



Airworthiness Directive

AD No.: 2011-0135R2

Issued: 02 August 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

BLANIK LIMITED

Type/Model designation(s):

L-13 and L-13A Blaník sailplanes

Effective Date: Revision 2: 02 August 2016
Revision 1: 27 January 2016
Original issue: 20 July 2011

TCDS Number(s): EASA.A.024

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2011-0135R1 dated 27 January 2016.

ATA 57 – Prohibition of all flights / Restoration of Airworthiness

Wings – Wing Main Spar – Inspection / Operational Limitation / Operational Records Check

Manufacturer(s):

Strojírny první pětiletky n.p., LET n.p., LET a.s.

Applicability:

L-13 and L-13 A Blaník sailplanes, all serial numbers.

Reason:

In June 2010, a fatal accident occurred to an L-13 Blaník sailplane, in which the main spar of the right wing failed near the root due to positive load. The right wing detached from the aircraft and the pilots lost control of the sailplane. The result of the preliminary investigation revealed that the fracture was likely due to fatigue cracking.

This condition, if not corrected, could lead to structural failure, possibly resulting in loss of the sailplane.



To address this potentially unsafe condition, EASA issued Emergency AD 2010-0119-E to require an inspection of the main spar at the root of the wing to detect fatigue cracking and the accomplishment of the relevant corrective actions, depending on findings. In addition, that AD imposed operational limitations. Subsequently, EASA issued Emergency AD 2010-0122-E, retaining the requirements of AD 2010-0119-E, which was superseded, and expanding the Applicability to L-13 A Blaník sailplanes. The requirements of AD 2010-0122-E were considered an interim action to immediately address the unsafe condition.

After EASA AD 2010-0122-E was issued, based on further information provided by the Austrian Accident Investigation Board (AIB), EASA re-assessed the inspection method as described in Aircraft Industries (AI) Mandatory Bulletin (MB) L13/109a and concluded that the inspection method might not be sufficient for detecting a crack similar to those observed on the accident sailplane.

Based on these conclusions, EASA issued Emergency AD 2010-0160-E, which retained as an interim measure the inspection requirements of AD 2010-0122-E, which was superseded, required determination of the specific usage of the sailplane, i.e. the ratio between normal flight and aerobatics and, if an exceedance of certain limits was established, prohibited further flight.

After EASA AD 2010-0160-E was issued, additional analysis indicated that the L-13 Blaník accident, in June 2010, occurred before the sailplane wing main spar reached its estimated fatigue safe life limit. Consequently, the action as required by AD 2010-0160-E was considered insufficient to ensure safe operation. Indeed, a high variability of the load levels and the frequency of load application during aerobatic flight time was found, and therefore a high variability of the possibly induced fatigue damage. This concern was accentuated when doubt existed on the completeness or accuracy of aerobatic flight time records.

Based on this new insight and knowing that the inspection method as described in Aircraft Industries MB L13/109a was possibly insufficient to detect the potential fatigue cracks, as a conservative measure, EASA issued Emergency AD 2010-0185-E, superseding AD 2010-0160-E, to prohibit all operations of L-13 and L-13 A Blaník sailplanes.

After EASA AD 2010-0185-E was issued, it was determined that Model L-13 A Blaník sailplanes had a wing installed which was structurally less sensitive to fatigue than the wing installed on Model L-13 Blaník sailplanes. It was known that some L-13 Blaník sailplanes had been modified in service to conform to the L-13 A Blaník type design, although the design status of their wing structure is uncertain. Thus, it was necessary to identify the design of wing critical parts installed on the sailplane.

Aircraft Industries issued MB L13/112a which contained instructions to enable identification of L-13 Blaník sailplanes that had a reinforced wing structure in conformity with the L-13 A Blaník type design.

Consequently, EASA issued AD 2011-0135 to retain the flight prohibition imposed by EASA AD 2010-0185-E, which was superseded, and allowed sailplanes to be returned to flight with certain operating limitations, provided certain actions were successfully accomplished, as described in Aircraft Industries MB L13/112a, and depending on the sailplane usage ratio. In addition, that AD included reference to Aircraft Design & Certification Ltd. modification ADxC-DC-39-001, which was



approved under EASA Supplemental Type Certification (STC) 10035295, as an acceptable alternative method to comply with the requirement of this AD. After modification of a sailplane in accordance with this STC, flights could be resumed.

After EASA AD 2011-0135 was issued, AI, on behalf of Blaník Limited, developed modification TDC-002-L13-BL, available for in service sailplanes through MB No L13/117a, to reinforce the lower wing attachment hinges. Consequently, EASA issued AD 2011-0135R1 to recognise that modification as a method to restore the airworthiness of the sailplane.

After EASA AD 2011-0135R1 was issued, it has been noted that further ADxC modification is available to restore the airworthiness of a sailplane. Consequently, this AD is revised to clarify that, likewise modification ADxC-DC-39-001, modification ADxC-DC-39-004 (also developed by Aircraft Design & Certification Ltd and part of EASA STC 10035295), is an additional option too, that allows sailplane to resume flight.

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

Required as indicated, unless accomplished previously:

- (1) From 05 September 2010 [the effective date of AD 2010-0185-E], all flights are prohibited.
- (2) After 20 July 2011 [the effective date of this AD at original issue], inspect the sailplane to determine whether the wing structure is in conformity to the L-13 A Blaník design specification, or in conformity to the L-13 Blaník 'reinforced' design specification, in accordance with the instructions of AI MB No. L13/112a.
- (3) If, as a result of the inspection required by paragraph (2) of this AD, conformity is NOT demonstrated, all flights are prohibited.
- (4) If, as a result of the inspection required by paragraph (2) of this AD, conformity is demonstrated, accomplish all the additional actions specified in paragraphs (4.1), (4.2) and (4.3) of this AD. Only after all actions have successfully been accomplished, flights can be resumed.
 - (4.1) Determine whether the sailplane records show compliance with each of the maximum operation usage limits as detailed in Table 1 of this AD.

Table 1 - Maximum Limits

Type of Operations	Flight Hours (FH) or Winch Launches (WL)
Aerobatic Flights	100 FH
Winch launches	25 000 WL
Dual Flights	2 500 FH



If the sailplane records are inconclusive, or if any of the types of operation exceeds the maximum limit, contact the TC holder for approved instructions and accomplish those instructions accordingly.

- (4.2) Inspect the areas of wing skin joints (ribs No. 7 and 13 of the wing) for cracks at ribs and stringers in accordance with the instructions of AI MB No L13/108a. In case a failed stringer or rib is detected, accomplish a repair in accordance with the instructions of AI Information Bulletin (IB) No L13/107b.
- (4.3) Amend the Aircraft Flight Manual (AFM) as follows: All aerobatics manoeuvres, e.g. Roll (Výkrut), Loop (přemet), Stalled turn (souvrat), Immelmann turn (překrut), Half roll (zvrát) and Inverted flight (let na zádech) are prohibited. This can be accomplished by inserting a copy of this AD into the AFM and invalidating the following “aerobatics” chapter of the AFM, as applicable:
- Do-L13.1111.1 (In Czech language),
 - Do-L13.1111.3 (In English language),
 - Do-L13.1111.2 (In German language),
 - Do-L13.1111.4 (In Spanish language), or
 - Do-L13.1111.5 (In Russian language)

Alternative method of compliance:

- (5) As an alternative to the inspection required by paragraph (2) of this AD and the corrective actions required by paragraph (4) of this AD, inspect and modify the sailplane in accordance with the instructions of Aircraft Design & Certification Ltd. modification ADxC-DC-39-001 or ADxC-DC-39-004.

After inspection and modification of a sailplane in accordance with paragraph (5) of this AD, flights can be resumed with that sailplane, provided the applicable AFM and Maintenance Manual (MM) are amended, in accordance with the instructions contained in Supplement ADxC-39-001-AFM and ADxC-39-001-AMM, or Supplement ADxC-39-004-AFM and ADxC-39-004-AMM, respectively.

or

- (6) Modification of a sailplane in accordance with the instructions of AI MB No L13/117a constitutes an alternative method to comply with the requirements, as specified in paragraphs (1), (2), (3) and (4) of this AD.

After modification of a sailplane in accordance with paragraph (6) of this AD, flights can be resumed with that sailplane.

Ref. Publications:

AI IB No L13/107b, dated 18 July 2011.

AI MB No L13/108a, dated 14 July 2011.

AI MB No L13/112a, dated 16 May 2011.

AI MB No L13/117a, dated 20 January 2016.



Aircraft Design & Certification Ltd. modification ADxC-DC-39-001 (including aerobatic operation), approved by EASA through STC 10035295, which includes associated documentation:

- ADxC-39-EO-013, Issue A, dated 01 April 11 (Template for installation of structural modification),
- ADxC-39-001-AFM dated 30 March 11 (AFM supplement), and
- ADxC-39-001-AMM dated 11 June 11 (MM supplement).

Aircraft Design & Certification Ltd. modification ADxC-DC-39-004 (alternative aircraft life time limitation of 5 000 flight hours), approved by EASA through STC 10035295, which includes associated documentation:

- ADxC-39-004-AFM dated 21 December 2011 (AFM supplement),
- ADxC-39-004-AFM_E dated 21 December 2011 (AFM supplement-English version),
- ADxC-39-004-AMM dated 21 December 2011 (MM supplement), and
- ADxC-39-EO-034 dated 18 Jan 2012 (Template for installation of structural modification).

The use of later approved revisions of these documents 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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. For any question concerning the technical content of the requirements in this AD, please contact:
 Blanik Limited,
 2nd Floor Beaux Lane House
 Mercer Street Lower
 Dublin 2
 Republic of Ireland
 or
 The contracted design organisation approval holder:
 Aircraft Industries, a.s. - Na Záhonech 1177, 686 04 Kunovice, Czech Republic
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For any question concerning the technical content of Aircraft Design and Certification Ltd. modification ADxC-DC-39-001 and ADxC-DC-39-004, please contact:
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