

# Rules and Regulations

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2011-0573; Directorate Identifier 2011-NM-082-AD; Amendment 39-16734; AD 2011-13-11]

RIN 2120-AA64

#### Airworthiness Directives; Airbus Model A318, A319, A320, and A321 Series Airplanes

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above that would supersede an existing AD. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Some operators reported slow operation of the MLG [main landing gear] door opening/closing sequence, leading to the generation of ECAM [Electronic Centralised Aircraft Monitoring] warnings during the landing gear retraction or extension sequence.

\* \* \* \* \*

This condition, if not corrected, could prevent the full extension and/or downlocking of the MLG, possibly resulting in MLG collapse during landing or rollout and consequent damage to the aeroplane and injury to occupants.

\* \* \* \* \*

After in-service introduction of the new MLG door actuator, P/N 114122012, several operators reported failures of internal parts of the MLG door actuator. Investigations confirmed that these failures could result in slow extension of the actuator rod, delaying the MLG Door operation, or possibly

stopping just before the end of the stroke, preventing the door to reach the fully open position.

\* \* \* \* \*

This AD requires actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** This AD becomes effective July 12, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of July 12, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain other publication, listed in the AD as of April 27, 2007 (72 FR 13681, March 23, 2007).

We must receive comments on this AD by August 11, 2011.

**ADDRESSES:** You may send comments by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Fax:* (202) 493-2251.
- *Mail:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-40, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

#### 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 in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1405; fax (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

#### Discussion

On March 13, 2007, we issued AD 2007-06-18, Amendment 39-14999 (72 FR 13681, March 23, 2007). That AD required actions intended to address an unsafe condition on Airbus Model A318, A319, A320, and A321 Airplanes.

Since we issued AD 2007-06-18, it has been determined that certain new actuators had failure of internal parts. The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2011-0069, dated April 18, 2011 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

Some operators reported slow operation of the [main landing gear] MLG door opening/closing sequence, leading to the generation of ECAM [Electronic Centralised Aircraft Monitoring] warnings during the landing gear retraction or extension sequence.

Investigations showed that the damping ring and associated retaining ring of the MLG door actuator deteriorate. The resultant debris increases the friction inside the actuator which can be sufficiently high to restrict opening of the MLG door by gravity, during operation of the landing gear alternate (free-fall) extension system.

This condition, if not corrected, could prevent the full extension and/or downlocking of the MLG, possibly resulting in MLG collapse during landing or rollout and consequent damage to the aeroplane and injury to occupants.

EASA AD 2006-0112R1 was issued to require repetitive inspections of the opening sequence of the MLG door in order to identify the defective actuators [and replacement of any defective actuator with a new actuator], and to introduce as an optional terminating action Airbus production Modification 38274 and associated Service Bulletin (SB) A320-32-1338, which incorporate an improved retaining ring, located on the piston rod's extension end, and a new piston rod with machined shoulder to accommodate the thicker section of the modified retaining ring.

After in-service introduction of the new MLG door actuator, P/N 114122012, several operators reported failures of internal parts of the MLG door actuator. Investigations confirmed that these failures could result in slow extension of the actuator rod, delaying the MLG Door operation, or possibly stopping just before the end of the stroke, preventing the door to reach the fully open position.

This new [EASA] AD, which supersedes EASA AD 2006-0112R1, requires an amendment of the applicable Airplane Flight

Manual (AFM), repetitive checks of specific Centralized Fault Display System (CFDS) messages [and an inspection of the opening sequence of the MLG door actuator for discrepancies if certain messages are found], \* \* \* and, depending on findings, corrective action(s) [i.e., replacing the affected MLG door actuator with a new MLG door actuator].

You may obtain further information by examining the MCAI in the AD docket.

#### Relevant Service Information

Airbus has issued All Operators Telex A320–32A1390, dated February 10, 2011. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### FAA's Determination and Requirements of This AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### Differences Between the AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a NOTE within the AD.

#### FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because failure of internal parts of actuators that could result in slow extension and down-locking of MLG, resulting in MLG collapse during landing or roll out, and consequent damage to the airplane. Therefore, we

determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

#### Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the **ADDRESSES** section. Include "Docket No. FAA–2011–0573; Directorate Identifier 2011–NM–082–AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

#### 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 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 this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the 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 regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

#### 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 FAA 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 removing Amendment 39–14999 (72 FR 13681, March 23, 2007) and adding the following new AD:

**2011–13–11 Airbus:** Amendment 39–16734. Docket No. FAA–2011–0573; Directorate Identifier 2011–NM–082–AD.

#### Effective Date

- (a) This airworthiness directive (AD) becomes effective July 12, 2011.

#### Affected ADs

- (b) This AD supersedes AD 2007–06–18, Amendment 39–14999.

#### Applicability

- (c) This AD applies to all Airbus Model A318–111, –112, –121, and –122, airplanes; Model A319–111, –112, –113, –114, –115, –131, –132, and –133 airplanes; Model A320–111, –211, –212, –214, –231, –232, and –233 airplanes; and Model A321–111, –112, –131, –211, –212, –213, –231, and –232 airplanes; certificated in any category.

#### Subject

- (d) Air Transport Association (ATA) of America Code 32: Landing Gear.

#### Reason

- (e) The mandatory continued airworthiness information (MCAI) states:

Some operators reported slow operation of the MLG [main landing gear] door opening/closing sequence, leading to the generation of ECAM [Electronic Centralised Aircraft

Monitoring] warnings during the landing gear retraction or extension sequence.

\* \* \* \* \*

This condition, if not corrected, could prevent the full extension and/or downlocking of the MLG, possibly resulting in MLG collapse during landing or rollout and consequent damage to the aeroplane and injury to occupants.

\* \* \* \* \*

After in-service introduction of the new MLG door actuator, P/N 114122012, several operators reported failures of internal parts of the MLG door actuator. Investigations confirmed that these failures could result in slow extension of the actuator rod, delaying the MLG Door operation, or possibly stopping just before the end of the stroke, preventing the door to reach the fully open position.

\* \* \* \* \*

#### Compliance

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

#### Restatement of Requirements of AD 2007–06–18, With No Changes

##### *Repetitive Inspections/Replacement*

(g) At the time specified in paragraph (g)(1) or (g)(2) of this AD, as applicable: Do a general visual inspection of the operation of the MLG door opening sequence to determine if a defective actuator is installed by doing all the applicable actions, including replacing the door actuator, as applicable, specified in the Accomplishment Instructions of Airbus Service Bulletin A320–32–1309, Revision 01, dated June 19, 2006. Do all applicable replacements before further flight. Repeat the inspection thereafter at intervals not to exceed 900 flight cycles. Accomplishing the actions before April 27, 2007 (the effective date of AD 2007–06–18) in accordance with Airbus Service Bulletin A320–32–1309, dated March 7, 2006, is acceptable for compliance with the corresponding requirements in this paragraph. Doing the inspection required by paragraph (l) of this AD terminates the requirements of this paragraph.

(1) For airplanes on which a record of the total number of flight cycles on the MLG door actuator is available: Before the accumulation of 3,000 total flight cycles on the MLG door actuator, or within 800 flight cycles after April 27, 2007, whichever is later.

(2) For airplanes on which a record of the total number of flight cycles on the MLG door actuator is not available: Within 800 flight cycles after April 27, 2007.

**Note 1:** For the purposes of this AD, a general visual inspection is: “A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or

droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked.”

#### No Reporting/Parts Return Required

(h) Although the Accomplishment Instructions of Airbus Service Bulletin A320–32–1309, Revision 01, dated June 19, 2006, specify submitting certain information to the manufacturer and sending defective actuators back to the component manufacturer for investigation, this AD does not include those requirements.

#### New Requirements of This AD

##### **Revise the Airplane Flight Manual (AFM)**

(i) Within 14 days after the effective date of this AD, revise the Emergency Procedure Section of the airplane flight manual (AFM) to incorporate the following information. This may be done by inserting a copy of this AD into the AFM.

“• If ECAM triggers the “L/G GEAR NOT DOWNLOCKED” warning, apply the following procedure:

Recycle landing gear.

• If unsuccessful after 2 min:

Extend landing gear by gravity. Refer to ABN–32 L/G GRAVITY EXTENSION.”

**Note 2:** When a statement identical to that in paragraph (i) of this AD has been included in the Emergency Procedure Section of the general revisions of the AFM, the general revisions may be inserted into the AFM, and the copy of this AD may be removed from the AFM.

#### Repetitive Checks

(j) Within 14 days after the effective date of this AD or before the accumulation of 800 total flight cycles, whichever occurs later, check the post flight report (PFR) for centralized fault display system (CFDS) messages triggered within the last 8 days, in accordance with paragraph 4.2.1 of Airbus All Operators Telex (AOT) A320–32A1390, dated February 10, 2011. Repeat the check thereafter at intervals not to exceed 8 days or 5 flight cycles, whichever occurs later. If done in accordance with a method approved by the Manager, International Branch, ANM–116, Transport Airplane Directorate, FAA, the use of an alternative method to check the PFR for CFDS messages (e.g., AIRMAN) is acceptable in lieu of this check if the messages can be conclusively determined from that method.

#### On-Condition Inspection

(k) If, during any check required by paragraph (j) of this AD, a pair of specific CFDS messages specified in paragraph 4.2.1 of Airbus AOT A320–32A1390, dated February 10, 2011, has been triggered by both landing gear control and indication units (LGCIU) for the same flight, before further flight, inspect the door opening sequence of the affected doors of the MLG for discrepancies (i.e., if any condition specified in steps (a) through (d) of paragraph 4.2.2 of Airbus AOT A320–32A1390, dated February 10, 2011, is not met), in accordance with paragraph 4.2.2 of Airbus AOT A320–32A1390, dated February 10, 2011.

#### Repetitive Inspections

(l) At the applicable time specified in paragraph (l)(1) or (l)(2) of this AD: inspect the door opening sequence of the left hand and right hand doors of the MLG for discrepancies (i.e., if any condition specified in steps (a) through (d) of paragraph 4.2.2 of Airbus AOT A320–32A1390, dated February 10, 2011, is not met), in accordance with the instructions of paragraph 4.2.2 of Airbus AOT A320–32A1390, dated February 10, 2011. Repeat the inspection thereafter at intervals not to exceed 425 flight cycles. Doing this inspection terminates the requirements of paragraph (g) of this AD.

(1) For airplanes on which an inspection required by paragraph (g) of this AD has been done as of the effective date of this AD: Within 800 flight cycles after doing the most recent inspection required by paragraph (g) of this AD, or within 100 flight cycles after the effective date of this AD, whichever occurs later.

(2) For airplanes on which an inspection required by paragraph (g) of this AD has not been done as of the effective date of this AD: Within 800 flight cycles after the effective date of this AD.

#### Replacement

(m) If any discrepancy (i.e., if any condition specified in steps (a) through (d) of paragraph 4.2.2 of Airbus AOT A320–32A1390, dated February 10, 2011, is not met) is found during any inspection required by paragraph (k) or (l) of this AD, before further flight, replace the affected MLG door actuator with a new MLG door actuator, in accordance with the instructions of Airbus AOT A320–32A1390, dated February 10, 2011.

(n) Replacement of the MLG door actuator as required by paragraph (m) of this AD is not a terminating action for the repetitive actions required by paragraphs (j) and (l) of this AD.

#### FAA AD Differences

**Note 3:** This AD differs from the MCAI and/or service information as follows:

(1) Paragraph (6) of European Aviation Safety Agency (EASA) AD 2011–0069, dated April 18, 2011, specifies a compliance time of 800 flight cycles after the effective date for all airplanes for the initial inspection of the door opening sequence. This AD specifies a compliance time of 800 flight cycles after the effective date of this AD for airplanes on which the existing inspections (required by AD 2007–06–18) of the door opening sequence have not been done, and a compliance time of within 800 flight cycles since the most recent inspection or within 100 flight cycles after the effective date of this AD, whichever occurs later, for airplanes on which the existing inspections of the door opening sequence have been done.

(2) EASA AD 2011–0069, dated April 18, 2011, specifies MLG door actuators having part number (P/N) 114122006, P/N 114122007, P/N 114122009, P/N 114122010, P/N 114122011, or P/N 114122012, in its applicability. This AD retains the existing applicability of AD 2007–06–18 of all airplanes because all airplanes have one of the affected part numbers.

### Other FAA AD Provisions

(o) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1405; fax (425) 227-1149. Information may be e-mailed to: [9-ANM-116-AMOC-REQUESTS@faa.gov](mailto:9-ANM-116-AMOC-REQUESTS@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD. As of the effective date of this AD, AMOCs approved previously in accordance with AD 2007-06-18, are not approved as AMOCs with this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Special Flight Permits: 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) with the MLG extended, provided that no recycle of the MLG is allowed during flight.

### Related Information

(p) Refer to MCAI EASA 2011-0069, dated April 18, 2011; Airbus Service Bulletin A320-32-1309, Revision 01, dated June 19, 2006; and Airbus AOT A320-32A1390, dated February 10, 2011; for related information.

### Material Incorporated by Reference

(q) You must use Airbus All Operators Telex A320-32A1390, dated February 10, 2011; and Airbus Service Bulletin A320-32-1309, Revision 01, dated June 19, 2006; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Airbus All Operators Telex A320-32A1390, dated February 10, 2011, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of Airbus Service Bulletin A320-32-1309, Revision 01, dated June 19, 2006, on April 27, 2007 (72 FR 13681, March 23, 2007).

(3) For service information identified in this AD, contact Airbus, Airworthiness Office—EAS, 1 Rond Point Maurice Bellonte,

31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; e-mail: [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may also review copies of the service information that is incorporated by reference 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/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on June 16, 2011.

**Ali Bahrami,**

*Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 2011-15683 Filed 6-24-11; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

**[Docket No. FAA-2010-0546; Directorate Identifier 2009-NM-215-AD; Amendment 39-16659; AD 2011-08-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-120, -120ER, -120FC, -120QC, and -120RT Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

It has been found that some fuel quantity probes may fail during the airplane life leading to an erroneous fuel quantity indication to the crew. This erroneous indication may lead to the airplane being operated with less fuel than indicated which may lead to an uncommanded in-flight shutdown of one or both engines due to fuel starvation.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective August 1, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 1, 2011.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

### SUPPLEMENTARY INFORMATION:

#### Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the **Federal Register** on June 3, 2010 (75 FR 31332). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

It has been found that some fuel quantity probes may fail during the airplane life leading to an erroneous fuel quantity indication to the crew. This erroneous indication may lead to the airplane being operated with less fuel than indicated which may lead to an uncommanded in-flight shutdown of one or both engines due to fuel starvation.

\* \* \* \* \*

Required actions include determining the real fuel quantity on each tank using the dripless measuring sticks, comparing the results of the fuel quantity measurement with the fuel master indicator and repeater indicator readings for each tank, and corrective actions as applicable. Corrective actions include replacing the measuring stick and its relevant magnetic float, replacing the master fuel quantity indicator, and replacing the repeater indicator, as applicable; inspecting defective tank units for contamination, corrosion and integrity of components, and repairing or replacing as necessary; inspecting system wiring from the connector at the wing root to the master indicator for condition and continuity; and correcting the fuel quantity indication system; as applicable. You