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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0833; Product Identifier 2018-CE-031-AD; Amendment 39-21121; AD 2020-10-03]

RIN 2120-AA64

Airworthiness Directives; Weatherly Aircraft Company

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Weatherly Aircraft Company (Weatherly) Models 201, 201A, 201B, 201C, 620, 620A, 620B, 620B-TG, and 620TP airplanes. This AD was prompted by reports of fatigue cracking of the center wing and outer wing spar hinge brackets due to corrosion pitting. This AD requires repetitive inspections of the wing hinge brackets, pins, and wing spar structure with repair or replacement of parts as necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective June 15, 2020.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 15, 2020.

ADDRESSES: For service information identified in this final rule, contact Weatherly Aircraft Company, 2034 West Potomac Avenue, Chicago, Illinois 60622-3152; telephone: (424) 772-1812; email: garybeck@cox.net. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0833.

Examining the AD Docket

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0833; 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 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: Roger Durbin, Senior Engineer, Airframe Section, Los Angeles Aircraft Certification Office, FAA, 3960 Paramount Blvd, Suite 100, Lakewood, California, 90712; phone: (562) 627-5233; fax: (562) 627-5210; email: roger.durbin@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Weatherly Models 201, 201A, 201B, 201C, 620, 620A, 620B, 620B-TG, and 620TP airplanes. The NPRM published in the Federal Register on September 18, 2018 (83 FR 47116). The NPRM was prompted by notification the FAA received in 2015 of a fatal accident caused by the in-flight structural failure of a wing on a Weatherly Model 620B airplane. The accident investigation found multiple fatigue cracks in the center wing front spar lower hinge bracket. As a result of operator inspections, a cracked hinge bracket in the center wing to outer wing joint was also reported on a different airplane. The hinge bracket from the second report had completely failed, and the airplane was relying on the second failsafe hinge bracket to carry the wing loads.

To correct this unsafe condition, the FAA issued AD 2016-07-11 (81 FR 18461, March 31, 2016) (“AD 2016-07-11”), which requires a one-time visual inspection of the center and outer wing front spar lower hinge brackets for cracks and corrosion and corrective action as necessary. AD 2016-07-11 also requires sending a report of the inspection results to the FAA.

Since the FAA issued AD 2016-07-11, Weatherly has issued new service information for repetitive visual and detailed inspections. Since the cause of the fatigue cracks were attributed to corrosion pits on the accident airplane, the NPRM proposed to require those repetitive visual and detailed inspection actions. The FAA is issuing this AD to address the unsafe condition on these products.

The NPRM incorrectly stated that Weatherly had developed improved center wing hinge brackets manufactured from corrosion resistant material. The FAA has learned that those improved brackets were not developed or approved. Therefore, improved brackets are not currently available to correct the unsafe condition.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Extend the Inspection Intervals

Two individuals requested that the FAA allow more than 5 years for the follow-up detailed inspection requirement. One commenter stated that removing all fittings and hardware every five years is unnecessary if corrosion preventative measures are taken during the initial detailed inspection. The commenter stated that, for aircraft that are 20-30 years old, if no unacceptable corrosion is found and the aircraft is reassembled with corrosion preventative measures, the detailed inspection/disassembly intervals should be extended to 15 or more years. The other commenter requested the FAA extend the requirement to repeat the detailed inspection from 5 years to 10 years if an aircraft owner proactively replaces the hinge brackets with Weatherly's improved hinge brackets manufactured from corrosion resistant material. A third commenter requested that the AD require a detailed visual inspection within 50 hours of the effective date of the AD or within the next 6 months, whichever is sooner. According to the commenter, Weatherly's 3-month compliance time did not

seem well thought out. The commenter further requested the AD allow installation of the Weatherly corrosion-resistant hinge brackets as terminating action for the detailed inspection requirements.

The FAA does not agree with the requests to change the inspection intervals. The hinge brackets are close-tolerance parts that are subject to wear, and neither testing nor analysis has substantiated longer inspection intervals when corrosion inhibiting compounds are used. In addition, as stated earlier, no improved hinge brackets with corrosion resistant material are currently available; therefore, extending the compliance time based on improved brackets is not possible. In determining the inspection intervals, the FAA considered that corrosion growth is highly variable and that the failed parts do not represent average life times. No changes were made to the AD based on these comments.

Request To Change the Inspection Requirements

One commenter requested the FAA reconsider the AD requirements using the total time of the aircraft and the information in an AD issued by the Australian Aviation Authority in 2002 regarding retirement lives of the wing attachment fittings and lower spar cap. The commenter did not identify the 2002 Australian AD by AD number. However, the commenter did include a copy of Civil Aviation Safety Authority AD/W620/2, Wing Hinge Pins, dated October 1996, which requires a one-time inspection of the wing hinge pins for correct length and installation.

The total aircraft time was not a factor in the proposed AD because it is not a reliable predictor of fatigue crack initiation in the presence of corrosion. The FAA has reviewed the 2002 Australian AD and finds that it does not address any contributing factors associated with the Weatherly Model 620B accident on August 26, 2015. No changes were made to the AD based on this comment.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed except for minor editorial changes. The FAA has determined that these minor changes:

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

Related Service Information Under 1 CFR Part 51

The FAA reviewed Weatherly 201/620 Service Bulletin SB-201/620-18001, Revision C, dated May 21, 2018. The service information describes procedures for initial and repetitive inspections of the wing hinge brackets, pins, and wing spar structure for corrosion and/or cracks with repair or replacement as necessary. 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

The FAA estimates that this AD affects 94 airplanes of U.S. registry.
The FAA estimates the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Detailed inspection for corrosion and cracks with wing removed	50 work-hours × \$85 per hour = \$4,250 per inspection cycle	Not applicable	\$4,250 per inspection cycle	\$399,500 per inspection cycle.
Visual inspection for corrosion with bolts and pin caps removed	4 work-hours × \$85 per hour = \$340 per inspection cycle	Not applicable	\$340 per inspection cycle	\$31,960 per inspection cycle.

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The FAA has no way of determining the number of airplanes that might need these replacements.

On-Condition Costs

Action	Labor cost	Parts cost (includes hardware)	Cost per product
Replacement of the assembly if all parts are found with corrosion	0 work-hours since part is already removed from airplane	\$10,500	\$10,500

The on-condition costs reflects the cost to replace the entire assembly. The scope of damage found in the required inspection and which specific parts need replaced could vary significantly from airplane to airplane. The FAA has no way of determining how much damage may be found on each airplane or the cost to repair damaged parts on each airplane or the number of airplanes that may require repair.

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

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.

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):



2020-10-03 Weatherly Aircraft Company: Amendment 39-21121; Docket No. FAA-2018-0833; Product Identifier 2018-CE-031-AD.

(a) Effective Date

This AD is effective June 15, 2020.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Weatherly Aircraft Company (Weatherly) Models 201, 201A, 201B, 201C, 620, 620A, 620B, 620B-TG, and 620TP airplanes, all serial numbers, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 5740, Wing Attach Hinge Fitting.

(e) Unsafe Condition

This AD was prompted by reports of cracks found on the center wing front spar lower hinge bracket. The FAA is issuing this AD to detect and correct corrosion and cracks on the wing hinge brackets and pin assemblies. The unsafe condition, if not addressed, could result in failure of the wing front and rear spar lower hinge brackets and lead to in-flight separation of the wing with consequent loss of control of the airplane.

(f) Compliance

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

(g) Detailed Inspection

(1) Within 3 months after June 15, 2020 (the effective date of this AD) and thereafter at intervals not to exceed 5 years, inspect each center and outer wing spar and spar cap, wing hinge bracket, and hardware for corrosion and cracks by following paragraphs 7 through 22 under the Detailed Inspection section in Weatherly 201/620 Service Bulletin SB-201/620-18001, Revision C, dated May 21, 2018 (Weatherly SB-201/620-18001, Revision C), except this AD does not require you to contact Weatherly.

(2) Serial numbers (S/N) 1155 and 1558 have already had the initial detailed inspection required by paragraph (g)(1) of this AD and only the 5-year repetitive detailed inspections are required for these airplanes.

(3) Any repair or replacement of parts with corrosion and any replacement of parts with a crack as specified in paragraphs 7 through 13 under the Detailed Inspection section in Weatherly SB-201/620-18001, Revision C, is required before further flight.

(h) Visual Inspection

Within 12 months after the initial detailed inspection required in paragraph (g) of this AD and thereafter at intervals not to exceed 12 months, visually inspect each forward and rear wing hinge bracket attachment pin, bolt, removed cap, spacer, and hardware for corrosion by following paragraphs 4 through 7 under the Visual Inspection section in Weatherly SB-201/620-18001, Revision C. Any additional inspection, repair, and replacement of parts with corrosion as specified in paragraphs 5 and 6 under the Visual Inspection section of Weatherly SB-201/620-18001, Revision C, is required before further flight. You may perform a detailed inspection in accordance with paragraph (g) of this AD instead of any visual inspection required by paragraph (h) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles 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 paragraph (j) of this AD.

(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.

(j) Related Information

For more information about this AD, contact Roger Durbin, Senior Engineer, Airframe Section, Los Angeles Aircraft Certification Office, FAA, 3960 Paramount Blvd., Suite 100, Lakewood, California 90712; phone: (562) 627-5233; fax: (562) 627-5210; email: roger.durbin@faa.gov.

(k) 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) Weatherly 201/620 Service Bulletin SB-201/620-18001, Revision C, dated May 21, 2018.

(ii) [Reserved]

(3) For Weatherly Aircraft Company service information identified in this AD, contact Weatherly Aircraft Company, 2034 West Potomac Avenue, Chicago, Illinois 60622-3152; telephone: (424) 772-1812; email: garybeck@cox.net.

(4) You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 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, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on May 1, 2020.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

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