


Sandel Avionics
2401 Dogwood Way
Vista, CA 92081
Telephone: (760) 727- 4900
Facsimile: (760) 727- 4899

SA4550 Primary Attitude Display
Instructions for Continued Airworthiness

Document Number ST12361LA-T- 05
Revision A
April 27, 2007

PREPARED BY:  Date 4/27/07
Daniel Weisz, Program Manager

REVIEWED BY:  Date 4/27/07
Bob Burley, Director of Quality

APPROVED BY:  Date 4.27.07
Gerald J. Block, President

PROPRIETARY DATA

SANDEL AVIONICS proprietary rights are included in the information disclosed herein. Recipient by accepting this document agrees that neither this document nor the information disclosed herein nor any part thereof shall be reproduced or transferred to other documents or used or disclosed to others for manufacturing or for any other purpose except as specifically authorized in writing by SANDEL AVIONICS.

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

REVISION SHEET

REV	DATE	Section(s)	DESCRIPTION OF CHANGE
A	27-APR-2007	All	Initial Release

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

TABLE OF CONTENTS

1. INTRODUCTION.....	7
1.1 PURPOSE	7
1.2 Scope	7
1.3 Document Control.....	7
1.4 Airworthiness Limitations Section	7
1.5 Permission to Use Certain Documents	7
1.6 Definitions	8
2. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS	9
2.1 Introduction	9
2.2 Description of Alteration.....	10
2.3 Control, Operating Information.....	10
2.4 Servicing Information	10
2.5 Periodic Maintenance Instructions	10
2.5.1 Cleaning the Front Panel	10
2.5.2 Display Light Source	11
2.6 Troubleshooting Information	11
2.7 Removal and Replacement Information.....	11
2.8 Adjustment and Test.....	11
2.9 Diagrams	11
2.10 Special Inspection Requirements	12
2.11 Application of Protective Treatments	12
2.12 Data Relative to Structural Fasteners	12
2.13 Special Tools	12
2.14 Additional Instructions.....	12
2.15 Overhaul Period.....	12
2.16 ICA Revision and Distribution	12
2.17 Assistance	13
2.18 Implementation and Record Keeping.....	13

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

1. INTRODUCTION

1.1 PURPOSE

This document is designed for use by the installing agency of the Sandel SA4550 Primary Attitude Display as Instructions for Continued Airworthiness in response to FAA order 8110.54 as required by Title 14 of the code of Federal Regulations (14 CFR) 21.50. The ICA includes information required by the operator to adequately maintain the SA4550 installed under Approved Model List (AML) STC ST12361LA -T.

1.2 Scope

This document identifies the Instruction for Continued Airworthiness for the modification of the aircraft for installation of the SA4550 installed under Approved Model List (AML) STC ST12361LA -T.

1.3 Document Control

This document shall be released, archived, and controlled in accordance with the Sandel document control system. When this document is revised, refer to Section 2.15 for information on how to gain FAA acceptance or approval and how to notify customers of changes.

1.4 Airworthiness Limitations Section

There are no additional Airworthiness Limitations as defined in 14 CFR § 25, Appendix H. H25.4 or 14 CFR § 23, Appendix G. G23.4 that result from this modification. The Airworthiness Limitations section is FAA approved and specifies maintenance required under 14 CFR 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

1.5 Permission to Use Certain Documents

Permission is granted to any corporation or person applying for approval of a Sandel SA4550-(xxx) to use and reference appropriate STC documents to accomplish the Instructions for Continued Airworthiness and show compliance with STC engineering data. This permission does not construe suitability of the documents. It is the responsibility of the applicant to determine the suitability of the documents for the ICA.

1.6 Definitions

The following terminology may be used within this document:

- AC:** Advisory Circular
- ACO:** Aircraft Certification Office
- AEG:** Aircraft Evaluation Group
- CFR:** Code of Federal Regulations
- DER:** Designated Engineering Representative
- FAA:** Federal Aviation Administration
- IAW:** In Accordance With
- ICA:** Instructions for Continued Airworthiness
- MFD:** Multi-Function Display unit
- PMI:** Primary Manufacturing Inspector
- POI:** Primary Operations Inspector
- STC:** Supplemental Type Certificate
- TC:** Type Certification or Type Certificate
- TSO:** Technical Standard Order

2. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

2.1 Introduction

Content, Scope, Purpose and Arrangement:	This document identifies the Instructions for Continued Airworthiness for the modification of the aircraft by installation of the Sandel SA4550 Primary Attitude Display.
Applicability:	Applies to aircraft altered by installation of the Sandel SA4550 Primary Attitude Display.
Definition of Abbreviations:	See Section 1.6
Precautions:	None
Units of measurement:	None
Referenced documents:	Sandel Doc. 82010-IM SA4550 installation Manual, Rev. A or later FAA approved revision. Sandel Doc. ST12361LA-T-16 Approved Model List, Rev. Orig or later FAA approved revision. Sandel Doc. 82010-PG SA4550 Pilots Operating Handbook, Rev. A or latest FAA approved revision.
Retention:	This document, or the information contained within, will be included in the aircraft's permanent records.

2.2 Description of Alteration

The Sandel SA4550-(xxx) is a 4 ATI panel mounted unit with all the interface connections behind the instrument panel. The SA4550-(xxx) is designed to be functionally compatible with the existing aircraft wiring harness therefore in most installations, the only new installation wiring required the addition of an independent power harness and independent circuit breaker. For new installations refer to the SA4550 install manual, Sandel doc. 82010-IM, latest FAA approved revision.

2.3 Control, Operating Information

See the SA4550 Pilots Operating Handbook, listed under the reference documentation in paragraph 2.1 of this document, for system operation and self-test information.

2.4 Servicing Information

None. In the event of system failure, return the unit to the Sandel Avionics. Prior to shipping back to the factory contact customer service to obtain an RMA number. Sandel Avionics Customer Service can be reached at (760) 727-4900 Monday through Friday 6:00AM to 5:00PM PST.

2.5 Periodic Maintenance Instructions

The SA4550-(xxx) is designed to detect internal failures. A thorough self-test is executed automatically upon application of power to the units, and built-in test is continuously executed. Detected errors are indicated on the equipment via failure annunciations and maintenance is on-condition. Operation of the SA4550 is not permitted unless an inspection as described in this section has been completed within the preceding 12 calendar months. Conduct a visual inspection on the SA4550 and its wire harness to insure installation integrity:

1. Inspect the unit for security of attachment.
2. Inspect all buttons for legibility.
3. Inspect condition of wiring, routing and attachment/clamping.
4. Inspect all knobs operation.

2.5.1 Cleaning the Front Panel

The front bezel, keypad, and display can be cleaned with a soft cotton cloth dampened with "Edmund Scientific TECH SPEC Lens Cleaner" or equivalent. Care should be taken to avoid scratching the surface of the display.

2.5.2 Display Light Source

The display light source is rated by the manufacturer as having a usable life of 80,000 hours. This life may be more or less than the rated time depending on the operating conditions of the SA4550. Over time, the backlight lamp may dim and the display may not perform as well in direct sunlight conditions. The user must determine by observation when the display brightness is not suitable for its intended use. Contact the Sandel Customer Service if the light source requires service.

2.6 Troubleshooting Information

If the SA4550 fails to properly operate, consult a local authorized Sandel dealer for repair. The SA4550 contains no user serviceable components.

2.7 Removal and Replacement Information

If the SA4550 is removed for repair and reinstalled, or removed and replaced with a different SA4550, follow 'Post Installation Configuration & Checkout Procedures' procedures contained in the SA4550 Installation Manual listed in paragraph 2.1 of this document.

If any work has been done on the aircraft that could affect the system wiring or interconnected equipment, verify the SA4550 operates properly, follow the 'Post Installation Configuration & Checkout Procedures' contained in the SA4550 Installation Manual listed in paragraph 2.1 of this document.

To remove the SA4550 from the mounting clamp, use a standard #2 Philips screwdriver to loosen the clamping screws until the SA4550 can be freely pulled from the panel.

The SA4550 is installed by connecting the three (3) cable harnesses and then sliding it straight in until the front bezel meets the aircraft instrument panel. Tighten all four (4) clamp screws.

2.8 Adjustment and Test

Reference the SA4550 Installation Manual listed in paragraph 2.1 of this document.

2.9 Diagrams

Refer to the SA4550 Installation Manual (listed under reference documentation in section 2.1 of this document) for drawings applicable to this installation. Point to point wiring diagrams are in the Appendix of the SA4550 Installation Manual.

2.10 Special Inspection Requirements

None, N/A.

2.11 Application of Protective Treatments

None, N/A.

2.12 Data Relative to Structural Fasteners

None, N/A.

2.13 Special Tools

No special tools are required for system checkout. See SA4550 Installation Manual listed in reference documentation in section 2.1 of this document.

2.14 Additional Instructions

None

2.15 Overhaul Period

The system does not require overhaul at a specific time period. Power on self-test and continuous BIT will monitor the health of the SA4550. If the unit indicates an internal failure, the unit may be removed and replaced.

2.16 ICA Revision and Distribution

To revise this ICA, a letter must be submitted to the ACO along with the revised ICA. The ACO will obtain AEG acceptance, and approve any revision to the Airworthiness Limitations Section 1.4. After FAA acceptance/approval, Sandel will release the revised ICA for customer use, and provide any required notification of the revision. The latest revision of this document will be available on the Sandel website (www.sandel.com). A

Sandel Service Information letter or Service Bulletin as appropriate, describing ICA revision, will be sent to dealers if the revision is determined to be significant.

2.17 Assistance

Flight Standards Inspectors or the certificate holder's PMI have the required resources to respond to questions regarding this ICA. In addition, the customer may refer questions regarding this equipment and its installation to the manufacturer, Sandel Avionics. Sandel customer assistance may be contacted Monday through Friday, 6:00AM to 5:00PM PST via telephone 760-727-4900 or email from the Sandel web site at www.sandel.com.

2.18 Implementation and Record Keeping

Modification of an aircraft and issuance of a new or amended Type Certificate (TC) Data Sheet or a Supplemental Type Certificate (STC) obligates the aircraft operator to include the maintenance information provided by this document in the operator's Aircraft Maintenance Manual and the operator's scheduled aircraft maintenance program.

Line Replaceable Unit (LRU) part numbers and other necessary part numbers contained in the installation data package should be placed into the aircraft operators' appropriate airplane Illustrated Parts Catalog, as required.

Wiring diagram information contained in this data package should be placed into the aircraft operators' appropriate aircraft Wiring Diagram Manuals, as required.