Temporary Maintenance Instruction
TMI109-031 Rev. D

Inspections of the helicopter following start-up with rotor brake engaged

A109C / A109E / A109 Nexus / A109S / AW109SP / AW109SP-REGA / A109LUH / A109LUHS / A109LUHNZ / A109LUHAG / A109LUHAP / A109LUHN / A109LOH Helicopters

The technical content of this document is approved under the authority of DOA nr. EASA.21J.005.

The present TMI will be evaluated for its introduction in the standard set of Technical Publication.
If no further notice is received, the present document expires on: January 28th, 2022.

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Introduction

The aim of this procedure is to shows and explains the tasks to be performed on helicopter following engine(s) start-up with rotor brake engaged.

Revision D of this TMI is published in order to extend the expiration date and to add A109C and 109 Nexus in the TMI effectivity.

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Table 1 References

Section / Data Module	Title
0B-A-00-20-00-00A-120A-A (1)	Helicopter safety – Make the helicopter safe for maintenance

(1) Applicable to AW109SP Helicopters. For the other helicopter models refer to the applicable Data Module of the Aircraft Maintenance Manual.

Preliminary requirements

Required conditions

Table 2 Required conditions

Condition	Data Module/Section /Technical Publication
The helicopter must be safe for maintenance	0B-A-00-20-00-00A-120A-A

Support equipment

Table 3 Support equipment

Nomenclature	Identification No.	Qty
None		

Supplies

Table 4 Supplies

Nomenclature	Identification No.	Qty
None		

Spares

Table 5 Spares

Nomenclature	Identification No.	Qty
None		

Safety conditions

None

Procedure

Note

All the DM references stated in the following procedure are applicable to AW109SP helicopters. For the other helicopter models refer to the applicable Data Module of the Aircraft Maintenance Manual.

1. Inspect the main gearbox area adjacent to the rotor brake assy for possible signs of overheating and/or paint flaking. In case of findings contact AW109/AW119 Product Support Engineering.

2. Inspect the tail rotor line adapter (P/N 109-0425-01) for possible signs of overheat. In case of findings replace involved component. Refer to the applicable AMP procedure:

2.1. 0B-A-65-11-04-00A-520A-A Number 1 splined adapter - Remove procedures and 0B-A-65-11-04-00A-720A-A Number 1 splined adapter - Install procedures

2.2. 0B-A-65-11-05-00A-520A-A Number 2 splined adapter - Remove procedures and 0B-A-65-11-05-00A-720A-A Number 2 splined adapter - Install procedures

2.3. 0B-A-65-11-06-00A-520A-A Number 3 splined adapter - Remove procedures and 0B-A-65-11-06-00A-720A-A Number 3 splined adapter - Install procedures

2.4. 0B-A-65-11-07-00A-520A-A Number 4 splined adapter - Remove procedures and 0B-A-65-11-07-00A-720A-A Number 4 splined adapter - Install procedures

3. Inspect the Thomas Couplings for possible presence of damages, deformation or overheat signs. In case of findings replace involved component.

4. Inspect the tail rotor shaft pins (P/N 109-0425-45) for freedom of rotation. If not, replace involved tail rotor drive shaft

5. Inspect freewheel assy related to the started engine side as follow:

5.1. Remove the freewheel assy. Refer to AMP 0B-A-63-21-03-00A-520A-A Number 1 freewheel unit - Remove procedures or AMP 0B-A-63-21-14-00A-520A-A Number 2 freewheel unit - Remove procedures

5.2. Perform detailed visual inspection for possible slippage and/or oveload signs as per AMP 0B-A-63-21-03-00A-281A-B Number 1 freewheel unit - Scheduled inspections and AMP 0B-A-63-21-14-00A-281A-B Number 2 freewheel unit - Scheduled inspections

5.3. In case of findings contact AW109/AW119 Product Support Engineering and continue the inspections as per Step 6. In case of no findings, re-install freewheel assy in accordance with AMP 0B-A-63-21-03-00A-720A-A Number 1 freewheel unit - Install procedures or AMP 0B-A-63-21-14-00A-720A-A Number 2 freewheel unit - Install procedures and continue with Step 6

6. Get access to the rotor brake installation on main gearbox and perform visual inspection to detect possible damages, overheat signs and wear affecting rotor brake disk and caliper assy. If applicable, refer also to AMP 0B-A-63-51-03-00A-282A-A Brake disc - Unscheduled inspections and AMP 0B-A-63-51-04-01A-361A-A Pads (brake body) - Dimensions check.

7. Inspect tail rotor drive quill (P/N 109-0401-04) as follow:

7.1. Get access to the tail rotor drive quill. Refer to AMP 0B-A-63-21-04-00A-520A-A Tail rotor drive quill - Remove procedures

7.2. Inspect patterns of pinion gears and splines (P/N 109-0405-58) for possible signs of overload. In case of findings contact AW109/AW119 Product Support Engineering to receive further corrective actions

7.3. Replace seals and o-ring, refer to AMP 0B-A-63-21-04-01A-921A-B Seal (tail rotor drive quill) - Replacement (remove and install a new item)

7.4. Inpect rotor brake flange (P/N 109-0405-58) for possible mechanical damages or deformation. In case of fiding replace the flange in accordance with the applicable steps of 0B-A-63-21-04-01A-921A-B Seal (tail rotor drive quill) - Replacement (remove and install a new item).

7.5. In case of findings replace tail rotor drive quill and contact AW109/AW119 Product Support Engineering to receive further corrective actions. In case of no findings re-install tail rotor drive quill in accordance with AMP 0B-A-63-21-04-00A-720A-A Tail rotor drive quill - Install procedures

Requirements after job completion

1. Remove all the tools and the other items from the work area. Make sure that the work area is clean.

2. Perform a ground run in accordance with AMP 0B-A-71-00-00-00A-133A-A Power plant - Ground run and apply rotor brake at the shut down as per RFM procedure verifying that the rotor stops between 7 and 15 seconds (from 40% to 0%).