

SECTION 9

AIRPLANE FLIGHT MANUAL - SUPPLEMENT AVE30

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



This AFM supplement is applicable and must be inserted into Section 9 of the Airplane Flight Manual when the GARMIN GTN 650 system is installed in the AQUILA AT01. The information in this supplement adds to or replaces information in the basic Airplane Flight Manual.

The technical content of this Airplane Flight Manual Supplement is approved under the Authority of DoA No. EASA.21J.025.

Schönhausen, 7.5.2012

Head of Airworthiness Department



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0.1 LIST OF REVISIONS AND AMENDMENTS

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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 system uses the satellite network of the Global Positioning System (GPS) to determine aircraft position (longitude and latitude) and approximate flight altitude.

For a detailed description and full operating instructions, refer to the effective 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.

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| NOTE |
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The GARMIN GTN 650 Cockpit Reference Guide P/N 190-01004-04 Rev. A or later version must be kept on board the aircraft and be available to the crew at all times.

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2. Limitations

The GARMIN GTN 650 Cockpit Reference Guide P/N 190-01004-04, Rev. A or later version must be kept on board the aircraft and be available to the crew at all times.

Dependent upon instrumentation, the AQUILA AT01 is limited to VFR day/night operation. The minimum required navigation equipment must be installed in the aircraft and operational.

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

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| ATTENTION |
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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 during flight operations. It is recommended that training be undertaken using computer simulation!

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3. Emergency Procedures

Should no or insufficient navigation data be supplied by the GPS navigator, relevant data from standard equipment or alternative methods, e.g. dead-reckoning, must be used.

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4. Normal Procedures

Due to the complexity of the system and the multitude of functions it offers, operating instructions as supplied by the manufacturer in the 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.

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The GTN 650 must be switched off during engine start-up and shut-down and the Avionics Master Switch set to OFF.
Non-compliance could destroy the system. All warranty and guarantee claims will become void.

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5. Performance

There is no change regarding the information in the basic Airplane Flight Manual.

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6. Weight and Balance

There is no change regarding the information in the basic Airplane Flight Manual.

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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. For a detailed description and full operating instructions refer to the effective 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 either in 25 kHz or 8.33 kHz intervals.

The sections below describe the functions of the GPS, NAV and COM parts of the system.

For a detailed description and full operating instructions refer to the effective issue of the Garmin GTN 650 Pilot's Guide.

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 position (longitude and latitude) and approximate flight altitude.

The GPS antenna is located on top of the fuselage aft of the cockpit window.

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

The Jeppesen NavDatabase has data on airfields VORs, NDBs and frequencies. Various data bases are available (international, America, worldwide). The aircraft owner is responsible for keeping the data bases current. This can best be achieved by an appropriate subscription. The GTN 650 data base also contains information on obstacles (man-made obstacles) and terrain (natural obstacles, landscape) for which Garmin issues regular updates. The aircraft owner is also responsible for keeping this information current.

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Navigation receiver (NAV)

A navigation receiver (NAV) is integrated into 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 has active and stand-by frequency displays. Audio VOR and LOC IDENT signals are transmitted to the audio system. The NAV receiver is supplied with 14 DC power 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 receives 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 equipment can be configured by the user for channel intervals of 8.33 KHZ (2280 channels).

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

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8. Handling, Service and Maintenance

There is no change regarding the information in the basic Airplane Flight Manual.

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