DA 40 NG AFM
Supplement A29

Diamond
AIRCRAFT

Garmin Transponder
GTX 328

SUPPLEMENT A29

TO THE AIRPLANE FLIGHT MANUAL

DA 40 NG

Garmin Transponder GTX 328

Doc. No. : **6.01.15-E**

Date of Issue : **15-Mar-2011**

Design Change Advisory : **OÄM 40-321**

The technical information contained in this document has been approved under the authority of DOA No. EASA.21J.052.

DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA

0.2   RECORD OF REVISIONS

Rev. No.	Reason	Chapter	Page(s)	Date of Revision	Approval Note	Date of Approval	Date Inserted	Signature

0.3   LIST OF EFFECTIVE PAGES

Chapter	Page	Date
0	9-A29-1	15 Mar 2011
	9-A29-2	15 Mar 2011
	9-A29-3	15 Mar 2011
	9-A29-4	15 Mar 2011
1	9-A29-5	15 Mar 2011
2	EASA approved 9-A29-6	15 Mar 2011
3, 4A, 4B, 5, 6	9-A29-7	15 Mar 2011
7	9-A29-8	15 Mar 2011
	9-A29-9	15 Mar 2011
	9-A29-10	15 Mar 2011
	9-A29-11	15 Mar 2011
	9-A29-12	15 Mar 2011
	9-A29-13	15 Mar 2011
8	9-A29-13	15 Mar 2011

0.4   TABLE OF CONTENTS

Page

1. GENERAL

This Supplement supplies the information necessary for the efficient operation of the airplane when the Transponder GTX 328 is installed. The information contained within this Supplement is to be used in conjunction with the complete AFM.

This Supplement is a permanent part of this AFM and must remain in this AFM at all times when the Transponder GTX 328 is installed.

2. LIMITATIONS

No change.

3. EMERGENCY PROCEDURES

To transmit an emergency signal:

- ALT key . . . . PRESS
- Numeric keys 0-7: . . . . select 7700 operating code

To transmit a signal representing loss of all communication (when in a controlled airspace):

- ALT key . . . . PRESS
- Numeric keys 0-7: . . . . select 7600 operating code

4A. NORMAL OPERATING PROCEDURES

No change.

4B. ABNORMAL OPERATING PROCEDURES

No change.

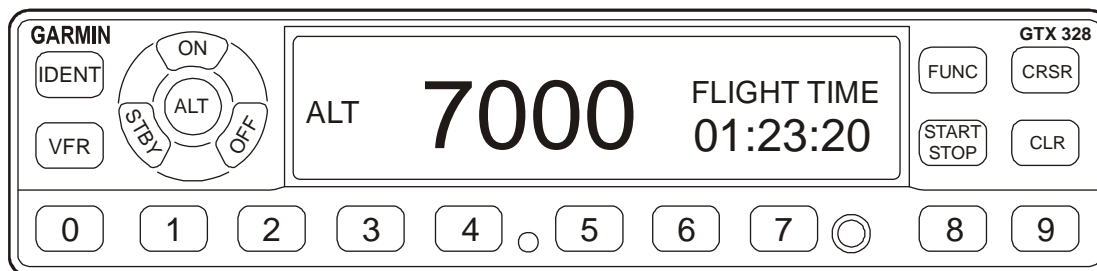## 5. PERFORMANCE

No change.

6. MASS AND BALANCE

Upon removal or installation of the Transponder GTX 328 the change of empty mass and corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the Airplane Flight Manual.

7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

7.13 AVIONICS

7.13.1 GENERAL

The Garmin GTX 328 panel mounted Mode S transponder is a radio transmitter and receiver that operates 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. The GTX 328 is equipped with IDENT capability that activates the Special Position Identification (SPI) pulse for 18 seconds. Mode S transmit/receive capability also requires 1090 MHz transmitting and 1030 MHz receiving for Mode S functions.

In addition to displaying the code, reply symbol and mode of operation, the GTX 328 screen will display pressure altitude, and timer functions. The unit also features an altitude monitor, and flight timers. A voice or tone audio output announces altitude deviation, and count down timer expiration.

The GTX 328 transponder is powered on by pressing the STBY, ALT or ON keys. After power on a start-up page will be displayed while the unit performs a self test.

7.13.2 MODE SELECTION KEYS

OFF - Powers off the GTX 328. Pressing STBY, ON or ALT key powers on the transponder displaying the last active identification code.

STBY - Selects the standby mode. When in STBY the transponder will not reply to any interrogations.

ON - Selects Mode A. In this mode, the transponder replies to interrogations, as indicated by the reply symbol ('®'). Replies do not include altitude information.

ALT - Selects Mode A and Mode C. In ALT mode, the transponder replies to identification and altitude interrogations, as indicated by the reply symbol ('®'). Replies to altitude interrogations include the standard pressure altitude received from an external altitude source, which is not adjusted for barometric pressure.

Any time the function ON or ALT is selected the transponder becomes an active part of the Air Traffic Control Radar Beacon System (ATCRBS). The transponder also responds to interrogations from TCAS equipped airplanes.

7.13.3 CODE SELECTION

Code selection is done with eight keys (0 - 7) that provide 4096 active identification codes. Pushing one of these keys begins the code selection sequence. The new code will not be activated until the fourth digit is entered. Pressing the CLR key will move the cursor back to the previous digit. Pressing the CLR key when the cursor is on the first digit of the code, or pressing the CRSR key during code entry, will remove the cursor and cancel data entry, restoring the previous code. You may press the CLR key up to five seconds after code entry is complete to return the cursor to the fourth digit. The numbers 8 and 9 are not used for code entry, only for entering a count down time, contrast and display brightness, and data selection in the Configuration mode.

7.13.4 KEYS FOR OTHER GTX 328 FUNCTIONS

IDENT -   Pressing the IDENT key activates the Special Position Identification (SPI) pulse for 18 seconds, identifying your transponder return from others on the air traffic controller's screen. The word 'IDENT' will appear in the upper left corner of the display while the IDENT mode is active.

VFR -   Sets the transponder code to the pre-programmed VFR code selected in Configuration mode. Pressing the VFR button again will restore the previous identification code.

FUNC -   Changes the page shown on the right side of the display. Displayed data includes pressure altitude, flight time, count up timer and count down timer. In the Configuration mode steps through the function pages.

START/STOP - Starts and stops the altitude monitor, count up, count down and flight timers. In Configuration mode, steps through functions in reverse.

CRSR -   Initiates starting time entry for the count down timer and cancels transponder code entry. Returns cursor to last code digit within five seconds after entry. Selects changeable fields in Configuration mode.

CLR -   Resets the count up, count down and flight timers. Cancels the previous keypress during code selection and count down entry. Returns cursor to the fourth code digit within five seconds after entry. Used in Configuration mode.

8 -   Reduces contrast and display brightness when the respective fields are displayed and enters the number eight into the count down timer. Used in Configuration mode.

9 -   Increases contrast and display brightness when the respective fields are displayed and enters the number nine into the count down timer. Used in Configuration mode.

7.13.5 FUNCTION DISPLAY

Pressure ALT: Displays the altitude data supplied to the GTX 328 in feet, hundreds of feet (i.e., flight level), or meters, depending on configuration.

Flight Time: Displays the flight time, which is controlled by the START/STOP and CLR keys.

Altitude Monitor: Controlled by the START/STOP key. Activates a voice alarm when altitude limit is exceeded.

Count Up Timer: Controlled by START/STOP and CLR keys.

Count Down Timer: Controlled by START/STOP, CLR, and CRSR keys. The initial count down time is entered with the 0 - 9 keys.

Contrast: This page is only displayed if manual contrast mode is selected in Configuration mode. Contrast is controlled by the 8 and 9 keys.

Display Brightness: This page is only displayed if manual backlighting mode is selected in Configuration mode. Backlighting is controlled by the 8 and 9 keys.

7.13.6 ALTITUDE TREND INDICATOR

When the 'PRESSURE ALT' page is displayed, an arrow may be displayed to the right of the altitude, indicating that the altitude is increasing or decreasing. Two sizes of arrows may be displayed depending on the rate of climb/descent. The sensitivity of these arrows is set using the GTX 328 Configuration mode.

7.13.7 TIMER OPERATION

TO OPERATE THE FLIGHT TIMER:

1. Press the FUNC key until 'FLIGHT TIME' is displayed.
   - If desired, you may press START/STOP to pause or restart the timer.
   - Press CLR to reset the timer to zero.

TO OPERATE THE COUNT UP TIMER:

1. Press the FUNC key until 'COUNT UP' is displayed.
   - If necessary, press CLR to reset the count up timer to zero.
   - Press START/STOP to count up.
   - Press START/STOP again to pause the timer.
   - Press CLR to reset the timer to zero.

TO OPERATE THE COUNT DOWN TIMER:

1. Press the FUNC key until 'COUNT DOWN' is displayed.
   - Press CRSR and use the 0 - 9 keys to set the initial time. All digits must be entered (use the 0 key to enter leading zeros).
   - Press START/STOP to count down.
   - Press START/STOP again to pause the timer.
   - When the count down timer expires, the words 'COUNT DOWN' are replaced with a flashing 'EXPIRED', and the time begins counting up.
   - Press CLR to reset the timer to the initial time value.

7.13.8 AUTOMATIC ALT/GND MODE SWITCHING

If the GTX 328 is configured with Automated Airborne Determination, normal operation begins when lift off is sensed. When the airplane is on the ground the screen automatically displays GND. The transponder does not respond to ATCRBS interrogations when GND is annunciated. When a delay time is set in the Configuration mode, the GTX 328 waits a specified length of time after landing before changing to GND mode.

7.13.9 FAILURE ANNUNCIATION

If the unit detects an internal failure, the screen displays FAIL.

7.13.10 GTX 328 MODE S TRANSPONDER FEATURES

Mode S Data Transmission

In addition to 4096 codes and pressure altitude, the GTX 328 is capable of transmitting airplane registration number or flight ID, transponder capability and maximum speed range.

Audio Alerts

   (Configuration options: male/female voice or tone, and volume level.)
   - 'Leaving Altitude' Altitude deviation exceeded.
   - 'Timer Expired' for countdown time.

8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.

Intentionally left blank.