



Airworthiness Directive

AD No.: 2014-0140R2

Issued: 30 October 2019

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 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 (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

WSK "PZL-ŚWIDNIK" S.A.

Type/Model designation(s):

PZL SW-4 helicopters

Effective Date: Revision 2: 06 November 2019
Revision 1: 24 December 2014
Original issue: 10 June 2014

TCDS Number(s): EASA R.100

Foreign AD: None

Revision: This AD revises EASA AD 2014-0140R1 dated 11 December 2014.

ATA 62 – Main Rotor – Hydraulic Drag Damper Lug – Replacement

Manufacturer(s):

Wytwórnia Sprzętu Komunikacyjnego (WSK) "PZL-Świdnik" S.A. (PZL Świdnik)

Applicability:

PZL SW-4 helicopters, all serial numbers. Those helicopters are fitted with main rotor hydraulic drag dampers Part Number (P/N) TLH48-1.

Definitions:

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

The MB: WSK "PZL-Świdnik" S.A. Mandatory Bulletin (MB) No. BO-60-13-65.

Affected part: Hydraulic damper lugs, having P/N TLH48-1-105, if part of production batch 06 or earlier.

Serviceable part: Hydraulic damper lugs, having P/N TLH48-1-105, if part of production batch 07 or later; or hydraulic damper lugs, having P/N TLH48-1-205.



Reason:

Oscillations of increasing intensity were experienced during landing of a SW-4 helicopter (military version of PZL SW-4 helicopter), while reducing the main rotor speed to ground idle. During inspection after landing, a cracked lug P/N TLH48-1-105 was found in one of the three main rotor hydraulic drag dampers P/N TLH48-1. The crack was located in the threaded part of the lug screwed into the damper shank. Further investigation into the causes of lug failure showed that uncertainty of the fatigue life established for the lug (as being equal to the hydraulic damper life limit) could have been a contributing factor for lug cracking. This uncertainty results from a diversity in lug manufacturing parameters (e.g. two alternative methods of thread cutting, wide range of material hardness).

This condition, if not corrected, could result in failure of the hydraulic damper function, possibly inducing ground resonance and causing injury to occupants and/ or persons on the ground.

To address this unsafe condition, WSK PZL Świdnik issued Revision 1 of the MB to provide replacement instructions for the affected parts.

Consequently, EASA issued AD 2014-0140 to require repetitive replacement of each affected part with a P/N TLH48-1-105 and to impose a retirement life limit for the replacement lugs. Since EASA AD 2014-0140 was issued, WSK PZL Świdnik developed a modification (implemented in Revision 2 of the MB) to restore the fatigue life of lugs P/N TLH48-1-105 with a production batch number 07 or higher to the original level of retirement life limit of the hydraulic damper assembly. Prompted by this development, EASA issued AD 2014-0140R1 to remove retirement life limit for replacement lugs having a production batch number 07 or higher.

Since AD 2014-0140R1 was issued, WSK PZL Świdnik designed a new lug, P/N TLH48-1-205, which is eligible for installation on SW-4 helicopters and issued Revision 3 of the MB.

For the reasons described above, this AD is revised to introduce installation of lug P/N TLH48-1-205 as an alternative option to comply with the requirements of this AD. This revised AD also contains some editorial changes for standardisation reasons, not affecting the requirements.

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

Required as indicated, unless accomplished previously:

Replacement:

- (1) For helicopters that have an affected part installed on the hydraulic drag damper, within 50 flight hours (FH) after 10 June 2014 [the effective date of EASA AD 2014-0140], or before exceeding 300 FH since first installation of the affected part, whichever occurs later, replace each affected part with a serviceable part, as defined in this AD, in accordance with the instructions of the MB.

Parts Installation:

- (2) From 24 December 2014 [the effective date of EASA AD 2014-0140R1], it is allowed to install on any helicopter a hydraulic damper lug, provided it is a serviceable part, as defined in this AD.



Ref. Publications:

WSK "PZL-Świdnik" S.A. MB No. BO-60-13-65 Revision 1 dated 27 May 2014 or Revision 2 dated 28 November 2014, or Revision 3 dated 18 October 2019.

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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#).
5. For any question concerning the technical content of the requirements in this AD, please contact: WSK "PZL- Świdnik" S.A., Al. Lotników Polskich 1, 21-045 Świdnik, Poland; Telephone: (+48) 81 722 6140; E-mail: PL-CustomerSupport.AW@leonardocompany.com.

