AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) to ADs.

Number:

CF-2016-13R1

Effective Date:

26 September 2019

ATA:

63

Type Certificate:

H-92

Subject:

Main Rotor Drive – Loss of Lubrication to the Freewheel Assembly

Revision:

Supersedes AD CF-2016-13, issued 2 May 2016 and cancels AMOC AARDG 2019/A05, issued 23 January 2019.

Applicability:

Bell Helicopter Textron Canada Limited (BHTCL) helicopters:

Model 206A and 206B, all serial numbers,
Model 206L, 206L-1, 206L-3 and 206L-4, all serial numbers,
Model 407, all serial numbers.

Compliance:

As indicated below, unless already accomplished.

Background:

There have been at least two occurrences involving torsional overload failure of the main rotor mast caused by a blocked oil line restrictor in the freewheel lubrication system. The restrictor(s) may become contaminated during maintenance, which may block the restrictor orifice. A blocked restrictor could cause the freewheel assembly to malfunction which may lead to failure of the main rotor mast and loss of control of the helicopter.

Later versions of the model 206B/206B3, 206L, 206L-1, 206L-3, 206L-4 and 407 helicopters have been produced with a filter in the freewheel lubrication system. The filter is intended to trap contaminants and prevent blockage of restrictor orifices. One occurrence resulted from introduction of a contaminant downstream from the filter. The contaminant then lodged in the restrictor, inhibited the lubricant flow and caused failure of the freewheel assembly. It is apparent that installation of the filter does not guarantee that the restrictor will remain free of contaminants. For that reason, an inspection of the restrictors is necessary to reduce the risk of failure.

BHTCL has published Technical Bulletins (TBs) that provide instructions for retrofit of the filter to earlier versions of the affected helicopters.

This AD revision, CF-2016-13R1 is issued to update the Maintenance Manual (MM) reference for cleaning and inspection of the freewheel oil supply system for the model 407 in Table 2 and the paragraph following Table 2. The original version of this AD, CF-2016-13, referred to Conditional Inspection 5-26A. Because of a revision to the model 407 MM, the updated reference is now Special Inspection 5-25A.

Transport Canada approved a Global AMOC, AARDG 2019/A05 on January 23, 2019, to provide a temporary alternative means of compliance for the model 407. With this AD revision, the AMOC is no longer required and is therefore cancelled as of the effective date of this AD.

Corrective Actions:

Accomplish the corrective actions listed in Table 2 in accordance with the applicable BHTCL Alert Service Bulletin (ASB) listed in Table 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Table 1 - Alert Service Bulletin Applicability

ASB Number	Applicable to helicopter models	Issue Date
206-14-132 Revision A	206A, 206B	9 February 2016
206L-14-174 Revision A	206L, 206L-1, 206L-3, 206L-4	9 February 2016
407-14-106 Revision A	407	9 February 2016

Table 2 - Corrective Action Requirements

Helicopter Model(s)	Corrective Action	Compliance Timeframe	ASB Reference	Note/Comment
206A, 206B	Inspect and clean fittings, restrictors, tubes, filter, and hose. If a restrictor is found blocked, remove, disassemble, and visually inspect the freewheel assembly before further flight.	Within 100 hours air time from May 16 2016, the effective date of AD CF-2016-13.	206-14-132 Part I	
	Replace reducer with filter, part number (P/N) 50-075-1.	Within 100 hours air time from May 16 2016, the effective date of AD CF-2016-13.	206-14-132 Part II	Not required for helicopters that have filter 50-075-1 installed.
	Cleaning and inspection of freewheel oil supply system.	On condition: When the conditions defined in the ASB occur.	206-14-132 Part III	Any time there is a detachment of any fitting, hose or component of the freewheel oil supply system upstream of the restrictor where contamination could enter the oil supply.
206L, 206L-1, 206L-3, 206L-4	Inspect and clean fittings, restrictors, tubes, filter, and hose. If a restrictor is found blocked, remove, disassemble, and visually inspect the freewheel assembly before further flight.	Within 100 hours air time from May 16 2016, the effective date of AD CF-2016-13.	206L-14-174 Part I	
	Replace reducer with filter, P/N 50-075-1.	Within 100 hours air time from May 16 2016, the effective date of AD CF-2016-13.	206L-14-174 Part II	Not required for helicopters that have filter 50-075-1 installed.

Helicopter Model(s)	Corrective Action	Compliance Timeframe	ASB Reference	Note/Comment
	Cleaning and inspection of freewheel oil supply system.	On condition: When the conditions defined in the ASB occur.	206L-14-174 Part III	Any time there is a detachment of any fitting, hose or component of the freewheel oil supply system upstream of the restrictor where contamination could enter the oil supply.
407	Inspect and clean fittings, restrictors, tubes, filter, and hose. If a restrictor is found blocked, remove, disassemble, and visually inspect the freewheel assembly before further flight.	Within 100 hours air time from May 16 2016, the effective date of AD CF-2016-13.	407-14-106 Part I	All model 407 helicopters have been manufactured with filter P/N 50-075-1 installed. Serial number 54546 and subsequent will have the intent of Part I of the ASB accomplished prior to delivery.
	Cleaning and inspection of freewheel oil supply system.	On condition: When the conditions defined in the model 407 Inspection Schedule BHT-407-MM-1 Special Inspection 5-25A Freewheel Lubrication System are met.	Not applicable	The conditions include: • Installation of the transmission. • The disconnection, replacement, or reconnection of any hose or fitting between the restrictors and the filter.

Completion of all of the following will be considered terminating actions for this AD:

- Initial inspection / cleaning per Part I of applicable ASB
- Replacement of the reducer with filter 50-075-1 per part II of applicable ASB (if applicable)
- Incorporation into the helicopter maintenance schedule of the conditional inspection per Part III of applicable ASB (BHT-407-MM-1 Special Inspection 5-25A for model 407).

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 12 September 2019

Contact:

Ross McGowan, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.