SECTION 9

Supplement AVE6

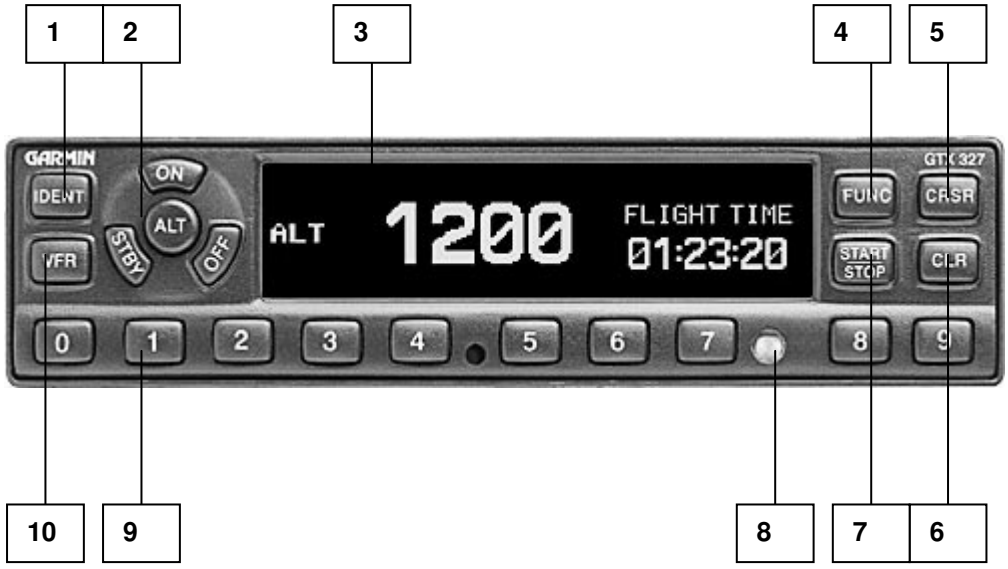
Garmin GTX 327 Transponder

When a Garmin GTX 327 Transponder is installed in the AQUILA AT01, this Supplement is applicable and must be inserted in the Supplements Section (Section 9) of the Pilot`s Operating Handbook. Information in this supplement either adds to, supersedes, or deletes information of the basic AQUILA AT01 Pilot`s Operating Handbook.

Approved by: _____ Date: 13. Mai 03

1.0 General

The airplane is equipped with a single Garmin GTX 327 ATC Mode A/C (identification and altitude) Transponder with squawk capability.
This supplement provides complete operating instructions for the GTX 327 and does not require any additional data be carried in the airplane.



1. IDENT-Key
2. Mode Selector keys
   a) OFF
   b) STBY (standby)
   c) ON
   d) ALT
3. Display Window
4. FUNC (function) Key
5. CRSR (Cursor)
6. CLR (Clear) Key
7. START/STOP Key
8. Photocell
9. Selector Keys
   a) 0-7 Transponder-Code Selection
   b) 8-9 Display Brightness/Contrast
10. VFR Key

Figure 1-Garmin GTX 327 Front Panel

2.0 Limitations

No change from basic handbook

3.0 Emergency Procedures

No change from basic handbook

4.0 Normal Procedures

NOTE

Expected coverage from the GTX 327 is limited to „line of sight". Low altitude or aircraft antenna shielding by the airplane itself may result in reduced range. Range can be improved by climbing to a higher altitude.

4.1 After Engine Start

1. Avionic Master Switch ON

   The transponder will turn ON into standby (STBY) mode.
   The transponder is ON but will not respond to interrogations from ATC secondary surveillance radar.

4.2 Before Take Off

1. Transponder Mode Selector Keys ALT

   If the transponder is in STBY mode, it will automatically switch to ALT during takeoff when the ground speed increases through approximately 35 knots. The transponder will respond to ATC Mode C (altitude and identification) interrogations.

NOTE

Selecting ON puts the transponder in Mode A (identification) only. The transponder will respond to Mode C (altitude) interrogations with signals that contain no altitude information.

4.3 After Landing

1. Transponder Mode Selector Keys STBY or OFF

   If the transponder is in the ALT Mode for landing, it will automatically switch to STBY during landing rollout when the groundspeed decreases through approximately 35 knots.

5.0 Performance

No change from basic handbook

6.0 Weight & Balance

No change from basic handbook

7.0 System Description

NOTE

This supplement provides a general description of the Garmin GTX 327 transponder, its operation and ist integration in the instrument panel of the Aquila AT01 airplane. For a detailed description of the GTX 327 and full operation instructions refer to the „Garmin GTX 327 Mode A/C Transponder Pilot`s Guide and Reference“ (Revision A, dated Feb. 2000 or later appropriate revision).

The Garmin GTX 327 transponder system consists of the integrated receiver/transmitter control unit, an antenna and an altitude digitizer.
The receiver/transmitter receives interrogations from a ground-based secondary surveillance radar transmitter and then transmits to the interrogating Air Traffic Control Center. Digitized altitude information is provided by the altitude digitizer (encoder) plumbed into the airplane static system. The transponder and integrated controls are mounted in the center console. The transponder control provides active code display, code selection, IDENT button and test functions. The display is daylight readable and is automatically dimmed through a photocell. The controller button lights are activated by the switch „Instrument Lights“.
The transponder antenna is mounted on the underside of the fuselage beneath the copilot`s seat.
The transponder is powered by 14 VDC through the Avionic Master Switch and a 3 Amp „Transponder“ circuit breaker placed on the right side of the instrument panel.
To activate the transponder the Battery Main Switch as well as the Avionic Master Switch have to be in position ON.

Mode Selector Keys

OFF Turns OFF all power to the GTX 327 transponder.

STBY Powers the transponder in standby mode. The last identification code will be selected. In STBY, the transponder will not reply to any interrogations from any ATC ground secondary surveillance radar. This is the normal position for ground operations in the Aquila AT01.

ON Powers on the transponder in Mode A (identification mode). The last identification code will be selected. In addition the airplane´s identification code, the transponder will also reply to altitude (Mode C) interrogations with signals that do not contain altitude information.

ALT Places the transponder into Mode C, identification and altitude respectively. The transponder will reply to interrogations with the

airplane´s identification code and and the airplane`s altitude (based on standard pressure altitude 1013 hPa)

NOTE

ALT-Mode is automatically entered from STBY mode during takeoff ground roll as the groundspeed increases through 35 knots.

GTX 327 Configuration Mode

The configuration normally is performed during the installation of the GTX 327 Transponder. If a change in configuration is necessary, this must not be performed during operation of the aircraft.
For activating the configuration mode and all further steps refer to the „Garmin GTX 327 Mode A/C Transponder Pilot`s Guide and Reference“ (Revision A, dated Feb. 2000 or later appropriate revision).

Code Selection

Code selection, for safety reasons, should be performed only in STBY Mode.
Code selection is accomplished by depressing the eight selector keys (number 0-7) located immediately below the display. Any of the 4096 active identification codes can be selected.
The code selection sequence starts with entering the first digit and the code will not be activated until the last (fourth) digit is entered. Pressing the CLR-key will move the cursor back to the previous digit. Pressing the CRSR key during the code entry will remove the cursor and cancel the entry and activates the last used code.

Reply (R) signal when Transmitting

During reply of the transponder to ATC and during the IDENT interval a bold inverse character R , the Reply annunciator, is shown on the display.

Special Keys for additional functions of the GTX 327

IDENT Pressing the IDENT-button activates the Special Position Identification (SPI) puls for approximately 18 sec. allowing ATC to identify your transponder return from other returns on the controller`s scope. The Reply annunciator in the display will illuminate during the SPI pulse.

VFR Pressing the VFR key sets the transponder to the pre-programmed VFR code selected in the configuration mode (factory set to Code

0021 or 0022 e.g.). Pressing the VFR key a second time will restore the previous identification code.

FUNC Pressing the FUNC key changes the data shown on the right side of the display. Pressing the FUNC key a second time will cycle the display to the next data. Displayed data includes Pressure Altitude, Flight Time, Count up Timer, Count down Timer, Contrast and Display Brightness.

START/STOP Starts and stops the timer.

CRSR Activates the change fields for the Count down Timer when selected by the FUNC key.

CLR Resets the Count up and Count down Timers.

8 Reduces screen contrast and display brightness. Enters the number 8 in the Count down Timer.

9 Increases screen contrast and display brightness. Enters the number 9 in the Count down Timer.

Count down (up) Timer Operation of the Transponders GTX 327

Key operation and examples refer to „Garmin GTX 327 Mode A/C Transponder Pilot`s Guide and Reference“ (Revision A, dated Feb. 2000 or later appropriate revision).

Automatic Selection of ALT/STBY Modus of the Transponders GTX 327

If configured in AUTO STANDBY Mode the GTX 327 will automatically transition from STBY to ALT when a sensor indicates the take off signal (or e.g. a speedsignal from the GPS). It will also automatically transition from ALT to STBY when a sensor indicates a landing signal .

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