SUPPLEMENT A35
TO THE AIRPLANE FLIGHT MANUAL

DA 62
GARMIN GTX 3X5(D)R 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	OÄM 62-1033 Corrections	1 4A 4B 6 7	9-A35-7, 8, 9, 10, 11, 13, 15, 16	29-Apr-2025		04-Jul-2025		

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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 3X5(D)R transponder is installed.

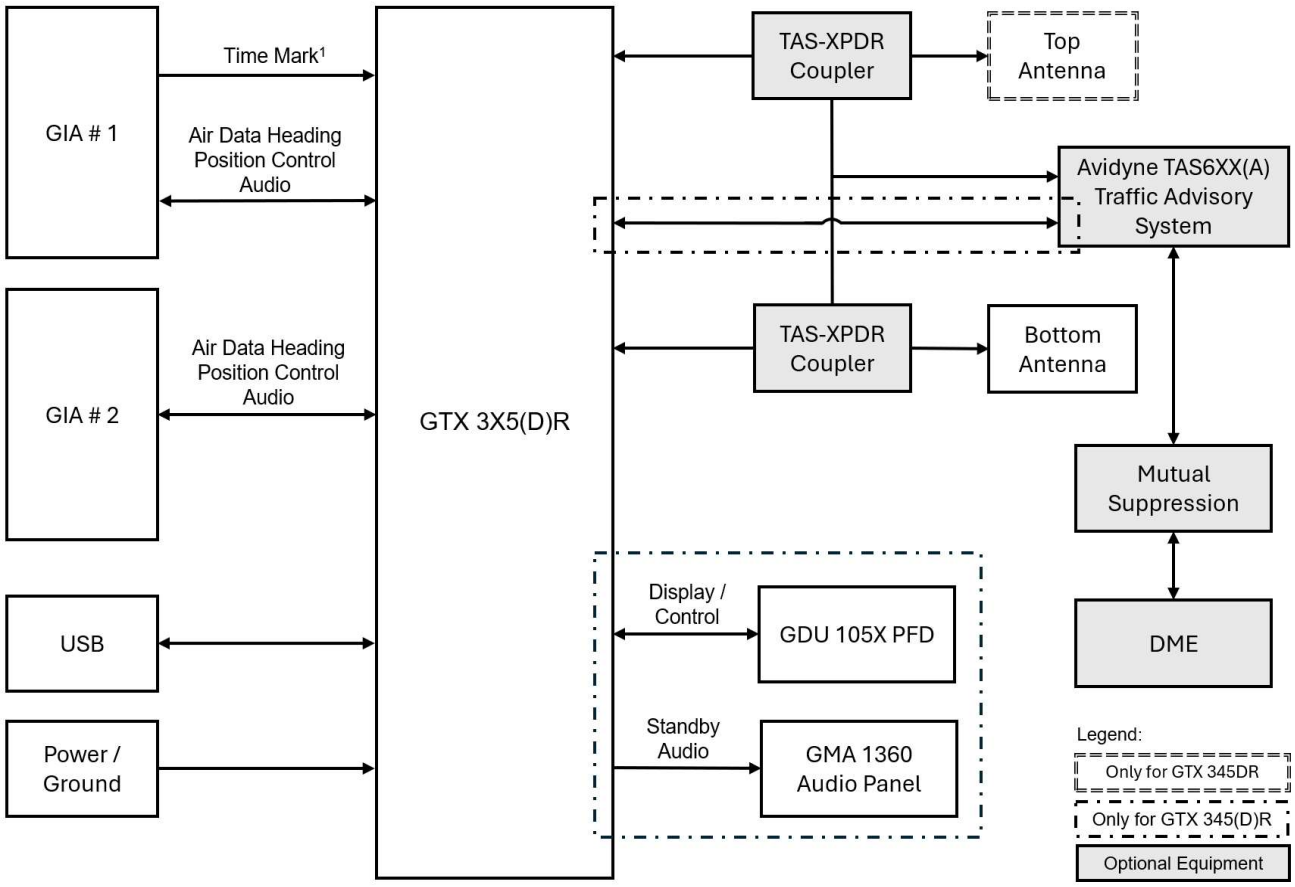
NOTE

This supplement applies to the Garmin GTX 335R, GTX 345R and GTX 345DR transponders. Where information applies to all models, the model will be collectively referred to as GTX 3X5(D)R. Where information only applies to a specific model, it will be explicitly identified (e.g., GTX 345DR).

The following table summarizes the capabilities of each transponder variant.

Variant	Mode S XPDR	ADS-B (1090 MHz)	ADS-B (978 MHz)	TIS-B (Traffic)	FIS-B (Weather)	Diversity
GTX 335R	✓	Out	-	-	-	-
GTX 345R	✓	In & Out	In	✓	✓	-
GTX 345DR	✓	In & Out	In	✓	✓	✓

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 3X5(D)R are shown in the following block diagram.



[1] The Time Mark interfaces with the transponder across all GTX 3X5(D)R configurations, but only actively used in the GTX 345DR configuration.

GTX 3X5(D)R Interfaces

The GTX 3X5(D)R 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

CAUTION

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

CAUTION

The GTX 3X5(D)R 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.

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.

The ADS-B In / FIS-B (Flight Information Services-Broadcast) information may be used for pilot planning decisions focused on updating the pilot's awareness of the dynamic flight environment, including avoiding areas of inclement weather that are beyond visual range and pilot near-term decisions where poor visibility precludes visual acquisition of inclement weather. FIS-B weather and NAS status information may be used as follows:

(a) To promote pilot awareness of own ship location with respect to reported weather, including

hazardous meteorological conditions, NAS status indicators to enhance pilot planning decisions, and pilot near-term decision making.

(b) To cue the pilot to communicate with air traffic control, a Flight Service Station specialist, operator dispatch, or an airline operations control center for general and mission critical meteorological information, NAS status conditions, or both.

FIS-B information, including weather information, NOTAMs, and Temporary Flight Restrictions (TFR) areas, are intended for the sole purpose of assisting in long-/near-term planning and decision making. The system lacks sufficient resolution and updating capability necessary for aerial maneuvering associated with immediate decisions. In particular, in extreme scenarios, the oldest weather radar data on the display can be up to 15 to 20 minutes older than the display's age indication for that weather radar data. Therefore, do not attempt to use FIS-B weather information to maneuver the aircraft at minimum safe distances from hazardous weather.

FIS-B information must not be used in place of a standard preflight briefing.

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

The Garmin GTX 345DR with ADS-B Out system has shown to meet the equipment requirements of AWM Section 551.103 of Chapter 551 of the AWM when OÄM 62-1033 is installed.

A detailed description of the system operation can be found in the Garmin Cockpit Reference Guide 190-03126-01 Rev. A, and the Pilot's Guide 190-03125-01 Rev. A, or later applicable revisions.

1.2 APPLICABLE SOFTWARE

This AFMS is applicable to the G1000 NXi software. Refer to MSB-62-003 for more information.

2. OPERATING LIMITATIONS

2.1 KINDS OF OPERATION

The DA 62 is authorized for Diversity Operation within Canadian airspace, if OÄM 62-1033 and MÄM 62-1126 are installed.

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 GTX 3X5(D)R 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 3X5(D)R 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 3X5(D)R 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

Refer to the equipment list in Chapter 6 of the AFM.

7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

The Garmin G1000 NXi Cockpit Reference Guide 190-03126-01 Rev. A, and the Pilot's Guide 190-03125-01 Rev. A, or later applicable revisions, contain additional information regarding GTX system description, control, and function.

8. AIRPLANE HANDLING, CARE, AND MAINTENANCE

No change.