

SERVICE INFORMATION No. SI-40-102

NOTE: SI's are used only:
1) To distribute information from DAI to our customers.
2) To distribute applicable information/documents from our suppliers to our customers with additional information.
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

All DA 40 aircraft equipped with GARMIN Integrated Flight Deck systems with GDU Software v9.00 through v9.13 and Synthetic Vision Technology (SVT) installed, see also Section 2.1.

All DA 40 F aircraft equipped with GARMIN Integrated Flight Deck systems with GDU Software v9.00 through v9.13 and Synthetic Vision Technology (SVT) installed, see also Section 2.1.

1.2 Subject:

GARMIN Service Advisory No.: 0904 Revision A
ATA-Code: 34-00

1.3 Reason:

GARMIN has issued a Service Advisory addressing a condition whereby the Pathways feature of Synthetic Vision Technology (SVT) may depict the leg immediately preceding glide path interception at an altitude higher than is published for an approach.

1.4 Information:

For detailed technical information see GARMIN Service Advisory No.: 0904 Revision A.

II. OTHERS

2.1 STC Information:

The GARMIN G1000 system with Synthetic Vision Technology (SVT) and its associated systems, components, and software are installed in the DA 40 and DA 40 F airplanes under the following known GARMIN STC:

- FAA STC No.:
 - SA01480WI-D (Synthetic Vision Technology, SVT)

Additionally to the above mentioned STC further GARMIN STC's may be approved.

The applicability of the attached GARMIN publication must be checked. For this purpose refer to the related airplane documentation, contact your responsible GARMIN Service Centre or your local authority.

2.2 Miscellaneous:

The GARMIN Service Advisory No.: 0904 Revision A is attached to this SI.

In case of any doubt contact GARMIN.



SERVICE ADVISORY

NO.: 0904 Revision A

TO: Owner/Operators of Garmin Integrated Flight Deck Systems with Synthetic Vision Technology

DATE: 21 January 2009

SUBJECT: Cold climate conditions may cause SVT Pathways to intercept the glidepath at a higher altitude than the published altitude.

AFFECTED PRODUCTS

All Garmin Integrated Flight Deck systems with GDU Software v9.00 through v9.13 and Synthetic Vision Technology (SVT) installed are affected.

ISSUE

A condition has been identified whereby the Pathways feature of Synthetic Vision Technology (SVT) may depict the leg immediately preceding glidepath interception at an altitude higher than is published for an approach.

NOTE

The term 'glidepath' in this document refers to either an ILS glideslope or a GPS vertical guidance indication.

DESCRIPTION

With either a GPS Vector-to-Final (VTF) with vertical guidance or an ILS approach procedure in the active flight plan, Pathways are drawn level until they intersect the glidepath. The system calculates and depicts this level segment and intersection based upon the higher of:

- 1) The pilot-selected (barometric) glidepath intercept altitude using the altitude pre-selector knob.
- 2) The geometric derived (not barometric) altitude at which the glidepath intersects the published FAF (Final Approach Fix) waypoint.

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When the outside air temperature is colder than the standard temperature at the aircraft's altitude, barometric altitude is higher than the geometric altitude. This natural discrepancy combined with the conditions stated above, causes the system to depict Pathways higher than the published (barometric) glidepath intercept altitude. For approach altitudes at or below 2000 ft AGL (Above Ground Level), the error is less than 300 ft at -30 degrees Celsius and decreases as temperatures warm to standard temperature.

Pathways that are past the glidepath intercept point (the descending section of Pathways) are displayed correctly. All other phases of flight are unaffected by this issue.

PILOT ACTION

Synthetic Vision and Pathway elements are prohibited from being used for navigation or navigation guidance in place of the primary flight instruments. The Pathway presentation is intended to aid the pilot's awareness of the programmed flight path location relative to the airplane's current position. The flight crew must control the aircraft by reference to the primary flight instruments including the barometric altimeter.

To avoid potential confusion, pilots should select Pathway elements off during instrument approaches especially during cold climate conditions.

RESOLUTION

Garmin plans to address this issue in a future software release. In the interim, pilots should be aware that in cold climate conditions, Pathways may depict the leg immediately preceding glidepath interception at an altitude that is higher than is published for an approach.