Airworthiness Directive

AD No.: 2018-0017

Issued: 26 January 2018

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:

CEAPR

Type/Model designation(s):

HR 100 and R 1180 aeroplanes

Effective Date: 09 February 2018

TCDS Number(s): EASA.A.368

Foreign AD: Not applicable

Supersedure: None

ATA 32 – Landing Gear – Nose Landing Gear Oleo Outer Cylinder Support Plate – Inspection / Replacement

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Manufacturer(s):

Centre Est Aéronautique, Avions Pierre Robin, Robin Aviation, Constructions Aéronautiques de Bourgogne, APEX Industries, Robin Aircraft

Applicability:

HR 100/200, HR 100/200 B, HR 100/210, HR 100/210 D, R 1180 T and R 1180 TD aeroplanes, all serial numbers.

Definitions:

For the purpose of this AD, the following definitions apply:

The SB: CEAPR Service Bulletin (SB) 160402.

Affected part: Types 1, 2 and 3 NLG oleo outer cylinders, as defined by CEAPR.

Reason:

Occurrences were reported of finding cracks on the nose landing gear (NLG) lower plate and its welding to the oleo outer cylinder. Technical investigations initially determined the cause of these cracks to be overstress in the NLG due to hard landings. Later occurrences were determined to have been due to fatigue failure of welding of the upper or lower plate to the NLG oleo outer cylinder.

This condition, if not corrected, could lead to collapse of the NLG upon landing, possibly resulting in damage to the aeroplane and injury to occupants.

To initially address this issue, Avions Pierre Robin (later APEX) issued SB 101 (revised several times) to provide inspection instructions and, consequently, DGAC France published AD 83-206 (later revised) to require repetitive inspections of the NLG upper and lower plates and the weldings to the oleo outer cylinder and, depending on findings, accomplishment of applicable corrective action(s). After DGAC France AD 83-206(A) R3 was issued, prompted by Safety Recommendation 2004-87 of the AAIB (the United Kingdom accident investigator), EASA issued AD 2007-0171, retaining the requirements of the AD 83-206(A) R3, which was superseded, requiring the use of APEX SB 101 at Revision 5, providing improved inspection instructions. At the same time, the Civil Aviation Authority of New Zealand published AD DCA/R2000/15A applicable to the HR 200 and R 2000 series aeroplanes, the type approval for which had been transferred in 2006 to Alpha Aviation.

After EASA AD 2007-0171 was issued, prompted by several reports of finding cracks on “SAB” type NLG, similar to those reported on the “Avions Robin” NLG, EASA issued AD 2010-0231, retaining the requirements of AD 2007-0171, which was superseded, extending the Applicability to model DR 253 aeropanes, as well as requiring action on all aeroplanes equipped with “SAB” NLG.

Since that AD was issued, another occurrence of NLG collapse was reported. Investigation revealed the possibility of fatigue cracks in the weld that cannot be detected by the inspections as required by EASA AD 2010-0231. Although the NLG installed on the HR 100 / R 1180 type design is identical, investigations have shown that the fatigue cracks only occurred on DR 253, DR 300 and DR 400 series aeroplanes. Consequently, CEAPR issued the SB to provide improved inspection instructions. Installation of a new design NLG, as required by EASA AD 2018-0018 for DR 253, DR 300 and DR 400 aeroplanes, is not necessary for HR 100 and R 1180 aeroplanes.

For the reasons described above, this AD takes over the requirements for HR 100 and R 1180 aeroplanes from EASA AD 2010-0231 (which will be cancelled), but requires use of the new inspection instructions at different intervals. This AD also requires introducing those inspections into the approved aircraft maintenance programme.

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

Required as indicated, unless accomplished previously:

Repetitive Inspections:

(1) During the next scheduled 100 flight hours (FH)/annual inspection after the effective date of this AD, and, thereafter, during each scheduled 100 FH/annual inspection, visually inspect the affected part in accordance with the instructions of paragraph 9.1 of the SB.

(2) During the next scheduled 2 000 FH/6 years inspection after the effective date of this AD, and, therafter, during each 2 000 FH/6 years inspection, accomplish a dye penetrant inspection of the affected part in accordance with the instructions of 9.1 of the SB.

Note 1: The scheduled inspections specified in paragraphs (1) and (2) of this AD are those defined in CEAPR maintenance documentation, which allows the use of a 10% tolerance.

(3) From the effective date of this AD, before next flight after a hard landing, visually inspect the affected part in accordance with the instructions of paragraph 9.1 of the SB.

Corrective Action(s):

(4) If, during any inspection as required by paragraph (1), (2) or (3) of this AD, as applicable, any crack indication is detected, before next flight, replace each cracked part with a serviceable part, as defined in, and in accordance with the instructions of, the SB.

Terminating Action:

(5) None.

Aircraft Maintenance Programme (AMP) Revision:

(6) Within 12 months after the effective date of this AD, revise the approved AMP, on the basis of which the operator or the owner ensures the continuing airworthiness of each operated aeroplane, by incorporating the maintenance inspections and associated intervals as specified in the SB.

Recording AD compliance:

(7) When the AMP of an aeroplane has been revised as required by paragraph (9) of this AD, that action ensures (see Note 2 of this AD) continued accomplishment of the tasks as required by paragraphs (1), (2), (3) and (4) of this AD for that aeroplane. Consequently, after revising the AMP, as required by paragraph (6) of this AD, as applicable, it is not necessary that accomplishment of individual action is recorded for demonstration of AD compliance on a continued basis.

Note 2: For affected HR 100 and HR 1180 aeroplanes registered in Europe, complying with the approved AMP, as specified in paragraph (6) of this AD, is required by Commission Regulation (EU) 1321/2014, Part M.A.301, paragraph 3.

Ref. Publications:

CEAPR SB N°160402 original issue dated 15 September 2017, published 14 December 2017.

The use of later approved revisions of the above-mentioned document 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 12 December 2017 as PAD 17-165 for consultation until 09 January 2018. No comments were received during the consultation period.

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: CEAPR, Bureau de Navigabilité, 1 Route de Troyes – 21121 Darois, FRANCE Telephone: +33 (3) 80 35 25 22, Fax: +33 (3) 80 35 25 25, E-mail: info@ceapr.com.