

AIRCRAFT MAINTENANCE MANUAL

ATTITUDE AND HEADING REFERENCE SYSTEM (AHRS) - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to do a check of the AHRS system.
- B. [AMM TASK 34-21-00-700-801-A/500](#) and [AMM TASK 34-21-00-700-803-A/500](#) are applicable to aircraft with AHRS AH-800 only.
- C. AMM TASK 34-21-00-700-802-A/500 is applicable to aircraft with AHRS AH-800 or AH-900.
- D. [AMM TASK 34-21-00-700-804-A/500](#) is applicable to aircraft with AHRS AH-900 only.
- E. [AMM TASK 34-21-00-700-805-A/500](#) is applicable to aircraft with AHRS AH-800 only.
- F. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
34-21-00-700-801-A ♦	AHRS DG MODE - OPERATIONAL CHECK	AIRCRAFT WITH AHRS AH-800
34-21-00-700-802-A	AHRS - OPERATIONAL CHECK	ALL
34-21-00-700-803-A	AHRS - MOUNTING TRAY LEVELING/ ALIGNMENT	AIRCRAFT WITH AHRS AH-800
34-21-00-700-804-A	AHRS - MOUNTING TRAY LEVELING/ ALIGNMENT	AIRCRAFT WITH AHRS AH-900
34-21-00-700-805-A	AHRS ATTITUDE INDICATION CHECK	AIRCRAFT WITH AHRS AH-800



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TASK 34-21-00-700-801-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

2. AHRS DG MODE - OPERATIONAL CHECK

A. General

- (1) This task gives the procedure to do a check of the DG and heading modes of the AHRS.

B. References

REFERENCE	DESIGNATION
AMM SDS 31-42-00/1	
AMM SDS 34-15-00/1	
AMM SDS 34-22-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-008-A

- (1) Energize the aircraft with the external DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (2) Make sure that the systems below are serviceable:
 - Electronic Flight Instrument System (EFIS) ([AMM SDS 34-22-00/1](#)).
 - Air Data System ([AMM SDS 34-15-00/1](#)).
 - Integrated Computer System ([AMM SDS 31-42-00/1](#)).



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J. Operationally Check AHRS DG Mode ([Figure 501](#))

SUBTASK 710-011-A

- (1) Do the check as follows:

- (a) On the AHRS control panel, set the DG/SLVD 1 switch to the DG position.

Result:

- 1 The Primary Flight Display (PFD) and the Multi-Function Display (MFD) show the inscription DG1 (white).

- (b) On the AHRS control panel, set the CW/CCW switch to CW and hold it thus.

Result:

- 1 The PFD compass card turns clockwise.

- (c) On the AHRS control panel, set the CW/CCW switch to CCW and hold it thus.

Result:

- 1 The PFD compass card turns counterclockwise.

- (d) On the AHRS control panel, set the DG/SLVD 1 switch to the SLVD position.

Result:

- 1 The inscriptions DG1 (white) go out of view on the Primary Flight Display (PFD) and on the Multi-Function Display (MFD).

- (e) On the AHRS control panel, set the DG/SLVD 2 switch to the DG position.

Result:

- 1 The Primary Flight Display (PFD) and the Multi-Function Display (MFD) show the inscription DG2 (white).

- (f) On the AHRS control panel, set the CW/CCW switch to CW and hold it thus.

Result:

- 1 The PFD compass card turns clockwise.

- (g) On the AHRS control panel, set the CW/CCW switch to CCW and hold it thus.

Result:

- 1 The PFD compass card turns counterclockwise.

- (h) On the AHRS control panel, set DG/SLVD 2 switch to the SLVD position.

Result:

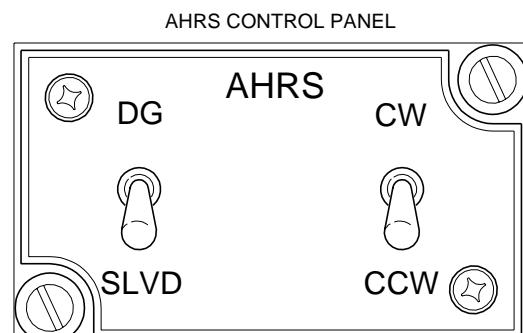
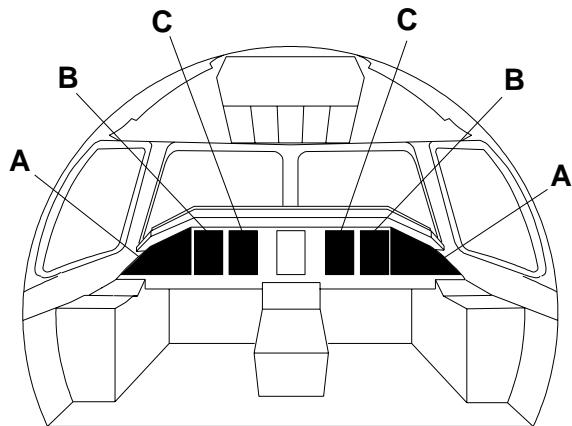
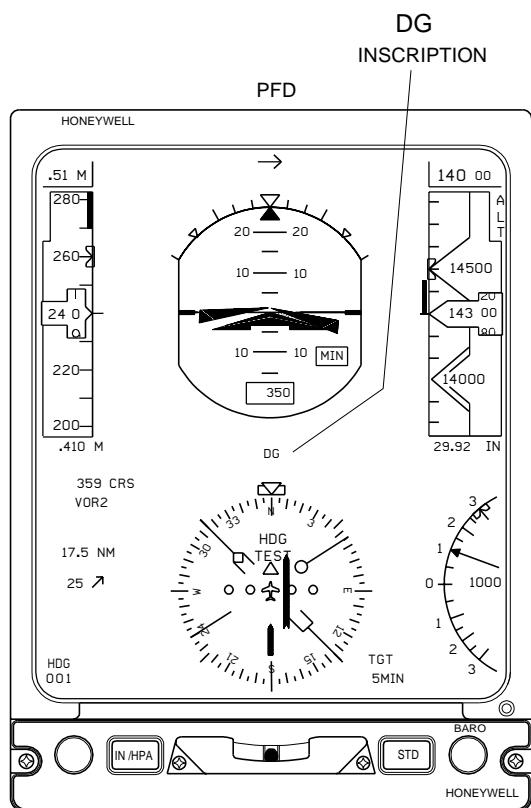
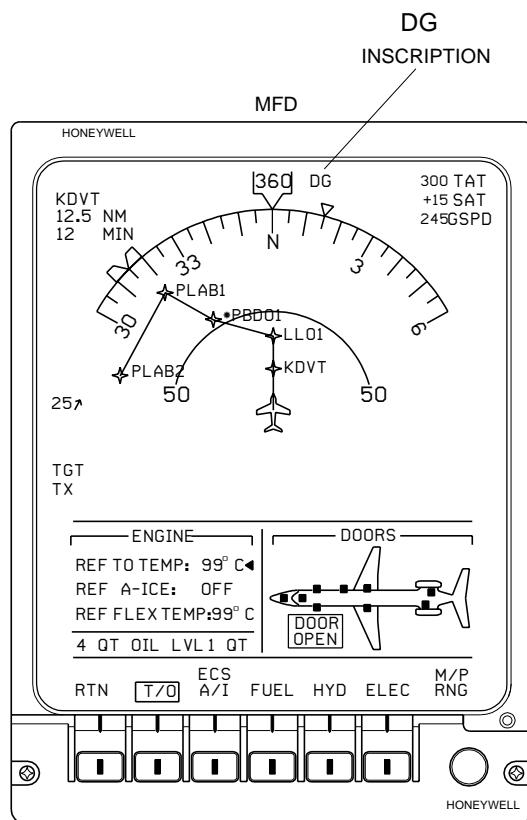
- 1 The inscriptions DG2 (white) go out of view on the Primary Flight Display (PFD) and on the Multi-Function Display (MFD).

K. Follow-on

SUBTASK 842-008-A

- (1) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800
AHRS DG Mode - Operational Check
Figure 501


DET. A

DET. B

DET. C
EM145AMM341399A.DGN



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TASK 34-21-00-700-802-A

EFFECTIVITY: ALL

3. AHRS - OPERATIONAL CHECK

A. General

- (1) This task gives the procedures to do the operational check of the AHRS.

NOTE: During this test, the system outputs are overwritten with preset test values for the test of the interfaces and interconnections of the AHRS.

B. References

REFERENCE	DESIGNATION
AMM SDS 31-42-00/1	
AMM SDS 34-22-00/1	
AMM SDS 34-61-00/1	
AMM SDS 34-62-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 34-21-00-700-805-A/500	AHRS ATTITUDE INDICATION CHECK

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	223LZ	Maintenance panel

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-009-A

- (1) Energize the aircraft with the external DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).

- (2) Make sure that the systems below are serviceable:

- Electronic Flight Instrument System (EFIS) ([AMM SDS 34-22-00/1](#)).
- Integrated Computer System ([AMM SDS 31-42-00/1](#)).
- (Aircraft with AHRS AH-900) FMS (Honeywell) ([AMM SDS 34-61-00/1](#)) or FMS (Universal) ([AMM SDS 34-62-00/1](#)).

- (3) (Aircraft with AHRS AH-800) Make sure that the aircraft is in the on-ground configuration.
- (4) (Aircraft with AHRS AH-900) Make sure that the indicated groundspeed on the PFD is lower than 20 knots.
- (5) Make sure that the AHRS1 and AHRS2 circuit breakers, on the circuit breaker panel, are closed.

J. Operational Check of the AHRS ([Figure 502](#)) ([Figure 501](#))

SUBTASK 710-012-A

- (1) (Aircraft with AHRS AH-900) Do the alignment of the AHRS as follows:
 - (a) **NOTE:** • The AHRS must receive the present position for the alignment to be completed. The FMS position must be updated to permit this data to be read by the AHRS.
 - If the aircraft is moved during the alignment, the AHRU stops the alignment and starts a full alignment again 30 seconds after the motion stops.

(Aircraft with FMS Honeywell) Do the FMS position update as follows:

- 1 On the FMS CDU1, push the NAV mode key and the NEXT function key.
 - The NAV INDEX 2/2 page is shown.
 - 2 Push the POS INIT (3L) left line select key.
 - The POS INIT 1/1 page is shown.
 - 3 Push the LOAD (2R) right line select key to update the FMS position with the last saved position.
 - The FMS CDU shows the LOADED POSITION coordinates.
- (b) (Aircraft with FMS Universal) On the INIT 1/1 page, on FMS CDU1, push the ACCEPT line select key to update the FMS position.
 - (c) Wait until the alignment is completed. The alignment time depends on the local latitude. The time of alignment is about 5 minutes at zero degree of latitude, 10 minutes at \pm 60 degrees of latitude, up to 17 minutes from \pm 70.24 to \pm 78.25 degrees of latitude.
 - After the alignment of the AHRS is completed, the flags ATT FAIL and HDG FAIL go out of PFD1 and MFD1, and a valid attitude and heading data are shown.

- (2) (Aircraft with AHRS AH-900 or AHRS AH-800) Do the AHRS operational check as follows:

NOTE: The test with the AHRS switch, on the maintenance panel, does not show possible orientation inversion made during the AHRS configuration. To have such inversion shown, refer to [AMM TASK 34-21-00-700-805-A/500](#).

- (a) On the maintenance panel, set the AHRS switch to the "1" position.

Result:

- 1 PFD 1 shows these indications:

- 30 degrees for Magnetic Heading.
- 15 degrees for Pitch Angle.
- 5 degrees for Roll Angle.

- (b) On the maintenance panel, set the AHRS switch to the "center position".

Result:

- 1 The PFD 1 shows the AHRS normal indication.

- (c) On the maintenance panel, set the AHRS switch to the "2" position.

Result:

- 1 PFD 2 shows these indications:

- 30 degrees for Magnetic Heading.
- 15 degrees for Pitch Angle.
- 5 degrees for Roll Angle.

- (d) On the maintenance panel, set the AHRS switch to the "center position".

Result:

- 1 PFD 2 shows the AHRS normal indication.

K. Follow-on

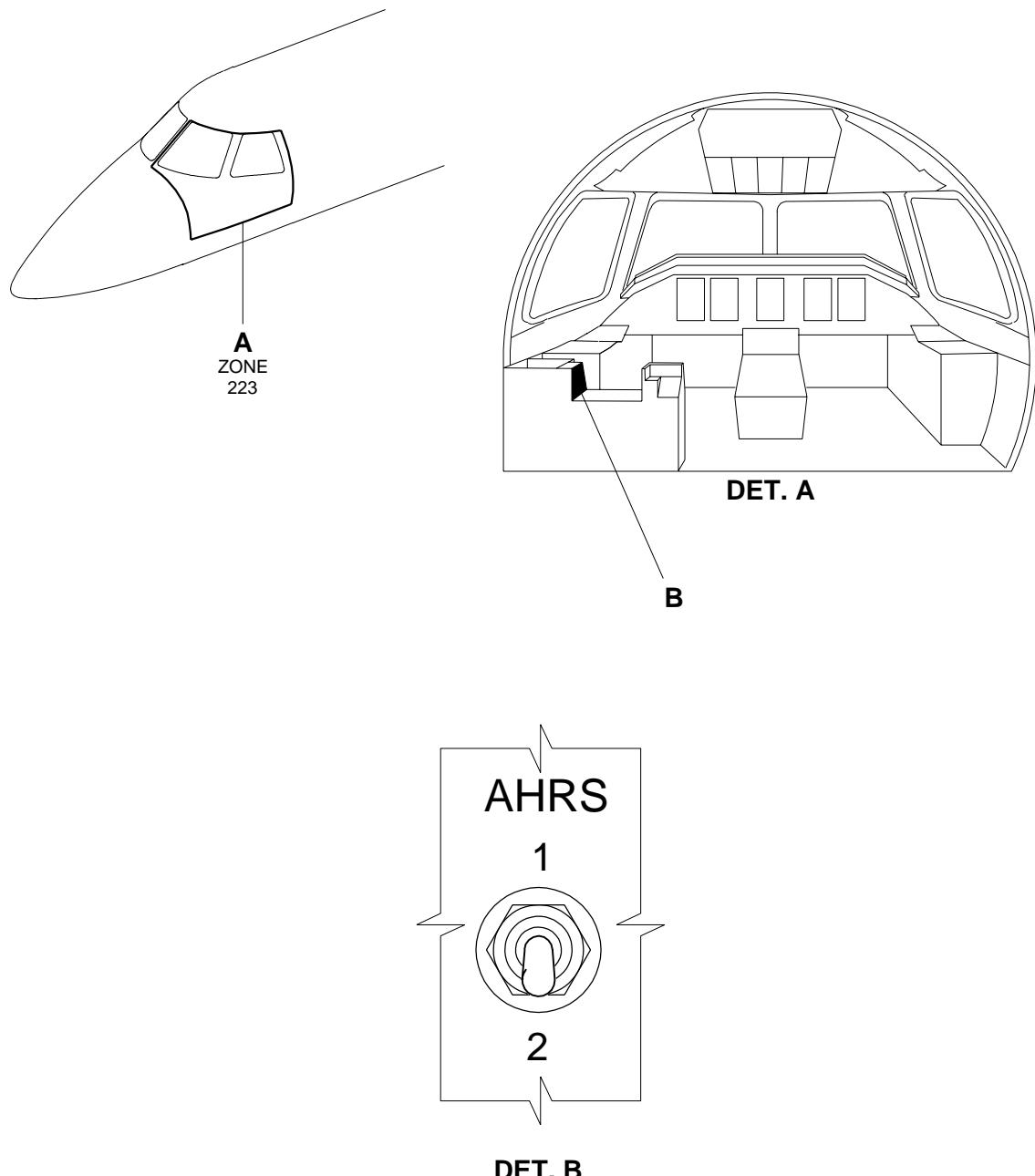
SUBTASK 842-009-A

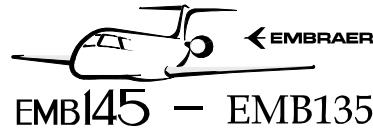
- (1) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: ALL

Maintenance Panel - AHRS Test Switch

Figure 502





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TASK 34-21-00-700-803-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

4. AHRS - MOUNTING TRAY LEVELING/ALIGNMENT

A. General

- (1) This task gives the procedures to align the AHRS tray.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM TASK 08-20-00-500-801-A/200	AIRCRAFT LEVELING IN THE PASSENGER CABIN

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
213	113CZ	Electronic compartment - LH upper side
214	113CZ	Electronic compartment - RH upper side

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 117	Tool, AHRS Alignment	To align the tray with the longitudinal axis of the aircraft	
GSE 124	Device, Leveling	To make the tray level with the aircraft	
Commercially Available	Torque Wrench	To torque fasteners	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Electronic compartment

I. Preparation

SUBTASK 841-010-A

- (1) Make the aircraft level ([AMM TASK 08-20-00-500-801-A/200](#)).
- (2) Open access door 113CZ (AMM MPP 06-41-01/100).



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J. Leveling/Alignment of the AHRU1 and AHRU2 Mounting Tray ([Figure 503](#))

SUBTASK 710-013-A

- (1) Put the mounting tray on the mounting surface.
- (2) Attach the tray to the aircraft structure, but keep the four bolts loose.

CAUTION: BE CAREFUL WHEN YOU INSTALL THE LEVELING DEVICE (GSE 124) ON THE MOUNTING TRAY AND WHEN YOU MAKE THE MEASUREMENTS TO PREVENT DAMAGE TO THE PRECISION INSTRUMENT.

- (3) Install the leveling device (GSE 124) in place of the AHRS Computer with the three guide pins on the mounting tray.
- (4) Attach the device with the two knurled nuts over the supporting hooks.
- (5) Examine the circular level on the leveling device and adjust the mounting tray with shims as necessary to get better than ± 0.1 degrees of level in pitch and roll.

CAUTION: MAKE SURE THAT THE TRAY CANNOT "ROCK" ON THE MOUNTING FEET AND THAT THE TRAY IS ALIGNED WITH THE ALIGNMENT TOOL (GSE 117).

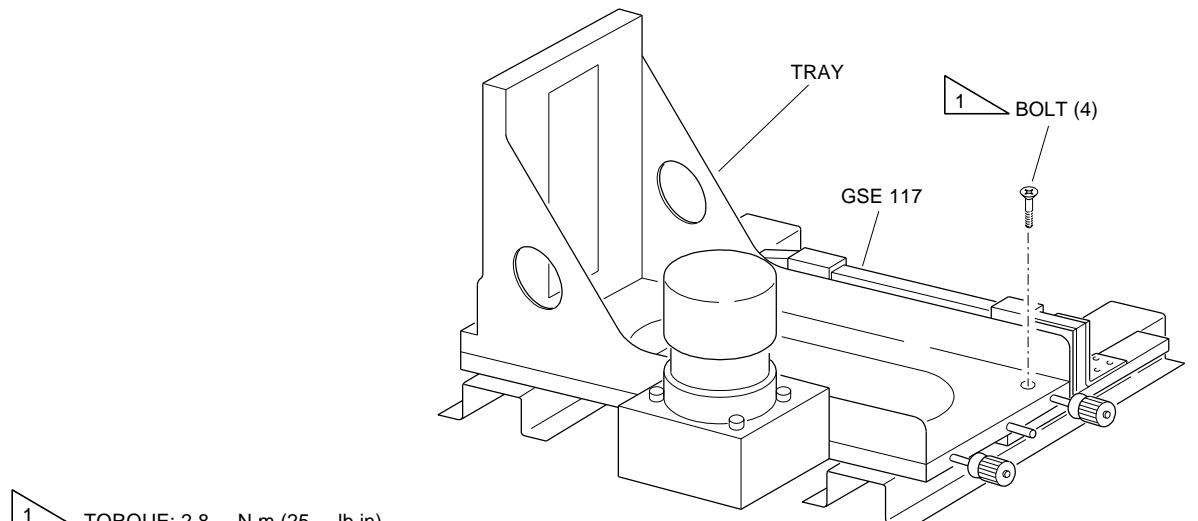
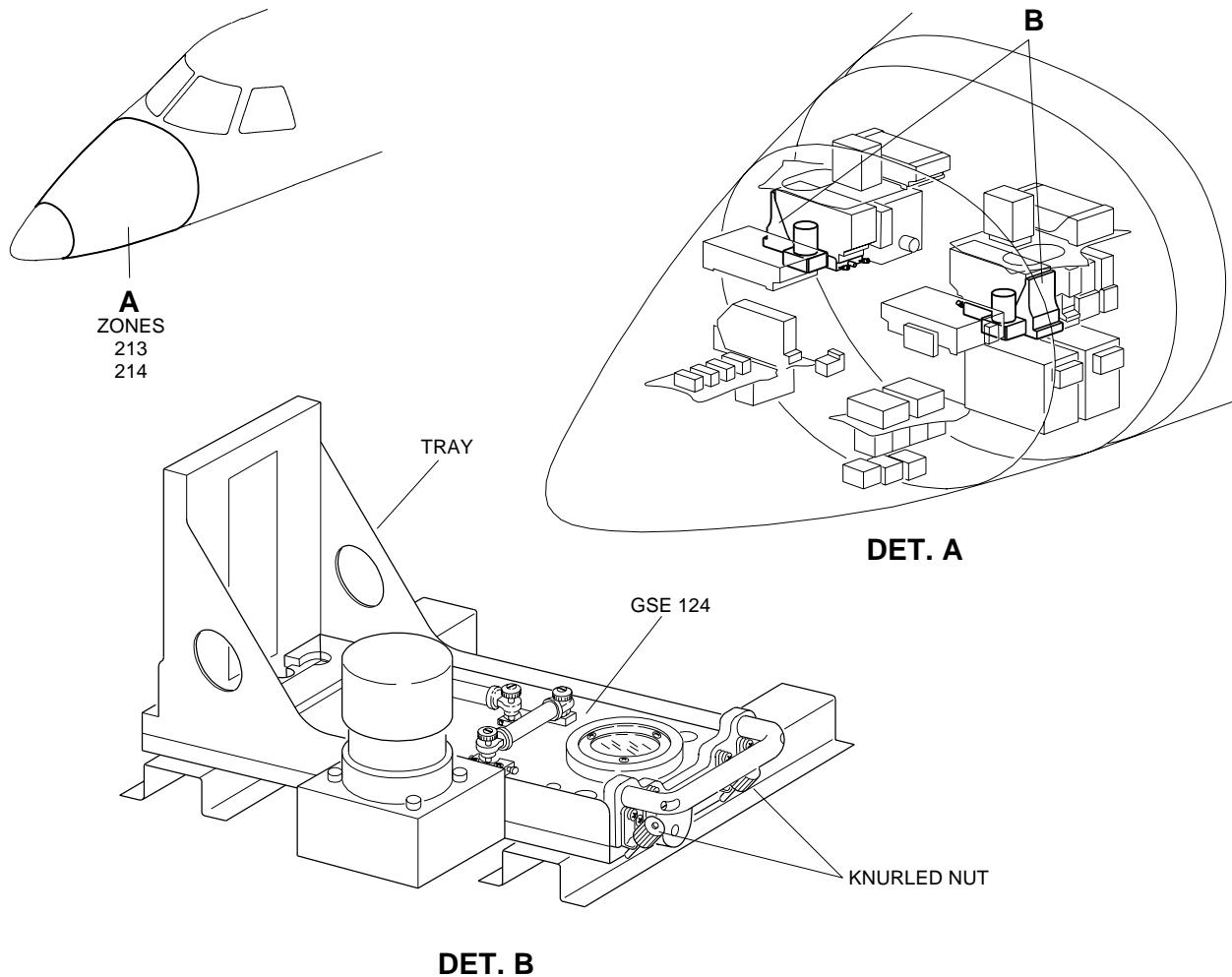
- (6) Put the alignment tool (GSE 117) beside the mounting tray. The base of the tool must stay aligned with the structure on which the tray is mounted and the side of the tool must stay aligned with the tray.
- (7) Use the torque wrench to torque the four bolts that attach AHRU Mounting Tray to the aircraft structure to 2.8 N.m (25 lb.in) in a crisscross pattern.

K. Follow-on

SUBTASK 842-010-A

- (1) Close access door 113CZ (AMM MPP 06-41-01/100).

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800
AHRS - Mounting Tray Alignment
Figure 503





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TASK 34-21-00-700-804-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-900

5. AHRS - MOUNTING TRAY LEVELING/ALIGNMENT

A. General

(1) This task gives the procedures to level and align the AHRU Mounting Tray.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM TASK 08-20-00-500-801-A/200	AIRCRAFT LEVELING IN THE PASSENGER CABIN
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-63-00-860-801-A/200	"FLIGHT"/"GROUND" CONDITION SIMULATION IN AIR/GROUND SYSTEM
AMM TASK 34-21-01-000-801-A/400	AHRS COMPUTER - REMOVAL
AMM TASK 34-21-01-400-801-A/400	AHRS COMPUTER - INSTALLATION
S.B.145-32-0036	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
213	113CZ	Forward electronic compartment - LH upper side
214	113CZ	Forward electronic compartment - RH upper side

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 124	Device, Leveling	To make the AHRU Mounting Tray level with the aircraft	
GSE 005	Plumb, Aircraft Leveling	To do the projection of the longitudinal axis of the aircraft on the ground	
Commercially Available	Torque Wrench	To torque fasteners	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Tape measure - from 25 m (82 ft) up, with subdivisions in mm (inches to 8ths)	To measure distances	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Forward electronic compartment

I. Preparation
SUBTASK 841-011-A

- (1) Put the aircraft as near as possible or over a reference line of true heading and in a position in which its longitudinal axis goes across the reference line of true heading ([Figure 504](#)).
- (2) (PRE-MOD. [S.B.145-32-0036](#)) Make sure that the pressure in hydraulic system 1 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (3) (POST-MOD. [S.B.145-32-0036](#)) Install the safety pin of the NLG door solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).
- (4) Open access door 113CZ (AMM MPP 06-41-01/100).
- (5) Make the aircraft level ([AMM TASK 08-20-00-500-801-A/200](#)).

J. Leveling of the AHRU1 and AHRU2 Mounting Tray ([Figure 505](#))
SUBTASK 710-014-A

- (1) Put the AHRU1 Mounting Tray on the mounting surface.
- (2) Attach the mounting tray to the aircraft structure, but keep the four bolts loose.

CAUTION: BE CAREFUL WHEN YOU INSTALL THE LEVELING DEVICE (GSE 124) ON THE MOUNTING TRAY AND WHEN YOU MAKE THE MEASUREMENTS TO PREVENT DAMAGE TO THE PRECISION INSTRUMENT.

- (3) Install the leveling device (GSE 124) in place of the AHRU with the three guide pins on the mounting tray.
- (4) Attach the leveling device with the two knurled clamp knobs over the supporting hooks.
- (5) Examine the circular level on the leveling device and adjust the AHRU Mounting Tray with shims as necessary to get better than (0 ± 0.1) degree of level in pitch and roll.

CAUTION: MAKE SURE THAT THE AHRU MOUNTING TRAY CANNOT "ROCK" ON THE MOUNTING FEET.

- (6) Remove the leveling device from the AHRU Mounting Tray.
- (7) Use the torque wrench to torque the four bolts that attach AHRU Mounting Tray to the aircraft structure to 2.8 N.m (25 lb.in) in a crisscross pattern.

- (8) Make sure that the AHRS1 and AHRS2 circuit breakers, on the circuit breaker panel, are open.
- (9) Install the AHRU1 in the AHRU1 Mounting Tray ([AMM TASK 34-21-01-400-801-A/400](#)).
- (10) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (11) Make sure that the indicated airspeed on the PFD is lower than 20 knots and simulate aircraft ground condition in LGEU outputs: A, B1, C, and D1 ([AMM TASK 32-63-00-860-801-A/200](#)).
- (12) On the circuit breaker panel, close the AHRS1 and AHRS2 circuit breakers.
- (13) Turn on the FMS CDUs.
- (14) Do the steps below to get the pitch and roll data from the AHRU1:
 - (a) Make sure that PFD1 shows red flags ATT FAIL and HDG FAIL.
 - (b) Make sure that MFD1 shows a red flag HDG FAIL.
 - (c) **NOTE:**
 - The AHRS must receive the present position for the alignment to be completed. The FMS position must be updated to permit this data to be read by the AHRS.
 - If the aircraft is moved during the alignment, the AHRU stops the alignment and starts a full alignment again 30 seconds after the motion stops.

(Aircraft with FMS Honeywell) Do the FMS position update as follows:

- 1 On the FMS CDU1, push the NAV mode key and the NEXT function key.
 - The NAV INDEX 2/2 page is shown.
 - 2 Push the POS INIT (3L) left line select key.
 - The POS INIT 1/1 page is shown.
 - 3 Push the LOAD (2R) right line select key to update the FMS position with the last saved position.
 - The FMS CDU shows the LOADED POSITION coordinates.
- (d) (Aircraft with FMS Universal) On the INIT 1/1 page, on FMS CDU1, push the ACCEPT line select key to update the FMS position.
 - (e) Wait until the alignment is completed. The alignment time depends on the local latitude. The time of alignment is about 5 minutes at zero degree of latitude, 10 minutes at \pm 60 degrees of latitude, up to 17 minutes from \pm 70.24 to \pm 78.25 degrees of latitude.
 - After the alignment of the AHRS is completed, the flags ATT FAIL and HDG FAIL go out of PFD1 and MFD1, and a valid attitude and heading data are shown.

- (15) Make sure that the AHRU1 pitch and roll outputs shown on the PFD1 are within (0 ± 0.1) degree. If not, use the indicated error to determine the proper pitch and roll leveling to be made to the AHRU1 Mounting Tray. Do the leveling of the AHRU1 Mounting Tray again until a satisfactory result is achieved.

- (16) Do steps (1) to (15) again for AHRU2 with FMS CDU2, PFD2 and MFD2.

K. Alignment of the AHRU Mounting Tray ([Figure 504](#))

SUBTASK 710-015-A

NOTE: The steps below describe the alignment of AHRU1 Mounting Tray. For alignment of AHRU2 Mounting Tray, use AHRS2, FMS CDU 2, MFD2, PFD2 instead of AHRS1, FMS CDU 1, MFD1, PFD1

- (1) Note the angle of the true heading of the reference line (H_T), in relation to the true north.
- (2) Make sure that the aircraft is level.
- (3) Put plumb bobs at points 1 (Zone 123 and Zone 124) and 9 (Zone 311 and Zone 312) under the fuselage of the aircraft along the longitudinal axis to determine the true heading of the aircraft (H_A).

NOTE: The plumb bob must not touch the ground, but it must be as near as possible.

- (4) Wait the plumb bob to stabilize and, after that, mark the projection of its tip on a piece of adhesive tape put on the ground.
- (5) Determine the distances L , D_1 , and D_2 , with a tape measure ([Figure 504](#)).

- Where:

L = Length of aircraft between plumb bobs (in. or mm). L is always positive.

D_1 = Displacement of the plumb bob at the front of the aircraft (in. or mm). D_1 is positive if the plumb bob is at the right of the reference line, when you look from the rear to the nose of the aircraft.

D_2 = Displacement of the plumb bob at the rear of the aircraft (in. or mm). D_2 is positive if the plumb bob is at the left of the reference line, when you look from the rear to the nose of the aircraft.

NOTE: • D_1 and D_2 must be perpendicular to the reference line (true north or known true heading).
• D_1 and D_2 must be measured with an accuracy of 1mm (or 1/8 in.).

- (6) Use this equation to determine the true heading of the aircraft (H_A):

$$H_A = H_T + \text{Sin}^{-1}[(D_1 + D_2)/L] \text{ degrees}$$

- Where:

H_A = True heading of the aircraft (in decimal degrees).

H_T = True heading of the surveyed line (in decimal degrees).

- (7) Make sure that the aircraft is in the on-ground configuration and the indicated airspeed on the PFD1 is lower than 20 knots.
- (8) On the circuit breaker panel, make sure that the AHRS1 circuit breaker is closed.
- (9) Make sure that the FMS CDU 1 is operational and on.
- (10) Do the steps below to get the heading data from the AHRU1:
 - (a) Make sure that PFD1 shows red flags ATT FAIL and HDG FAIL.
 - (b) Make sure that MFD1 shows a red flag HDG FAIL.
 - (c) **NOTE:**
 - The AHRS must receive the present position for the alignment to be completed. The FMS position must be updated to permit this data to be read by the AHRS.
 - If the aircraft is moved during the alignment, the AHRU stops the alignment and starts a full alignment again 30 seconds after the motion stops.

(Aircraft with FMS Honeywell) Do the FMS position update as follows:

- 1 On the FMS CDU1, push the NAV mode key and the NEXT function key.
 - The NAV INDEX 2/2 page is shown.
 - 2 Push the POS INIT (3L) left line select key.
 - The POS INIT 1/1 page is shown.
 - 3 Push the LOAD (2R) right line select key to update the FMS position with the last saved position.
 - The FMS CDU shows the LOADED POSITION coordinates.
 - (d) (Aircraft with FMS Universal) On the INIT 1/1 page, on FMS CDU1, push the ACCEPT line select key to update the FMS position.
 - (e) Wait until the alignment is completed. The alignment time depends on the local latitude. The time of alignment is about 5 minutes at zero degree of latitude, 10 minutes at \pm 60 degrees of latitude, up to 17 minutes from \pm 70.24 to \pm 78.25 degrees of latitude.
 - After the alignment of the AHRS is completed, the flags ATT FAIL and HDG FAIL go out of PFD1 and MFD1, and a valid attitude and heading data are shown.
- (11) Do the steps below to enter the Maintenance Test Mode on the PFD1:
- (a) On the DC-550, select the decision height knob for 690 on the PFD.
 - (b) Push and hold the TEST button on the DC-550 for approximately 5 to 7 seconds.

- (c) While you hold the TEST button, push the ET button on the DC-550.
- (d) Release the TEST button.
 - The REFERENCE DATA page is shown on PFD1.
 - The PRI TRU HDG line shows the true heading value in cyan, followed by a green "V".

NOTE:

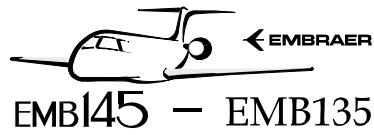
- The true heading value is displayed in degrees from 0.0 to 359.9.
- The IC-600 should now be in the maintenance test mode and will remain in test (via software) until it is canceled by another press of the TEST button or selecting a RA setting below 600.

- (12) Compare the AHRU1 true heading displayed at the field PRI TRUE HDG on the REFERENCE DATA page with the true heading calculated in the step (6).
 - (a) If the difference is not within the desired accuracy (± 0.2 degree), adjust the AHRU mounting tray yaw as necessary.
 - (13) Tighten the two aft bolts of AHRU1 Mounting Tray and make sure that the true heading indication on the REFERENCE DATA page, on PFD1, continues within the tolerance.
 - (14) On the circuit breaker panel, open the AHRS1 circuit breaker.
 - (15) Remove the AHRU1 ([AMM TASK 34-21-01-000-801-A/400](#)) and tighten the two forward screws of the AHRU1 Mounting Tray.
- NOTE: Do this step carefully so as not to lose the adjustment of the AHRU Mounting Tray.
- (16) Use the torque wrench to torque the four bolts that attach AHRU Mounting Tray to the aircraft structure to 2.8 N.m (25 lb.in) in a crisscross pattern.
 - (17) Install AHRU1 in its mounting tray again ([AMM TASK 34-21-01-400-801-A/400](#)).
 - (18) On the circuit breaker panel, close the AHRS1 circuit breaker.
 - (19) Do steps (10) to (12) again and make sure that the true heading indication (PRI TRU HDG) on the REFERENCE DATA page, on PFD1, continues within the tolerance.

L. Follow-on

SUBTASK 842-011-A

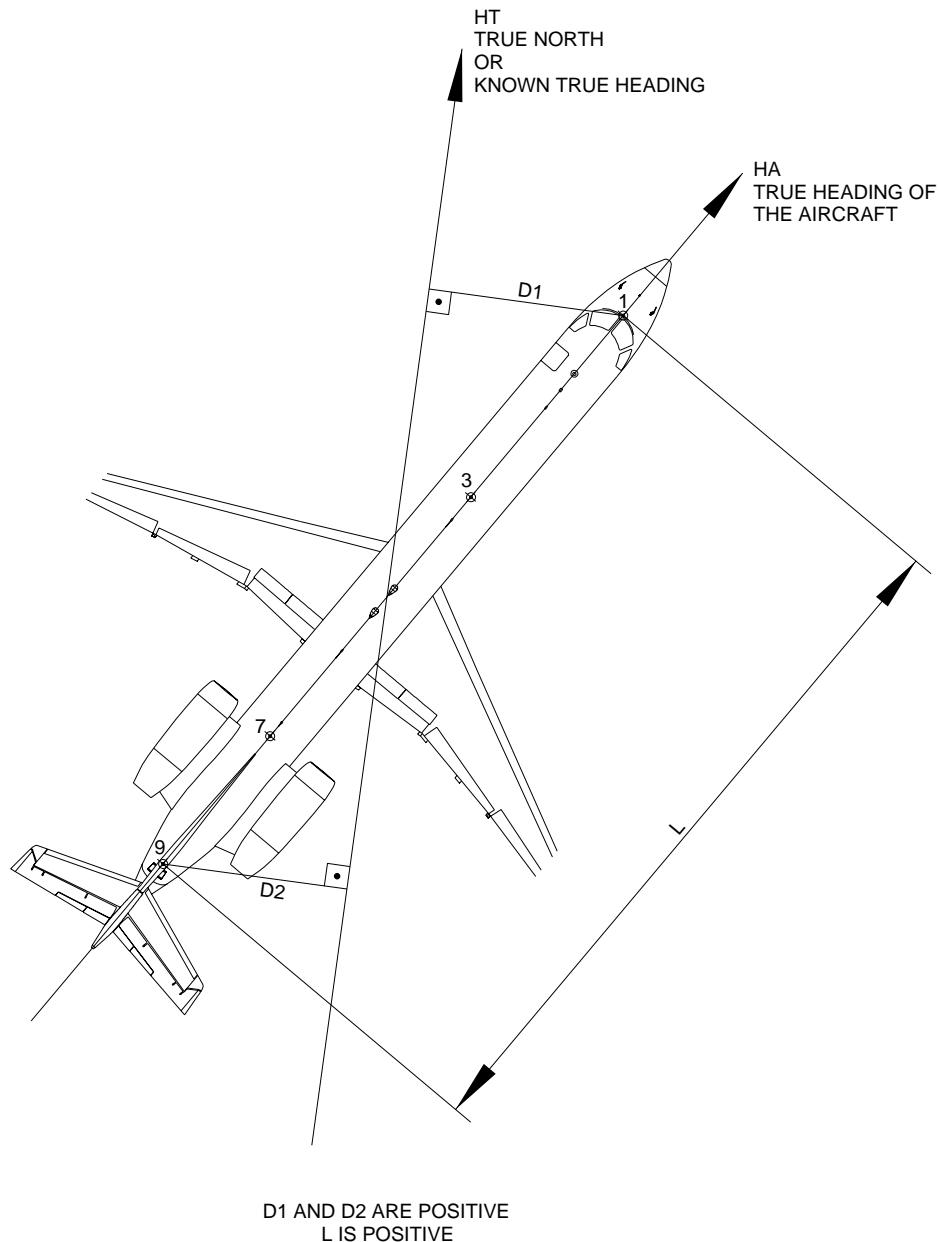
- (1) Do the procedure [AMM TASK 32-63-00-860-801-A/200](#) to put the aircraft to initial condition.
- (2) On the circuit breaker panel, close the IND 1, IND 2, AWS 1 and AWS 2 circuit breakers.
- (3) Close access door 113CZ (AMM MPP 06-41-01/100).
- (4) (POST-MOD. [S.B.145-32-0036](#)) Remove the safety pin from the NLG door solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).



AIRCRAFT
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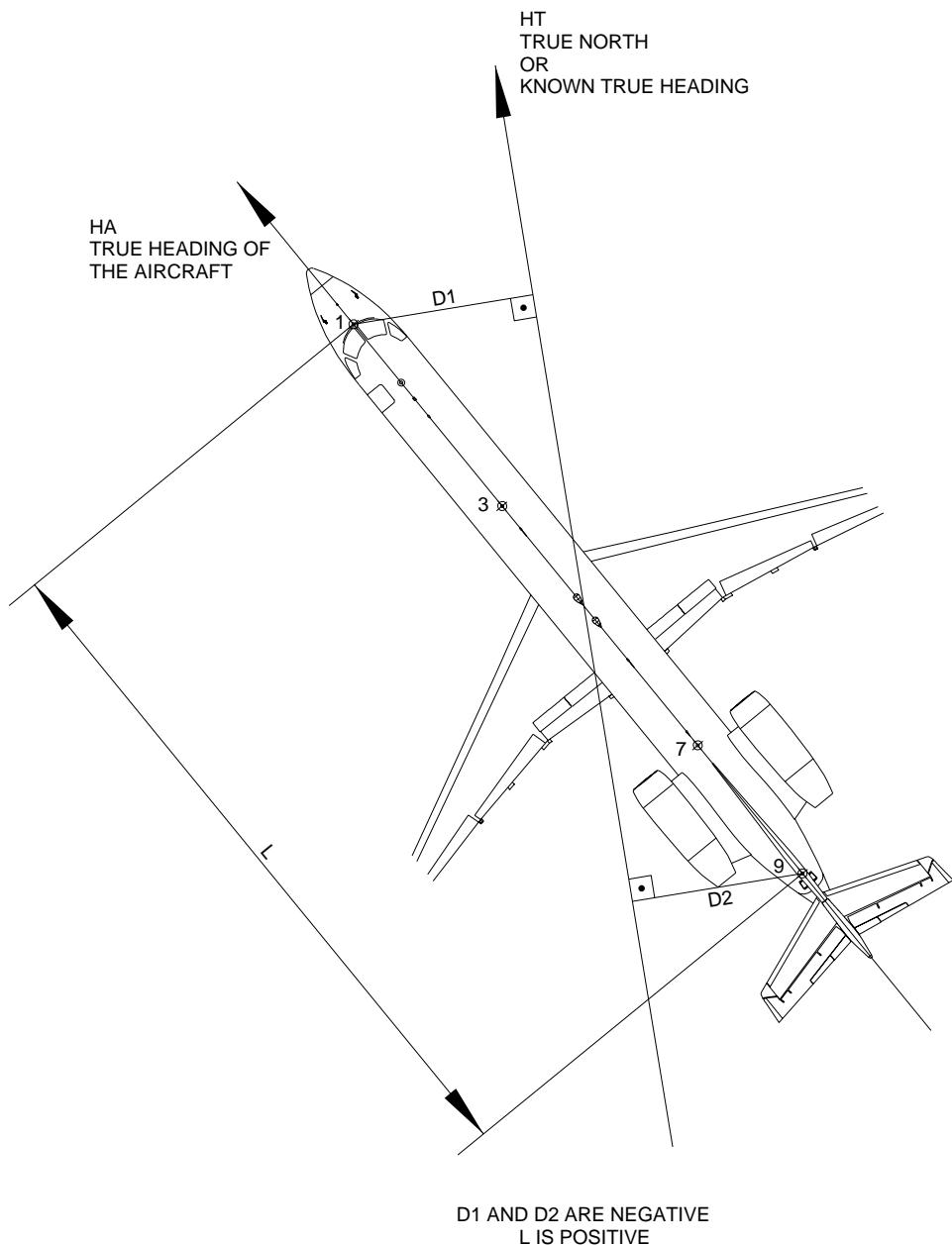
-
- (5) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: AIRCRAFT WITH AHRS AH-900
Determination of the True Heading
Figure 504 - Sheet 1

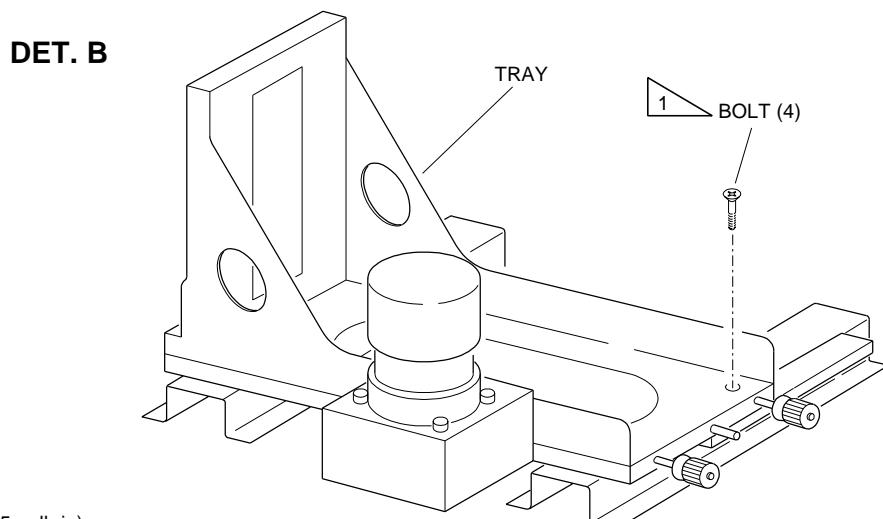
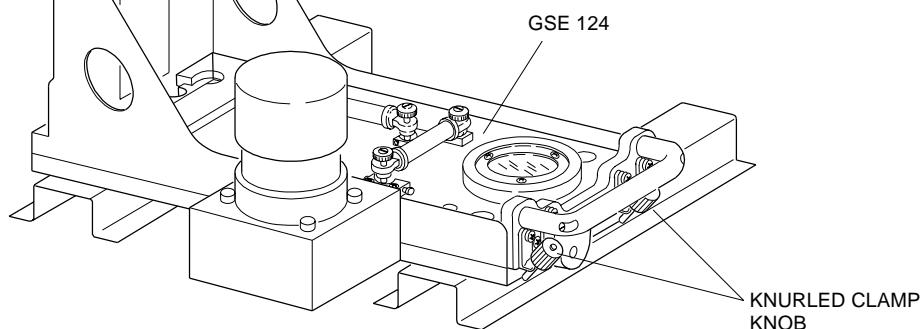
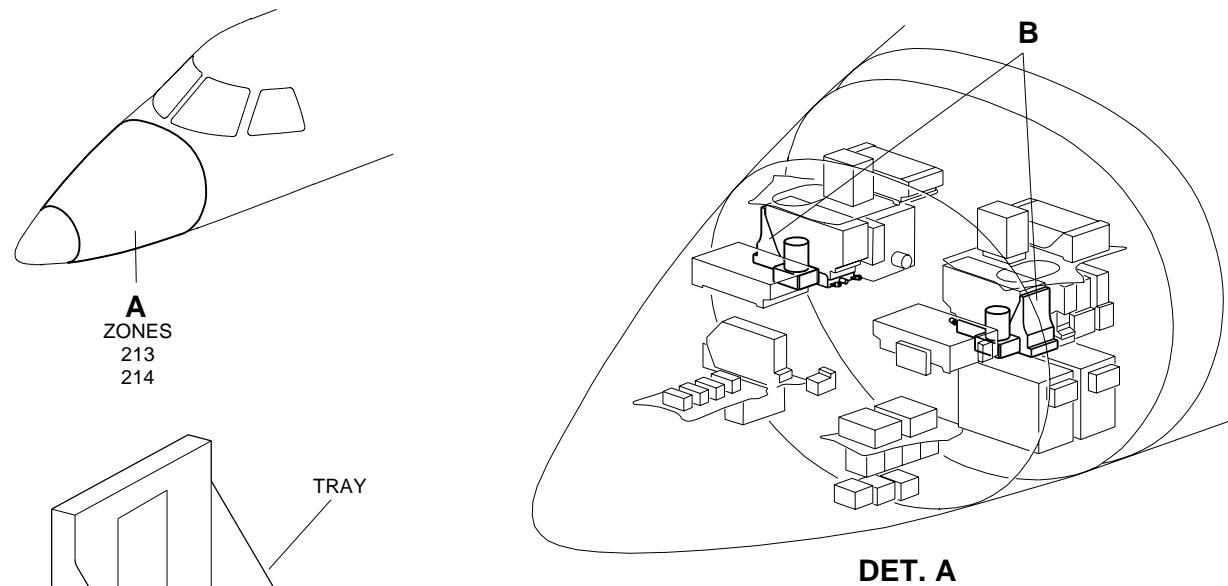


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EFFECTIVITY: AIRCRAFT WITH AHRS AH-900
 Determination of the True Heading
 Figure 504 - Sheet 2



EFFECTIVITY: AIRCRAFT WITH AHRS AH-900
AHRSU Mounting Tray Leveling
Figure 505



EM145AMM340468A.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 34-21-00-700-805-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

6. AHRS ATTITUDE INDICATION CHECK

A. General

- (1) This task gives the procedures to verify the correct attitude indication of AHRS.
- (2) If you must do this task because of an AHRS Memory Module installation, do it only after the Flux Detector Compensation.

B. References

REFERENCE	DESIGNATION
AMM SDS 31-42-00/1	
AMM SDS 34-21-00/1	
AMM SDS 34-22-00/1	
AMM TASK 07-10-00-500-803-A/200	-
AMM TASK 07-10-00-500-804-A/200	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit
1	Does the task	Nose Landing Gear

I. Preparation

SUBTASK 841-012-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

- (1) Make sure that the aircraft is in the on-ground configuration and on a level surface.

- (2) Energize the aircraft with the external DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (3) Make sure that the systems below are serviceable:
 - Electronic Flight Instrument System (EFIS) ([AMM SDS 34-22-00/1](#)).
 - Integrated Computer System ([AMM SDS 31-42-00/1](#)).
 - Attitude and Heading Reference System (AHRS) ([AMM SDS 34-21-00/1](#)).
- (4) Make sure that the AHRS1 and AHRS2 circuit breakers, on the circuit breaker panel, are closed.

J. AHRS Attitude Indication Check

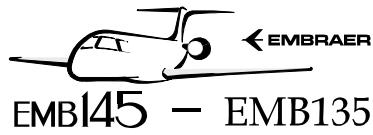
SUBTASK 710-016-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

- (1) Do the steps below to enter the Maintenance Test Mode on PFD1:
 - (a) On the DC-550, select the decision height knob for 690 on the PFD.
 - (b) Push and hold the TEST button on the DC-550 for approximately 5 to 7 seconds.
 - (c) While you hold the TEST button, push the ET button on the DC-550.
 - (d) Release the TEST button.
 - The REFERENCE DATA page is shown on PFD1.
 - The PRI PITCH and SEC PITCH lines show the pitch value, followed by a green "V".

NOTE: The IC-600 should now be in the maintenance test mode and will remain in test (via software) until it is canceled by another press of the TEST button or selecting an RA setting below 600.

- (2) Take note of PRI PITCH and SEC PITCH values indicated on the Maintenance Test Mode on PFD1.
- (3) With the aid of a wheel-change jack, lift the nose landing gear. Refer to Partial Aircraft Jacking procedure (AMM TASK 07-10-00-500-803-A/200).
- (4) On PFD1, make sure that the PRI PITCH and SEC PITCH values increase positively while you lift the nose.
- (5) Lower the nose landing gear. Refer to (AMM TASK 07-10-00-500-804-A/200) and monitor on PFD1 to make sure that the pitch readings decrease.
- (6) On PFD1, the PRI PITCH and SEC PITCH values must be almost the same you recorded in the start of the test.



AIRCRAFT MAINTENANCE MANUAL

K. Follow-on

SUBTASK 842-012-A

EFFECTIVITY: AIRCRAFT WITH AHRS AH-800

- (1) De-energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).