INTEGRATED STANDBY INSTRUMENT SYSTEM - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

    A. This section gives the procedures to do the functional test of the Integrated Standby Instrument System (ISIS) and level and align the ISIS Mounting Frame.

    B. 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
34-01-01-700-801-A ♦	ISIS (THALES) - FUNCTIONAL TEST	AIRCRAFT WITH ISIS - THALES
34-01-01-700-802-A ♦	ISIS (SMITHS)- FUNCTIONAL TEST	AIRCRAFT WITH ISIS - SMITHS
34-01-01-820-801-A	ISIS - MOUNTING FRAME LEVELING/ ALIGNMENT	ALL

TASK 34-01-01-700-801-A
EFFECTIVITY: AIRCRAFT WITH ISIS - THALES

2.   ISIS (THALES) - FUNCTIONAL TEST

   A.   General

      (1)   The function of this test is to make sure that the indications given by the ISIS - THALES are correct.

      (2)   It is possible that you cannot read the Liquid Crystal Display at temperatures of less than -20°C. If necessary, preheat the cockpit as given in TASK 21-00-00-860-804-A.

   B.   References

REFERENCE	DESIGNATION
AMM SDS 34-21-00/1	
AMM SDS 34-22-00/1	
AMM SDS 34-27-00/1	
AMM SDS 34-52-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 34-13-00-000-801-A/400	PITOT/STATIC-SYSTEM TEST SET - DISCONNECTION
AMM TASK 34-13-00-400-801-A/400	PITOT/STATIC-SYSTEM TEST SET - CONNECTION
S.B.145-34-0038	-
S.B.145-34-0049	-

   C.   Zones and Accesses

      Not Applicable

   D.   Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 128	Air Data Kit	To permit interface between GSE 129 and the aircraft	
GSE 129	Pitot/Static System Test Set	To simulate altitude and airspeed	

   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	Pitot/static system test set

I.   Preparation

SUBTASK 841-003-A

(1)   Energize the aircraft with the external DC power supply (AMM TASK 20-40-01-860-801-A/200).

(2)   On the circuit breaker panel, open the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.

(3)   Make sure that the systems below are serviceable:

- Electronic Flight Instrument System (EFIS) (AMM SDS 34-22-00/1).

- AHRS (AMM SDS 34-21-00/1) or IRS (AMM SDS 34-27-00/1).

J.   Functionally Check Integrated Standby Instrument System - ISIS (Figure 501) (Figure 502) (Figure 503) (Figure 504) (Figure 505)

SUBTASK 720-003-A

NOTE: ISIS pushbuttons must be held down for a minimum of 2 seconds to have an effect.

(1)   Do the ISIS initialization test as follows:

NOTE: Make sure that there is no dynamic pressure applied to PITOT/STATIC 3 equivalent to airspeed equal or greater than 60 knots before turning on the ISIS.

(a)   On the circuit breaker panel, close the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.
Result:
1   The display shows an initialization page for 90 seconds (Figure 501).

WARNING: MAKE SURE THAT THE PITOT/STATIC SENSOR AND ANEMOMETRIC STATIC PORT HEATING SYSTEM IS OFF. THIS WILL PREVENT INJURY TO PERSONS IF TOUCHED AND/OR DAMAGE TO THE TEST SET ADAPTERS.

(2)   Connect the pitot/static system test set (GSE 129) (AMM TASK 34-13-00-400-801-A/ 400).

NOTE: This procedure can cause interference with the local air traffic during simulations of altitude with the anemometric bench test. To prevent this, make sure that the transponder is on the STANDBY condition (AMM SDS 34-52-00/1).

NOTE: For the ISIS test, it is necessary to connect the pitot/static 3 adapter only.

(3)   Do the ISIS airspeed test with the pitot/static system test set as follows (Figure 502):

(a) Apply pressures to pitot/static 3 equivalent to the airspeed shown in the table below. Make sure that the airspeed values on the ISIS obey the tolerances for each test point.

- On the pitot/static system test set, keep the altitude open to the room pressure.

Table 501

AIRSPEED	ISIS INDICATED VALUE
40 kts	40 kts (± 5 kts)
70 kts	70 kts (± 4 kts)
100 kts	100 kts (± 3 kts)
140 kts	140 kts (± 3 kts)
180 kts	180 kts (± 5 kts)
200 kts	200 kts (± 5 kts)
300 kts	300 kts (± 5 kts)
350 kts	350 kts (± 5 kts)

(b) On the pitot/static system test set, set the airspeed back to zero.

(4) Do the ISIS VMO test with the pitot/static system test set as follows (Figure 502):

(a) Set on the pitot/static system test set altitude values that obey the table below and change the airspeed, at a rate of 30 knots per minute, for the VMO alarm check .

NOTE: Make sure that the airspeed values on the ISIS obey the tolerances for each test point.

Result:

1 Airspeed values greater than VMO are indicated through a red strip on the left-hand side associated to the airspeed scale of the ISIS airspeed display window (Figure 504).The VMO value is computed internally according to the actual altitude.

2 The MACH number is displayed in green under the airspeed scale. The MACH number indication is displayed only when M>0.45 (Figure 505).

When the actual airspeed is greater than VMO or when the MACH number is greater than MMO, the MACH indication turns red (Figure 505).

Table 502

ALTITUDE	AIRSPEED	ALARM ACTUATION (ISIS INDICATED VALUE)
7900 ft	250 kts	250 kts (± 5 kts)
10100 ft	320 kts	320 kts (± 5 kts)
25900 ft	320 kts	320 kts (± 5 kts)
37000 ft	250 kts	250 kts (± 5 kts)

(b) On the pitot/static system test set, set the airspeed back to zero.

(5) Do the ISIS altitude test with the pitot/static system test set as follows (Figure 502):

(a) On the ISIS, push the STD pushbutton.

(b) Apply pressures to the ISIS equivalent to the altitudes shown in the table below. Make sure that the altitude values on the ISIS are in the tolerances for each test point.

- Increase the pressure altitude at a rate of 5000 feet per minute.

Table 503

ALTITUDE	ISIS INDICATED VALUE
-1000 ft	-1000 ft (± 20 ft)
0 ft	0 ft (± 20 ft)
1000 ft	1000 ft (± 20 ft)
2000 ft	2000 ft (± 30 ft)
6000 ft	6000 ft (± 40 ft)
10000 ft	10000 ft (± 50 ft)
20000 ft	20000 ft (± 75 ft)
30000 ft	30000 ft (± 120 ft)
40000 ft	40000 ft (± 150 ft)

(c) Set the altitude back to the room pressure.

(6) (Applicable to aircraft POST-MOD S.B.145-34-0038 or POST-MOD S.B. 145-34-0049) Do the ISIS attitude test as follows (Figure 503):

NOTE: On the PFDs, make sure that there are no ATT FAIL red flags.

(a) Make sure that the ISIS shows a pitch and roll in a range of ± 0.5 degree as related to the PFD1 indications.

(b) On the ISIS, push and hold the CAGE pushbutton for more than two seconds. Then, release it.
Result:
1 The roll and pitch scales are removed from the display.

2 The display shows ATT 10 s.

3 After 10 seconds, the display shows the attitude data again.

(7) (Applicable to aircraft POST-MOD S.B.145-34-0038 and PRE-MOD S.B. 145-34-0049) Do the ISIS Baro correction knob test as follows (Figure 502):

(a) On the ISIS, push the STD pushbutton.
Result:
1 The barometric pressure displayed is 1013 HPA or 29.92 in.

(b) Rotate the Baro knob clockwise and counterclockwise.
Result:
1 There are no changes in the barometric pressure indication.

(c) Push the STD push button again to unlock the barometric pressure adjust.

(d) Rotate the Baro knob clockwise.

Result:

   <u>1</u>   The barometric pressure indication is increased.

(e)   Rotate the Baro knob counterclockwise.

Result:

   <u>1</u>   The barometric pressure indication is decreased.

(f)   Adjust the barometric pressure to 1013 HPA or 29.92 in. by the baro knob.

(8)   (Applicable to aircraft POST-MOD S.B.145-34-0049) Do the ISIS Baro correction knob test as follows (Figure 502):

(a)   On the ISIS, push the STD pushbutton.

Result:

   <u>1</u>   The barometric pressure displayed is 1013 HPA or 29.92 in.

(b)   Rotate the Baro knob clockwise.

Result:

   <u>1</u>   The barometric pressure indication is increased.

(c)   Rotate the Baro knob counterclockwise.

Result:

   <u>1</u>   The barometric pressure indication is decreased.

(d)   Adjust the barometric pressure to 1013 HPA or 29.92 in. by pushing the STD pushbutton.

(9)   Do the ISIS heading indication test as follows (Figure 502):

<u>NOTE:</u> On the PFDs, make sure that there are no HDG FAIL red flags.

(a)   Make sure that the heading indication on the ISIS and on the PFD1 is the same.
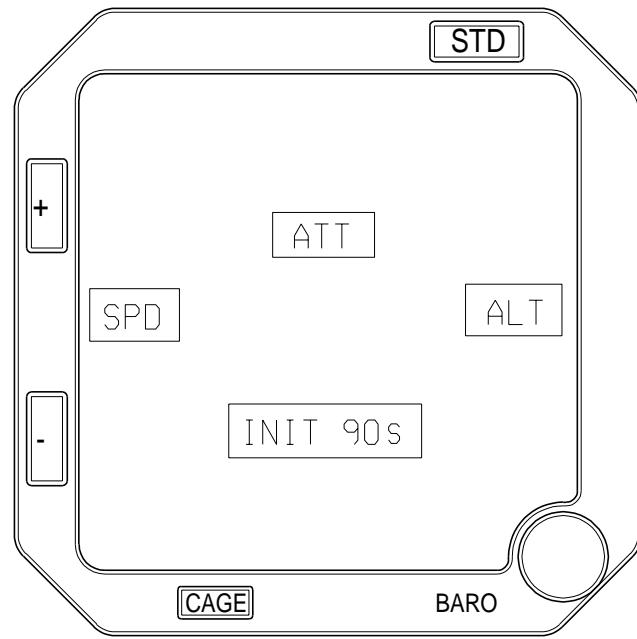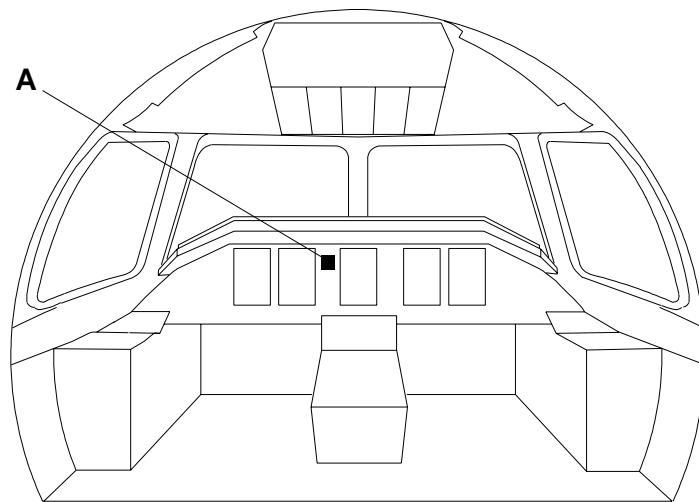
K.   Follow-on

SUBTASK 842-003-A

(1)   Deenergize the aircraft with the external DC power supply (AMM TASK 20-40-01-860-801-A/200).

(2)   Disconnect the pitot/static system test set (GSE 129) (AMM TASK 34-13-00-000-801-A/400).

EMB145 — EMB135
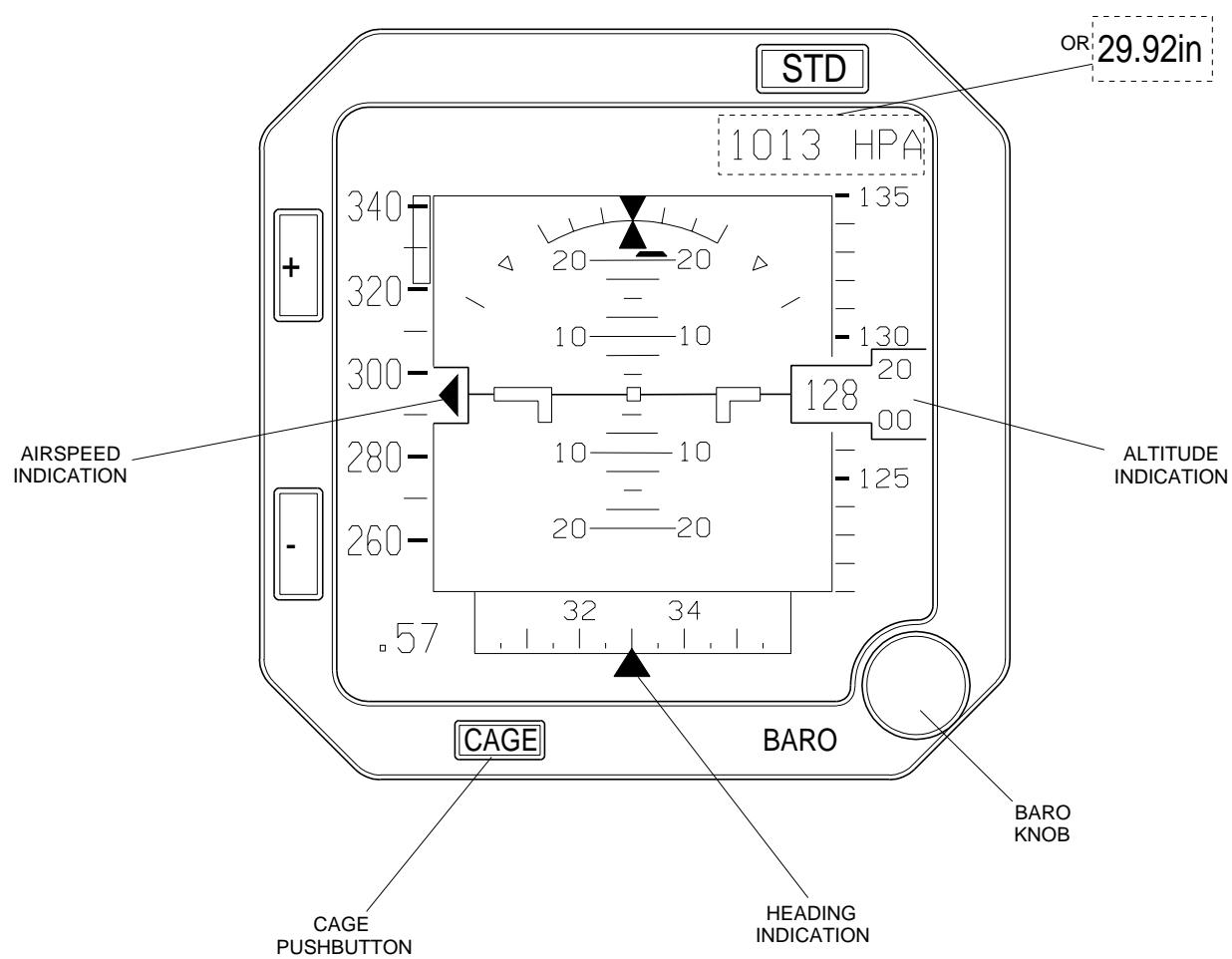
EFFECTIVITY:: AIRCRAFT WITH ISIS - THALES
ISIS - Initialization Page
Figure 501

DET. A
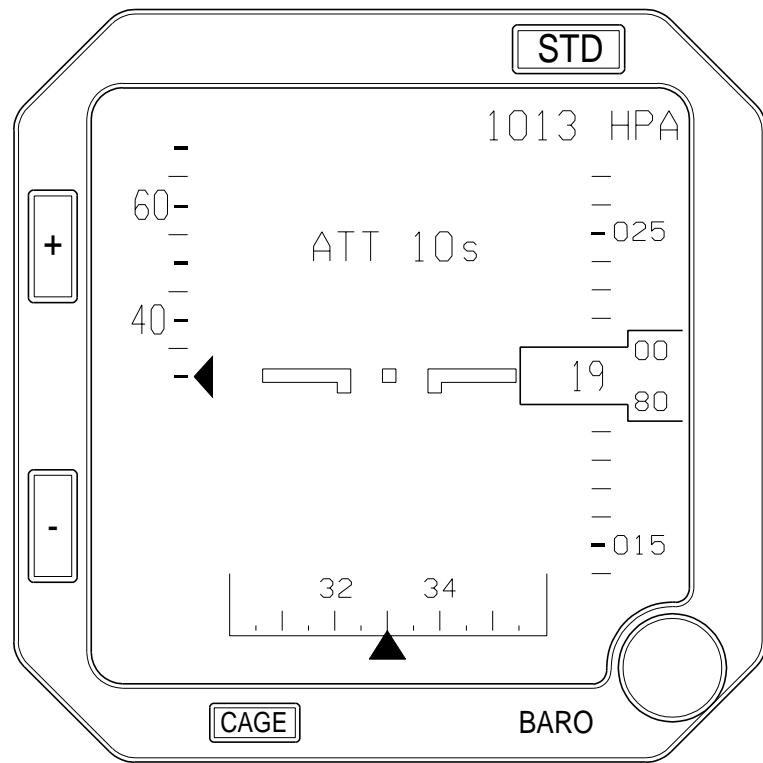
145AMM340343.MCE

EFFECTIVITY:: AIRCRAFT WITH ISIS - THALES
ISIS - General Display
Figure 502

AIRSPEED
INDICATION

ALTITUDE
INDICATION

CAGE
PUSHBUTTON

HEADING
INDICATION

BARO
KNOB

145AMM340344.MCE A

EFFECTIVITY:: AIRCRAFT WITH ISIS - THALES
ISIS - CAGE Function Test
Figure 503

STD

1013 HPA

ATT 10s

CAGE   BARO
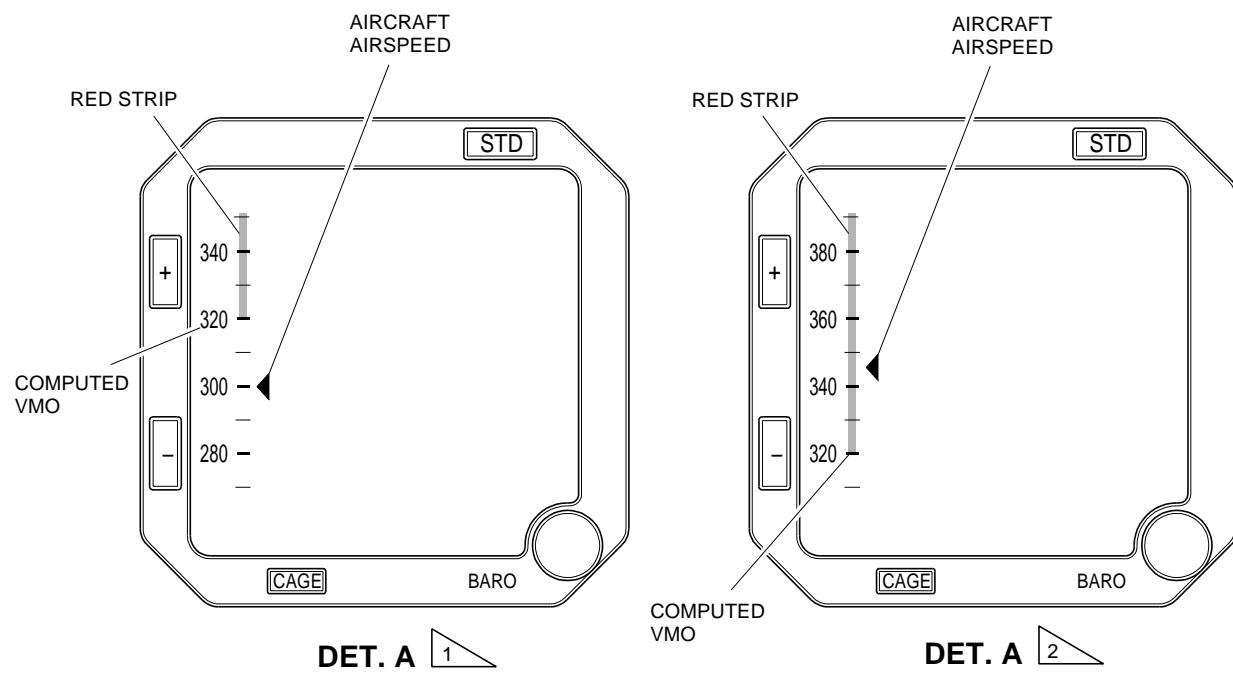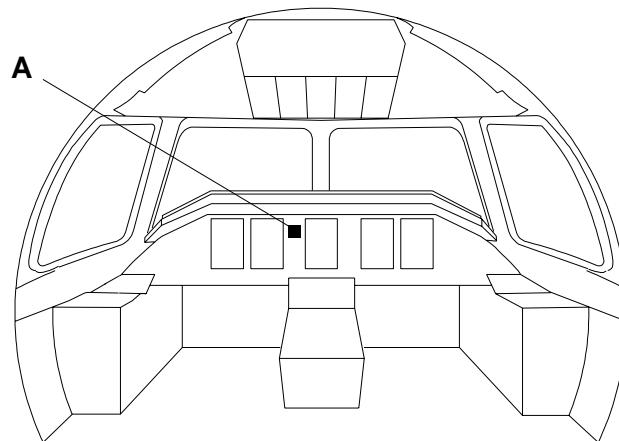
145AMM340345.MCE

EFFECTIVITY:: AIRCRAFT WITH ISIS - THALES
Maximum Operating Speed (VMO) Information
Figure 504

AIRCRAFT
AIRSPEED

RED STRIP

STD

340

320

COMPUTED
VMO

300

280

CAGE   BARO

DET. A 1

AIRCRAFT
AIRSPEED

RED STRIP

STD

380

360

340

320

COMPUTED
VMO

CAGE   BARO

DET. A 2
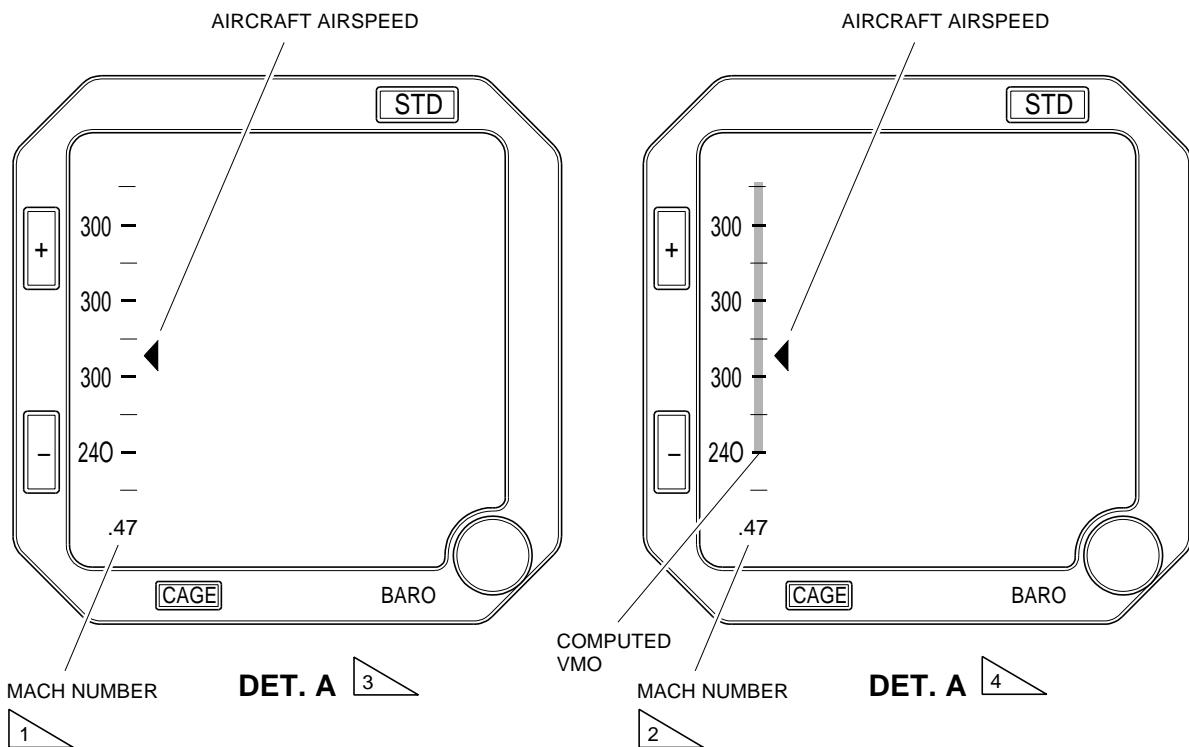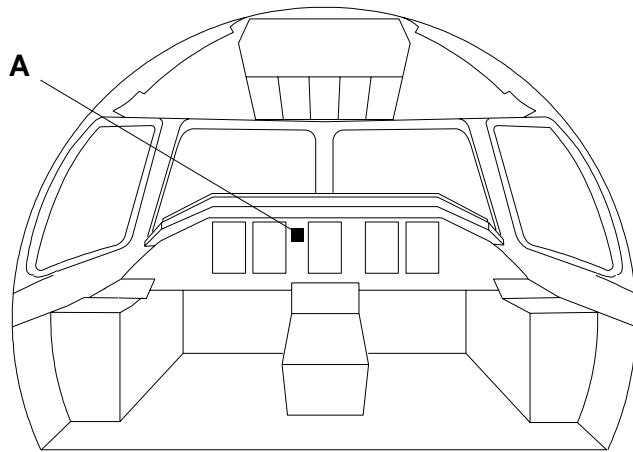
1 AIRCRAFT AIRSPEED LOWER THAN COMPUTED VMO.

2 AIRCRAFT AIRSPEED HIGHER THAN COMPUTED VMO.

EM145AMM341114A.DGN

EMB145 — EMB135

EFFECTIVITY:: AIRCRAFT WITH ISIS - THALES
Maximum Operating MACH Number (MMO) Information
Figure 505

AIRCRAFT AIRSPEED

AIRCRAFT AIRSPEED

STD

STD

300

300

300

300

300

300

240

240

.47

.47

CAGE   BARO

CAGE   BARO

COMPUTED
VMO

MACH NUMBER   **DET. A** △3

MACH NUMBER   **DET. A** △4

△1

△2

△1 DISPLAYED IN GREEN.

△2 DISPLAYED IN RED.

△3 COMPUTED VMO HIGHER THAN AIRCRAFT AIRSPEED OR MMO
HIGHER THAN MACH NUMBER.

△4 AIRCRAFT AIRSPEED HIGHER THAN COMPUTED VWO OR MACH
NUMBER HIGHER THAN MMO.

EM145AMM341115A.DGN

EMB-145 - AMM 1285   **34-01-01**   700-801-A/500

TASK 34-01-01-700-802-A
EFFECTIVITY: AIRCRAFT WITH ISIS - SMITHS

3.   ISIS (SMITHS)- FUNCTIONAL TEST

  A.   General

  (1)   The function of this test is to make sure that the indications given by the ISIS - SMITHS are correct.

  (2)   It is possible that you cannot read the Liquid Crystal Display at temperatures of less than -20°C. If necessary, preheat the cockpit as given in TASK 21-00-00-860-804-A.

  B.   References

REFERENCE	DESIGNATION
AMM SDS 34-21-00/1	
AMM SDS 34-22-00/1	
AMM SDS 34-27-00/1	
AMM SDS 34-52-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 34-13-00-000-801-A/400	PITOT/STATIC-SYSTEM TEST SET - DISCONNECTION
AMM TASK 34-13-00-400-801-A/400	PITOT/STATIC-SYSTEM TEST SET - CONNECTION

  C.   Zones and Accesses

  Not Applicable

  D.   Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 128	Air Data Kit	To permit interface between GSE 129 and the aircraft	
GSE 129	Pitot/Static System Test Set	To simulate altitude and airspeed	

  E.   Auxiliary Items

  Not Applicable

  F.   Consumable Materials
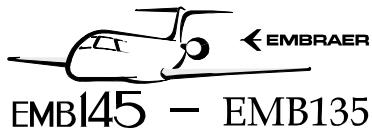
  Not Applicable

  G.   Expandable Parts

  Not Applicable

  H.   Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit
1	Does the task	Pitot/static system test set

I.   Preparation

SUBTASK 841-002-A

(1) Energize the aircraft with the external DC power supply (AMM TASK 20-40-01-860-801-A/200).

(2) On the circuit breaker panel, open the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.

(3) Make sure that the systems below are serviceable:

•   Electronic Flight Instrument System (EFIS) (AMM SDS 34-22-00/1).

•   AHRS (AMM SDS 34-21-00/1) or IRS (AMM SDS 34-27-00/1).

J.   Functionally Check Integrated Standby Instrument System - ISIS (Figure 506) (Figure 507) (Figure 506)

SUBTASK 720-002-A

(1) Do the ISIS initialization test as follows:

NOTE: Make sure that there is no dynamic pressure applied to PITOT/STATIC 3 equivalent to airspeed equal or greater than 60 knots before turning on the ISIS.

(a) On the circuit breaker panel, close the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.

Result:

1   The display shows initialization pages for 70 seconds (10 seconds for Power-up BIT and 60 seconds for cold-start attitude sensors alignment) (Figure 506).

WARNING: MAKE SURE THAT THE PITOT/STATIC SENSOR AND ANEMOMETRIC STATIC PORT HEATING SYSTEM IS OFF. THIS WILL PREVENT INJURY TO PERSONS IF TOUCHED AND/OR DAMAGE TO THE TEST SET ADAPTERS.

(2) Connect the pitot/static system test set (GSE 129) (AMM TASK 34-13-00-400-801-A/400).

NOTE: This procedure can cause interference with the local air traffic during simulations of altitude with the anemometric bench test. To prevent this, make sure that the transponder is on the STANDBY condition (AMM SDS 34-52-00/1).

NOTE: For the ISIS test, it is necessary to connect the PITOT/STATIC 3 adapter only.

(3) Do the ISIS airspeed test with the pitot/static system test set as follows (Figure 506):

(a) Apply pressures to PITOT/STATIC 3 equivalent to the airspeed shown in the table below. Make sure that the airspeed values on the ISIS obey the tolerances for each test point.

•   On the pitot/static system test set, set the altitude to 2000 ft.

Table 504

AIRSPEED	ISIS INDICATED VALUE
60 kts	60 kts (± 5 kts)
80 kts	80 kts (± 4 kts)
100 kts	100 kts (± 2 kts)
140 kts	140 kts (± 2 kts)
180 kt	180 kts (± 2 kts)
200 kts	200 kts (± 2 kts)
250 kts	250 kts (± 2 kts)
300 kts	300 kts (± 3 kts)
320 kts	320 kts (± 3 kts)

(4)   On the pitot/static system test set, set the airspeed back to zero and set the altitude back to the room pressure.

(5)   Do the ISIS altitude test with the pitot/static system test set as follows (Figure 506):

(a)   On the ISIS, push the STD pushbutton.

(b)   Apply pressures to the ISIS equivalent to the altitudes shown in the table below. Make sure that the altitude values on the ISIS are in the tolerances for each test point.

•   Increase the pressure altitude at a maximum rate of 5000 feet per minute.

Table 505

ALTITUDE	ISIS INDICATED VALUE IN FT	ISIS INDICATED VALUE IN M
-1000 ft	-1000 ft (± 20 ft)	-304.8 m (± 6 m)
0 ft	0 ft (± 20 ft)	0 m (± 6 m)
1000 ft	1000 ft (± 22 ft)	304.8 m (± 7m)
2000 ft	2000 ft (± 24 ft)	609.6 m (± 7 m)
6000 ft	6000 ft (± 32 ft)	1828.8 m (± 10 m)
10000 ft	10000 ft (± 40 ft)	3048.0 m (± 12 m)
20000 ft	20000 ft (± 60 ft)	6096.0 m (± 18 m)
30000 ft	30000 ft (± 80 ft)	9144.0 m (± 24 m)
40000 ft	40000 ft (± 130 ft)	12192.0 m (± 40 m)

NOTE: The indicated altitude in meters is shown in the upper center part of the ISIS screen.

NOTE: For negative values, the '-' (minus) indication appears before the altitude value.

(c)   Set the altitude back to the room pressure.

(6)   Do the ISIS VMO test with the pitot/static system test set as follows (Figure 506):

(a)   Select in the pitot/static system test set altitude values according to the table below and vary the airspeed, to a 30 knots/min ratio, for the VMO alarm verification (red bar on the left-hand side of the ISIS screen).

Table 506

ALTITUDE	AIRSPEED	ALARM ACTUATION (ISIS INDICATED VALUE)
8000 ft	250 kts	250 kts (± 5 kts)
10000 ft	320 kts	320 kts (± 5 kts)
26000 ft	320 kts	320 kts (± 5 kts)
37000 ft	252 kts	252 kts (± 5 kts)

(7)   Do the ISIS alignment test as follows (Figure 507):

NOTE: On the PFDs, make sure that there are no ATT FAIL red flags.

(a)   Make sure that the ISIS shows a pitch and roll in a range of ± 0.5 degree as related to the PFD1 indications.

(b)   Push the BRT pushbutton, and then the STD pushbutton to enter the MENU mode.

(c)   Rotate the Baro rotary switch until the FAST ALIGN option is presented on the display (Figure 507).

(d)   Push the STD pushbutton to confirm the selection of FAST ALIGN function (Figure 507).
       Result:
       1   The menu functions will be removed.

       2   The magnetic heading tape will be displayed.

       3   The attitude symbology will be removed and replaced by an ALIGN warning (Figure 507).

       4   After 10 seconds, the display shows the attitude data again.

(8)   Do the ISIS Baro correction test as follows (Figure 506):

(a)   On the ISIS, rotate the Baro rotary switch clockwise.
       Result:
       1   The barometric pressure is increased. If not, push the STD pushbutton to unlock the barometric pressure adjust.
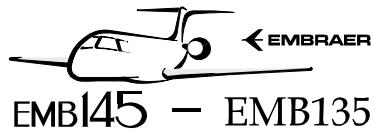
(b)   On the ISIS, push the STD pushbutton.
       Result:
       1   The barometric pressure displayed is 1013 hPa or 1013 mbar or 29.92 inHg.

(c)   Rotate the Baro rotary switch clockwise.
       Result:
       1   The barometric pressure indication is increased.

(d)   Rotate the Baro rotary switch counterclockwise.

Result:

1 The barometric pressure indication is decreased.

(e) Adjust the barometric pressure to 1013 hPa or 1013 mbar or 29.92 inHg by the Baro rotary switch.

(9) Do the ISIS heading indication test as follows (Figure 506):

NOTE: On the PFDs, make sure that there are no HDG FAIL indications.
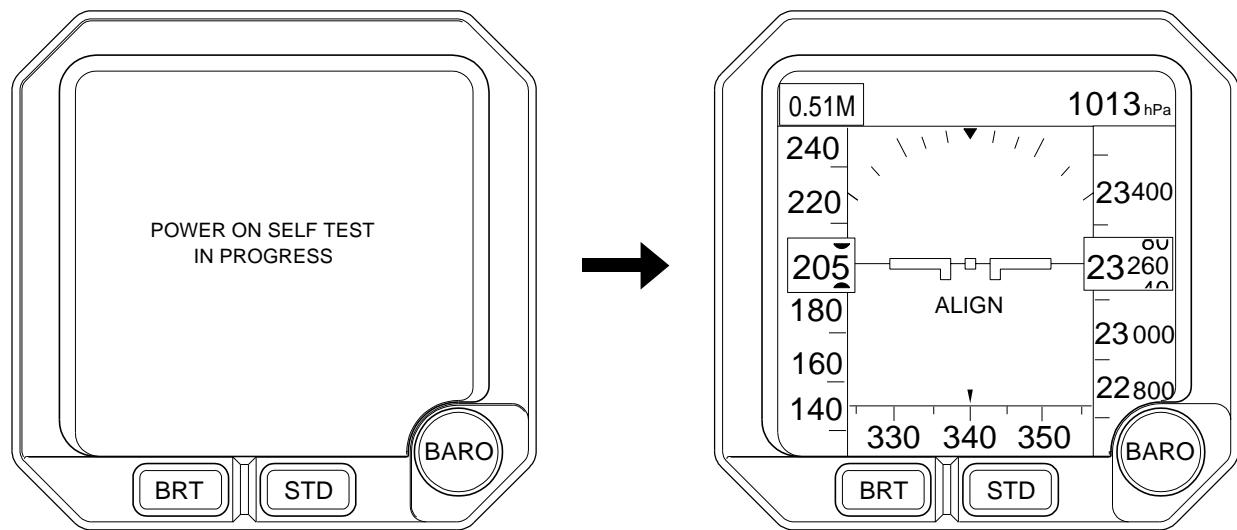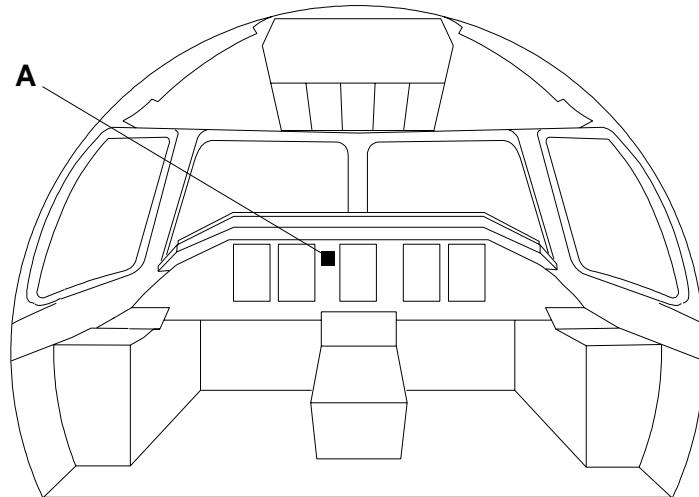
(a) Make sure that the heading indication on the ISIS and on the PFD1 is the same.

K. Follow-on

SUBTASK 842-002-A

(1) Deenergize the aircraft with the external DC power supply (AMM TASK 20-40-01-860-801-A/200).

(2) Disconnect the pitot/static system test set (GSE 129) (AMM TASK 34-13-00-000-801-A/400).

EMB145 — EMB135
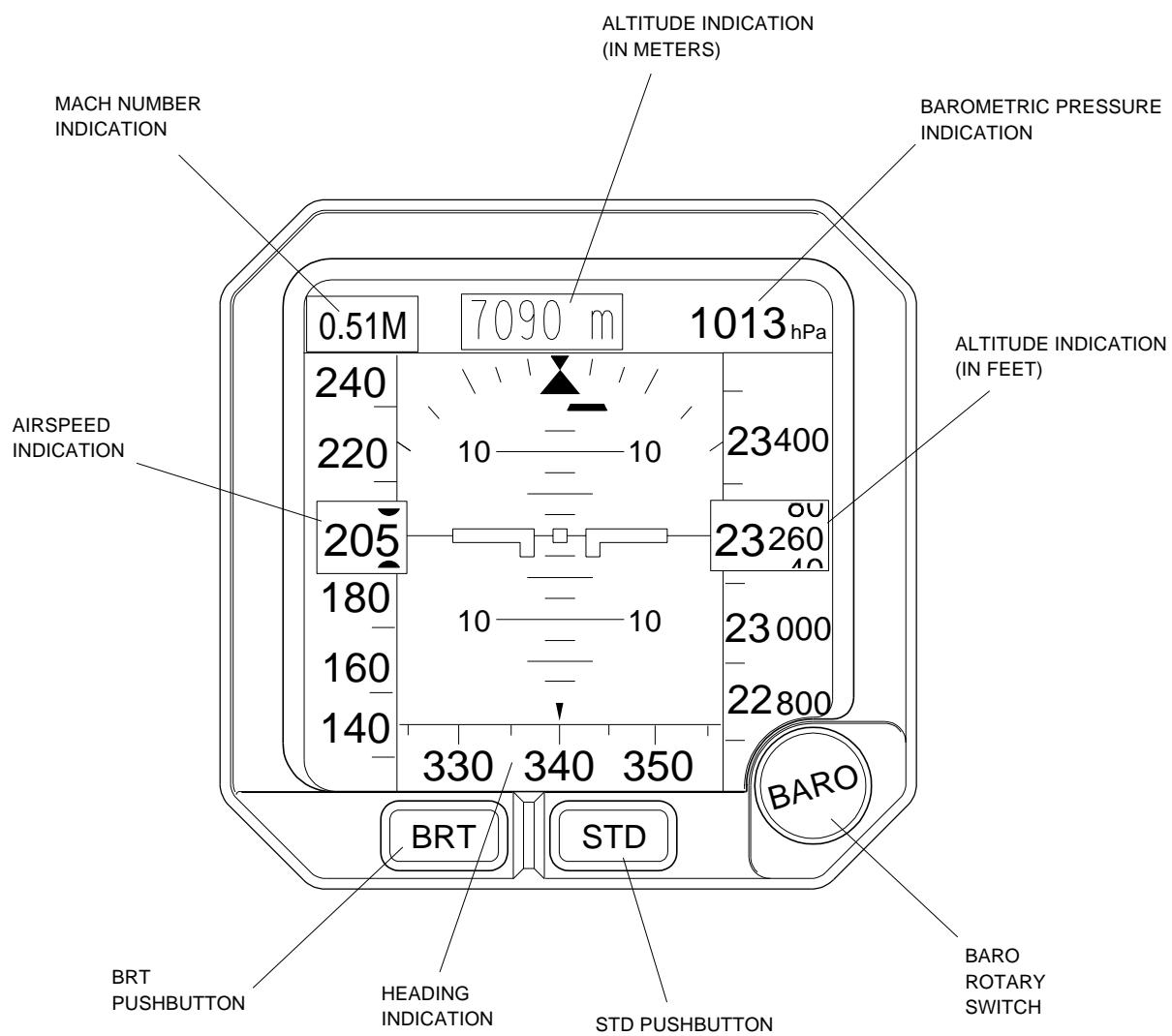
EFFECTIVITY:: AIRCRAFT WITH ISIS - SMITHS
ISIS - Initialization Pages
Figure 506

POWER ON SELF TEST
IN PROGRESS

BRT   STD   BARO

0.51M   1013 hPa

240
220
23400
205   23260
180   ALIGN
160   23000
140   22800
330 340 350

BRT   STD   BARO

DET. A
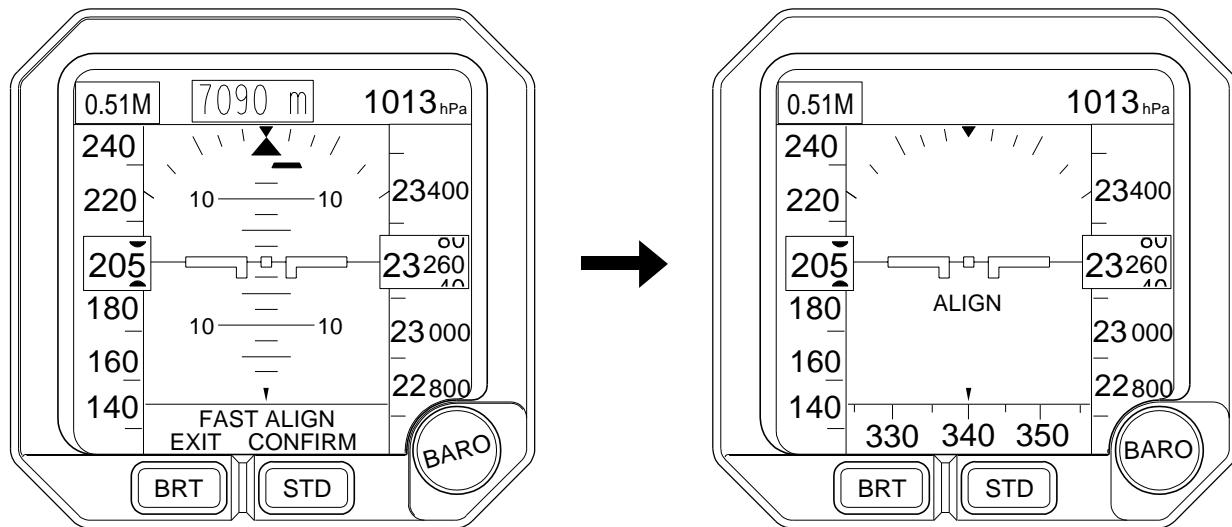
145AMM340981.MCE

EFFECTIVITY:: AIRCRAFT WITH ISIS - SMITHS
ISIS - General Display
Figure 507

ALTITUDE INDICATION
(IN METERS)

MACH NUMBER
INDICATION

BAROMETRIC PRESSURE
INDICATION

ALTITUDE INDICATION
(IN FEET)

AIRSPEED
INDICATION

BARO
ROTARY
SWITCH

BRT
PUSHBUTTON

HEADING
INDICATION

STD PUSHBUTTON

145AMM340982.MCE

EMB145 — EMB135

EFFECTIVITY:: AIRCRAFT WITH ISIS - SMITHS
ISIS - Alignment Function Test
Figure 508

145AMM340983.MCE

TASK 34-01-01-820-801-A
EFFECTIVITY: ALL

4.   ISIS - MOUNTING FRAME LEVELING/ALIGNMENT

   A.   General

      (1)   The purpose of this task is to make sure that the ISIS Unit is properly leveled.

   B.   References

REFERENCE	DESIGNATION
AMM TASK 08-20-00-500-801-A/200	AIRCRAFT LEVELING IN THE PASSENGER CABIN
AMM TASK 34-22-01-000-801-A/400	DISPLAY UNIT - REMOVAL
AMM TASK 34-22-01-400-801-A/400	DISPLAY UNIT - INSTALLATION

   C.   Zones and Accesses

   Not Applicable

   D.   Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 070	Protractor - Digital	To measure surface deflections	

   E.   Auxiliary Items

   Not Applicable

   F.   Consumable Materials

   Not Applicable

   G.   Expandable Parts

   Not Applicable
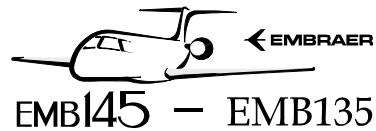
   H.   Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

   I.   Preparation

   SUBTASK 841-004-A

      (1)   Make sure that the aircraft is deenergized.

      (2)   On the circuit breaker panel, open the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.

      (3)   Level the aircraft (AMM TASK 08-20-00-500-801-A/200).

      (4)   Remove the EICAS Display Unit (AMM TASK 34-22-01-000-801-A/400).

J.   ISIS - Mounting Frame Leveling/Alignment

SUBTASK 820-002-A

(1)   Lean the Digital Protractor (GSE 070) on the bottom surface of the ISIS Unit, parallel to the ISIS Unit longitudinal axis, and measure the ISIS Unit pitch angle.

(a)   If the pitch angle is not within the range of 15 ± 0.1 degrees, adjust the ISIS Unit pitch angle as follows:

1   Loosen the screws (1) and the mounting screw (2).

2   Remove the shim (3).

3   Adjust the shim (3).

4   Install the shim (3).

5   Tighten the screws (1) and the mounting screw (2).

6   Do step (1) again.

K.   Follow-on
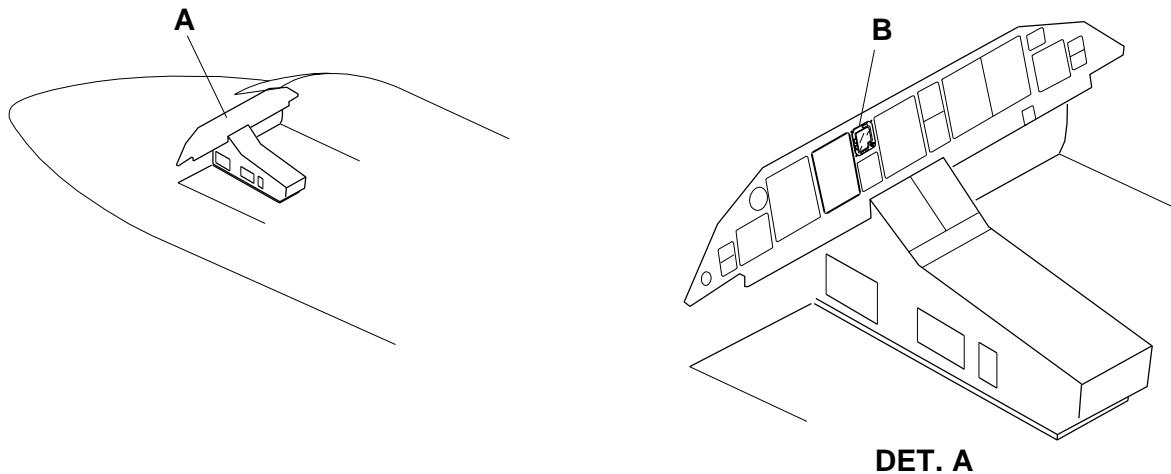
SUBTASK 842-004-A

(1)   Install the EICAS Display Unit (AMM TASK 34-22-01-400-801-A/400).

(2)   Lower the aircraft and remove the leveling plumb from the leveling point (AMM TASK 08-20-00-500-801-A/200).

(3)   On the circuit breaker panel, close the INTEG STBY (Location tip: ESSENTIAL DC BUS 2/INTEG STBY) circuit breaker.
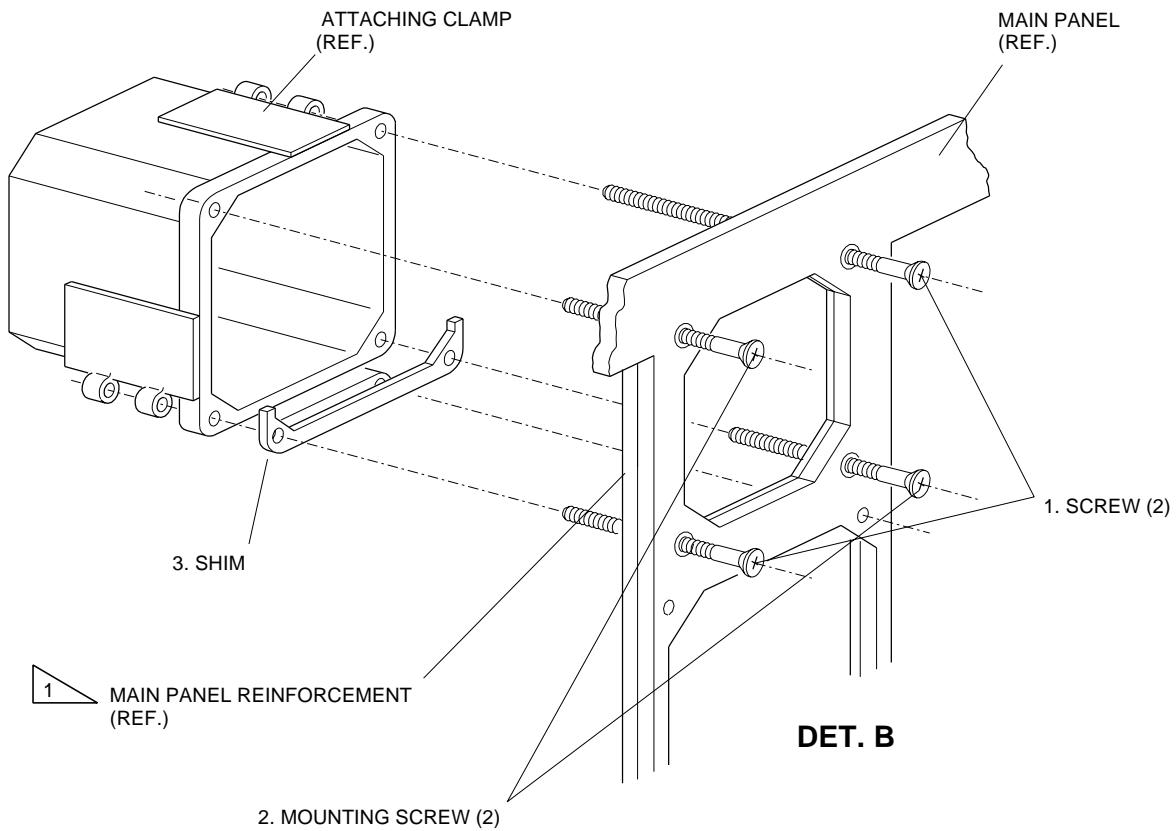
EFFECTIVITY:: ALL
ISIS - Mounting Frame Leveling/Alignment
Figure 509

A

B

DET. A

ATTACHING CLAMP
(REF.)

MAIN PANEL
(REF.)

1. SCREW (2)

3. SHIM

⊿1 MAIN PANEL REINFORCEMENT
(REF.)

DET. B

2. MOUNTING SCREW (2)

⊿1 AIRCRAFT WITH PANEL REINFORCEMENT FRAME FOR ISIS INSTALLED.

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