BELL 429

ROTORCRAFT FLIGHT MANUAL

SUPPLEMENT

GARMIN GTN 750/650 NAV/COM/GPS AND GTX 33H ES TRANSPONDER

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CERTIFIED
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This supplement shall be attached to the BHT-429-FM-1 when the Garmin GTN 750/650 NAV/COM/GPS and GTX 33H ES transponder has been installed.

Information contained herein supplements information in the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, refer to the basic Flight Manual.

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NOTICE PAGE

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NOTE

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CHIEF, FLIGHT TEST
FOR
DIRECTOR — NATIONAL AIRCRAFT CERTIFICATION
TRANSPORT CANADA

GENERAL INFORMATION

The Garmin GTN 750/650 NAV/COM/GPS and GTX 33H ES transponder installation consists of one GTN 750 NAV/COM/GPS #1, one GTN 650 NAV/COM/GPS #2, and a remotely installed GTX 33H ES transponder unit controlled by either the GTN 750 or GTN 650. This installation replaces the Garmin 530W/430W NAV/COM/GPS and GTX 330 transponder installation.

Section 1

LIMITATIONS

1-1. INTRODUCTION

Statement of Compliance: Garmin GTX 33H ES transponder ADS-B out system has been shown to meet equipment requirements of 14 CFR 91.227.

1-3. TYPES OF OPERATION

The dual Garmin GNSS navigation system as installed has been found to comply with the following navigation specifications regarding operations: RNP-10, RNAV 5, B-RNAV, RNP-4, RNAV 2, RNP 2, P-RNAV, RNAV 1, RNP 1, RNP 0.3, and RNP APCH.

NOTE

For RNP 0.3 operations, manual selection of 0.3 CDI scale on the GTN 750/650 is required.

1-3-A. LIMITATIONS

Safe Taxi® and Chart View, if installed, shall not be used as primary means for flight crews to orient themselves on the airport surface.

Use of the GTN for primary navigation for latitudes above 89.00°N and below 89.00°S is not authorized.

With Garmin main software 6.21 or later, MAP mode on the Pilot and Co-pilot (if installed) Rogerson Kratos (RK) DU shall not be selected as this may cause a power cycle of the DU.

With Garmin main software 6.21 or 6.62, MAP mode on the center DU shall not be selected during a DME Arc approach, as this may cause a power cycle of the DU.

With Garmin main software 6.21 or 6.62 and optional search pattern kit enabled, MAP mode on the center DU shall not be selected during search pattern operations. Excessive search pattern legs in DU MAP mode may cause a power cycle of the DU.

The SD card or Flight Stream 510 (MMC) shall be present in each unit at all times.

Demo mode shall not be used in flight.

1-5. CONFIGURATION

Garmin GTN 750/650 main software shall be Version 4.00 with GPS software 5.00 or main software 6.21 with GPS software 5.2, or main software 6.62 with GPS software 5.2.

Flight Stream 510, if installed, shall be version 2.32 or later.

Both GTN units shall have the same software versions.

TCAS POP-UP mode shall be DISABLED.

1-6. WEIGHT AND CENTER OF GRAVITY

Actual weight change will be determined after kit installation. Ballast will then be adjusted, as required, to return empty weight CG to within allowable limits.

Section 2

NORMAL PROCEDURES

2-1. INTRODUCTION

Refer to Garmin GTN 725/750 Pilot's Guide P/N 190-01007-03 or GTN 625/635/650 Pilot's Guide P/N 190-01004-03 for system operation.

2-4. INTERIOR AND PRESTART CHECK

1. **Instrument panel — Garmin units: condition, set as required.**

NOTE

The ES function of the GTX 33H defaults to the ON position on power up.

To turn the ES function OFF using the GTN 750, select the ES icon on the XPDR control display.

NOTE

To turn the ES function OFF using the GTN 650, select the ES icon via the MENU icon of the XPDR control display.

2-7. BEFORE TAKEOFF

1. **Transponder ES mode: as required.**

2-9. IN-FLIGHT OPERATIONS

2-9-E. FMS (GPS) OPERATIONS

NOTE

For Garmin GTN 750/650 with main software 6.21 or 6.62, avoid within an active flight plan, activating a Direct-To waypoint that follows an INTCPT leg. INTCPT legs are commonly used to transition from a DME arc onto the final approach course. Monitor the moving map magenta Direct-To course line to be as expected. If not, proper navigation may be regained by manually activating a flight plan leg, activating Vectors-To-Final or selecting a different Direct-To waypoint.

When performing a GPS terminal IFR procedure containing a heading leg, a red primary navigation source (FMS 1 or FMS 2) along with a white "HDG" annunciation on the EADI and loss of EHSI lateral deviation bar indicate that the heading leg is active. Select Flight Director HDG mode to the published heading and confirm the active waypoint ID reflects the expected flight sequence (example – VECTOR, INTERC, 3000FT, R-170, etc).

Section 3

EMERGENCY AND MALFUNCTION PROCEDURES

3-9-B. DUAL MAGNETOMETER FAILURE

- **INDICATIONS:**

  L FD and R FD messages illuminated.

  AP 1 DEGRADED and AP 2 DEGRADED messages illuminated.

  HSI displays — Dashes.

  FD flag — Red.

- **PROCEDURE:**

  1. **Utilize standby compass or GPS for heading reference.**
  2. **If TCAS Kit installed, cycle TCAS PBA to power system OFF/ON for correct GTN MAP orientation.**

3-10. COMMUNICATION SYSTEM

NOTE

When the COM frequency of 121.5 is activated by pushing and holding the remote FREQ XFR button on the cyclic for 2 seconds, further changes in the COM frequency will not be possible until the FREQ XFR button is pressed again for 2 seconds.

3-14-B. CENTER DU FAILURE

Indications:

DU screen momentarily goes blank.

Pilot and Co-pilot (if installed) DU goes into composite mode.

- **PROCEDURE:**

NOTE

MAP mode on center DU is defaulted ON with Weather Radar (if installed).

Center DU — Deselect MAP mode.

Pilot/Copilot DU — Select flight mode, as desired.

Section 4

PERFORMANCE

No change from basic manual.

Section 5

WEIGHT AND BALANCE

No change from basic manual.

Section 1

SYSTEMS DESCRIPTION

1-15. NAVIGATION AND COMMUNICATION

The GTN 750/650 are touchscreen (capacitive type) LCD displays with combined Wide Area Augmentation System (WAAS) enabled GPS receiver, VHF communications transceiver, and navigation (VOR/localizer/glideslope) receiver. The 15-channel GPS/WAAS (12 GPS plus three GPS/WAAS/SBAS) certified receiver offers primary navigation capability for en-route, terminal, and precision approach operations.

The dual Garmin GNSS navigation system (TSO-C146c Class 3 operation) as installed on the Model 429 complies with the following equipment/navigational requirements regarding navigational performance/ operations:

- RNAV 2 & RNAV 1 (per AC 90-100A), RNP-4 (per AC 20-138C & FAA Order 8400.33), GPS Class II Oceanic/ Remote navigation RNP-10 (per AC 20-138C & FAA Order 8400.12B), P-RNAV (per JAA TGL-10 Rev 1), and P-RNAV & B-RNAV/RNAV-5 (per EASA AMC 20-4A and FAA AC 90-96A change 1), and RNP 2, RNP 1, RNP 0.3, & RNP APCH (per AC 90-105A and AC 90-107). These compliances do not constitute operational approval(s). For some types of aircraft operation and for operation in non-U.S. airspace, separate operational approval(s) may be required in addition to equipment installation and airworthiness approval.

NOTE

For RNP 0.3 operations, manual selection of 0.3 CDI scale on the GTN 750/650 is required.

The GTN 750/650 touchscreens are compatible with certain types of gloves; the Glove Qualification Procedure can be found in the GTN 750/650 Pilot's Guide.

The GTN 750/650 each interface with the Aircraft Data Interface Unit (ADIU) to receive total fuel quantity and total fuel flow information for display.

The GTN 750/650 each interface with a direct (unswitched) audio input on the PMA 7000H audio control panel to provide audio feedback (click) when interacting with the touchscreen displays.

The GTX 33H ES transponder functions are controlled by either the GTN 750 or GTN 650 via the transponder icons on the XPDR control display and support Mode S for extended squitter, elementary surveillance, and enhanced surveillance (when enabled).

The GTX 33H ES transponder provides remote IDENT, automatic selection/deselection of on-the-ground mode, and flight ID capability.

In addition to the above, the GTX 33H ES transponder supports the following capabilities:

- Traffic Information Service (TIS) — TIS is a ground-based service that provides relative location of all Mode A and C transponder equipped aircraft. Traffic information is available to GTX 33H ES via Mode S datalink. The GTX 33H ES

then sends the traffic information to the GTN 750/650 displays. TIS is disabled whenever a Traffic Collision Avoidance System (TCAS) is installed.

- **1090 MHz Extended Squitter (ES) transmission, which provides the Automatic Dependent Surveillance – Broadcast (ADS-B) out capability. With ADS-B capability, position, velocity, and heading information are automatically transmitted to other aircraft and ground stations to improve situational awareness and flight safety (i.e., immediate surveillance of air-to-air traffic).**

The ES function of the GTX 33H defaults to the ON position on power up. To turn the ES function OFF using the GTN 750, select the ES icon on the XPDR control display. To turn the ES function OFF using the GTN 650, select the ES icon via the MENU icon of the XPDR control display.