


REV <b>A</b>	<b>APPLICATION</b>			<b>REVISIONS</b>		
	PRODUCT LINE	REV	DESCRIPTION	DATE	APPROVED	APPROVED
SH <b>1</b>	IDU-III	A	Initial Release per DCN W4012	10/25/04	Robert DuRall	
DWG. NO. <b>150-045024</b>						

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<b>APPROVALS</b>						<b>DATE</b>
DRAWN	Robert DuRall	10/25/04		<b>TITLE:</b> <b>SERVICE BULLETIN WSB IDU-III-13</b> <b>(CROSSBOW AHRS REPLACEMENT)</b>		
CHECKED	Dean R. Boston	10/25/04				
PRODUCT MANAGER	---	---				
ENGINEER	Robert DuRall	10/25/04	SIZE	CAGE CODE	DWG NO.	REV
ISSUED	Vern Wallace	10/25/04	<b>A</b>	<b>1B7G3</b>	<b>150-045024</b>	<b>A</b>
<b>Typed signatures indicate approval. Handwritten signature approval of this document is on file at Wulfsberg Electronics, Prescott, Arizona.</b>			SCALE: NONE		DO NOT SCALE DRAWING	



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## **SERVICE BULLETIN**

**EQUIPMENT:** IDU-III

**DATE:** October 25, 2004

**BULLETIN NUMBER:** WSB IDU-III-13 Revision A

### **EFFECTIVITY**

This service bulletin applies to the following:

Chelton EFIS with software version 5.0A or later and Crossbow AHRS500GA-202 installed per STC SA02203AK or STC SR02209AK.

### **REASON**

#### **Problem Resolutions:**

1. Improved cold start reliability
2. Acceleration and deceleration performance improvements
3. Improved heading performance for autopilot operation

### **DESCRIPTION**

This document allows the replacement of the Crossbow AHRS500GA-202 (P/N 8350-0062-[ ]) with Crossbow AHRS500GA-222 (P/N 8350-0262-[ ] or 8360-0262-[ ]).

### **COMPLIANCE**

Required for all Crossbow AHRS500GA-202 (P/N 8350-0062-29 or earlier).

### **WARRANTY INFORMATION**

Inquiries should be directed to "Customer Support" at the address listed below:

Crossbow Technology, Inc.  
41 Daggett Drive  
San Jose, CA 95134  
Phone (408) 965-3300  
Fax (408) 324-4840

## **APPROVAL**

This Service Bulletin has been reviewed and approved by the FAA.

This modification does not affect the original approval. Crossbow AHRS500GA-222 is an approved replacement for the Crossbow AHRS500GA-202.

## **MANPOWER**

2.0 Man-hours per aircraft.

## **REFERENCES**

System Installation Instructions, 150-045264, Instructions for Continued Airworthiness, 150-045261, Rotorcraft Instructions for Continued Airworthiness, 150-045284, and Crossbow Installation Instructions 7410-0001-[ ].

## **MATERIAL INFORMATION**

The parts required to replace the Crossbow AHRS in accordance with this Service Bulletin may be obtained as follows.

Item 1 may be obtained by contacting Crossbow Technologies, Inc.

## **PARTS REQUIRED**

<b><u>ITEM</u></b>	<b><u>QTY</u></b>	<b><u>U/M</u></b>	<b><u>DESCRIPTION</u></b>
1	1	ea	Crossbow AHRS500GA-222

## **TEST EQUIPMENT REQUIRED**

Crossbow AHRS500 Installation MagAlign software P/N 8160-0060-[ ]

Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable

Laptop Computer with Microsoft® Windows™ 95 or later

***NOTE:*** The Crossbow AHRS500 Installation MagAlign software can be obtained from the Crossbow web site at [www.xbow.com](http://www.xbow.com) or from the Crossbow Installation CD-ROM that came with the original unit. The Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable can be obtained by contacting Crossbow Technical Support at (408) 324-4840 or from the original Crossbow Installation Kit.

## **MODIFICATION PROCEDURE**

**NOTE:** *Ensure all power is removed from the aircraft prior to start of maintenance.*

1. Remove all necessary access panels to gain access to the AHRS.
2. Remove the connector from the AHRS.
3. Remove the mounting hardware from the AHRS.
4. Remove the AHRS and return to Crossbow Technologies.
5. Install the new AHRS (Item 1) on the original AHRS mounting location and ensure the connector is facing AFT.
6. Install the mounting hardware that was removed in Step 3 and tighten as required.

## **ALIGNMENT PROCEDURE**

**NOTE:** *Refer to the latest version of the Crossbow AHRS500GA- [ ] Installation Manual for detailed information on the AHRS Alignment.*

1. Connect the 15 pin female end of the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable to the AHRS.
2. Connect the 15 pin male end of the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable to the AHRS wire harness removed in Step 2.
3. Start the laptop computer and start the Crossbow AHRS500 MagAlign software.
4. Connect the 9 pin connector of the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable to the serial port of the laptop computer.
5. Ensure the alignment switch on the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable is in the "OFF" position.
6. Apply power to the AHRS.

**NOTE:** *The "No Attitude" flag and loss of attitude and heading information on the EFIS will be displayed when the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable is installed.*

7. Ensure the aircraft is safe for engine operation and taxi.
8. Taxi aircraft out to a compass Rose or other appropriate area.
9. Ensure all engines and accessories that are operated during normal flight are active.
10. Follow the alignment procedure outlined in the Crossbow AHRS500GA-[ ] Installation Manual to align the AHRS.

11. Once a successful alignment has been obtained, place the alignment switch on the Crossbow AHRS500 Digital Signal Alignment/Maintenance Cable in the “OFF” position then remove power from the AHRS.

**POST-ALIGNMENT PROCEDURE**

1. Remove the 9 pin connector of the Crossbow Digital Signal Alignment/Maintenance Cable from the laptop computer.
2. Remove the 15 pin female end of the Crossbow Digital Signal Alignment/Maintenance Cable from the AHRS.
3. Remove the 15 pin male end of the Crossbow Digital Signal Alignment/Maintenance Cable from the AHRS wire harness.
4. Remove the Crossbow Digital Signal Alignment/Maintenance Cable from the aircraft.
5. Install the AHRS wire harness on the AHRS and secure as required.
6. Install all access panels that were removed in Step 1 of the Modification Procedures.
7. Ensure aircraft is safe for engine operation and taxi.
8. Taxi aircraft out to a compass Rose or other appropriate area.
9. Ensure all engines and accessories that are operated during normal flight are active.
10. Point the nose of the aircraft at the following points and ensure that there is no more than 4° of error in either direction during the tests.

Heading	Displayed	Heading	Displayed
360		180	
90		270	

**NOTE:** *If there is more than a 4° difference between the actual heading and the displayed heading, additional alignment will be required.*

11. Upon successful completion, return the aircraft and secure power.