



Airworthiness Directive

AD No.: 2016-0099

Issued: 24 May 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:

WSK „PZL-ŚWIDNIK” S.A.

Type/Model designation(s):

PZL SW-4 helicopters

Effective Date: 07 June 2016

TCDS Number(s): EASA.R.100

Foreign AD: Not applicable

Supersedure: None

ATA 64 – Tail Rotor – Tail Rotor Blades – Inspection / Replacement

Manufacturer(s):

Wytwórnia Sprzętu Komunikacyjnego (WSK) “PZL-Świdnik” Spółka Akcyjna (S.A.)

Applicability:

PZL SW-4 helicopters, all serial numbers (S/N).

Reason:

During an inspection of attachment components of the tail rotor (TR) blades, Part Number (P/N) 60.02.680.00.01, installed on a military SW-4 helicopter, traces of corrosion were found inside the feathering hinge case P/N 60.02.686.01.01, which is an integral part of the TR blade. The blade had accumulated 671 flight hours (FH) during a 91 months service period. Additional non-destructive and destructive inspections and tests of the TR blade, accomplished during the investigation to detect the scope of corrosive damage, revealed dark irregular corrosion stains and pits on the internal surface of feathering hinge case in the vicinity of the hole, through which passes the pin attaching the blade to the hub tension-torsion strap. No cracks of the feathering hinge case were detected.

The application of insufficient anticorrosion protective coating was identified as a probable cause of the corrosion inside the feathering hinge case. The corrosion promoting conditions are: moisture collected inside the case and possible defects of the case internal surface, caused by the tension-torsion strap. The anticorrosion protective coating can be damaged also during installation and/or



removal of a TR blade. TR blade feathering hinge case surface damage, due to corrosion, affects the fatigue strength of that part and can lead to fatigue cracking.

This condition, if not detected and corrected, could lead to structural failure of the TR and consequent loss of the TR anti-torque function, possibly resulting in loss of control of the helicopter.

To address this unsafe condition, WSK "PZL-Świdnik" S.A. issued Mandatory Bulletin (MB) No. BO-60-16-77 providing instructions for inspection and, depending on findings, application of anti-corrosion protection inside the TR feathering hinge case.

For the reasons described above, this AD requires replacement of affected TR blades, repetitive inspections of each TR blade feathering hinge case to detect corrosion and to determine the condition of the anti-corrosion protective coating and, depending on findings, replacement of affected TR blades. This AD allows installation of TR blade in conformity with an identified design standard.

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

Required as indicated, unless accomplished previously:

For all helicopters equipped with TR blades P/N 60.02.680.00.01, except blades having serial number (S/N) A.60.04.027, S/N A.60.04.28, and S/N A.60.05.064 or higher:

- (1) Before exceeding 400 FH accumulated by a TR blade since new (see Note 1 of this AD) or within 12 months after the effective date of this AD, whichever occurs first, replace each TR blade with a serviceable part in accordance with the instructions of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77 (see paragraph (5) of this AD).

Note 1: To obtain TR blade manufacturing date, contact WSK "PZL-Świdnik" S.A., as applicable.

For all helicopters equipped with TR blade P/N 60.02.680.00.01:

- (2) Within the compliance time defined in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 36 months accumulated by the TR blade since the previous inspection or repair (see Note 2 of this AD), as applicable, inspect each TR blade in accordance with the instructions of Attachment 1 of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77.

Note 2: For the purpose of the paragraph (2) of this AD, a "repair" is a maintenance action accomplished by WSK "PZL-Świdnik" S.A. in accordance with the instructions of Chapter II paragraph 4. of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77.

Table 1 – Compliance Time

Affected TR blades	Compliance Time
All TR Blades, except S/N A.60.04.027, S/N A.60.04.28, and S/N A.60.05.064 or higher	Within 36 months after the date of release to service issued by WSK "PZL-Świdnik" S.A. after an inspection and modification accomplished in accordance with the instruction of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-07



S/N A.60.04.027 and S/N A.60.04.28	Within 36 months after the effective date of this AD
S/N A.60.05.064 and higher	Before exceeding 36 months since new (see Note 1 of this AD)

- (3) If, during any inspection as required by paragraph (2) of this AD, any discrepancy is detected, as defined in the instructions of Attachment 1 to WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77, before next flight, replace the affected TR blade with a serviceable part in accordance with the instructions of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77 (see paragraph (5) of this AD).
- (4) Replacement of a TR blade on a helicopter, as required by paragraph (3) of this AD, does not constitute terminating action for the repetitive inspections as required by paragraph (2) of this AD for that helicopter.
- (5) From the effective date of this AD, installation of a TR blade P/N 60.02.680.00.01 on a helicopter is allowed, provided the part meets the criteria defined in paragraph (5.1) or (5.2) of this AD, as applicable.
 - (5.1) The part is released to service by WSK "PZL-Świdnik" S.A. after an inspection and modification accomplished in accordance with the instructions of Chapter II paragraph 3. of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77 or after a repair accomplished in accordance with the instructions of Chapter II paragraph 4. of WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77, without any FH accumulated after that modification or repair, as applicable.
 - (5.2) The feathering hinge case of the TR blade corresponds to design standard P/N 60.02.686.01.01 revision H, or subsequent, and, for used TR blade only, before installation, the TR blade has passed an inspection in accordance with the instructions of Attachment 1 to WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77.

Ref. Publications:

WSK "PZL-Świdnik" S.A. MB No. BO-60-16-77 original issue dated 11 May 2016.

The use of later approved revisions of this 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 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:

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Corrected

