

TITLE:	Hardware Modification for AD32 Air Data Display (HIRF compliance according to JAA INT/POL/27&29/1)
DOCUMENT NUMBER:	SB AD32/06
EQUIPMENT:	AD32 Air Data Display
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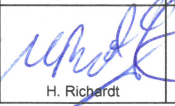
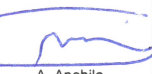


Service Bulletin

SB AD32/06

Revision: 1.0

RECORD OF REVISIONS

Rev.	Date	Reason for Revision	Prepared	Checked	Approved
1.0	04/09/19	Initial Release	 J. Garrett	 H. Richardt	 A. Anehila

SERVICE BULLETIN

1. Planning Information

A. Effectivity

The modification procedure described in this Service Bulletin applies to the AD32 Air Data Display with HW 4.10.

B. Concurrent Requirements

None required.

C. Reason

This document is issued to provide information about the hardware change for a higher HIRF protection (in accordance with JAA INT/POL/27&29/1).

D. Description

The following hardware modification must be done to accomplish the higher HIRF protection, in accordance with JAA INT/POL/27&29/1:

Replacement of the main housing, the front glass, the centering ring and its O-ring seal.

Addition of copper contact spring(s), located between the main housing and the axle(s) of the operating knob(s).

Replacement of the MOD status and identification labels.

E. Compliance Recommendation

This Service Bulletin is to introduce improvements for a better HIRF protection. Accomplishment is optional.

F. Approval

The AD32 Air Data Display conforms to TSO-C106, TSO-C88a, and TSO-C10b.

This Service Bulletin contains no modification information that revises the approved configuration and therefore does not require any implementation of governmental or other regulatory agency approval.

G. Manpower

This modification can be done by THOMMEN AIRCRAFT EQUIPMENT AG or its approved service centres.

The modification (excluding removal, reinstallation of the unit and acceptance test) requires approximately one man-hour.

H. Weight and Balance

Not affected.

I. Electrical Load Data

Not changed.

J. Software Accomplishment Summary

Not applicable.

K. References

REFERENCE	ITEM
WIN-0010-002	Work Instructions - AD32
CMM-34-16-10	Component Maintenance Manual - AD3x.()
IPL-34-16-10	Illustrated Parts List and List of Special Executions - AD3x.()
051010AFB	Test Report (done by EMCC Dr. Rasek)
SR AD32/01	Similarity Report for AD32 Air Data Display (HIRF Compliance)

L. Other Publications Affected

REFERENCE	ITEM
AD-DDP-400	Declaration of Design and Performance
AD-INSOP-400	Installation and Operation Manual - AD3x.()

M. Interchangeability of Parts

EXISTING PARTS		REPLACEMENT PARTS	
ITEM	PART NUMBER	ITEM	PART NUMBER
Housing	211623313	Housing	211623333
N/A	N/A	Contact spring(s)	211740914
Centering ring	211593414	Centering ring	211593424
Glass assembly	210716414	Glass assembly	211737914
O-ring	35526303	O-ring cord (230mm)	65223019

All other parts are unaffected by this Service Bulletin.

2. Material Information

A. Material - Price and Availability

The hardware parts/materials required for this modification are procured by THOMMEN AIRCRAFT EQUIPMENT AG or its approved service centres.

Installation of this Service Bulletin is subject to no special pricing.

For more information please contact:

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NOTE:

All units subject for modification must be scheduled prior to shipping. Contact THOMMEN AIRCRAFT EQUIPMENT AG for further lead time and delivery schedule.

B. Tooling - Price and Availability

No special tools are required.

3. Accomplishment Instructions

The modification procedure can be accomplished by THOMMEN AIRCRAFT EQUIPMENT AG or its approved service centres.

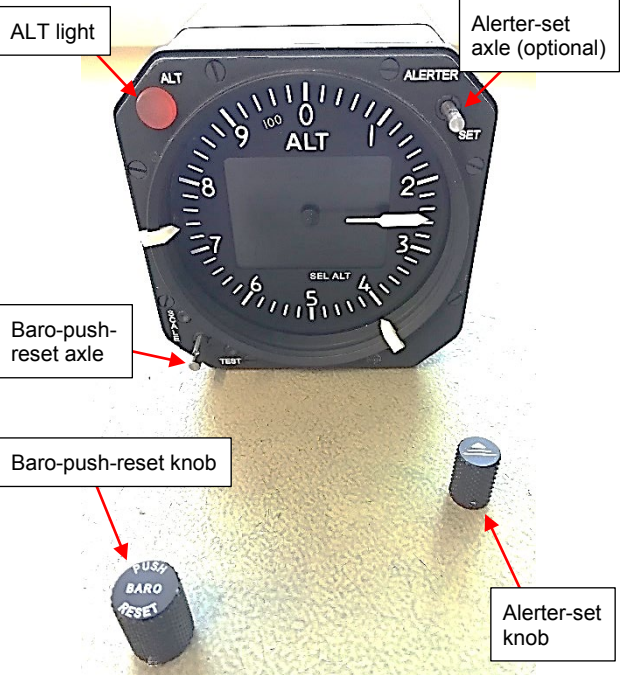
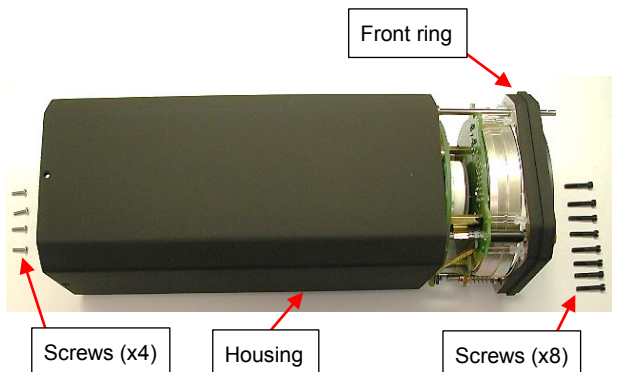
A. Preparation

- (1) Remove the AD32 from the aircraft.
- (2) Make sure that the workstation is clean and clear of unwanted parts and materials


B. Procedure



CAUTION: THE PRINTED CIRCUIT BOARDS (PCB) INSIDE THE AD32 ARE ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) PARTS. YOU MUST MAKE SURE THAT THE WORKSTATION IS ELECTROSTATIC DISCHARGE (ESD) COMPATIBLE BEFORE DOING THE FOLLOWING PROCEDURE.

STEP	PICTURE	PROCEDURE
1		<p>NOTE: The AD32, HW 4.10, can be either with or without an ALT light. The AD32, HW 4.10, can be either with or without an alerter-set knob. This procedure is the same for all variants.</p> <p>Remove the grub screw from the baro-push-reset knob, then remove the knob from the axle.</p> <p>If installed, remove the grub screw from the alerter-set knob, then remove the knob from the axle.</p> <p>Clean the two knobs and grub screws.</p>
2		<p>Remove the lead seal from one of the eight screws in the front ring.</p> <p>Remove the eight screws from the front ring.</p> <p>Remove the four screws from the rear of the housing.</p> <p>Remove the housing from the main assembly.</p> <p>Discard the housing.</p> <p>Clean the 12 screws.</p>

STEP	PICTURE	PROCEDURE
3	<p>Lighting PCB</p> <p>Springs (x2)</p> <p>Front ring assembly</p>	<p>Carefully pull the front ring assembly to disconnect it from the lighting PCB.</p> <p>Remove the front ring assembly and the two springs (for the scale and test buttons).</p> <p>NOTE: The AD32, HW 4.10, can be either with or without a scale button. This procedure is the same for both variants.</p>
4	<p>Main assembly</p> <p>Centering ring</p>	<p>Carefully pull the centering ring from the main assembly.</p> <p>Discard the centering ring and its O-ring.</p>
5	<p>Centering ring</p> <p>O-ring cord</p>	<p>Press the new O-ring cord (230mm long) in the groove of the new centering ring.</p> <p>Cut the O-ring cord to the correct length, if necessary.</p>

STEP	PICTURE	PROCEDURE
6		<p>Press the new centering ring on the main assembly.</p> <p>Make sure that the recess at the bottom of the centering ring aligns with the recess next to the lighting PCB.</p>
7		<p>Remove the glass assembly from the front ring assembly.</p> <p>Discard the glass assembly.</p>
8		<p></p> <p>CAUTION: DO NOT CLEAN THE GLASS WITH CHEMICAL SOLVENTS. DAMAGE TO THE COATINGS OF THE GLASS CAN OCCUR.</p> <p>Put the new glass assembly in the front ring assembly.</p> <p>Make sure that the black part of the glass assembly is towards the front face of the front ring assembly.</p> <p>Make sure that the two holes in the white part of the glass assembly align with the LEDs on the front ring assembly.</p> <p>Make sure that the glass is clean from dirt, dust and fingerprints.</p>

STEP	PICTURE	PROCEDURE
9		<p>Put the spring(s) on the push-button axle(s) of the front ring assembly (for the scale (optional) and test buttons).</p> <p>NOTE: The AD32, HW 4.10, can be either with or without a scale button. This procedure is the same for both variants.</p> <p>Make sure that the contact pins on the lighting PCB are not bent.</p> <p>Carefully attach the front ring assembly to the lighting PCB. Make sure that the contact pins connect correctly to the LED connectors.</p>
10		<p>NOTE: The AD32, HW 4.10, can be either with or without an alerter-set knob. This procedure is the same for both variants.</p> <p>Partially put the main assembly in the housing, as shown in the photograph.</p> <p>Push the contact spring(s) in the gap between the axle(s) and the housing.</p> <p>The contact spring(s) must make a good contact with the axle(s).</p> <p>Press the main assembly fully in the housing.</p>

STEP	PICTURE	PROCEDURE
11		<p>Apply Loctite 243 to the screws before assembly.</p> <p>Attach the front ring to the housing with the eight screws.</p> <p>Install the four screws at the rear of the housing.</p>
12		<p>Push the baro-push-reset knob on the bottom axle.</p> <p>Make sure that the hole for the grub screw aligns with the hole in the axle.</p> <p>Apply Loctite 243, then install the grub screw.</p> <p>Push the alerter-set knob on the top axle (optional).</p> <p>Make sure that the hole for the grub screw aligns with the hole in the axle.</p> <p>Apply Loctite 243, then install the grub screw.</p>
13		<p>Print a new MOD status label with the HW MOD status incremented (all other information is unchanged).</p> <p>Print a new identification label (all information is unchanged).</p> <p>Attach the new labels to the new housing as shown in the photograph.</p> <p>NOTE: The photograph shows only typical identification labels. Do not copy the information shown.</p>

C. Close Up

Do an acceptance test in accordance with the applicable Acceptance Test Procedure (ATP) and the associated Acceptance Test Record (ATR).

All testing will be carried out by THOMMEN AIRCRAFT EQUIPMENT AG or its approved service centres.