



Mandatory Service Bulletin

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|-------------------|--|--------------|----------|
| SB Number: | 601-00004-106 | | |
| To: | Owners, Operators, and Installers of Avidyne Emax Engine Monitoring-equipped EX5000 MFDs installed in <u>twin-engine</u> aircraft | | |
| Subject: | Incorrect Calculation and Display of Fuel Remaining at Waypoints and Destination | | |
| Purpose: | This Mandatory Service Bulletin (SB) advises owners, operators, and installers of Avidyne Emax Engine Monitoring-equipped EX5000 MFDs installed in <u>twin-engine</u> aircraft of an error in calculating and displaying certain fuel remaining values. | | |
| Revision: | 01 | Date: | 02/01/12 |

1. Planning Information

1.1 Distribution/Eligibility

This Mandatory Service Bulletin may be distributed only to those groups indicated below with a check mark:

| Group | Distribution |
|---|--------------|
| Avidyne internal | ✓ |
| Avidyne-authorized Service Facility | ✓ |
| Avidyne Web Post | ✓ |
| Avidyne-authorized Installer | ✓ |
| Avidyne OEM partners | ✓ |
| End-use customers, owners and operators | ✓ |

1.2 Effectivity/Compatibility

This Mandatory Service Bulletin applies to Avidyne Multi-Function Displays (MFD), hardware part number 700-00004-() or 700-00030-(), installed in a variety of twin-engine aircraft, with software part numbers listed below:

| Affected MFD Software Part Numbers |
|---|
| 530-00180-000 Rev 04 and earlier (PA34) |
| 530-00195-000 Rev 02 and earlier (PA34) |
| 530-00195-010 Rev 00 (PA34) |
| 530-00201-000 Rev 00 (PA34) |
| 530-00180-002 Rev 04 and earlier (PA44) |



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| Affected MFD Software Part Numbers |
|---|
| 530-00195-002 Rev 02 and earlier (PA44) |
| 530-00195-012 Rev 00 (PA44) |
| 530-00201-002 Rev 00 (PA44) |
| 530-00195-400 Rev 00 (Adam A500) |

The software part number can be determined by powering up the MFD and checking the software part number on the startup screen that displays "Press any bezel key to continue", or on the AUX page of the MFD.

The hardware part number can be verified by removing the MFD from the aircraft and examining the TSO label on the MFD.

1.3 Concurrent Requirements

None

1.4 Reason

Avidyne has identified an issue related to the calculation and display of fuel remaining for twin-engine aircraft. The software mistakenly only uses one engine fuel flow in its calculation and subsequent display of estimated fuel remaining at intermediate waypoints and destination on the Trip page of the Avidyne EX5000 MFD in EMax Engine Monitoring equipped aircraft. Additionally the To Waypoint, Next Waypoint, and Destination Waypoint datablocks on the Map page will show incorrect fuel remaining. The Fuel Remaining value on the Engine page is correct. Only the Fuel Remaining at Waypoint and Destination on the Trip page and Fuel Remaining at To, Next, and Destination Waypoints on the Map datablocks are erroneous.

1.5 Description

Twin-engine aircraft equipped with an EX5000 MFD with the software versions listed in Section 1.2 and optional EMax Engine Monitoring system, must avoid using the Fuel Remaining at intermediate Waypoints and Destination data fields on the Trip page or Fuel Remaining at To, Next, and Destination Waypoints on the Map datablocks for any fuel management planning in-flight.

The data displayed on the Engine page will correctly reflect the total fuel flow of both engines and total Fuel Remaining and can be used in conjunction with the Fuel Totalizer data field and estimated time enroute (ETE) to manually compute an estimated fuel level at destination.

In all cases, pilots and operators must ensure they are referencing the aircraft fuel quantity indicator(s) for measured fuel quantities on-board.

This issue has been addressed in Release 8.1.1 of the EX5000 MFD software for Piper PA34 and PA44 aircraft. Owners/operators with affected Software Part Numbers must update their EX5000 MFD software to Release 8.1.1 utilizing the appropriate Service Bulletin listed in Section 3. No fix is currently available for Adam A500 owners.

1.6 Compliance

This Service Bulletin is mandatory for all twin-engine aircraft that are equipped with the Avidyne EX5000 MFD and EMax Engine Monitoring system.

This Service Bulletin is not applicable for all other aircraft.



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1.7 Approval

See Service Bulletin: 601-00004-099 Rev 01, 601-00004-100 Rev 01, or 601-00004-102 Rev 01 as appropriate.

1.8 Time Required

See Service Bulletin: 601-00004-099 Rev 01, 601-00004-100 Rev 01, or 601-00004-102 Rev 01 as appropriate.

1.9 Weight and Balance

Not Applicable

1.10 Electrical Load Data

Not Applicable

1.11 Software Accomplishment

See Service Bulletin: 601-00004-099 Rev 01, 601-00004-100 Rev 01, or 601-00004-102 Rev 01 as appropriate.

1.12 Reference

Not Applicable

1.13 Publications Affected

See Service Bulletin: 601-00004-099 Rev 01, 601-00004-100 Rev 01, or 601-00004-102 Rev 01 as appropriate.

2. Material – Cost and Availability

Cost: The software is available from Avidyne at no charge from Avidyne. Service Bulletin accomplishment by Avidyne dealer is the responsibility of the owner for aircraft that are out of warranty or not covered under a current Flex Care Plan. For aircraft in warranty or covered under a current Flex Care Plan, a maximum of one hour of labor at the posted shop labor rate will be covered under the terms of the Limited Warranty or Flex Care Plan.

Availability: The documents and required equipment to perform the Service Bulletin are available from Avidyne upon request. Contact information is listed in Section 4.

3. Accomplishment Instructions

1. Twin-engine aircraft equipped with an EX5000 MFD and optional EMax Engine Monitoring system, must avoid using the Fuel Remaining at Intermediate Waypoints and Destination data fields on the Trip page or Fuel Remaining at To, Next, and Destination Waypoints on the Map datablocks for any fuel management planning in-flight until corrective software is installed in affected aircraft.



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2. Perform the applicable Service Bulletin given the currently installed software to obtain the corrective software:

| Affected MFD Software Part Numbers | Applicable Service Bulletin | New MFD Software Part Number |
|---|-----------------------------|------------------------------|
| 530-00180-000 Rev 04 and earlier (PA34) | 601-00004-099 Rev 01 | 530-00201-000 Rev 01 |
| 530-00195-000 Rev 02 and earlier (PA34) | 601-00004-100 Rev 01 | 530-00201-000 Rev 01 |
| 530-00195-010 Rev 00 (PA34) | 601-00004-102 Rev 01 | 530-00201-000 Rev 01 |
| 530-00201-000 Rev 00 (PA34) | 601-00004-102 Rev 01 | 530-00201-000 Rev 01 |
| 530-00180-002 Rev 04 and earlier (PA44) | 601-00004-099 Rev 01 | 530-00201-002 Rev 01 |
| 530-00195-002 Rev 02 and earlier (PA44) | 601-00004-100 Rev 01 | 530-00201-002 Rev 01 |
| 530-00195-012 Rev 00 (PA44) | 601-00004-102 Rev 01 | 530-00201-002 Rev 01 |
| 530-00201-002 Rev 00 (PA44) | 601-00004-102 Rev 01 | 530-00201-002 Rev 01 |
| 530-00195-400 Rev 00 (Adam A500) | N/A | N/A |

At this time, there is no corrective software for the EX5000 MFD installed in Adam A500 aircraft. Owners/operators of Adam A500 aircraft must continue to avoid using the Fuel Remaining at intermediate Waypoints and Destination data fields on the Trip page or Fuel Remaining at To, Next, and Destination Waypoints on the Map datablocks for any fuel management planning in-flight.

4. Contact Information:

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