Airworthiness Directive

AD No.: 2016-0135

Issued: 08 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:
ATR-GIE AVIONS de TRANSPORT RÉGIONAL

Type/Model designation(s):
ATR 42 and ATR 72 aeroplanes

Effective Date: 22 July 2016

TCDS Number(s): EASA.A.084

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2014-0074 dated 21 March 2014.

ATA 32 – Landing Gear – Main Landing Gear Hinge Pin – Inspection / Replacement

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Manufacturer(s):
ATR-GIE Avions de Transport Régional (formerly Aerospatiale – Aeritalia, Aerospatiale – Alenia, Aerospatiale ATR – ALENIA, EADS ATR – Alenia)

Applicability:
ATR 42 and ATR 72 aeroplanes, all certified models, all manufacturer serial numbers (MSN).

Reason:
Prompted by cases of rupture of main landing gear (MLG) rear hinge pin part number (P/N) D61000 encountered in service in 1994 and 1996, DGAC France issued AD 96-131-064 (B) for ATR 42 aeroplanes and AD 96-096-029 (B) for ATR 72 aeroplanes to require inspection and, depending on findings, corrective action. Since those ADs were issued, new occurrences of cracked rear hinge pin P/N D61000 were reported on ATR72 MLG. The result of subsequent investigation revealed that the affected pins were subjected to a non-detected thermal abuse done in production during grinding process. Analysis also showed that other MLG pin P/N's could be affected by the same production issue.

This condition, if not detected and corrected, could lead to structural failure and consequent collapse of the MLG, possibly resulting in damage to the aeroplane and injury to the occupants.

To address this potential unsafe condition, EASA issued AD 2014-0074 to require inspection and, depending on findings, replacement of affected pins.

After EASA AD 2014-0074 was issued, a new occurrence was reported of a cracked MLG hinge pin P/N D62055 installed on the MLG Side Brace of an ATR 42 aeroplane. This new occurrence was also identified as related to a non-detected thermal abuse done in production during grinding process.

Prompted by this new occurrence, Messier Bugatti Dowty (MBD) updated the list of MLG hinge pins affected by this unsafe condition by adding serial numbers (S/N), which were previously not considered by EASA AD 2014-0074. In addition, it was determined that the compliance time for replacement of pins with P/N D62055 must be reduced. The six affected MBD Service Bulletins (SB) were revised accordingly, and six new ones were also published to address this issue.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0074, which is superseded, but addresses an expanded MLG hinge pin population with appropriate compliance time(s).

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

(1) Within the compliance time specified in, and in accordance with the instructions of the applicable MBD SB, as defined in Table 1 (ATR 72) or Table 2 (ATR 42) of this AD, as applicable to aeroplane model and MLG Hinge P/N (hereafter referred as 'the applicable MBD SB' in this AD), identify the S/N of the left hand (LH) and right hand (RH) MLG hinge pins.

A review of aeroplane maintenance records is an acceptable method to accomplish this identification, provided the P/N and S/N of the MLG hinge pins installed on the aeroplane can be conclusively identified from that review.

Table 1 – ATR 72 Aeroplanes

MLG Hinge P/N	Applicable MBD SB	Compliance time
D60955 D60968 D60999 D61032 D61061	SB 631-32-214 R1, SB 631-32-219 R1, or SB 631-32-233	**A** or **B**, whichever occurs later: **A**: Not later than the next scheduled MLG overhaul after the effective date of this AD **B**: Within 20 000 flight cycles (FC) or 9 years, whichever occurs first, accumulated since first installation of a MLG on an aeroplane since new, or since last overhaul, as applicable
D61000	SB 631-32-213 R2, SB 631-32-216 R3, or SB 631-32-232 R1	Within 12 months after the effective date of this AD.

Table 2 – ATR 42 Aeroplanes

MLG Hinge P/N	Aeroplane model(s)	Applicable MBD SB	Compliance time
D62054 D63823 D63825	All	SB 631-32-215 R1, SB 631-32-220 R1, or SB 631-32-235	**A** or **B**, whichever occurs later: **A**: Not later than the next scheduled MLG overhaul after the effective date of this AD **B**: Within 20 000 flight cycles (FC) or 9 years, whichever occurs first, accumulated since first installation of a MLG on an aeroplane since new, or since last overhaul, as applicable
D56800 D56800-1 D56809 D56841 D57261 D57401 D57407 D58807 D62079	ATR42-300		
D62055	All	SB 631-32-224, SB 631-32-231, or SB 631-32-234	Within 24 months after the effective date of this AD

(2) If, during the identification as required by paragraph (1) of this AD, a MLG hinge pin with a S/N listed in the applicable MBD SB is found to be installed, within the compliance time specified in Table 1 (ATR 72) or Table 2 (ATR 42) of this AD, as applicable to aeroplane model and MLG Hinge P/N, and in accordance with the instructions of the applicable MBD SB, replace each affected MLG pin with a serviceable part.

Note: For the purpose of paragraph (2) of this AD, a serviceable MLG hinge pin is a part that either (1) does not belong to the identified batch as listed in the applicable MBD SB; or (2) can be identified, through the MLG maintenance records, as having been inspected and reconditioned in accordance with the instructions of the applicable MBD SB.

(3) From the effective date of this AD, installation on an aeroplane of a MLG hinge pin having a P/N defined in Table 1 or Table 2 of this AD, and having a S/N defined in the applicable MBD SB, is not allowed, unless the part can be identified, through the MLG maintenance records, as having been inspected and reconditioned in accordance with the instructions of the applicable MBD SB.

(4) Identification and replacement of all MLG hinge pins on an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of MBD SB 631-32-213 original issue or Revision 1, SB 631-32-214 original issue, SB 631-32-215 original issue, SB 631-32-216 original issue or Revision 1 or Revision 2, SB 631-32-219 original issue, SB 631-32-220 original issue or SB 631-32-232 original issue, as applicable, is acceptable to comply with the requirements of paragraphs (1) and (2) of this AD for that aeroplane.

Ref. Publications:
Messier Bugatti Dowty SB 631-32-213, original issue, dated 16 December 2013, or Revision 1, dated 08 December 2014, or Revision 2, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-214, original issue, dated 13 January 2014, or Revision 1, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-215, original issue, dated 13 January 2014, or Revision 1, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-216, original issue, dated 30 October 2013, or Revision 1, dated 17 December 2013, or Revision 2, dated 08 December 2014, or Revision 3, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-219, original issue, dated 03 March 2014, or Revision 1, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-220, original issue, dated 03 March 2014 or Revision 1, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-224, original issue, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-231, original issue, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-232, original issue, dated 08 December 2014, or Revision 1, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-233, original issue, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-234, original issue, dated 15 March 2016.

Messier Bugatti Dowty SB 631-32-235, original issue, dated 15 March 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. This AD was posted on 24 May 2016 as PAD 16-077 for consultation until 21 June 2016. 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: ATR - GIE Avions de Transport Régional, Continued Airworthiness Service,

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