

SECTION 9


Pilot's Operating Handbook Supplement AS-09

**GARMIN GTN 650
COM/NAV/GPS**



This supplement is applicable and must be inserted into Section 9 of the Pilot's Operating Handbook when the GARMIN GTN 650 system is installed in the AQUILA AT01-100. The information in this supplement adds to or replaces information in the basic Pilot's Operating Handbook.

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0.1 RECORD OF REVISIONS

Issue	Reason for Change	Effected Pages	Date of Issue
A.01	Initial Issue	All	28.05.2013
A.02	Editorial Changes	All	15.10.2013

0.2 LIST OF CURRENT PAGES

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1 - 6	A.01	28.05.2013
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1. GENERAL

1.1. Introduction

The aircraft is equipped with a Garmin GTN 650 GPS Navigator with VHF-NAV, ILS and VHF-COM functions.

This supplement covers solely those functions available during VFR operation. The unit uses the satellite network of the Global Positioning System (GPS) to determine aircraft position (longitude and latitude) and the approximate flight altitude.

For a detailed description and full operating instructions, please refer to the current issue of the GARMIN GTN 650 Cockpit Reference Guide P/N 190-01004-04 and the Garmin GTN Pilot's Guide, P/N 190-01004-03.

NOTE

The current issue of the GARMIN GTN 650 Cockpit Reference Guide P/N 190-01004-04 must be kept on board the aircraft and be available to the crew at all times.

2. OPERATING LIMITATIONS

Depending upon instrumentation, the AQUILA AT01-100 is limited to VFR operation by day or night. The minimum required navigational equipment must be installed in the aircraft and be operational.

Use of the Garmin GTN 650 as B-RNAV equipment is only permitted with the current navigational data base (NfL II 95/97).

CAUTION

Due to the multitude of functions and the complexity of the system, it is essential that the crew familiarize themselves with the system before using it in flight. It is recommended that computer based training be undertaken!

3. EMERGENCY PROCEDURES

If insufficient navigational information is being supplied by the GPS navigator, navigation should be performed traditionally using standard equipment and other methods, such as pilotage or dead-reckoning.

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4. NORMAL PROCEDURES

Due to the complexity of the system and the multitude of functions it offers, the operating instructions supplied by the manufacturer, GARMIN GTN 650 Pilot's Guide and Cockpit Reference Guide Rev. A (or later version), should be studied. The Cockpit Reference Guide must be kept on board the aircraft and be available to the crew at all times.

CAUTION

The GTN 650 must be switched off during engine start-up and shut-down with the Avionics Master Switch set to OFF.

Non-compliance could destroy the system. All warranty and guarantee claims will become void.

5. PERFORMANCE

No change to the basic POH.

6. WEIGHT AND BALANCE

No change to the basic POH.

7. SYSTEM DESCRIPTION

NOTE

This supplement contains a general description of the integration of the GARMIN GTN 650 system into the instrument panel of the AQUILA AT01-100. For a detailed description and full operating instructions, please refer to the current issue of the GARMIN GTN 650 Pilot's Guide.

GTN 650 Garmin COM/NAV/GPS Touch Screen Navigator

The aircraft is equipped with a GTN 650 system which includes a GPS navigator, a NAV receiver and a COM transceiver.

The GPS navigator comprises a GPS receiver, a navigation computer and various data bases. The system also includes a NAV receiver which receives VHF Omni range (VOR) and localizer (LOC) signals as well as a COM VHF receiver which can be operated in either 25 kHz or 8.33 kHz intervals.

The following sections describe the functions of the GPS, NAV and COM parts of the system. For a detailed description and full operating instructions please refer to the current issue of the Garmin GTN 650 Pilot's Guide.

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GPS Navigator

The GPS navigator supplies VFR (IFR) en-route navigation data. This supplement deals solely with the functions available during VFR operations. The system uses the satellite network of the Global Positioning System (GPS) to determine aircraft's position (longitude and latitude) and approximate flight altitude.

The GPS antenna is located on top of the fuselage, aft of the canopy.

Power is supplied by the NAV/GPS circuit which is protected by a circuit breaker labeled "NAV/GPS".

The Jeppesen NavDatabase has data on airfields VORs, NDBs and frequencies. Various data bases are available (international, America, worldwide). It is the aircraft owner's responsibility to keep the data bases current. For this purpose subscriptions are available from Garmin. The GTN 650 data base also contains information on man-made obstacles and terrain (natural obstacles, landscape) for which Garmin issues regular updates. The aircraft owner is also responsible for keeping this information up to date.

Navigation Receiver (NAV)

A navigation receiver (NAV) is integrated in the Garmin GTN 650 system. It receives VHF Omni Range (VOR) and localizer (LOC) signals ranging in frequency from 108.000 MHz to 117.950 MHz in 50 kHz intervals.

The control panel displays the active and stand-by frequency. The VOR and LOC IDENT signals are transmitted to the audio system. The NAV receiver is supplied with 14 VDC via the Avionics Master Switch and is also protected by the "GPS/NAV" circuit breaker.

COM Transceiver (COM)

The Garmin GTN 650 system also contains an integrated digital VHF transceiver (COM) which can receive all narrow and broad band signals ranging in frequency from 108.000 MHz to 136.975 MHz in 25 KHz intervals (720 channels).

For operation in Europe the GTN 650 can be configured by the user for a channel separation of 8.33 KHZ (2280 channels).

The COM transceiver is supplied with 14 VDC via the Avionics Master Switch and is additionally protected by the "COM" circuit breaker.

8. HANDLING, SERVICE AND MAINTENANCE

No change to the information found in the basic Pilot's Operating Handbook.

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