**

(m) Contact Christopher J. Richards, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: christopher.j.richards@faa.gov; telephone (781) 238-7133; fax (781) 238-7199, for more information about this AD.

## **Material Incorporated by Reference**

(n) You must use Middle River Aircraft Systems Alert Service Bulletin No. CF6-80C2 S/B 78A1162, Revision 3, dated September 10, 2009, to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Middle River Aircraft Systems, 103 Chesapeake Park Plaza, MF 46, Baltimore, MD 21220; telephone (410) 682-0080; fax (410) 682-0100; or e-mail: bulletins@mras-usa.com, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on October 2, 2009.  
Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.