



## Service Information Letter

<b>SIL Number:</b>	<b>606-00083-011</b>		
<b>To:</b>	<b>Owners/Operators of Avidyne Release 9 equipped Piper Matrix PA-46R-350T Aircraft (Avidyne STC SA00282BO)</b>		
<b>Subject:</b>	<b>Inaccurate OAT Indication</b>		
<b>Purpose:</b>	<b>This Service Information Letter (SIL) advises owners and operators of Avidyne Entegra Release 9-equipped Piper PA-46 Matrix aircraft that the OAT displayed on the Release 9 integrated flight display may provide an inaccurate high reading</b>		
<b>Revision:</b>	01	<b>Date:</b>	01/23/2012

### Problem Description

It has recently come to Avidyne's attention that the Outside Air Temperature (OAT) displayed on the Release 9 integrated flight display may provide an inaccurate high reading. Avidyne is notifying operators to make them aware that the OAT indication may be higher than actual conditions. Avidyne received a report of an unexpected OAT indication in a new installation of R9 in a PA-46 Matrix. The report indicated that while air conditioning was on, the OAT value displayed on the IFD was several degrees higher than expected. Avidyne worked with the dealer to gain some additional data that showed OAT could be up to 15 deg higher than actual free air OAT while air conditioning was on.

The root cause of this issue is a system configuration that displays the OAT value from the Avidyne Magnetometer/OAT sensors rather than the aircraft OAT probe. The Avidyne OAT sensors are mounted under a fiberglass fairing at the base of the vertical stabilizer leading edge. This location is on the outside of the fuselage skin but an opening for wire access exists to the inside of the fuselage that allows some heat to enter from inside the aft fuselage where the a/c condenser is located. When air conditioning was not running no OAT indication anomaly was noted.

As it relates to the Avidyne Entegra Release 9 installation, OAT inaccuracies affect the calculated TAS displayed on the IFD. 5 degrees of OAT error will result in 1 KTS of TAS error. So indicated TAS errors with air-conditioning running may be 1 to 3 KTS. Note that FMS fuel and time calculations are based on GPS ground speed and not on calculated TAS.

OAT is also used to provide a caution message to turn on Pitot heat when approaching freezing temperature. OAT is typically used by pilots to identify possible icing conditions and this could lead a pilot to be less attentive to the possibility of ice accretion (if running air-conditioning) based on a possible high OAT indication. Note that the Piper PA-46 POH/AFM supplement for FIKI does not use OAT in any procedures or limitations. There is a note in the Piper FIKI supplement that indicates that boot activation should be avoided below -40deg. Per the FIKI supplement, deice boot activation is to be based on visual identification of ice accretion.

Density altitude and percent power indications on the Release 9 display also will be affected by inaccurate OAT readings.

The FAA has reviewed information related to this issue and has determined that no Airworthiness Directive (AD) is required. This service information letter is being provided to make operators aware of possible OAT inaccuracies



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when operating air conditioning. Pilots should regard the OAT value as possibly inaccurate and remain vigilant to ice accretion on the airframe regardless of the indicated OAT value.

### Effectivity

<b>Description</b>	IFD5000
<b>Avidyne Part Number</b>	700-00083-()
<b>Avidyne Software Release</b>	Release 9.2, R9.2.1, R9.2.2, R9.2.3

Only Release 9 software versions R9.2, R9.2.1, R9.2.2, and R9.2.3 in PA-46R-350T Matrix are affected by the described OAT anomaly.

The resolution to this issue will be included in the next R9 software release. The schedule of this release has not been determined.

### Contact Information:

Any customer who experiences the symptoms described above or has additional questions can contact the Avidyne Entegra Release 9 Hotline.

**Avidyne Entegra Release 9 Hotline: 1-877-MyAVIR9 (1-877-692-8479)**

For International Customers: 1-781-402-7592