EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2011-0201 **Date: 13 October 2011** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, 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 EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 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 [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Type Approval Holder's Name :	**Type/Model designation(s) :**
Airbus	A318, A319, A320 and A321 aeroplanes

TCDS Number:	EASA.A.064
Foreign AD:	Not applicable
Supersedure:	This AD supersedes 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, A320-111, 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 centreline. 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. Failure to centre the NLG wheels correctly may result in a failure of the NLG to retract. To prevent further landing incidents with NLG wheels rotated at 90 degrees, DGAC France issued AD F-2005-191 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 EMM BSCU L4.1 (Part Number (P/N) E21327001) or L4.5 (P/N E21327003) and,

	corrective actions, depending on findings. Since that AD was issued, Airbus has demonstrated the acceptability of installing EMM BSCU L4.9B (P/N E21327006 or P/N E21327106) or conventional BSCU 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. For the reasons described above, this AD retains some of the requirements of EASA AD 2006-0174, which is superseded, extends the applicability to all A318, A319, A320 and A321 aeroplanes, requires the 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. Installation of a NLG with new upper support anti-rotation lugs and new cylinders lugs, or installation of a NLG for which it can be demonstrated that it was never driven by EMM BSCU L4.1 or L4.5, is no longer considered as terminating action for the requirements of this AD.
Effective Date:	27 October 2011
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: **For the purpose of this AD, the following Part Numbers (P/N) are identified:** - **P/N E21327001:** installed by Airbus Modification 26965 or by Airbus Service Bulletin (SB) A320-32-1912 in service: **EMM BSCU L4.1**. - **P/N E21327003:** installed by Airbus Modification 33376 or Airbus SB A320-32-1261 in service: **EMM BSCU L4.5**. - **P/N E21327004:** installed by Airbus modification 35216 or Airbus SB A320-32-1305 or Airbus SB A320-32-1343/AOT A320-32A1343 in service: **EMM BSCU L4.8**. - **P/N E213270B1:** installed by Airbus modification 31931 or Airbus SB A320-32-1206: **EMM BSCU L5-2**. - **P/N E21327006:** installed by Airbus modification 38973 or Airbus SB A320-32-1350 or Airbus SB A320-32-1361: **EMM BSCU L4.9B**. - **P/N E21327106:** installed by Airbus modification 151575 or Airbus SB A320-32-1387: **EMM BSCU L4.9B**. - **P/N C202163392E34:** installed by Airbus SB A320-32-1336 or Airbus SB A320-32-1360: **conventional BSCU standard (std) 10**. - **P/N C202163392E35:** installed by Airbus SB A320-32-1369: **conventional BSCU std 10.1**. Paragraph (1) of this AD is applicable only to aeroplanes equipped with one of the following BSCU standards that have not received Airbus modification 31152 in production (i.e. applicable only to aeroplanes with the steering powered by the green hydraulic system): - EMM BSCU L4.1, or - EMM BSCU L4.5, or - EMM BSCU L4.8, or - EMM BSCU L5-2. (1) **Operational Procedure** (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 following 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.

This may be accomplished by inserting a copy of this AD into the AFM, or a copy of Airbus AFM Temporary Revision (TR) 4.02.00/03 (for aeroplane without 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 ECAM caution message 'L/G SHOCK ABSORBER FAULT' associated with at least one of the below Centralised 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 following actions concurrently:

(1.2.1) Check the NLG strut inflation pressure, weight-off- and weight-on-wheels, in accordance with instructions of Airbus SB A320-32-1310 Revision 01 and, depending on findings, make the necessary adjustments and/or corrections;

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

(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 to get further instructions and apply the associated instructions in accordance with the approved data provided.

(2) **Borescope Inspections**

(2.1) Within the threshold defined in Table 1 of Appendix 1 of this AD, as applicable to the aeroplane configuration, perform a boroscope inspection of the NLG upper support lugs and cylinder lugs and accomplish the applicable corrective actions, in accordance with the accomplishment instructions of Airbus SB A320-32-1310 Revision 01.

(2.2) Thereafter, at intervals not to exceed those specified in Table 2 of Appendix 1 of this AD, as applicable to the aeroplane configuration, repeat the boroscope inspection of the NLG upper support lugs and cylinder lugs and accomplish the applicable corrective actions, in accordance with the accomplishment instructions of Airbus SB A320-32-1310 Revision 01.

(3) **Terminating Action**

(3.1) For aeroplanes fitted with twin wheel MLG, within 6 months after the effective date 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

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

(3.3) In-service 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 prior to the effective date 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 the effective date of this AD, inspections and associated corrective actions must be accomplished in accordance with the instructions of Airbus SB A320-32-1310 Revision 01.

(5) Aeroplanes that have been delivered with Airbus modification 38973 and/or Airbus modification 151575 that install EMM BSCU L4.9B are not affected by the requirements of paragraphs (1), (2) and (3) of this AD provided that no installation of a previous EMM BSCU standard (EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8) has been performed since the aeroplane first flight.

(6) For aeroplanes that do not have EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8 installed, from the effective date of this AD, do not modify an aeroplane by installing EMM BSCU L4.1, or EMM BSCU L4.5, or EMM BSCU L4.8 on those aeroplanes.

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. 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. 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 Safety Information Section, Executive Directorate, EASA. 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 – EAS, Fax +33 5 61 93 44 51, E-mail: account.airworth-eas@Airbus.com.

Appendix 1 – Initial- and Repetitive Inspection Compliance Times

Table 1 – Initial Inspection

Aeroplane configuration	**Threshold - whichever occurs later, A or B**
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	**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 the effective date of this AD.
Aeroplanes fitted with Bogie MLG	**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 the effective date of this AD.

Table 2 – Repetitive Inspections

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