



Airworthiness Directive

AD No.: 2011-0201R1

Issued: 29 July 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:

AIRBUS

Type/Model designation(s):

A318, A319, A320 and A321 aeroplanes

Effective Date: Revision 1: 12 August 2016
Original Issue: 27 October 2011

TCDS Number(s): EASA.A.064

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2011-0201 dated 13 October 2011, which superseded EASA AD 2006-0174 dated 21 June 2006.

ATA 32 – Landing Gear – Nose Landing Gear / Braking and Steering Control Unit – Inspection / Replacement

Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A318-111, A318-112, A318-121, A318-122, A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, A319-133, A320-211, A320-212, A320-214, A320-215, A320-216, A320-231, A320-232, A320-233, A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231 and A321-232 aeroplanes, all manufacturer serial numbers.

Reason:

In 2005, an A320 aeroplane experienced a landing with the nose landing gear (NLG) wheels rotated at 90 degrees to the aeroplane centre-line. Investigation showed that the upper support of the NLG shock absorber was damaged and the anti-rotation lugs were ruptured. This caused the nose wheels to lose their centred position reference. The affected Braking and Steering Control Unit (BSCU) had logged a steering system fault because hydraulic power was not available at the time of steering system checks, therefore the BSCU was not able to proceed with the re-centring of the wheels.



This condition, if not detected and corrected, could result in a failure of the NLG to retract, possibly preventing a safe landing.

To prevent further landing incidents with NLG wheels rotated at 90 degrees, DGAC France issued AD F-2005-191 (EASA approval 2005-6411) to require the implementation of an operational procedure and the accomplishment of certain maintenance actions.

EASA AD 2006-0174, which superseded AD F-2005-191, was issued to extend the Applicability and to introduce repetitive boroscope inspections of the NLG upper support lugs and cylinder lugs which have been driven by Enhanced Manufacture and Maintainability (EMM) BSCU L4.1, Part Number (P/N) E21327001, or L4.5, P/N E21327003, and, depending on findings, accomplishment of applicable corrective action(s).

Since that AD was issued, Airbus demonstrated the acceptability of installing EMM BSCU L4.9B (P/N E21327006 or P/N E21327106) or conventional BSCU standard (std) 10 (P/N C202163392E34) or conventional BSCU std 10.1 (P/N C202163392E35) as terminating action for the actions required by EASA AD 2006-0174, for aeroplanes fitted with twin wheel main landing gear (MLG) units.

Consequently, EASA issued AD 2011-0201, retaining some of the requirements of EASA AD 2006-0174, which was superseded, extending the Applicability to all A318, A319, A320 and A321 aeroplanes, to require installation of BSCU L4.9B, or BSCU std 10, or BSCU std 10.1 for in service aeroplanes fitted with twin wheel MLG, which constitutes terminating action for the repetitive inspections and checks required by this AD.

Since that AD was issued, several other EMM BSCU standards have been developed. This AD is revised to introduce paragraph (7), allowing installation of those later EMM BSCU as additional (optional) terminating actions. This AD also contains some editorial changes to meet current AD writing standards, without affecting the technical content or requirements.

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

Required as indicated, unless accomplished previously:

Table 1 – BSCU identification: list of P/N identification certified at time of AD issue date

P/N	Standard	Installation Details
E21327001	EMM BSCU L4.1	Airbus modification (mod) 26965, or Airbus Service Bulletin (SB) A320-32-1912
E21327003	EMM BSCU L4.5	Airbus mod 33376, or Airbus SB A320-32-1261
E21327004	EMM BSCU L4.8	Airbus mod 35216, or Airbus SB A320-32-1305, or SB A320-32-1343, or AOT A320-32A1343
E213270B1	EMM BSCU L5-2	Airbus mod 31931, or Airbus SB A320-32-1206
E21327006	EMM BSCU L4.9B	Airbus mod 38973, or Airbus SB A320-32-1350, or Airbus SB A320-32-1361
E21327106	EMM BSCU L4.9B	Airbus mod 151575 or Airbus SB A320-32-1387



P/N	Standard	Installation Details
C202163392E34	Conventional BSCU std 10	Airbus SB A320-32-1336, or Airbus SB A320-32-1360
C202163392E35	Conventional BSCU std 10.1	Airbus SB A320-32-1369
E21327007	EMM BSCU L4.10	Airbus SB A320-32-1432
E21327107	EMM BSCU L4.10	Airbus mod 157591, or Airbus SB A320-32-1432

(1) Operational Procedure

For aeroplanes that have not received Airbus mod 31152 in production, i.e. those with the steering powered by the green hydraulic system, equipped with EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8, or EMM BSCU L5-2:

- (1.1) Before next flight after 05 July 2006 [the effective date of the EASA AD 2006-0174], amend the applicable Aeroplane Flight Manual (AFM) by incorporating the operational procedure as specified in Appendix 1 of this AD.

This may be accomplished by inserting a copy of Appendix 1 of this AD into the AFM, or a copy of Airbus AFM Temporary Revision (TR) 4.02.00/03 (for aeroplane without Flight Warning Computer (FWC) H2E3P or H1E3P or subsequent standard), or TR 4.02.00/34 (for aeroplane with FWC H2E3P or H1E3P or subsequent standard), as applicable to aeroplane configuration.

- (1.2) Thereafter, within 100 flight cycles (FC) following an Electronic Centralized Aircraft Monitor (ECAM) caution message 'L/G SHOCK ABSORBER FAULT' associated with at least one of the following Centralized Fault Display System (CFDS) messages:

'N L/G EXT PROX SNSR 24GA TGT POS',

'N L/G EXT PROX SNSR 25GA TGT POS', or

'N L/G SHOCK ABSORBER FAULT 2526GM',

accomplish the actions as required by paragraphs (1.2.1), (1.2.2) and (1.2.3) of this AD concurrently.

- (1.2.1) Measure the NLG strut inflation pressure, with weight-off-wheels and weight-on-wheels, in accordance with instructions of Airbus SB A320-32-1310 Revision (Rev.) 01 and, depending on findings, accomplish the applicable adjustment(s) and/or correction(s).

- (1.2.2) Accomplish a boroscope inspection of the NLG upper support lugs and cylinder lugs in accordance with instructions of Airbus SB A320-32-1310 Rev. 01.

- (1.2.3) If, during an inspection as required by paragraph (1.2.2) of this AD, an upper support anti rotation lug is found broken or cracked, or if a cylinder lug is found



missing, before next flight, contact Airbus for approved instructions and accomplish those instructions accordingly.

- (2) **Boroscope Inspections:** Within the threshold defined in Table 2 or Table 3 of this AD, as applicable, and, thereafter, at intervals not to exceed the values specified in Table 4 of this AD, as applicable, accomplish a boroscope inspection of the NLG upper support lugs and cylinder lugs and, depending on findings, accomplish the applicable corrective actions, in accordance with the accomplishment instructions of Airbus SB A320-32-1310 Rev. 01.

(2.1) DELETED – Merged into single paragraph (2)

(2.2) DELETED – Merged into single paragraph (2).

Table 2 – Inspection Threshold for Aeroplanes fitted with Twin Wheel MLG **that have been equipped** with EMM BSCU L4.1 or EMM BSCU L4.5 or EMM BSCU L4.8

Compliance Time (whichever occurs later, A or B)	
A	Within 20 months, or 6 000 flight hours (FH) or 4 500 FC, whichever occurs first after the aeroplane first flight
B	Within 6 months, or 1 800 FH or 1 350 FC, whichever occurs first after 27 October 2011 [the effective date of the original issue of this AD]

Table 3 – Inspection Threshold for Aeroplanes fitted with Bogie MLG

Compliance Time (whichever occurs later, A or B)	
A	Within 20 months, or 6 000 FH, or 4 500 FC, whichever occurs first after the installation of EMM BSCU L5-2
B	Within 6 months, or 1 800 FH, or 1 350 FC, whichever occurs first after 27 October 2011 [the effective date of the original issue of this AD]

Table 4 – Repetitive Inspections

Aeroplane configuration	Intervals (not to exceed, calendar time, FH or FC, whichever occurs first)
Twin Wheel MLG and EMM BSCU L4.8	20 months, or 6 000 FH, or 4 500 FC
Twin Wheel MLG and EMM BSCU L4.1, or EMM BSCU L4.5	6 months, or 1 800 FH, or 1 350 FC
Bogie MLG	20 months, or 6 000 FH or 4 500 FC



(3) Terminating Action

(3.1) For aeroplanes fitted with twin wheel MLG, within 6 months after 27 October 2011 (the effective date of the original issue of this AD), modify the aeroplane by installing EMM BSCU L4.9B in accordance with the instructions of Airbus SB A320-32-1350.

(3.2) Modification of an aeroplane by installing:

- EMM BSCU L4.9B in accordance with the instructions of Airbus SB A320-32-1387, or
- EMM BSCU L4.10 in accordance with the instructions of Airbus SB A320-32-1432, or
- Conventional BSCU std 10 in accordance with the instructions of Airbus SB A320-32-1360 or Airbus SB A320-32-1336, or
- Conventional BSCU std 10.1 in accordance with the instructions of Airbus SB A320-32-1369,

is acceptable for compliance with the requirements of paragraph (3.1) of this AD.

(3.3) Modification of an aeroplane fitted with twin wheel MLG as required by paragraph (3.1) of this AD constitutes terminating action for the initial and repetitive inspections required by paragraph (2) of this AD for that aeroplane. In addition, the AFM changes required by paragraph (1.1) of this AD may be removed from the aeroplane and the checks of paragraph (1.2) of this AD are no longer required.

(4) Inspections and corrective actions, accomplished until 27 October 2011 (the effective date of the original issue of this AD), in accordance with the instructions of Airbus SB A320-32-1310 at original issue, are acceptable to comply with the initial requirements of paragraphs (1.2) and (2) of this AD. After 27 October 2011, inspections and associated corrective actions must be accomplished in accordance with the instructions of Airbus SB A320-32-1310 Rev. 01.

(5) An aeroplane embodying Airbus modification 38973 and/or Airbus modification 151575 that install EMM BSCU L4.9B and/or Airbus modification 157591 that install EMM BSCU L4.10 is not affected by the requirements of paragraphs (1), (2) and (3) of this AD provided it is determined that no EMM BSCU of a previous standard (EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8) is installed on that aeroplane.

(6) Do not install on any aeroplane an EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8, as required by paragraph (6.1) or (6.2) of this AD, as applicable.

(6.1) For an aeroplane with an EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8 installed: After modification of that aeroplane as required by paragraph (3) of this AD.

(6.2) For an aeroplane that does not have an EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8 installed: From 27 October 2011 [the effective date of the original issue of this AD].

(7) Installation on an aeroplane of a EMM BSCU standard, approved after the effective date of this AD, is equal to compliance with the requirements of paragraph (3) of this AD for that aeroplane, provided the conditions as specified in paragraphs (7.1) and (7.2) of this AD are met.



- (7.1) The EMM BSCU standard must be approved by EASA, or approved under Airbus Design Organisation Approval (DOA); and
- (7.2) The installation must be accomplished in accordance with aeroplane modification instructions approved by EASA, or approved under Airbus DOA.

Ref. Publications:

Airbus SB A320-32-1310 Revision 01 dated 23 June 2011.

Airbus SB A320-32-1336 original issue dated 19 September 2007, or Revision 01 dated 10 January 2008.

Airbus SB A320-32-1350 original issue dated 31 July 2008.

Airbus SB A320-32-1360 original issue dated 18 March 2009.

Airbus SB A320-32-1369 original issue dated 26 March 2009, or Revision 01 dated 31 March 2010.

Airbus SB A320-32-1387 original issue dated 07 April 2011.

Airbus SB A320-32-1432 original issue dated 05 October 2015, or revision 01 dated 19 April 2016

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. The original issue of this AD was posted on 21 July 2011 as PAD 11-074 for consultation until 18 August 2011. The Comment Response Document can be found at <http://ad.easa.europa.eu/>.
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: AIRBUS – Airworthiness Office – EIAS; Fax +33 5 61 93 44 51
E-mail: account.airworth-eas@airbus.com.



Appendix 1 – Operational Procedure

The ECAM message, in case of a nose wheel steering failure, will be worded as follows:

- *“WHEEL N/W STRG FAULT” for aeroplane with Flight Warning Computer (FWC) software post E3P*
- *“WHEEL N.W STEER FAULT” for aeroplane with FWC software pre E3P*
- *If the L/G SHOCK ABSORBER FAULT ECAM caution is triggered at any time in flight, and the WHEEL N/W STRG FAULT ECAM caution is triggered after the landing gear extension:*
 - *When all landing gear doors are indicated closed on ECAM WHEEL page, reset the BSCU:*
 - *A/SKID&N/W STRG----- OFF THEN ON*
 - *If the WHEEL N/W STRG FAULT ECAM caution is no longer displayed, this indicates a successful nose wheel re-centring and steering recovery.*
 - *Rearm the AUTO BRAKE, if necessary.*
 - *If the WHEEL N/W STRG FAULT ECAM caution remains displayed, this indicates that the nose wheel steering remains lost, and that the nose wheels are not centred.*
 - *During landing, delay nose wheel touchdown for as long as possible.*
 - *Refer to the ECAM STATUS.*
- *If the WHEEL N/W STRG FAULT ECAM caution appears, without the L/G SHOCK ABSORBER FAULT ECAM caution:*
 - *No specific crew action is requested by the WHEEL N/W STRG FAULT ECAM caution procedure.*
 - *Refer to the ECAM STATUS.*

Note: For aeroplanes fitted with pre FWC E3P standard, read N.W STEER instead of N/W STRG.

