SUPPLEMENT A35
TO THE AIRPLANE FLIGHT MANUAL

DA 62
GARMIN GTX 335R/345R WITH ADS-B

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This supplement to the DA 62 Airplane Flight Manual is approved in accordance with the Canadian Aviation Regulations.

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0.1 RECORD OF REVISIONS

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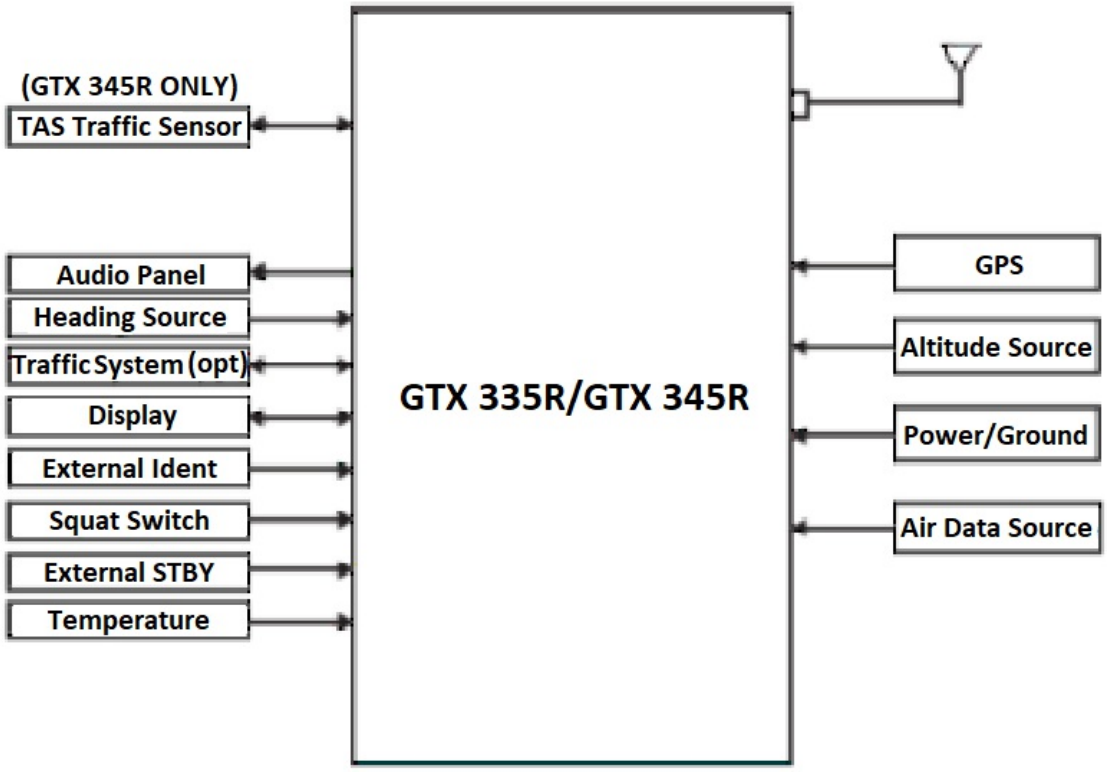
1. GENERAL

This AFM supplement supplies the information necessary for the efficient operation of the DA 62 when the optional Garmin GTX 335R/345R transponder is installed.

NOTE

The GTX 335R transponder has ADS-B Out capability only. The GTX 345R transponder has both ADS-B In and Out capability.

All Garmin GTX transponders are a radio transmitter/receiver that operate on radar frequencies, receiving ground radar or TCAS interrogations at 1030 MHz and transmitting a coded response of pulses to ground-based radar on a frequency of 1090 MHz. Each unit is equipped with IDENT capability and will reply to ATCRBS Mode A, Mode C, and Mode S All-Call interrogation. Interfaces to the GTX 335R/345R are shown in the following block diagram.



GTX 335R/345R Interfaces

The GTX 335R/345R performs the following ADS-B Out functions:

* Transmission of ADS-B out data on 1090 MHz extended squitter (1090 ES) (1090 MHz)
* Integration of data from internal and external sources to transmit the following data:
  - GPS position, altitude, and position integrity
  - Ground track and/or heading, ground speed, and velocity integrity
  - Air ground status
  - Flight ID, call sign, ICAO registration number
  - Capability and status information
  - Transponder squawk code, IDENT, and emergency status
* Pressure Altitude Broadcast Inhibit

CAUTION

In order to provide the proper ADS-B data, the GPS source, and altitude source must be fully functional.

CAUTION

The GTX 335R/345R only complies with the integrity requirements for ADS-B Out when all required functions are operational. When the system is not operational, the ADS-B Out transmit failure messages (**XPDR1 ADS-B NO POS** and **XPDR1 ADS-B NO TX**) will be present on the G1000 display. See Chapter 4B for more information.

For the GTX 345R ADS-B In functions, refer to the Garmin Cockpit Reference Guide 190-02622-00, and the Garmin Pilot's Guide 190-02621-00 or later revisions.

CAUTION

Do not use datalink weather information for maneuvering in, near, or around areas of hazardous weather. Information provided by datalink weather products may not accurately depict current weather conditions.

Do not use the indicated datalink weather product age to determine the age of the weather information shown by the datalink weather product. Due to time delays inherent in gathering and processing weather data for datalink transmission, the weather information shown by the datalink weather product may be significantly older than the indicated weather product age.

Do not rely solely relay upon datalink services to provide Temporary Flight Restriction (TFR) or Notice to Airmen (NOTAM) information.

1.1 CAPABILITIES

The Garmin GTX 335R/345R with ADS-B Out functionality as installed in this aircraft has been shown to meet the equipment requirements of the following:

* 14 CFR 91.227
* CS-ACNS.D.ADSB

A detailed description of the system operation can be found in the Garmin Cockpit Reference Guide 190-02622-00, and the Pilot's Guide 190-02621-00, or later revisions.

1.2 APPLICABLE SOFTWARE

This AFMS is applicable to the G1000 NXi software, and GTX 3X5 system software version V2.05 or later approved versions.

2. OPERATING LIMITATIONS

No change.

3. EMERGENCY PROCEDURES

No change.

4A. NORMAL OPERATING PROCEDURES

NOTE

The Cockpit Reference Guide will provide additional operating information specific to the displays or other traffic systems.

ADS-B Out functionality resides within the GTX transponders. All GTX functions are controlled through the G1000 display units thereby providing a single point of entry for Mode 3/A code, flight ID, IDENT functionality and activating or deactivating emergency status for both transponder and ADS-B Out functions. Details on performing these procedures are located in the G1000 Pilot's Guide.

4A.1 UNIT POWER ON

The ADS-B function is enabled on power cycle, and when the transponder is in ALT mode.

4A.2 BEFORE TAKEOFF

GTX mode . . . . . ALT

CAUTION

Pressure Altitude Broadcast Inhibit (PABI) shall only be enabled when requested by Air Traffic Control while operating within airspace requiring an ADS-B Out compliant transmitter. PABI is enabled by selecting the GTX to ON mode.

4B. ABNORMAL OPERATING PROCEDURES

4B.1 ABNORMAL INDICATIONS

The loss of an interfaced input to the 335R/345R may cause the transponder to stop transmitting ADS-B Out data. Depending on the nature of the fault or failure, the GTX may no longer be transmitting all of the required data in the ADS-B Out messages.

If the GTX 335R/345R detects any internal faults or failures with the ADS-B Out functionality, the G1000 display will annunciate this event via the **XPDR1 ADS-B NO TX** message. When this message appears in the display, one of the following failures or faults have occurred:

* Loss of adequate GPS position data
* Internal failure of the ADS-B function

If the **XPDR1 ADS-B NO TX** annunciation is received:

Circuit breakers . . . . . check all OK (pressed in)
GPS . . . . . verify proper operation
ADC . . . . . verify proper operation
AHRS . . . . . verify proper operation

If any of this equipment is not operating properly, the GTX will no longer be transmitting ADS-B Out data. If this equipment is operating properly, the GTX 335R/345R is not functioning properly and will no longer be transmitting ADS-B Out data.

4B.2 LOSS OF GPS NAVIGATION DATA

XPDR1 ADS-B NO POS annunciator illuminated:

GPS . . . . . VERIFY PROPER OPERATION

When the GPS/SBAS receiver is inoperative, or GPS position information is not available or invalid, the GTX will no longer be transmitting ADS-B Out data.

5. PERFORMANCE

No change.

6. MASS AND BALANCE

No change.

7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

The Garmin G1000 NXi Cockpit Reference Guide 190-02622-00, and the Pilot's Guide 190-02621-00, or later, contain additional information regarding GTX system description, control, and function.

8. AIRPLANE HANDLING, CARE, AND MAINTENANCE

No change.