



# 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) with ADs.*

**Number:**

CF-2020-18R1

**Effective Date:**

11 December 2020

**ATA:**

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**Type Certificate:**

H-107

**Subject:**

Indicating/Recording System – Rotorcraft Flight Manual – Prohibit the use of Map-Mode on Left Hand Side and Right Hand Side Display Units

**Revision:**

Supersedes AD CF-2020-18, issued 21 May 2020.

**Applicability:**

Bell Textron Canada Limited (Bell) model 429 helicopters, serial numbers 57001 through 57369, 57371, and 57373.

**Compliance:**

Within 30 days from the effective date of this AD, unless already accomplished.

**Background:**

Transport Canada (TC) has received in-service reports of the loss of display and subsequent recovery of the Display Unit (DU) manufactured by Rogerson Kratos (RK). During an Instrument Flight Rules (IFR) approach, a Bell 429 lost its center DU display, which then rebooted, and subsequently lost its Right Hand Side (RHS) DU display, which then also rebooted. Investigation revealed that the DUs' power cycle occurred while in Map-Mode which was caused by the RK DUs' limited processing capability for excessive null waypoints generated by the Garmin GTN 750/650 GPS/NAV/COMM/MFD.

This condition, if not corrected, could result in the unexpected loss of display of important flight parameters to the pilots: attitude, approach, airspeed, altitude, flight director information, navigation system cues, as well as engine and rotor drive system indications. The DU power cycle occurring during flight and consequent momentary loss of display information on the pilot Primary Flight Display (PFD) and other DUs is considered an unsafe condition.

Bell has issued a Temporary Revision (TR) to the Rotorcraft Flight Manual (RFM) Supplement limiting the use of Map-Mode to the center DU only for Bell 429 models equipped with RK DUs and Garmin GTN 750/650 main software version 6.21 or later. The use of Map-Mode is prohibited on both the RHS DU and Left Hand Side (LHS) DU, if installed. The RFM Supplement TR also introduces a new emergency and malfunction procedure in the event of center DU failure.

AD CF-2020-18 mandated the incorporation of the TR to the RFM Supplement. Since then, Bell has cancelled the TR and issued a revision to the RFM Supplement to incorporate the intent of the TR.

This AD revision, CF-2020-18R1, mandates the incorporation of the RFM Supplement revision to address the above-mentioned unsafe condition.

**Corrective Actions:**

- A. Amend the applicable TC approved RFM Supplement by incorporating the changes introduced in Revision 3 listed in Table 1 below, to prohibit the use of Map-Mode on the RHS and LHS DUs, if

installed, and to introduce a new Emergency/Malfunction procedure in the event of a failure of the center DU.

**Table 1**

<b>RFM Procedure</b>	<b>RFM Supplement Revision</b>	<b>Issue Date</b>
Section 1-3-A Limitations Section 3-14-B Emergency and Malfunction Procedures - Center DU Failure	RFM Supplement BHT-429-FMS-19 Revision 3, or later revisions approved by TC	22 September 2020

B. Advise all flight crews of the changes introduced by the RFM Supplement revision listed above.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Rémy Knoerr  
Chief, Continuing Airworthiness  
Issued on 27 November 2020

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