



**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2020-0819; Project Identifier 2019-CE-027-AD; Amendment 39-21500; AD 2021-08-06]**

**RIN 2120-AA64**

**Airworthiness Directives; Textron Aviation Inc. Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 97-06-10 for certain Raytheon Aircraft Company (type certificate now held by Textron Aviation Inc. (Textron)) Model 76 airplanes. AD 97-06-10 required repetitively inspecting the main landing gear (MLG) “A” frame assemblies for cracks and replacing any cracked assembly. Since the FAA issued AD 97-06-10, the replacement parts have also experienced failure due to cracking. This AD requires magnetic particle inspections of the MLG “A” frame assemblies for cracks and replacement of the affected parts if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For the Beechcraft service information identified in this final rule, contact Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277; phone: (316) 517-5800; email: [customer-care@txtav.com](mailto:customer-care@txtav.com); website: <https://txtav.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0819.

## **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0819; 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, any comments received, and other information. The address for Docket Operations 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:** Brian Adamson, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Room 100, Wichita, KS 67209; phone: (316) 946-4193; fax: (316) 946-4107; email: [brian.adamson@faa.gov](mailto:brian.adamson@faa.gov) or [Wichita-COS@faa.gov](mailto:Wichita-COS@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 97-06-10, Amendment 39-9967 (62 FR 12949, March 19, 1997) (AD 97-06-10). AD 97-06-10 applied to Raytheon Aircraft Company (type certificate now held by Textron) Model 76 airplanes, serial numbers ME-1 through ME-437 that do not have both a part number (P/N) 105-810023-75 (left) and P/N 105-810023-76 (right) MLG “A” frame assembly installed. The NPRM published in the *Federal Register* on December 14, 2020 (85 FR 80693).

AD 97-06-10 required repetitive visual and dye penetrant inspections of the MLG “A” frame assemblies for cracks and replacement of any assembly found cracked. AD 97-06-10 did not apply to Model 76 airplanes with an improved design MLG “A” frame assembly (P/N 105-810023-75 and P/N 105-810023-76) installed on both the left and right MLG. The FAA issued AD 97-06-10 to prevent MLG failure because of a cracked “A” frame assembly, which could result in loss of control of the airplane during landing.

The NPRM was prompted by reports of P/N 105-810023-75 and P/N 105-810023-76 “A” frame assemblies failing due to fatigue cracking, resulting in damage to the propeller and outboard wing area. The FAA determined that the visual and dye

penetrant inspections were not adequately detecting cracks in the MLG “A” frame assemblies, because some of the failed parts had been subjected to visual and dye penetrant inspections within 100 hours before the failure.

In the NPRM, the FAA proposed to require repetitive magnetic particle inspections, which provide quicker results (after testing setup) with improved accuracy. Also, the NPRM reflected that the type certificate for the Model 76 airplane had been transferred from Raytheon to Textron, and that Textron designed new replacement parts, P/Ns 105-810023-0083 (left) and 105-810023-0084 (right), that were not subject to the proposed repetitive magnetic particle inspections. However, the newly designed MLG assemblies are still subject to the repetitive inspections specified in the maintenance manual.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received two comments from an anonymous commenter. The following presents the comments received on the NPRM and the FAA’s response to each comment.

#### **Request Regarding New Part Numbers**

One commenter stated that a Model 76 with the new A-frames had a main gear collapse on landing in August 2020. The commenter questioned whether the new A-frames are also subject to failure.

The FAA disagrees with this comment. The commenter did not provide any data to show that the Textron Model 76 accident airplane, whose landing gear failed during landing or taxi conditions, had the new A-frames installed. Neither the FAA nor Textron have any data indicating that P/Ns 105-810023-0083 and 105-810023-0084 A-frames were installed on the accident airplane. In addition, Textron has not received any reports of failed P/Ns 105-810023-0083 and 105-810023-0084 A-frames.

#### **Request Regarding Estimated Cost**

The commenter requested the FAA find an alternative solution that is more affordable for operators. The commenter stated that each magnetic particle inspection would be costly because the inspection involves frame removal. The commenter also included documentation showing that the cost of an A-frame from Textron is over \$8,000

and, with labor costs of \$2,200 for installation, owners will spend over \$18,500 to replace the A-frames.

The FAA partially agrees with this comment. The FAA has updated the estimated costs to reflect the costs provided by the commenter to replace the parts. The FAA disagrees with the commenter's estimate of labor costs to replace an A-frame, because the labor to install a replacement part is included with the labor costs for the inspection. The FAA has added language to the on-condition costs to clarify how the FAA estimated the cost to replace each part. The FAA also acknowledges that the general obligation of the operator to maintain its aircraft in an airworthy condition is vital, but sometimes expensive.

### **Conclusion**

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

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

The FAA reviewed Beechcraft Mandatory Service Bulletin SB 32-4156, dated May 3, 2019. This service information specifies procedures for a repetitive magnetic particle inspection for fatigue cracks adjacent to the gussets for the torque arm of each MLG "A" frame and destroying the assembly if cracks are found. The service information also specifies procedures for installing a replacement assembly or re-installing an assembly when no cracks are found. 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 ADDRESSES.

### **Costs of Compliance**

The FAA estimates that this AD affects 437 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

#### **Estimated costs**

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<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
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Inspection of MLG "A" frame assembly	26 work-hours X \$85 per hour = \$2,210	Not applicable	\$2,210	\$965,770
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The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need these replacements:

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Replacement of 105-810023-0083 assembly	Not applicable*	\$8,343	\$8,343
Replacement of 105-810023-0084 assembly	Not applicable*	\$8,100	\$8,100

\* No additional labor cost since re-installation labor is included with the inspection cost

**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.

The FAA is 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**

The FAA has 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) Will not affect intrastate aviation in Alaska, 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.

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

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

### **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:

a. Removing Airworthiness Directive 97-06-10, Amendment 39-9967 (62 FR 12949, March 19, 1997); and

b. Adding the following new airworthiness directive:

**2021-08-06 Textron Aviation Inc.:** Amendment 39-21500; Docket No. FAA-2020-0819; Project Identifier 2019-CE-027-AD.

### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

### **(b) Affected ADs**

This AD replaces AD 97-06-10, Amendment 39-9967 (62 FR 12949, March 19, 1997) (AD 97-06-10).

### **(c) Applicability**

This AD applies to Textron Aviation Inc. (type certificate previously held by Raytheon Aircraft Company, Hawker Beechcraft Corporation, and Beechcraft Corporation) Model 76 airplanes, serial numbers ME-1 through ME-437, certificated in any category, except airplanes with main landing gear (MLG) “A” frame assemblies part number (P/N) 105-810023-0083 (left) and P/N 105-810023-0084 (right) installed.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 3200; Landing Gear.

**(e) Unsafe Condition**

This AD was prompted by cracks found in MLG “A” frame assemblies. The FAA is issuing this AD to detect and correct cracks in the MLG assemblies, which, if not addressed, could result in failure of the MLG assemblies and lead to loss of control of the airplane during landing.

**(f) Compliance**

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

**(g) Actions**

Within 100 hours time-in-service (TIS) after the last dye penetrant inspection required by AD 97-06-10 or within 12 months after the effective date of this AD, whichever comes first, and thereafter at intervals to not exceed 100 hours TIS or 12 months, whichever occurs first, do a magnetic particle inspection for cracks on the left MLG “A” frame assembly P/N 105-810023-3, 105-810023-67, or 105-810023-75 and the right MLG “A” frame assembly P/N 105-810023-4, 105-810023-68, or 105-810023-76 and, before further flight, take all necessary corrective actions. Do all actions by following the Accomplishment Instructions, paragraphs 4 through 13, of Beechcraft Mandatory Service Bulletin SB 32-4156, dated May 3, 2019.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Wichita ACO 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

manager of the certification office, send it to the attention of the person identified in Related Information.

(2) 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.

**(i) Related Information**

For more information about this AD, contact Brian Adamson, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Room 100, Wichita, KS 67209; phone: (316) 946-4193; fax: (316) 946-4107; email: brian.adamson@faa.gov or Wichita-COS@faa.gov.

**(j) 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 the AD specifies otherwise.

(i) Beechcraft Mandatory Service Bulletin SB 32-4156, dated May 3, 2019.

(ii) [Reserved]

(3) For the Beechcraft service information identified in this AD, contact Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277; phone: (316) 517-5800; email: customercare@txtav.com; website: <https://txtav.com>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(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, email: [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.



Issued on March 30, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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