



No.	CF-2007-22R1	1/2
Issue Date	6 April 2010	

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) 521 Division X**. 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), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

- Number:** CF-2007-22R1
- Subject:** Vertical Fin – Installation upgrade
- Effective:** 27 April 2010
- Revision:** Supersedes Airworthiness Directive CF-2007-22
- Applicability:** Bell Helicopter Textron Canada (BHTC) Model 427 helicopters serial numbers 56001 through 56073, 56077, 58001 and 58002.
- Compliance:** As indicated unless already accomplished.
- Background:** It has been determined that the existing hardware connecting the vertical fin to the tail rotor gearbox support needs to be upgraded, to prevent the vertical fin from becoming loose. This condition, if not corrected, may lead to loss of control of the helicopter.

Since the issuance of the original directive, there were additional reports of loose vertical fin and broken vertical fin attachment bolts found during scheduled inspections. Investigation revealed that due to dimensional tolerances, inadequate clamp-up could result even though the vertical fin attachment bolts appeared to be properly torqued.

This revision:

1. Mandates enlargement of vertical fin and tail rotor gearbox support bolt holes, a torque check after vertical fin installation and subsequent repetitive torque checks until torque is stabilized.
2. Extends the helicopter serial number applicability to account for helicopters delivered since the original issue of this directive was published.

Corrective Actions: No later than 50 hours air time after the effective date of this directive, accomplish the following tasks in accordance with the Accomplishment Instructions of BHTC Alert Service Bulletin (ASB) 427-06-15 Revision A, dated 18 December 2009, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada:

1. Inspections

- a) Visually inspect the vertical fin inboard and outboard surfaces for cracks, elongated boltholes, fretting, distortion and corrosion.
- b) Visually inspect the tail rotor gearbox support attachment legs for cracks, fretting, bolthole damage, thread marks, elongation and corrosion.

If any damage is detected, prior to further flight, contact BHTC Product Support Engineering for instructions on repair or replacement of affected parts.

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 **www.tc.gc.ca/civilaviation/communications/centre/address.asp**



2. Modification and Bolt Torque Verification.

- a) Enlarge gearbox support and vertical fin boltholes.
- b) Perform torque verification after vertical fin installation and verify torque every 1 to 5 air time hours until torque is stabilized.

Authorization: For Minister of Transport, Infrastructure and Communities

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Bogdan Gajewski, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail CAWWEBFeedback@tc.gc.ca or any Transport Canada Centre.