
AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/A320/187 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Airbus Industrie A319, A320 and A321 Series Aeroplanes

**AD/A320/187
Amdt 1**

Nose Landing Gear Steering

4/2007

Applicability: AIRBUS A318, A319, A320 and A321 aircraft that are equipped with an EMM Braking and Steering Control Unit (BSCU) part number (PN) E21327001 (Standard L4.1, AIRBUS Modification 26965 - Service Bulletin A320-32-1912) or PN E21327003 (Standard L4.5, AIRBUS Modification 33376 - Service Bulletin A320-32-1261).

This Airworthiness Directive (AD) is not applicable to aircraft that have been delivered and equipped with BSCU standard L4.8 from production incorporating modification 35216(installation of EMM BSCU PN E21327004) or non EM BSCU.

Requirement: 1. The following operational procedure is only for those aircraft that have not incorporated AIRBUS modification 31152 in production (i.e. applicable only to aircraft with the steering powered by the green hydraulic system).

Incorporate the following or AFM TR 4.02.00/33 for aircraft without FWC H2E3P or H1E3P or subsequent standard, or TR 4.02.00/34 for aircraft with FWC H2E3P or H1E3P into the Aircraft Operations Manual as well as the Aircraft Flight Manual.

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

- "WHEEL N/W STRG FAULT" for aircraft with FWC software post E3P
- "WHEEL N.W STEER FAULT" for aircraft 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-centering and steering recovery.

Airbus Industrie A319, A320 and A321 Series Aeroplanes

AD/A320/187 Amdt 1 (continued)

- 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 centered.
 - 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
2. Check the NLG strut inflation pressure, weight off and weight on wheels, in accordance with AIRBUS Aircraft Maintenance Manual (AMM) 12-14-32 and its associated TR issued on 13 November 2005; and
- Perform a one time boroscopic inspection of the NLG upper support (backplate) to detect anti-rotation lugs ruptured (completely broken), in accordance with AIRBUS Technical Note 957.1901/05, dated 18 October 2005; and
- Report the results of all inspections to AIRBUS.
3. If any upper support anti-rotation lugs are found ruptured (completely broken), carry out all necessary actions to get a serviceable NLG.
4. Perform a boroscopic inspection of the NLG upper support lugs and carry out any rectification as required. Rectification is detailed in SB A320-32-1310.

Terminating Action.

Installation of a NLG with new upper support anti-rotation lugs and new cylinder lugs;

or

Installation of a NLG for which it can be demonstrated that is was never driven by EMM BSCU L4.1 or L4.5;

Together with the installation of an EMM BSCU standard L4.8 or non EMM BSCU provides terminating action to the requirements of this AD.

Airbus Industrie A319, A320 and A321 Series Aeroplanes

AD/A320/187 Amdt 1 (continued)

Note: EASA AD 2006-0174 dated 21 June 2006 refers. This AD supersedes DGAC AD F-2005-191.

- Compliance:
1. Remains unchanged as from 5 December 2005 (the effective date of the original issue of this AD).
 2. Within 100 flight cycles following an ECAM caution 'L/G SHOCK ABSORBER FAULT' associated with at least one of the following Centralised Fault Display System (CFDS) messages:

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

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

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

3. Before further flight.
 4. **For aircraft that are equipped with EMM BSCU standard L4.1 or L4.5:**

 Prior to the accumulation of 20 months or 6000 flight hours or 4500 flight cycles since first flight of the aircraft, whichever occurs first; or

 Within 6 months, or 1800 flight hours or 1350 flight cycles following the effective date of this AD, whichever occurs first.

 Thereafter repeat the inspection at intervals not to exceed 6 months or 1800 flight hours or 1350 flight cycles whichever occurs first.

 For aircraft that are equipped with EMM USCU standard L4.8 or a non EMM BSCU:

 Prior to the accumulation of 20 months or 6000 flight hours or 4500 flight cycles since first flight of the aircraft, whichever occurs first; or

 Within 6 months, or 1800 flight hours or 1350 flight cycles following the effective date of this AD.

 Thereafter repeat the inspection at intervals not to exceed 20 months or 6000 flight hours or 4500 flight cycles whichever occurs first.
- This Amendment becomes effective on 12 April 2007.
- Background: An event where an A320 landed with the Nose Landing Gear (NLG) wheels rotated at 90 degrees to the aircraft centreline was recently reported.

Airbus Industrie A319, A320 and A321 Series Aeroplanes

AD/A320/187 Amdt 1 (continued)

Investigation showed that the upper support of the NLG shock absorber was damaged and the anti-rotation lugs were ruptured. This led the nose wheels to lose their centered position reference normally ensured by the shock-absorber cams. The 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-centering of the wheels.

To prevent reoccurrence of landings with the NLG turned 90 degrees, this AD introduces operational procedures and maintenance actions.

This amendment changes the applicability, introduces an additional boroscopic inspection and provides a terminating action to the AD through modifications.

The original issue of this AD became effective on 5 December 2005.



David Punshon
Delegate of the Civil Aviation Safety Authority

16 February 2007