



Civil Aviation Authority

MANDATORY PERMIT DIRECTIVE



Number: 2016-010

Issue date: 5 October 2016

In accordance with Article 41(1) of the Air Navigation Order 2016 the following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

Type Approval Holder's Name:

N/A

Type/Model Designation(s):

Westland Gazelle AH.Mk 1, HT.Mk 2 and HT.Mk 3 helicopters

Title:

ATA 65 – Main Rotor – Main Rotor Hub Torsion Bars – Inspection

Manufacturer:

Westland Helicopters Ltd

Applicability:

Gazelle AH.Mk 1 (SA 341B), HT.Mk 2 (SA 341C) and HT.Mk 3 (SA 341D) helicopters

Reason:

The reason for this MPD is as stated in EASA AD 2014-0216:

“Several cases of cracks were found on the polyurethane (PU) coating of the main rotor hub (MRH) torsion bars P/N 704A33633274 installed on military SA 341 helicopters. These parts can also be installed on civilian SA 341 and SA 342 helicopters. In addition, analysis of the cracked torsion bars has shown that small areas of superficial corrosion on the strands inside the bars can also develop during the manufacturing process. The cracking of the PU coating near these areas and the associated penetration of water can lead to further and deeper development of the corrosion.

This condition, if not detected and corrected, allows water to penetrate into the torsion bar, causing corrosion and failure of the metal strands inside the bar, which could lead to torsion bar failure, resulting in in-flight loss of a main rotor blade and consequent loss of control of the helicopter.”

This MPD extends the applicability of the EASA AD, to cover the UK ex-military fleet of Gazelle helicopters, as identified in Airbus Helicopters Alert Service Bulletin (ASB) No. SA341/342-05.40.

Effective Date:

7 October 2016

Compliance/Action:

To address this unsafe condition, Airbus Helicopters issued Alert Service Bulletin (ASB) SA341/SA342-05.40, providing instructions for reducing the intervals of the existing repetitive inspection of the torsion bars, which are described in the applicable maintenance manual (document identified as MAT) and currently required through the existing instructions for continued airworthiness (document identified as PRE). For the reasons described above, this MPD requires reduced intervals for the repetitive inspection of the torsion bars compared to the existing intervals indicated in the current PRE document.

Required as indicated, unless accomplished previously:

- 1) Initially, within the compliance time specified in Table 1 or Table 2 of this MPD, as applicable, and, thereafter, at intervals not to exceed the values as specified in Table 3 of this MPD, as applicable, inspect the MRH torsion bars P/N 704A33633274 in accordance with the instructions of Airbus Helicopters MAT Work Card n° 8701: 50.10.607.

Table 1 – Initial Inspection of Torsion Bars installed less than 5 years

Flight Hours (FH) accumulated by the helicopter (on the effective date of this MPD) since last inspection of the torsion bar	Compliance Time
less than 320 FH	Before exceeding 420 FH or 24 months, whichever occurs first since last inspection.
320 FH or more	Within 100 FH, or within the scheduled inspection time limit for the torsion bars as indicated in the current PRE, whichever occurs first after the effective date of this MPD.

Table 2 – Initial Inspection of Torsion Bars installed 5 years or more

Service life (FH or calendar time) accumulated by the helicopter on the effective date of this MPD since last inspection of the torsion bar	Compliance Time
less than 320 FH, and last inspection performed less than 6 months before the effective date of this MPD	Before exceeding 420 FH or 24 months, whichever occurs first since last inspection.
320 FH or more, or last inspection performed 6 months or more before the effective date of this MPD	Within 100 FH, or within 6 months, or within the scheduled inspection time limit for the torsion bars as indicated in the current PRE, whichever occurs first after the effective date of this MPD.

Table 3 – Repetitive Inspections of Torsion Bars	
Duration of installation of the torsion bar on a helicopter	Inspection Intervals (not to exceed)
less than 6 years	420 FH or 24 months, whichever occurs first, until reaching the limit of 6 years after first installation on a helicopter
6 years or more	420 FH or 12 months, whichever occurs first, without exceeding the existing service life limits indicated in the airworthiness limit section of the current PRE.

2) If, during any inspection as required by paragraph (1) of this MPD, a crack in the PU coating of a torsion bar is found which matches or exceeds the criteria defined in MAT Work Card n° 8701: 50.10.607, before next flight, replace the affected torsion bar with a serviceable one in accordance with the instructions of Airbus Helicopters ASB SA341/SA342-05.40.

3) Replacement of a torsion bar on a helicopter as required by paragraph (2) of this MPD does not constitute terminating action for the repetitive inspections as required by paragraph (1) of this MPD for that helicopter.

4) From the effective date of this MPD, installation on a helicopter of MRH torsion bars P/N 704A33633274 is allowed, provided that, following installation, the helicopter is inspected and, depending on findings, corrected, as required by this MPD.

ENSURE COMPLIANCE WITH THIS MPD IS RECORDED IN THE AIRCRAFT LOGBOOK

Reference Publications:	Airbus Helicopters Alert Service Bulletin (ASB) No. SA341/342-05.40 Airbus Helicopters MAT Work Card n° 8701: 50.10.607 The use of later approved revisions of these documents are acceptable for compliance with the requirements of this MPD
Remarks:	1) Based on the required actions and compliance time, the CAA decided to issue this MPD with a request for comments, postponing the public consultation process until after publication.
	2) If requested and appropriately substantiated, the CAA may accept alternative methods of compliance to this MPD. 3) Enquiries regarding this MPD should be referred to: GA Unit, Civil Aviation Authority, Safety & Airspace Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.
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