

[Federal Register, Volume 89 Number 180 (Tuesday, September 17, 2024)]

[Rules and Regulations]

[Pages 75949-75953]

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[FR Doc No: 2024-21112]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0470; Project Identifier AD-2023-00694-A; Amendment 39-22800; AD 2024-15-09]

RIN 2120-AA64

Airworthiness Directives; Textron Aviation Inc. (Type Certificate Previously Held by Cessna Aircraft Company) Airplanes

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule.

SUMMARY:

The FAA is adopting a new airworthiness directive (AD) for Textron Aviation Inc. (Textron) (type certificate previously held by Cessna Aircraft Company) Model 525, 525A, and 525B airplanes with Tamarack active technology load alleviation system (ATLAS) winglets installed per Supplemental Type Certificate (STC) No. SA03842NY. This AD was prompted by a report of the potential for a failure of the ATLAS system in which a loss of load alleviation would be un-annunciated. This AD requires installing placards on the left-hand inboard edge of the Tamarack active camber surface (TACS) and revising the existing airplane flight manual (AFM) for your airplane. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective October 22, 2024.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 22, 2024.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2024-0470; 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.

Material Incorporated by Reference:

- For Tamarack material identified in this AD, contact Tamarack Aerospace Group, Inc., 2021 Industrial Drive, Sandpoint, ID 83864; phone: (208) 597-4568; website:tamarackaero.com/customer-support.
- You may view this material 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 (817) 222-5110. It is also available at *regulations.gov* under Docket No. FAA-2024-0470.

FOR FURTHER INFORMATION CONTACT:

Anthony Caldejon, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (206) 231-3534; email: anthony.v.caldejon@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend [14 CFR part 39](#) by adding an AD that would apply to Textron (type certificate previously held by Cessna Aircraft Company) Model 525, 525A, and 525B airplanes with Tamarack ATLAS winglets installed per STC No. SA03842NY. The NPRM published in the **Federal Register** on March 22, 2024 ([89 FR 20354](#)). The NPRM was prompted by a report that while accomplishing a reliability improvement program, Tamarack discovered the potential for a failure of the ATLAS system in which a loss of load alleviation would be un-announced. The manufacturer's investigation revealed that failure of either of one of a pair of opto-isolators within the ATLAS Control Unit (ACU) can prevent an enable signal from being sent to the TACS Control Units (TCUs).

The ATLAS system is installed on Textron Model 525, 525A, and 525B airplanes under STC No. SA03842NY and lessens the increased wing loads associated with the installation of winglets. The ATLAS is designed to detect flight conditions and modify airflow at the wing tip accordingly. The ATLAS will draw power constantly to operate the logic circuit and provide power to the actuators to maintain TACS position.

The TCUs include the linear electric actuators and motor controllers that move the TACS. Since the enable signals are not monitored after the opto-isolators, the ACU cannot detect whether the generated signal is reaching the TCUs. The TCUs rely on the enable signal to determine whether to respond to commands from the ACU. If one of the opto-isolators fails, the ACU would not be able to detect that the TCUs were not enabled and the TCUs would not respond to commands from the ACU. Thus, the system would be operating in a mode of un-announced loss of load alleviation. The flight crew would be unaware of a malfunction of the load alleviation function of ATLAS and could fly the airplane into conditions that exceed the limit load. In addition, fatigue concerns could result in cracking of the

airplane's primary structure. If not addressed, this condition could result in loss of continued safe flight and landing of the airplane.

In the NPRM, the FAA proposed to require installing placards on the left-hand inboard edge of the TACS to enhance visibility of TACS movement during night operations and revising the existing AFM for your airplane to include instructions for pre-flight checks of the ATLAS system before taxi. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from three commenters. Two of the commenters were individuals who supported the NPRM. The third commenter was Tamarack. The following presents the comments received on the NPRM from Tamarack and the FAA's response to each comment.

Request To Clarify What Prompted the NPRM

Tamarack requested that the FAA correct the SUMMARY and paragraph (e), "Unsafe Condition," which state that the NPRM was prompted by a report of an un-announced failure of the ATLAS system. Tamarack commented that this statement is not accurate because even though Tamarack reported the design deficiency to the FAA under [14 CFR 21.3](#), "Reporting of failures, malfunctions, and defects," there had not been any actual failures of the ATLAS system in the fleet. Tamarack stated that the "Background" section of the NPRM more accurately explains that, while accomplishing a reliability improvement program, Tamarack discovered the potential for a failure of the ATLAS system in which a loss of load alleviation would be un-announced.

The FAA agrees to correct the language identified by the commenter and has revised the **SUMMARY** and paragraph (e) of this AD accordingly.

Request To Revise "Proposed AD Requirements in This NPRM" Section

Tamarack requested that the FAA revise the "Proposed AD Requirements in This NPRM" section of the NPRM to specify who can accomplish the required actions. Tamarack stated that it is unclear whether a pilot can install the placards on the left-hand inboard edge of the TACS or whether the placards must be installed by a certificated airframe and powerplant (A&P) mechanic.

Paragraph (g) of this AD only allows a pilot to do the revision to the AFM required by paragraph (g)(2) of this AD and does not allow a pilot to do the installation of placards required by paragraph (g)(1) of this AD. An FAA-certificated A&P mechanic or repair station must install the placards on the left-hand inboard edge of the TACS. The FAA has not revised the "Proposed AD Requirements in This NPRM" section as requested by the commenter because that section of the NPRM is not carried over into this final rule.

Request To Revise "FAA's Determination" Section of the NPRM

Tamarack requested that the FAA revise the "FAA's Determination" section of the NPRM, which states that the FAA has determined that the unsafe condition is likely to exist or develop on other products of

the same type design. Tamarack stated that the probability of the unsafe condition is “remote” and not “likely” and therefore using “likely” misrepresents the probability of the identified unsafe condition occurring in the fleet.

The FAA disagrees. The “FAA's Determination” section of the NPRM correlates to the FAA's finding under [14 CFR 39.5](#), which states the conditions that must be present when the FAA issues an AD. If an unsafe condition only exists on one product and is not likely to exist or develop on other products of the same type design, or if there are no other existing products of the same type design, the FAA will accomplish corrective action through means other than an AD. The FAA's finding under [14 CFR 39.5](#) is unrelated to the probability of the failure condition described by the commenter. The FAA did not revise this final rule regarding this issue.

Conclusion

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

Material Incorporated by Reference Under [1 CFR Part 51](#)

The FAA reviewed Tamarack Aerospace Atlas Service Bulletin SBATLAS-57-06, Issue A, dated April 19, 2023. This material specifies procedures for installing placards on the left-hand inboard edge of the TACS to enhance visibility of TACS movement during night operations.

The FAA also reviewed the following AFM supplements, which contain, among other items, instructions for pre-flight checks of the ATLAS system before taxi. These documents are distinct because they apply to different airplane models.

- Tamarack Aerospace Cessna Citation Model 525, 525-0001 thru -0359, AFM Supplement TAG-1101-0099 CA/DD/M023, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
- Tamarack Aerospace Cessna Citation Model 525, 525-0360 through -0599, AFM Supplement TAG-1101-1099 CA/DD/M037, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
- Tamarack Aerospace Cessna Citation Model 525, 525-0600 through -0684 and -0686 through -0701, AFM Supplement TAG-1101-P099 CA/DD/M038, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
- Tamarack Aerospace Cessna Citation Model 525, 525-0685 and -0800 and on, AFM Supplement TAG-1101-M099 CA/DD/M088, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, September 20, 2023.
- Tamarack Aerospace Cessna Citation Model 525A, 525A-0001 thru -0299, AFM Supplement TAG-1102-0099 CAS/AFM0003, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.
- Tamarack Aerospace Cessna Citation Model 525A, 525A-0300 and on, AFM Supplement TAG-1102-P099 CAS/AFM0004, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.

- Tamarack Aerospace Cessna Citation Jet Model 525B, 525B-0001 thru 525B-0056 and 525B-0058 thru 525B-0450, AFM Supplement TAG-1103-0099 CAS/AFM0001, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.
- Tamarack Aerospace Cessna Citation Jet Model 525B, 525B-0057 and 525B-0451 and ON, AFM Supplement TAG-1103-P099 CAS/AFM0002, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, September 20, 2023.

This material 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 148 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
Install placards	0.5 work-hour × \$85 per hour = \$42.50	\$20	\$62.50	\$9,250
Revise AFM	1 work-hour × \$85 per hour = \$85	0	85	12,580

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

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:

2024-15-09 Textron Aviation Inc. (Type Certificate Previously Held by Cessna Aircraft Company): Amendment 39-22800; Docket No. FAA-2024-0470; Project Identifier AD-2023-00694-A.

(a) Effective Date

This airworthiness directive (AD) is effective October 22, 2024.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Textron Aviation Inc. (type certificate previously held by Cessna Aircraft Company) Model 525, 525A, and 525B airplanes, all serial numbers (S/Ns), certificated in any category, with Tamarack active technology load alleviation system (ATLAS) winglets installed in accordance with Supplemental Type Certificate No. SA03842NY.

(d) Subject

Joint Aircraft System Component (JASC) Code 2770, Gust Lock/Damper System

(e) Unsafe Condition

This AD was prompted by a report of the potential for a failure of the ATLAS system in which a loss of load alleviation would be un-announced. The FAA is issuing this AD to address un-announced loss of load alleviation which, if not addressed, could lead to the flight crew flying the airplane into conditions that exceed the limit load, as well as fatigue cracking in the airplane's primary structure. This could result in loss of continued safe flight and landing of the airplane.

(f) Compliance

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

(g) Required Actions

Within 60 hours time-in-service or 6 months after the effective date of this AD, whichever occurs first, do the actions required by paragraphs (g)(1) and (2) of this AD.

(1) Install placards on the left-hand Tamarack active camber surface (TACS) in accordance with steps 1 through 3 of the Accomplishment Instructions in Tamarack Aerospace Atlas Service Bulletin SBATLAS-57-06, Issue A, dated April 19, 2023.

(2) Revise the Normal Procedures section of the existing airplane flight manual (AFM) for your airplane by adding the information in Figure 1 to paragraph (g)(2) of this AD under "Before Taxi" or by incorporating the AFM supplement applicable to your airplane identified in Figure 2 to paragraph (g)(2) of this AD. Using a different document with information identical to this information under "Before Taxi" in the AFM for your airplane is acceptable for compliance with the requirements of this paragraph. The owner/operator (pilot) holding at least a private pilot certificate may revise the existing AFM for your airplane and must enter compliance with the applicable paragraph of this AD into the airplane maintenance records in accordance with [14 CFR 43.9\(a\)](#) and [91.417\(a\)\(2\)\(v\)](#). The record must be maintained as required by [14 CFR 91.417](#), [121.380](#), or [135.439](#).

Figure 1 to Paragraph (g)(2) –ATLAS Check Procedure

Before Taxi	
WARNING	
The TACS should move rapidly and forcefully trailing edge up and return to the neutral position when the ATLAS first receives power. Be sure that all personnel and equipment are clear before moving switch to the ON position.	
ATLAS System	CHECK
(Test that the ATLAS is working properly.)	
a. In poor light or dark conditions, turn on left side reading light.	

- b. In poor light or dark conditions, turn on Wing Inspection Light.
- c. ATLAS INOP Button—Press 3 times within 3 seconds. ATLAS INOP Button light will flash 3 times when system goes through BIT (Built In Test).

WARNING

The TACS should move rapidly and forcefully trailing edge up and return to the neutral position when running the BIT function. Be sure that all personnel and equipment are clear before pressing.

d. TACS

**CHECK
MOVEMENT**

Both TACS should rapidly move up and return to the neutral position. **i. If the TACS do not move** after completing step c., this may indicate that ATLAS is not functioning normally. **ii.** Refer to Abnormal Procedure ATLAS INOPERATIVE ON THE GROUND (TACS DO NOT MOVE IN BIT).

e. Wait approximately 10 seconds.

f. ATLAS INOP Button light

CHECK OFF

g. If left side reading light is illuminated, turn off at pilot's discretion.

h. If Wing Inspection Light is illuminated, turn off at pilot's discretion.

NOTE

If annunciator remains illuminated, or if the TACS do not move, a fault has been identified in the system. In either case refer to Abnormal Procedures ATLAS INOPERATIVE ON THE GROUND.

Figure 2 to Paragraph (g)(2)—Tamarack ATLAS AFM Supplements

Model and S/N	Tamarack ATLAS AFM supplement
Model 525, S/Ns 525-0001 through 525-0359 inclusive	Paragraph 3A, ATLAS System, under “Before Taxiing” in the Normal Procedures section of Cessna Citation Model 525, 525-0001 thru -0359, AFM Supplement TAG-1101-0099 CA/DD/M023, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
Model 525, S/Ns 525-0360 through 525-0599 inclusive	Paragraph 3A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna Citation Model 525, 525-0360 thru -0599, AFM Supplement TAG-1101-1099 CA/DD/M037, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
Model 525, S/Ns 525-0600 through 525-0684 inclusive and S/Ns 525-0686 through 525-0701 inclusive	Paragraph 1A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna Citation Model 525, 525-0600 through -0684 and -0686 through -0701, AFM Supplement TAG-1101-P099 CA/DD/M038, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.

Model and S/N	Tamarack ATLAS AFM supplement
Model 525, S/N 525-0685 and S/Ns 525-0800 and larger	Paragraph 9A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna Citation Model 525, 525-0685 and -0800 and on, AFM Supplement TAG-1101-M099 CA/DD/M088, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.
Model 525A, S/Ns 525A-0001 through 525-0299 inclusive	Paragraph 3A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna Citation Model 525A, 525A-0001 thru -0299, AFM Supplement TAG-1102-0099 CAS/AFM0003, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, dated September 20, 2023.
Model 525A, S/Ns 525A-0300 and larger	Paragraph 1A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna Citation Model 525A, 525A-0300 and on, AFM Supplement TAG-1102-P099 CAS/AFM0004, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, dated September 20, 2023.
Model 525B, S/Ns 525B-0001 through 525B-0056 inclusive and S/Ns 525B-0058 through 525B-0450 inclusive	Paragraph 1A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna CitationJet Model 525B, 525B-0001 thru 525B-0056 and 525B-0058 thru 525B-0450, AFM Supplement TAG-1103-0099 CAS/AFM0001, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, dated September 20, 2023.
Model 525B, S/N 525B-0057 and S/Ns 525B-0451 and larger	Paragraph 9A, ATLAS System, under “Before Taxi” in the Normal Procedures section of Cessna CitationJet Model 525B, 525B-0057 and 525B-0451 and ON, AFM Supplement TAG-1103-P099 CAS/AFM0002, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, West Certification 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 West Certification Branch, send it to the attention of the person identified in paragraph (i) of this AD and email it to 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(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 Anthony Caldejon, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (206) 231-3534; email:

anthony.v.caldejon@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the material listed in this paragraph under [5 U.S.C. 552\(a\)](#) and [1 CFR part 51](#).

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

(i) Tamarack Aerospace Atlas Service Bulletin SBATLAS-57-06, Issue A, dated April 19, 2023.

(ii) Tamarack Aerospace Cessna Citation Model 525, 525-0001 thru -0359, Airplane Flight Manual (AFM) Supplement TAG-1101-0099 CA/DD/M023, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.

(iii) Tamarack Aerospace Cessna Citation Model 525, 525-0360 thru -0599, AFM Supplement TAG-1101-1099 CA/DD/M037, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.

(iv) Tamarack Aerospace Cessna Citation Model 525, 525-0600 through -0684 and -0686 through -0701, AFM Supplement TAG-1101-P099 CA/DD/M038, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, dated September 20, 2023.

(v) Tamarack Aerospace Cessna Citation Model 525, 525-0685 and -0800 and on, AFM Supplement TAG-1101-M099 CA/DD/M088, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, September 20, 2023.

(vi) Tamarack Aerospace Cessna Citation Model 525A, 525A-0001 thru -0299, AFM Supplement TAG-1102-0099 CAS/AFM0003, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.

(vii) Tamarack Aerospace Cessna Citation Model 525A, 525A-0300 and on, AFM Supplement TAG-1102-P099 CAS/AFM0004, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.

(viii) Tamarack Aerospace Cessna Citation Jet Model 525B, 525B-0001 thru 525B-0056 and 525B-0058 thru 525B-0450, AFM Supplement TAG-1103-0099 CAS/AFM0001, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue C, September 20, 2023.

(ix) Tamarack Aerospace Cessna Citation Jet Model 525B, 525B-0057 and 525B-0451 and ON, AFM Supplement TAG-1103-P099 CAS/AFM0002, Tamarack Active Technology Load Alleviation System (Atlas) Winglets, Issue D, September 20, 2023.

(3) For Tamarack material identified in this AD, contact Tamarack Aerospace Group, Inc., 2021 Industrial Drive, Sandpoint, ID 83864; phone: (208) 597-4568; website: tamarackaero.com/customer-support.

(4) You may view this material 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

(817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locationsoremailfr.inspection@nara.gov.

Issued on September 10, 2024.

Steven W. Thompson,

Acting Deputy Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[[FR Doc. 2024-21112](#) Filed 9-16-24; 8:45 am]

BILLING CODE 4910-13-P