

[Federal Register Volume 83, Number 241 (Monday, December 17, 2018)]  
[Rules and Regulations]  
[Pages 64438-64441]  
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]  
[FR Doc No: 2018-27130]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2018-0167; Product Identifier 2017-NM-131-AD; Amendment 39-19530; AD 2018-25-18]**

**RIN 2120-AA64**

#### **Airworthiness Directives; ATR-GIE Avions de Transport Régional Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all ATR-GIE Avions de Transport Régional Model ATR42 and ATR72 airplanes. This AD was prompted by reports of cracking in main landing gear (MLG) universal joints (U-joints). This AD requires repetitive detailed inspections of the affected U-joints for cracks, and replacement if necessary. This AD also provides an optional terminating action for the repetitive inspections. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 22, 2019.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of January 22, 2019.

**ADDRESSES:** For service information identified in this final rule, contact Safran Landing Systems, Inovel Parc Sud-7, rue Général Valérie André, 78140 VELIZY-VILLACOUBLAY-FRANCE; phone: +33 (0) 1 46 29 81 00; internet: [www.safran-landing-systems.com](http://www.safran-landing-systems.com). You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0167.

#### **Examining the AD Docket**

You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0167; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30,

West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a supplemental NPRM (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all ATR-GIE Avions de Transport Régional Model ATR42 and ATR72 airplanes. The SNPRM published in the Federal Register on September 19, 2018 (83 FR 47318). We preceded the SNPRM with an NPRM that published in the Federal Register on March 29, 2018 (83 FR 13436). The NPRM was prompted by reports of cracking in MLG U-joints. The NPRM proposed to require repetitive detailed inspections of the affected U-joints for cracks, and replacement if necessary. The NPRM also proposed to provide an optional terminating action for the repetitive inspections. We issued the SNPRM to increase the number of affected parts that must be inspected.

We are issuing this AD to address cracking in MLG U-joints, which could lead to MLG structural failure and subsequent collapse of the MLG, possibly resulting in damage to the airplane and injury to the occupants.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2018-0080, dated April 11, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all ATR-GIE Avions de Transport Régional Model ATR42 and Model ATR72 airplanes. The MCAI states:

Occurrences were reported of finding cracks in certain MLG U-joints. Subsequent investigation identified a batch of affected U-joints which have possibly been subjected to non-detected thermal abuse during the grinding process by the U-joint manufacturer in production, or by a maintenance organization during overhaul and/or repair.

This condition, if not detected and corrected, could lead to MLG structural failure and subsequent collapse of the MLG, possibly resulting in damage to the aeroplane and injury to the occupants.

To address this potential unsafe condition, SLS [Safran Landing Systems] published the applicable SB [service bulletin] to provide inspection instructions. Consequently, EASA issued AD 2017-0172 to require repetitive detailed visual inspection (DVI) of the affected U-joints for cracks, and, depending on findings, replacement.

Since that AD was issued, SLS identified that certain s/n [serial numbers] of affected U-joints were inadvertently not included in the list of the original issue of the applicable SB. Consequently, SLS issued Revision 02 of the applicable SB to clarify the s/n tables of P/N [part number] D56805 and P/N D56805-2, and to add those missed s/n of affected U-joints.

For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2017-0172, which is superseded, and includes reference to Revision 02 of the applicable SB.

You may examine the MCAI in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0167.

## **Comments**

We gave the public the opportunity to participate in developing this final rule. The following presents the comment received on the SNPRM and the FAA's response to that comment.

### **Request To Modify Serviceable Parts Definition**

ATR-GIE Avions de Transport Régional (ATR) requested that we revise paragraph (g)(2) of the proposed AD to be consistent with the applicable text of the MCAI. ATR stated that the paragraph as written could allow an old, never-installed part to be considered serviceable even though it is identified as an affected part in the service information.

We agree to clarify the definition of serviceable parts. The language of the identified paragraph could be interpreted to allow certain affected parts, as defined in paragraph (g)(1) of this AD, to be installed as serviceable parts if they had never been previously installed. Our intent is to exclude installation of an affected part even if the part is new or repaired. We have changed the wording of paragraph (g)(2) of this AD accordingly.

## **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule with the change described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the SNPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

### **Related Service Information Under 1 CFR Part 51**

Safran Landing Systems has issued Service Bulletin 631-32-249, Revision 2, dated February 13, 2018; Service Bulletin 631-32-250, Revision 2, dated February 13, 2018; and Service Bulletin 631-32-251, Revision 2, dated February 13, 2018. The service information describes procedures for detailed inspections of the affected U-joints for cracking, and replacement if necessary. These documents are distinct since they apply to different airplane models.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Costs of Compliance**

We estimate that this AD affects 62 airplanes of U.S. registry.  
We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	1 work-hour $\times$ \$85 per hour = \$85 per inspection cycle	\$0	\$85 per inspection cycle	\$5,270 per inspection cycle.

We estimate the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. We have no way of determining the number of aircraft that might need these on-condition actions:

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement	8 work-hours $\times$ \$85 per hour = \$680	\$14,083	\$14,763

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all known costs in our cost estimate.

### 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### Regulatory Findings

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 the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

## **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 adding the following new airworthiness directive (AD):



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**2018-25-18 ATR-GIE Avions de Transport Régional:** Amendment 39-19530; Docket No. FAA-2018-0167; Product Identifier 2017-NM-131-AD.

**(a) Effective Date**

This AD is effective January 22, 2019.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to ATR-GIE Avions de Transport Régional Model ATR42-200, -300, -320, and -500 airplanes; and Model ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes; certificated in any category; all manufacturer serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing gear.

**(e) Reason**

This AD was prompted by reports of cracking in certain main landing gear (MLG) universal joints (U-joints). We are issuing this AD to address cracking in MLG U-joints, which could lead to MLG structural failure and subsequent collapse of the MLG, possibly resulting in damage to the airplane and injury to the occupants.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definitions**

(1) For the purposes of this AD, an affected U-joint is any U-joint identified by part number (P/N) and serial number listed in the applicable service bulletin specified in paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this AD.

(i) For Model ATR42-200, -300, and -320 airplanes: Safran Landing Systems Service Bulletin 631-32-249, Revision 2, dated February 13, 2018.

(ii) For Model ATR42-500 airplanes: Safran Landing Systems Service Bulletin 631-32-250, Revision 2, dated February 13, 2018.

(iii) For Model ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes: Safran Landing Systems Service Bulletin 631-32-251, Revision 2, dated February 13, 2018.

(2) For the purposes of this AD, a serviceable part is an affected U-joint, as defined in paragraph (g)(1) of this AD, released to service by Safran Landing Systems, free of defect, with the letter "V"

added on the part (on the identification plate, or in the vicinity of the P/N marking); or any other U-joint with chrome-plated faces that were never stripped or repaired; or any other U-joint with chrome-plated faces that were stripped and repaired as specified in the applicable component maintenance manual (CMM) identified in paragraph (g)(2)(i), (g)(2)(ii), or (g)(2)(iii).

(i) For Model ATR42-200, -300, and -320 airplanes: Safran Landing Systems CMM 32-18-28, Rev. 10, or Safran Landing Systems CMM 32-18-30, Rev. 8, both dated June 2, 2017.

(ii) For Model ATR42-500 airplanes: Safran Landing Systems CMM 32-18-45, Rev. 5, or Safran Landing Systems CMM 32-18-63, Rev. 6, both dated June 2, 2017.

(iii) For Model ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes: Safran Landing Systems CMM 32-18-34, Rev. 9, dated June 2, 2017.

#### **(h) Repetitive Inspections**

Within 3 months or 500 flight cycles (FC), whichever occurs first, after the effective date of this AD, and thereafter at intervals not to exceed 500 FC: Do a detailed inspection for cracking of each affected U-joint, as identified in paragraph (g)(1) of this AD, in accordance with the Accomplishment Instructions of the applicable service bulletin specified in paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this AD.

#### **(i) Corrective Action**

If, during any inspection required by paragraph (h) of this AD, any cracked U-joint is found, before further flight: Replace the cracked U-joint with a serviceable part, as defined in paragraph (g)(2) of this AD, in accordance with the Accomplishment Instructions of the applicable service bulletin specified in paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this AD.

#### **(j) Optional Terminating Action for Required Repetitive Inspections**

Replacement of all affected U-joints on an airplane, as identified in paragraph (g)(1) of this AD, with serviceable parts, as defined in paragraph (g)(2) of this AD, constitutes terminating action for the repetitive inspections required by paragraph (h) of this AD for that airplane.

#### **(k) Parts Installation Limitation**

As of the effective date of this AD, no person may install, on any airplane, an affected U-joint, as identified in paragraph (g)(1) of this AD, unless it is a serviceable part, as defined in paragraph (g)(2) of this AD.

#### **(l) No Reporting Requirement**

Although the Accomplishment Instructions of the service bulletins identified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD specify to submit certain information to the manufacturer, this AD does not include that requirement.

#### **(m) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraphs (h) and (i) of this AD, if those actions were performed before the effective date of this AD using the applicable service bulletin specified in paragraph (m)(1), (m)(2), or (m)(3) of this AD, provided that affected U-joints not identified in the service bulletin specified in paragraph (m)(1), (m)(2), or (m)(3) of this AD comply with the requirements of paragraphs (h) and (i) of this AD.

(1) Safran Landing Systems Service Bulletin 631-32-249, Revision 1, dated June 26, 2017.

- (2) Safran Landing Systems Service Bulletin 631-32-250, Revision 1, dated June 26, 2017.
- (3) Safran Landing Systems Service Bulletin 631-32-251, Revision 1, dated June 26, 2017.

#### **(n) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 Section, send it to the attention of the person identified in paragraph (o)(2) of this AD. Information may be emailed to: 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or ATR-GIE Avions de Transport Régional's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

#### **(o) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2018-0080, dated April 11, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0167.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(3) and (p)(4) of this AD.

#### **(p) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Safran Landing Systems Service Bulletin 631-32-249, Revision 2, dated February 13, 2018.

(ii) Safran Landing Systems Service Bulletin 631-32-250, Revision 2, dated February 13, 2018.

(iii) Safran Landing Systems Service Bulletin 631-32-251, Revision 2, dated February 13, 2018.

(3) For service information identified in this AD, contact Safran Landing Systems, Inovel Parc Sud-7, rue Général Valérie André, 78140 VELIZY-VILLACOUBLAY-FRANCE; phone: +33 (0) 1 46 29 81 00; internet: [www.safran-landing-systems.com](http://www.safran-landing-systems.com).

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this 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/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on December 6, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.