



Transport
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No. CF-97-19

AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to Canadian Aviation Regulation (CAR) 593. Pursuant to CAR 605.84 and the further details of CAR Standard 625, Appendix H, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with CAR 605.84 and the above- referenced Standard.

This AD has been issued by the Continuing Airworthiness Division (AARDG), Aircraft Certification Branch, Transport Canada, Ottawa, telephone (613) 952-4357.

CF-97-19 BELL

Applies to Bell Helicopter Textron Canada Model 407 helicopters, serial numbers 53003 to 53213 inclusive.

Compliance is required within 25 hours flight time after the effective date of this directive, or by 15 October 1997, whichever occurs first.

There has been a recent occurrence in which a Model 407 helicopter, with less than 200 hours time since new, lost the tail rotor and the aft three feet of the tailboom. Apparently, the tail rotor cut into the tailboom. Bell Operations Safety Notice (OSN) 407-97-2, dated 23 September 1997, describes the circumstances.

While the cause of this occurrence is still unknown, attention has been drawn to other in-service problems not necessarily associated with the occurrence. Specifically, some operators have been reporting a high incidence of cracking of discs in Thomas coupling pack P/N 406-040-340-101.

Another reported a few cases of cracks and breaks in the oil cooler blower and oil tank support brackets and associated airframe components.

To allow Transport Canada and the manufacturer to determine the scope of problems with the tailboom and tail rotor drive system, accomplish the following:

1. With the help of a 10-power magnifying glass, inspect the outer discs of all tail rotor drive assembly couplings for cracks. Dismantling of the disc packs is not required unless their condition dictates otherwise.
2. Inspect the support brackets of the oil cooler blower and oil tank, and associated airframe structure for cracks or damage.
3. Visually inspect for damage and general condition of the tail rotor assembly, its controls, the tail rotor gearbox and drive assembly, and the tailboom. Maintenance Manual BHT-407-MM, Chapter 5, Zones 2, 4, 5 and 6 of the progressive inspection schedule refer.
4. Report to Transport Canada the results of the inspections undertaken per parts 1, 2 and 3 above. Include both positive and negative cases of cracking or damage. Reports should specify the helicopter serial number, the airframe time since new and the location of damage (plus, in the case of disc packs, the number of discs that formed that pack).
5. Unless already reported, advise Transport Canada if coupling disc cracking has been found during the 300-hour mandatory inspections done prior to this directive.
6. One time only, report to Transport Canada any remedial action done per Bell Alert Service Bulletin No. 407-97-7, dated 27 February 1997. Airworthiness Directive CF-97-08, dated 30 May 1997, refers.

All reports should be sent to: Transport Canada, Continuing Airworthiness - AARDGR, 330 Sparks Street, Ottawa, Ontario, Canada K1A 0N8, facsimile (613) 996-9178. Make reference to Airworthiness Directive CF-97-19.

Alternative means of compliance with the requirements of this directive may be used only if approved by the Director, Aircraft Certification, Transport Canada, Ottawa. Any application should be made to the appropriate Transport Canada Centre.

This directive becomes effective 3 October 1997.

Pursuant to CAR 202.51 the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address. To request a change of address, contact the Civil Aviation Communications Centre (AARC) at Place de Ville, Ottawa, Ontario K1A 0N8, or 1-800-305-2059, or <http://www.tc.gc.ca/civilaviation/communications/centre/address.asp>.

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