

	SB-A500A-3400-01	Revision: --
		Type: EA 400
Model: EA 400-500		
Project: A500A-16-04		
Date: 12. May 2016		
Design Organisation EASA.21J.551		

SERVICE BULLETIN

IFD WIRING MODIFICATION

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1. Subject

Modification of Avidyne IFDs Byte Flight Bus wiring to solve communication problems between all IFDs and the Keypad.

2. Affected Aircraft

All serial numbers of the model EA400-500 up to MSN 1007.

3. Introduction

The current wiring of the Byte Flight Bus can lead to miscommunication between the two/three IFDs and the Keypad. This results in reoccurring false warnings, like ADHRS faults or COM frequency swaps upon system start in normal operation. This Service Bulletin provides instructions for modifications correcting this issue.

The Avidyne IFD-1 and IFD-2 (700-00083-000) as well as the Keypad (700-00150-00) and the optional IFD-3 (700-00083-002) communicate among themselves using two Byte Flight Busses (BFB). Each Byte Flight Bus has to be terminated at both ends with a BFB terminator. Those terminators are only available in the main IFD units (700-00083-000). Therefore those units have to be located at each end of the Byte Flight Bus.

The current wiring layout does not fully incorporate this which leads to the said issues. Compliance with this SB will fix those issues. Therefor both Byte Flight Busses have to be modified in a way that IFD-1 and IFD-2 are connected at the end of each BFB with the Keypad and the optional IFD-3 unit wired in between.

4. Compliance Time

SST Flugtechnik GmbH considers compliance highly recommended.

5. Approval

“The technical content of this document is approved under the authority of DOA re. EASA.21J.551 under project No. A500A-16-04.”

6. Material Required

6.1. Documentation

N°	Document Type	Document Name	Document Number
1	Electrical wiring	IFD-1 WIRING	ECN-500E3400-000-001

6.2. Parts

Connector Pins of Type 132A15019X
Cable Thermax TC-746 120 Ohm
Cable compatible Splices
Cable marking labels
Tie wraps/Cord (as required)

6.3. Tooling

Standard maintenance tools

7. Instructions

The following procedures provide detailed installation instructions for the modification of the Avidyne's Byte Flight Bus and the connected units for the EA400-500.

7.1. Installation Planning

Carefully read and understand this document and all herein listed documentation entirely before beginning with the modification.

If any questions arise, contact SST Flugtechnik GmbH for further instructions.

7.2. Preparation for Modification

The wires affected by this change are installed behind the IFDs and within the center console. It is required to unmount the IFDs and the Keyboard to gain access.

The IFDs are secured into the instrument panel with four #8-32 captive screws located at the corners of the IFD's front bezel. Removal of the IFDs/keyboard consists of the following actions:

- a. Make sure that all switches are in the OFF / NORM position.
- b. Disconnect electrical power from the aircraft (incl. aircraft battery and external power supply) and attach appropriate warning tags.
- c. Remove upper lining of center console (EA-7B313.11)
- d. Unmount IFDs/Keyboard
- e. Disconnect connectors and pitot tubes from units and remove IFDs/Keyboard from aircraft.

7.3. Installation

Keyboard wiring modification of Connector J3010

- a. Unpin Pins 1, 14
- b. Configure connector J3010 according to wiring diagram ECN-500E3400-003-001 and label end of cable accordingly
- c. Route cable within center console towards IFD-3 and secure cable properly by attaching it to existing cable loom

IFD-3 wiring modification ...

... connector P4102

- a. Unpin Pins 7, 14, 15
- b. Configure connector P4102 according to wiring diagram and label end of cable accordingly
- c. Secure cable FG15H-TC746 properly by attaching to existing cable loom

... connector P4101

- a. Unpin Pins 12, 13 and 25
- b. Configure connector P4102 according to wiring diagram ECN-500E3400-002-001 and label new cable accordingly
- c. Route cable behind instrument panel towards IFD-1 secure cable properly by attaching it to existing cable loom

IFD-1 wiring modification ...

... connector P1102

- a. Unpin Pins 7, 14, 15
- b. Configure connector P1102 according to wiring diagram ECN-500E3400-000-001 and label new cable accordingly
- c. Secure cable properly by attaching it to existing cable loom

... connector P1101

- a. Unpin Pins 12, 13, 25
- b. Configure connector P1101 according to wiring diagram ECN-500E3400-000-001 and label new cable accordingly
- c. Secure cable properly by attaching it to existing cable loom

IFD-2 wiring modification ...

... connector P2101

- a. Unpin Pins 12, 13, 25
- b. Remove cable FG14E-TC746 from aircraft
- c. Configure connector P2101 according to wiring diagram ECN-500E3400-001-001 and label new cable accordingly
- d. Secure cable properly by attaching it to existing cable loom

... connector P2102

- a. Unpin Pins 7, 14, 15
- b. Remove cable FG15E-TC746 from aircraft

- c. Configure connector P2102 according to wiring diagram ECN-500E3400-001-001 and label new cable accordingly
- d. Secure cable properly by attaching it to existing cable loom

Finalization tasks

- a. Make sure cables FG15E-TC746 and FG14E-TC746 are removed from aircraft
- b. Make sure all cables are labeled correctly
- c. Make sure all touched cable looms are properly secured
- d. Reconnect all connectors to each IFD and reinsert IFDs into instrument panel
- e. Make sure all connectors are reconnected properly and no pitot static tubes have been kinked or bruised during re-insertion of IFD into instrument panel
- f. Remount all IFDs to instrument panel
- g. Reinsert Keyboard into center console and reconnect J3010 connector to Keyboard
- h. Remount Keyboard to center console
- i. Reinstall upper lining of center console (EA-7B313.11)

7.4. Modification close up procedures

- j. Make sure that all switches are in the OFF / NORM position.
- k. Re-connect electrical power, perform the tests iaw section 7.5 and prepare aircraft for release to service.

7.5. Post-installation inspections and tests

- T1. Perform a pitot-static test iaw. MM instructions.
- T2. Enter flight plan into one IFD, check that it is properly synchronized across all IFDs.
- T3. Enter frequency using the Keyboard and check if it is properly synchronized to IFDs
- T4. Observe for 5 min if ADHRS error or any other failure warning or unintended frequency change occurs.

8. Weight and balance

No change.

9. Electrical load analysis

No change.

10. Operating instructions

No change.

11. Instructions for continued airworthiness

Drawings referenced in chapter 6.1 are included in the new issue of the Maintenance Manual.

12. Effectivity date

This service bulletin is effective upon the date of issuance.

13. Installation check-out log

Submit a signed copy of the following page to:

support@sst-flugtechnik.com

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Am Flughafen 12a
D-87766 Memmingerberg

If problems with the implementation of this Service Bulletin occur, please contact SST-Flugtechnik by the contact details above.

13.1. Continued airworthiness data

INSTALLING AGENCY		AIRCRAFT OWNER	
Name:		Name:	
Organisation No.:		Postal Address:	
Contact Person:			
Postal Address:		Telephone No.:	
		E-Mail:	
Telephone No.:		MODIFIED AIRCRAFT	
E-Mail:		Aircraft Type:	
Date of installation:		Aircraft Model:	
		Serial Number:	
		Registration:	

13.2. Installation accomplishment statement

I hereby confirm

- that all conditions and requirements set forth in this Service Bulletin are met;
- that the installation and check-out instructions of this Service Bulletin have been followed;
- that the information provided in this check-out log is complete and correct.

Date

Name in block letters

Signature