Emergency Airworthiness Directive

AD No.: 2019-0086-E

Issued: 19 April 2019

Note: This Emergency Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Change Approval Holder's Name:
CRANFIELD AEROSPACE SOLUTIONS Ltd.

Modification Description:
Installation of Tamarack ATLAS Winglets

Effective Date: 19 April 2019

STC Number(s): EASA Supplemental Type Certificate (STC) 10056170

Foreign AD: Not applicable

Supersedure: None

ATA 27 – Flight Controls – Active Technology Load Alleviating System – Deactivation / Modification

– Airplane Flight Manual Supplement – Amendment

Manufacturer(s):
Tamarack Aerospace Group

Applicability:
Textron Aviation Inc. (formerly Cessna Aircraft Company) Model 525, 525A and 525B aeroplanes, all serial numbers, if modified to have Tamarack ATLAS winglets installed in accordance with EASA STC 10056170 (any revision up to Revision 5).

Definitions:
For the purpose of this AD, the following definitions apply:

The SB: Cranfield Aerospace Solutions Ltd. Service Bulletin (SB) CAS/M0132.

The applicable AFMS: Cranfield Aerospace Solutions Ltd. Airplane Flight Manual Supplement (AFMS), as identified in Appendix 1 of this AD.

The applicable MMEL Supplement: Cranfield Aerospace Solutions Ltd. Master Minimum Equipment List (MMEL) Supplement, as identified in Appendix 1 of this AD.

Reason:

The active load alleviation system (ATLAS), when operational, deflects the Tamarack active control surfaces (TACS) on the outboard wings. Recently, occurrences have been reported in which ATLAS appears to have malfunctioned, causing upset events where, in some cases, the pilots had difficulty to recover the aeroplane to safe flight. Investigation continues to determine the cause(s) for the reported events.

This condition, if not corrected, could lead to loss of control of the aeroplane.

To address this potential unsafe condition, Cranfield Aerospace Solutions have issued the SB, providing instructions to pull and collar the ATLAS circuit breaker, to make TACS immovable and to amend the applicable AFMS.

For the reasons described above, this AD requires the Tamarack ATLAS to be deactivated and the TACS to be fixed in place. This AD also requires implementation of operational limitations and repetitive pre-flight inspections by amending the applicable AFMS. Finally, this AD requires a modification of the ATLAS, which would provide relief for the deactivation, limitations and repetitive inspections as required by this AD.

This AD is an interim action and further AD action may follow.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Deactivation / Modification / AFMS Update:

(1) Before next flight after the effective date of this AD, deactivate the ATLAS and modify the TACS to restrict their movement in accordance with the instructions of the SB, amend the applicable AFMS to include the applicable operational limitations and pre-flight inspection instructions by inserting a copy of the SB, inform all flight crews and, thereafter, operate the aeroplane accordingly.

AFMS Update:

(2) Introducing a later revision of the applicable AFMS, which includes the operational limitations and pre-flight inspection instructions of the SB, is an acceptable method to comply with the requirements of AFMS amendment as required by paragraph (1) of this AD.

MMEL Supplement Update:

(3) Concurrent with the AFMS update as required by paragraph (1) of this AD, amend Item 27-60-01 “ATLAS inoperative” of the MMEL Supplement to remove the 10 flight hours (FH) time limit, inform all flight crews and, thereafter, operate the aeroplane accordingly.

Modification:

(4) Within 100 FH after the effective date of this AD, contact Cranfield Aerospace Solutions for approved ATLAS modification instructions and accomplish those instructions accordingly.

Terminating Action:

(5) Modification of an aeroplane as required by paragraph (4) of this AD constitutes terminating action for the deactivation, limitations and repetitive pre-flight inspections as required by this AD for that aeroplane.

Following modification of an aeroplane, the ATLAS can be activated again, the TACS modified to allow unrestricted movement, and the limitations as required by paragraph (1) of this AD can be removed from the applicable AFMS of that aeroplane.

Concurrent with reactivation of the ATLAS on an aeroplane, restore the 'inoperative' time limit of 10 FH for item 27-60-01 of the applicable MMEL Supplement of that aeroplane.

Parts Installation:

(6) From the effective date of this AD, is it allowed to modify an aeroplane by installing the Tamarack ATLAS (STC 10056170), provided that, following that modification, the aeroplane complies with the requirements of this AD.

Ref. Publications:

Cranfield Aerospace Solutions Ltd. SB CAS/M0132 original issue (issue A) dated 18 April 2019.

The use of later approved revisions of the above-mentioned document is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.

3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the EU aviation safety reporting system.

5. For any question concerning the technical content of the requirements in this AD, please contact: Cranfield Aerospace Solutions Ltd., Cranfield, Bedford MK43 0AL, United Kingdom, Telephone: +44 1234 754 166, Fax: +44 1234 752375,
E-mail: g.mitchell@cranfieldaerospace.com.

Appendix 1 – Applicable AFMS and MMEL Supplements

Aeroplane Model	Serial Numbers	Applicable AFMS	Applicable MMEL Supplement
525	525-0001 to 525-0359 inclusive	CA/DD/M023, Issue B, dated 26 October 2017	CA/DD/M020, Issue C, dated October 2017
	525-0360 to 525-0599 inclusive	CA/DD/M037, Issue B, dated 26 October 2017	
	525-0600 to 525-0684 inclusive, 525-0686 to 525-0701 inclusive	CA/DD/M038, Issue B, dated 26 October 2017	
	525-0685; 525-0800 and higher	CA/DD/M088, Issue B, dated 26 October 2017	
525A	525A-0001 to 525A-0299 inclusive	CAS/AFM0003, issue A, dated 28 February 2018	CAS/MMEL1452, Issue A, dated January 2018
	525A-0300 and higher	CAS/AFM0004, issue A (R1), dated 28 February 2018	
525B	525B-0001 to 525B-0056 inclusive, 525B-0058 to 525B-0450 inclusive	CAS/AFM0001, issue A (R1), dated 28 February 2018	CAS/MMEL1440, Issue B, dated November 2017
	525B-0057; and 525B-0451 and higher	CAS/AFM0002, issue B, dated 19 December 2017	

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.