STA	TION							B0E	ING CAR	NO.
TAIL NO.					<b>BOE</b> 11	NG		31-R	01	
			SAS		767			AIRLINE CARD NO.		
DATE			0710		TASK CAF					
SKILL	WORK ARE	EA .	A RELATED TASK		INTERVAL		PHASE	MPD REV		SK CARD VISION
AVION	MAIN EE	CTR						007	APR	22/08
TAS	K			TITLE STRUCTURAL ILLUSTRATION REFERENCE			FERENCE	APPLICABILI AIRPLANE		LITY ENGINE
REPLA	CE	EICAS	S COMPUTER	₹				AIRPLAN	IE.	ENGINE
								NOT	Ε	ALL
	ZONES					ACCESS PANELS				
119			119	9AL						
MECH INSP			!					ı	MPD ITEM	NUMBER
	_									

REPLACE THE EICAS COMPUTER.

31-41-02-4B

AIRPLANE NOTE: THIS TASK IS APPLICABLE TO ALL AIRPLANE MODELS EXCEPT THE 767-400ER.

THIS CARD IS NOT A SCHEDULED MAINTENANCE TASK. IT IS A COMPONENT CHANGE CARD AND IT IS PROVIDED FOR OPERATOR CONVENIENCE DURING UNSCHEDULED MAINTENANCE ACTIVITIES. SEE APPENDIX A OF THE 767 MAINTENANCE PLANNING DATA (MPD) DOCUMENT, D622T001, FOR A DESCRIPTION OF THE COMPONENT CHANGE CARDS.

- 1. <u>EICAS Computer Removal</u>
  - A. References
    - (1) AMM 20-10-01/401, E/E Rack Mounted Components
    - (2) AMM 20-41-01/201, Electrostatic Discharge Sensitive Devices
  - B. Access
    - (1) Location Zones

119/120 Main Equipment Center 211/212 Flight Compartment

- C. Prepare for Removal
  - (1) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
    - (a) 11J2, EICAS CMPTR L
    - (b) 11J29, EICAS CMPTR R

REPLACE EICAS COMPUTER

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31-R01

AIRLINE CARD NO.



MECH INSP

CAUTION: DO NOT TOUCH THE EICAS COMPUTERS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (AMM 20-41-01/201). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE EICAS COMPUTERS.

- (2) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-01/201).
- (3) Remove the EICAS computer (AMM 20-10-01/401).

### EICAS Computer Installation

- A. References
  - (1) AMM 20-10-01/401, E/E Rack Mounted Components
  - (2) AMM 20-41-01/201, Electrostatic Discharge Sensitive Devices
  - (3) AMM 31-41-00/201, EICAS
  - (4) AMM 31-41-02/201, EICAS Computer Maintenance Practices
- B. Prepare for Installation
  - (1) Make sure that these P11 panel circuit breakers are open:
    - (a) 11J2, EICAS CMPTR L
    - (b) 11J29, EICAS CMPTR R

CAUTION: DO NOT TOUCH THE EICAS COMPUTERS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (AMM 20-41-01/201). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE EICAS COMPUTERS.

(2) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-01/201).

#### C. Procedure

(1) Examine the unit and rack connectors for unwanted materials and loose or damaged pins.

31-R01

AIRLINE CARD NO.

SAS FOR TASK CARD

MECH INSP

- (2) Supply electrical power (AMM 24-22-00/201).
- (3) Make sure that these P11 panel circuit breakers are closed:
  - (a) 11J2, EICAS CMPTR L
  - (b) 11J29, EICAS CMPTR R
- (4) Make sure these conditions exist before you verify the software configuration:
  - (a) The airplane is on the ground,
  - (b) The engines are off and,
  - (c) The parking brake is set.
- (5) Do these steps to make sure that the correct software is installed:
  - NOTE: Make sure you know the correct software part number for the EICAS computer you will check. For the EICAS computer to be an approved installation, the correct software must be checked.
  - (a) Press the CONF/MCDP switch on the EICAS MAINT panel (P61).
  - (b) If the correct OPS software does not show, install the correct OPS (AMM 31-41-02/201).
- (6) Do the AUTO EVENT, MAN EVENT, and ENG EXCD Erase Procedures (AMM 31-41-00/201).
- (7) Do the EICAS Computer Test procedure.
- 3. <u>EICAS Computer Test</u>
  - A. References
    - (1) AMM 24-22-00/201, Electrical Power Control
  - B. Access
    - (1) Location Zones

119/120 Main Equipment Center 211/212 Flight Compartment

**EFFECTIVITY** 

REPLACE | EICAS COMPUTER

31-41-02-4B

31-R01

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AIRLINE CARD NO.

SAS FOR TASK CARD

MECH INSP

#### C. Procedure

- (1) Supply electrical power (AMM 24-22-00/201).
- (2) Make sure that the EICAS circuit breakers that follow are closed:
  - (a) 11J2, EICAS CMPTR LEFT
  - (b) 11J3, EICAS UPPER DSPL
  - (c) 11J29, EICAS CMPTR RIGHT
  - (d) 11J30, EICAS LOWER DSPL
  - (e) 11J31, EICAS DSPL SW
  - (f) 11J32, EICAS DSPL SELECT
- (3) Turn the COMPUTER switch on the EICAS DISPLAY select panel to the L or R position as applicable.
- (4) Make sure that the top display shows the engine primary page and the bottom display shows the engine secondary page.
- (5) Make sure that the parking brake is engaged.
- (6) Push and release the TEST switch on the EICAS MAINT panel, P61.
- (7) Make sure that the TEST page shows on both displays.
- (8) Continue after the message TEST IN PROGRESS goes out of view.
- (9) If the message X INTERNAL FAULTS shows, do the EICAS BITE procedure (FIM 31-41-00/101).
- (10) Make sure that the EICAS program pin codes that follow show for the left (right) computer as applicable:
  - (a) SAS 050-051,150-157,162-167,275-278,280-281; 5A20 (5221)
- (11) Turn the COMPUTER switch on the EICAS DISPLAY select-panel to the other computer.

**EFFECTIVITY** 

REPLACE

EICAS COMPUTER

31-41-02-4B

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AIRLINE CARD NO.

		TASK CARD
MECH	INSP	
		(12) Make sure that the EICAS program pin code for the other computer is correct.
		NOTE: The codes for both computers are given before this step.
		(13) Make sure the the CMPTR FAIL messages do not show.
		(14) Push and release the left master CAUTION switch/light.
		(15) Push and release the TEST switch to go out of the TEST mode.
		D. Put the Airplane Back to Its Usual Condition
		(1) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY

REPLACE

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BOEING CARD NO.
31-001-01

AIRLINE CARD NO.

					07.1112						
WORK AREA RE		RELATED TASK			INTERVAL		PHASE	PHASE MPD		TASK CARD	
								REV	RE'	VISION	
PASS CA	SS CABIN				1c		11212	014	AUG	22/08	
K			TITLE			STRUCTURAL ILLUSTRATION RE	FERENCE	AP	PLICABII		
								AIRPLAN	E	ENGINE	
IIONAL	FLIG	HI DAI	IA RECORDER	PARAMETERS							
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ZONES						ACCESS PANELS					
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	PASS CA K TIONAL	PASS CABIN  TIONAL FLIG	PASS CABIN  TIONAL FLIGHT DAT	PASS CABIN  TITLE  TIONAL FLIGHT DATA RECORDER	PASS CABIN  TITLE TIONAL  FLIGHT DATA RECORDER PARAMETERS  ZONES	PASS CABIN 1C  TITLE  TIONAL FLIGHT DATA RECORDER PARAMETERS  ZONES	PASS CABIN  TITLE  TIONAL  FLIGHT DATA RECORDER PARAMETERS  ZONES  RELATED TASK  INTERVAL  STRUCTURAL ILLUSTRATION RE  ACCESS PANELS	PASS CABIN  TITLE TIONAL  FLIGHT DATA RECORDER PARAMETERS  TONES  RELATED TASK  INTERVAL  11212  STRUCTURAL ILLUSTRATION REFERENCE  ACCESS PANELS	WORK AREA RELATED TASK INTERVAL  PASS CABIN  10  K TITLE TIONAL FLIGHT DATA RECORDER PARAMETERS  ACCESS PANELS  PHASE MPD REV  11212 014  STRUCTURAL ILLUSTRATION REFERENCE AP AIRPLANI  ALL	WORK AREA RELATED TASK INTERVAL PHASE REV REV REV REV REV REV REV REV REV RE	

MECH INSP

MPD ITEM NUMBER

VERIFY THAT ALL REQUIRED AIRCRAFT PARAMETERS ARE RECORDED PROPERLY ON THE FLIGHT DATA RECORDER BY USING A COPY RECORDER TO COPY THE FDR DATA.

31-31-01-2A

NOTE: OPTIONAL MPD ITEM 31-31-01-4A CAN BE USED TO REMOVE AND INSTALL THE FLIGHT DATA RECORDER IF A COPY RECORDER IS NOT AVAILABLE.

ACCESS NOTE: ACCESS THROUGH OPEN LOWERED CEILING PANEL AT STA 1550.

THE FOLLOWING PROCEDURES APPLY TO THE ON-AIRCRAFT PORTION OF THIS TASK (COPY).

### 1. General

- A. Use the applicable copy recorder to make a copy of the flight data recorder (FDR) data.
- B. The FDR is installed in the voice and flight recorder rack, E7.
- 2. A Copy of the Data from the FDR with the Universal Copy Recorder

### A. General

- (1) The copy recorder makes a copy of the data from the Sundstrand tape based FDR without the removal of the FDR from the airplane.

  Approximately 30 minutes is necessary to make a copy of the data from the FDR.
- (2) The copy recorder is connected to the ATE connector on the front panel of the FDR.
- B. Equipment

OPERATIONAL FLIGHT DATA RECORDER PARAMETERS

31-31-01-2A 31-001-01 PAGE 1 OF 8 AUG 22/08

31-001-01

### SAS BOEING TASK CARD

MECH INSP

- (1) UFDR Copy Recorder Sundstrand 981-6024-002 Sundstrand Aviation Division, P.O. Box 7002, 4747 Harrison Ave., Rockford, IL 61101
- (2) Magnetic Tape
- References
  - (1) AMM 24-22-00/201, Electrical Power Control
  - (2) AMM 25-22-02/401, Lower Ceiling Panel
- Access
  - (1) Location Zone 253 Area above passenger cabin ceiling (Left)
- Procedure Ε.
  - (1) Supply electrical power (AMM 24-22-00/201).
  - (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) On the overhead equipment panel, P11:
      - 1) 11J7, FLIGHT RECORDER AC
      - 2) 11J8, FLIGHT RECORDER DC
  - (3) Set the ON-NORM-TEST switch on the flight recorder control panel (FRCP) to the NORM position.
  - (4) At the aft galley, open the ceiling panel No. 1 to get access to the FDR (AMM 25-22-02/401).
  - (5) Connect the copy recorder to the front connector of the FDR with the cable supplied with the copy recorder.
  - (6) Set the tape speed switch to 6 IPS.
  - Remove the DO-NOT-CLOSE tags and close these circuit breakers: (7)
    - (a) On the P11 panel:
      - 1) 11J7, FLIGHT RECORDER AC

**EFFECTIVITY** 

OPERATIONAL

FLIGHT DATA RECORDER PARAMETERS

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SAS BOEING TASK CARD

MECH INSP

- 2) 11J8, FLIGHT RECORDER DC
- (8) Set the ON-NORM-TEST switch on the FRCP to the ON position.
  - (a) Make sure the POWER LOSS light flashes.
- (9) Push the STOP switch to remove the POWER LOSS light.
  - (a) Make sure the READY light comes on and the copy recorder is set to 6 IPS.

NOTE: If the COPY ABORTED light comes on when the power is supplied to the copy recorder, ignored the light.

- (10) Install a full reel of tape on the left hub.
- (11) Install an empty reel on the right hub.
- (12) Put the tape along the path (Fig. 201).
- (13) Wind the Tape 3 to 5 turns on the right reel.
- (14) Set the counter to zero.
- (15) Turn the right reel counterclockwise until the counter shows 0003.
- Set the counter to zero.
- (17) Push the COPY switch one time.

Do not push the COPY switch again or the FDR will not find its initial position.

- (18) Make sure the steps occur as follows:
  - (a) The light sequence is PRE COPY, COPY, POST COPY and DONE.
  - (b) The UFDR NOT AT TONE light will go off approximately 12 seconds before the DONE light comes on.
  - The UFDR BITE, COPY REC BIT, POWER LOSS, and COPY ABORTED lights must stay off during the copy procedure.
  - The copy recorder tape will go forward for approximately 1 minute after the POST COPY light turns on.

**EFFECTIVITY** 

OPERATIONAL

FLIGHT DATA RECORDER PARAMETERS

31-31-01-2A

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AIRLINE CARD NO.

### SAS FOR TASK CARD

MECH INSP

- (e) When the copy procedure is completed, only the DONE light will stay on.
- (19) Push the STOP switch.
- (20) At the same time, push the MAN CNTRLS switch and the REWIND switch.
- (21) Set the ON-NORM-TEST switch on the FRCP to the NORM position.
- (22) Disconnect the copy recorder from the FDR.
- (23) Put the connector cover on the front of the FDR.
- 3. Make a Copy of the Flight Data with a Sundstrand Hand Held Download Unit

#### A. General

- (1) This task uses a hand held download unit (HHDLU) to make a copy of the flight data from a flight data recorder that records on solid state.
- (2) You can use the HHDLU to make a copy of the flight data without the removal of the solid state flight data recorder (FDR) from the airplane. A different procedure to access the flight data is to remove the FDR from the airplane (AMM 31-31-01/401). The data is then removed from the FDR.
- (3) The ATE connector is on the front of the FDR.

### B. Equipment

(1) 964-0446-001 Hand Held Download Unit (HHDLU) 27914 Allied-Signal Inc., DBA Allied-Signal Aerospace 2100 NW 62ND ST, Fort Lauderdale, FL 33309

### C. References

- (1) AMM 24-22-00/201, Electrical Power Control
- (2) AMM 25-22-02/401, Lower Ceiling Panel
- D. Access

EFFECTIVITY	OPERATIONAL   FLIGHT DATA RECORDER PARAMET			METERS	TERS	
	31-31-01-2A	31-001-01	PAGE	4 OF	8 APR	22/04

31-001-01

### BOEING 767 TASK CARD

MECH INSP

- (1) Location Zone Area Above Passenger Cable Ceiling, LH 253
- Prepare to Make a Copy of the Flight Data from the FDR Ε.
  - (1) Supply electrical power (AMM 24-22-00/201).
  - Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) On the overhead equipment panel, P11:
      - 1) 11J7, FLIGHT RECORDER AC
      - 2) 11J8, FLIGHT RECORDER DC
  - To get access to the FDR, open the lower ceiling panel No. 1 above the aft galley (AMM 25-22-02/401).
  - (4) Connect the connector of the HHDLU cable to the FDR ATE connector.
  - (5) Install the removable media into the HHDLU.
  - Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - (a) On the P11 panel:
      - 11J7, FLIGHT RECORDER AC
      - 2) 11J8, FLIGHT RECORDER DC
  - (7) At the P61 panel, set the ON-NORM-TEST switch on the flight recorder control panel (FRCP) to the ON position.
  - Set the power switch, adjacent to the HHDLU's RS-422 port.

Approximately 30 seconds after the power is supplied to the HHDLU, the main menu is shows on the HHDLU.

- (a) Make sure the HHDLU display shows DNLD in the main menu.
- F. Procedure
  - (1) Push the DNLD key.

31-001-01

BOEING 767 TASK CARD

AIRLINE CARD NO.

MECH	INSP

(a) Make sure the DOWNLOAD MENU shows on the display.

NOTE: The maximum quantity of flight data the HHDLU can make a copy of is 27.2 hrs. If the file DOWNLOADO1.DLU already exists on the removable media, the HHDLU will change the filename until a filename that is not used is found. To change the time or filename, push the TIME or FILE key.

(2) Push the GO key.

SAS

- (a) If the HHDLU display shows DISK FULL, do these steps:
  - 1) Push a key.
    - Make sure the DELETE FILE menu shows on the display.
  - Use the NEXT or PREV key to move up and down the filenames.
    - a) Make sure the CONFIRM DELETE menu shows on the display.
  - 3) Push the YES key to erase the file.
  - Erase files until sufficient memory is available to make a copy of the flight data.

After each file is erased, the HHDLU makes sure the HHDLU has sufficient memory, the HHDLU will start to make a copy.

- 5) Make sure the HHDLU display shows REC BLKS and XFER BLKS.
  - REC BLKS is the number of blocks the HHDLU will NOTE: move to the removable media. XFER BLKS is the number of blocks the HHDLU will move from the FDR. The REC BLKS and XFER BLKS fields will change during the copy procedure.
- (b) After the copy procedure is completed, push the key to show main menu.
- G. Put the Airplane to Its Usual Condition
  - (1) Remove the media from the HHDLU.

EFFECTIVITY	OPERATIONAL   FLIGHT DATA RECORDER PARA			AMETERS		
	31-31-01-2A	31-001-01	PAGE	6 OF	8 DEC	22/02

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AIRLINE CARD NO.

TASK CARD

MECH INSP (2) At the P61 panel, set the FRCP to the NORM position. (3) Disconnect the interface cable from the FDR. (4) Put the cover on the FDR ATE connector. (5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

**EFFECTIVITY** 

AIRLINE CARD NO.

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31-001-01

 $\bigcirc$  $\bigcirc$ 1357 SPEED - 6 - 24 COPY REC COPYING UFDRNOT ABORTED AT TONE SEEK TONE MAN CNTRLS COPY  $\bigcirc$  $\bigcirc$ 

> Copy Recorder Figure 201

**EFFECTIVITY** 183149

**OPERATIONAL** 

FLIGHT DATA RECORDER PARAMETERS

31-31-01-2A

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BOEING CARD NO. 31-001-06

AIRLINE CARD NO.

WORK AREA RELATED TASK INTERVAL MPD TASK CARD SKILL PHASE REVISION REV 011 AUG 22/08 ELECT | PASS CABIN W-31-001-011C 11212 APPLICABILITY
ANF ENGINE STRUCTURAL ILLUSTRATION REFERENCE AIRPLANE **OPERATIONAL** FLIGHT DATA RECORDER PARAMETERS ALL ALL ZONES ACCESS PANELS 253 NOTE

MECH INSP

MPD ITEM NUMBER

VERIFY (OFF-AIRCRAFT) ALL REQUIRED AIRCRAFT PARAMETERS ARE RECORDED PROPERLY ON THE FLIGHT DATA RECORDER BY REMOVING THE RECORDER.

31-31-01-4A

NOTE: OPTIONALLY, MPD ITEM 31-31-01-2A CAN BE USED IF A

COPY RECORDER IS USED TO COPY THE FDR DATA.

ACCESS NOTE: ACCESS THROUGH OPEN LOWERED CEILING PANEL AT

STA 1640.

THE FOLLOWING PROCEDURES APPLY TO THE ON-AIRCRAFT PORTION OF THIS TASK (REMOVAL/INSTALLATION):

- General
  - A. This subject has these tasks:
    - (1) A removal of the flight data recorder (FDR).
- Flight Data Recorder Removal (Fig. 401)
  - A. References
    - (1) AMM 20-10-01/401, E/E Rack Mounted Components
    - (2) AMM 25-22-02/401, Lowered Ceiling Panels
  - B. Access
  - C. Procedure
    - (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:

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SAS BOEING
767
TASK CARD

AIRLINE CARD NO.

MECH INSP

- (a) On the overhead equipment panel, P11:
  - 1) 11J7, FLIGHT RECORDER AC
  - 2) 11J8, FLIGHT RECORDER DC
- (2) To get access to the FDR, open the lower ceiling panel No. 1 above the aft galley (AMM 25-22-02/401).

CAUTION: DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE FLIGHT DATA RECORDER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE FLIGHT DATA RECORDER.

(3) To remove the FDR, do this task: E/E Box Removal (AMM 20-10-01/401).

NOTE: If the replacement flight recorder does not have an underwater locator beacon (ULB) installed, do this task: Underwater Locator Beacon Removal (AMM 31-31-02/201).

- Flight Data Recorder (FDR) Installation (Fig. 401)
  - A. References
    - (1) AMM 20-10-01/401, E/E Rack Mounted Components
    - (2) AMM 24-22-00/201, Electrical Power Control
    - (3) AMM 25-22-02/401, Lower Ceiling Panel
  - B. Access
  - C. Procedure
    - (1) Make sure these circuit breakers are open:
      - (a) On the overhead equipment panel, P11:
        - 1) 11J7, FLIGHT RECORDER AC

OPERATIONAL FLIGHT DATA RECORDER PARAMETERS

31-31-01-4A 31-001-06 PAGE 2 OF 5 DEC 22/02

31-001-06

SAS BOEING TASK CARD

MECH INSP

2) 11J8, FLIGHT RECORDER DC

CAUTION: DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE FLIGHT DATA RECORDER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE FLIGHT DATA RECORDER.

To install the FDR, do this task: E/E Box Installation (AMM 20-10-01/401).

NOTE: If the flight recorder does not have an underwater locator beacon (ULB) installed, do this task: "Underwater Locator Beacon Removal" (AMM 31-31-02/201).

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the P11 panel:
    - 1) 11J7, FLIGHT RECORDER AC
    - 2) 11J8, FLIGHT RECORDER DC
- (4) Close the lower ceiling panel No. 1 (AMM 25-22-02/401).
- Installation Test
  - (1) Supply electrical power (AMM 24-22-00/201).
  - (2) On the flight recorder control panel (FRCP), do the steps that follow:
    - Set the ON-NORM-TEST switch on the FRCP to the ON position. (a)
      - 1) Make sure the OFF light on the FRCP goes off.
    - Set the ON-NORM-TEST switch on the FRCP to the NORM position.
      - 1) Make sure the OFF light on the FRCP comes on.
  - (3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

**EFFECTIVITY** 

OPERATIONAL

FLIGHT DATA RECORDER PARAMETERS

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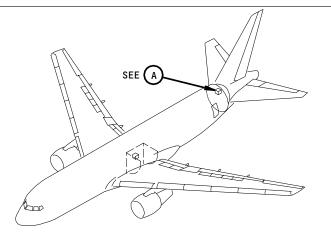
PAGE 3 OF 5 DEC 22/02

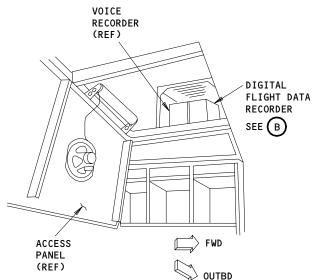
31-001-06

AIRLINE CARD NO.

SAS

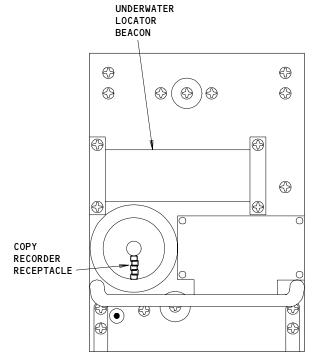
BOEING
767
TASK CARD





VOICE AND FLIGHT RECORDER (ELECTRONIC EQUIPMENT RACK, E7)





DIGITAL FLIGHT DATA RECORDER



Digital Flight Data Recorder Installation Figure 401 (Sheet 1)

EFFECTIVITY Sas 050-280

OPERATIONAL

FLIGHT DATA RECORDER PARAMETERS

31-31-01-4A

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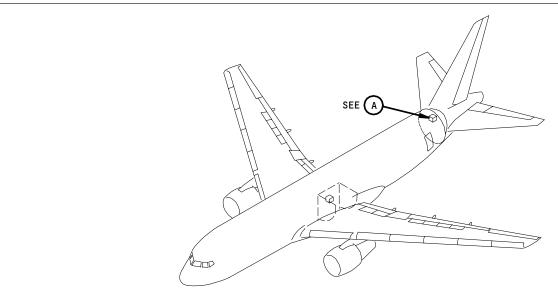
PAGE 4 OF 5 MAY 10/96

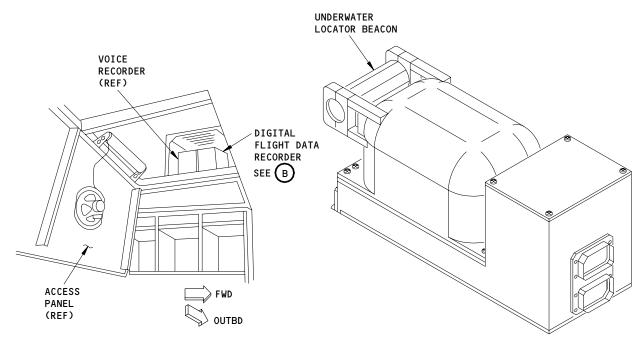
31-001-06

AIRLINE CARD NO.

SAS







VOICE AND FLIGHT RECORDER (ELECTRONIC EQUIPMENT RACK, E7)

DIGITAL FLIGHT DATA RECORDER



Digital Flight Data Recorder Installation Figure 401 (Sheet 2)

EFFECTIVITY Sas 281-999

OPERATIONAL

FLIGHT DATA RECORDER PARAMETERS

31-31-01-4A

31-001-06

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BOEING CARD NO. 31-002-02

AIRLINE CARD NO.

TASK CARD

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MPD

NOTE

WORK AREA RELATED TASK INTERVAL SKILL PHASE REVISION REV 00006 YRS NOTE 011 AUG 22/09 AVION | PASS CABIN 148XX APPLICABILITY
AIRPLANE ENGINE TITLE STRUCTURAL ILLUSTRATION REFERENCE RESTORE DIGITAL FLIGHT DATA RECORDER ULB

ZONES ACCESS PANELS

253 NOTE

MPD ITEM NUMBER MECH INSP

REPLACE THE DIGITAL FLIGHT DATA RECORDER UNDERWATER LOCATOR BEACON (ULB) AND OPERATIONALLY CHECK THE ULB AT THE MANUFACTURER'S ULB LIFE LIMIT.

31-31-02-2B

INTERVAL NOTE: ULB LIFE LIMIT IS CURRENTLY SIX YEARS FROM

DATE OF ULB MANUFACTURE.

AIRPLANES EQUIPPED WITH UNDERWATER LOCATOR AIRPLANE NOTE:

BEACONS THAT HAVE A 6-YEAR LIFE-LIMIT

BATTERY.

ACCESS NOTE: ACCESS THROUGH OPEN LOWERED CEILING PANEL AT

STA 1550.

<u>Underwater Locator Beacon Removal</u> (Fig. 201)

Α. References

- (1) AMM 31-31-01/201, Digital Flight Data Recorder
- (2) AMM 25-22-02/401, Lowered Ceiling Panels

B. Procedure

(1) PASSENGER AIRPRLANE; Open the lowered ceiling panel (AMM 25-22-02/401) to get access to the flight data recorder in the aft passenger compartment.

- (2) Do this task: Remove the DFDR (AMM 31-31-01/201).
- Remove the underwater locator beacon from the flight data recorder:
  - (a) Loosen the four screws that hold the ULB.
  - (b) Remove the two screws and the clamp from one end of the ULB.

**EFFECTIVITY** RESTORE DIGITAL FLIGHT DATA RECORDER ULB 31-31-02-2B 31-002-02 PAGE 1 OF 15 AUG 22/08

31-002-02

AIRLINE CARD NO.

# SAS BOEING 767 TASK CARD

MECH INSP

- (c) Remove the ULB.
- (d) Keep the two screws and the clamp.
- FLIGHT DATA RECORDERS WITH DUKANE ULBs;
   Underwater Locator Beacon Battery Replacement (Fig. 202)
  - A. General
    - (1) This procedure contains these tasks:
      - (a) A removal of the Dukane ULB Battery
      - (b) An installation of the Dukane ULB Battery
  - B. Equipment
    - (1) 810-325, Spanner Wrench, Used on Underwater Locator Beacon Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
    - (2) Split Radiator Hose 1-1/4-inch diameter, 5 inches in length
  - C. Consumable Materials
    - (1) G02440 Battery, Dukane 810-2007/K
  - D. Removal Procedure

WARNING: DO NOT REMOVE THE BATTERY FROM THE DK100/DK130 ULB. DO NOT CAUSE DAMAGE TO THE DK100/DK130 ULB. DO NOT DISCARD THE DK100 /DK130 ULB. THE MANUFACTURER HAS A REPLACEMENT PROGRAM FOR EXPIRED ULBS. ON OR BEFORE THE EXPIRED DATE, SEND THE DK100 /DK130 TO THE MANUFACTURER FOR SERVICING. THE BATTERY CONTAINS DANGEROUS CHEMICAL MATERIALS WHICH CAN CAUSE INJURIES TO PERSONNEL.

- (1) If you have a DK100/DK130 ULB, send it to the manufacturer for servicing.
- (2) If you do not have a DK100/DK130 ULB, remove the ULB battery:

**EFFECTIVITY** 

RESTORE

DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B

31-002-02

PAGE 2 OF 15 AUG 22/09

31-002-02

AIRLINE CARD NO.

SAS BOEING 767 TASK CARD

MECH INSP

CAUTION: DO NOT HOLD THE UNDERWATER LOCATOR BEACON WITH A VISE.

THIS CAN CAUSE DAMAGE TO THE UNDERWATER LOCATOR BEACON.

- (a) Hold the ULB body with a split radiator hose.
- (b) Use a spanner wrench to remove the end cover that is identified BATTERY ACCESS.
- (c) Remove the rubber shock cushion from the battery end if it is not removed with the cap.
- (d) Hit the ULB body lightly to remove the battery.
- E. Installation Procedure
  - (1) Install the ULB battery:

NOTE: The Dukane 810-2007/K battery is a 6 year lithium battery used in the Dukane model DK120/DK140 ULB.

- (a) Put a new battery replacement date label on the ULB body.
- (b) Write the next scheduled replacement date for the new ULB that you installed.

NOTE: The date label is blank so you can write in a replacement date based on your maintenance schedule.

<u>CAUTION</u>: INSTALL THE ULB BATTERY CORRECTLY. INCORRECT POLARITY WILL CAUSE PERMANENT DAMAGE TO THE ULB.

- (c) Put the new battery in the ULB with the end identified by INSERT THIS END in first.
- (d) Remove and discard the used 0-ring from the end cap.

<u>CAUTION</u>: DIRT OR OTHER UNWANTED MATERIALS CAN CAUSE DAMAGE TO THE THREADS AND THE O-RING SEAL. THIS CAN PERMIT WATER LEAKAGE.

**EFFECTIVITY** 

RESTORE DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B

31-002-02

PAGE 3 OF 15 AUG 22/09

TASK CARD

AIRLINE CARD NO.

					TASK CARD
MECH	INSP				
					(e) Clean the threads and the O-ring groove in the ULB body.
					(f) Apply a thin layer of lubricant to the 0-ring, 0-ring groove, and threads.
					(g) Install a new 0-ring on the end cap.
					(h) Put the rubber shock cushion smoothly on the end cap.
					(i) Put the end cap into the ULB body.
					(j) Tighten the end cap until the cap flange touches the ULB body.
					NOTE: Only use hand force on the spanner wrench.
				(2)	Do a test of the Underwater Locator Beacon: Task 31-31-02-712-013.
		3.			ATA RECORDERS WITH TELEDYNE BENTHOS ULBs; er Locator Beacon Battery Replacement (Fig. 202)
			Α.	Gene	ral
				(1)	This procedure contains these tasks:
					(a) Prepare for the removal of the Teledyne Benthos ULB Battery.
					(b) A removal of the Teledyne Benthos ULB Battery.
					(c) An installation of the Teledyne Benthos ULB Battery.
			В.	Equi	pment
				(1)	B362-09111, Torque Adapter, Used on Underwater Locator Beacon Teledyne Benthos, Inc 49 Edgerton Drive North Falmouth, MA 02556
				(2)	Split Radiator Hose 1-1/4-inch diameter, 5 inches in length
			С.	Cons	umable Materials
ı					

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31-002-02

			TASK CARD
MECH I	INSP		
		(1)	B362-06192-2, Teledyne Benthos.
			NOTE: B362-06192-2 contains a lithium battery P/N C362-04270-2, a 2-022 0-Ring, an 0-Ring lubricant packet and replacement instruction.
		D. Pre	pare for the Removal
		(1)	Measure the battery voltage of the ELP-362D ULB. Use a high-impedance digital voltmeter with a minimum input impedance of 10 Megohms.
			(a) Put the negative meter lead on the water switch.
			(b) Put the positive meter lead on the bare aluminum surface of the beacon housing.
			(c) Read the voltmeter.
		E. Remo	oval Procedure
		(1)	If the measured voltage is less than 6.0 Volts, send the ELP-362D ULB to the manufacturer for servicing.
		(2)	If the measured voltage is 6.0 Volts or more, remove the battery from the ELP-362D ULB:
			CAUTION: DO NOT HOLD THE UNDERWATER LOCATOR BEACON WITH A VISE. THIS CAN CAUSE DAMAGE TO THE UNDERWATER LOCATOR BEACON.
			(a) Hold the ULB body with a split radiator hose.
			(b) Use the torque adapter to remove the end cap that is identified as BATTERY ACCESS.
			(c) Turn the housing up to remove the battery from the unit.
			(d) Discard the battery.
			NOTE: Refer to local instructions when you discard the battery.

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**EFFECTIVITY** 

31-002-02

AIRLINE CARD NO.



		TASK CARD	
MECH	INSP		
		F. Installation Procedure	
		(1) Install the new ULB battery:	
		NOTE: The Teledyne Benthos C362-04270-2 battery is a six year battery.	ar
		(a) Set the the battery until the arrow points to the top er the unit.	nd of
		NOTE: The battery label has an arrow mark.	
		(b) On the date label, write the next scheduled replacement for the new ULB that you installed.	date
		NOTE: The date label is blank so you can write in a replacement date based on your maintenance schedu	ıle.
		CAUTION: INSTALL THE ULB BATTERY CORRECTLY. INCORRECT POLAR WILL CAUSE PERMANENT DAMAGE TO THE ULB.	RITY
		(c) Put the new battery in the ULB with the end identified be INSERT THIS END in first.	ру
		(d) Remove the O-ring from is from its groove in the end cap	).
		CAUTION: DIRT OR OTHER UNWANTED MATERIAL CAN CAUSE DAMAGE TO THREADS AND THE O-RING SEAL. THIS CAN PERMIT WATER LEAKAGE.	
		(e) Clean the O-ring groove of dirt, lint, and other unwante materials.	∍d
		(f) Apply the 0-ring lubricant to the new 0-ring.	
		(g) Put the lubricated 0-ring in the end cap groove.	
		(h) Attach the end cap to the housing.	

EFFECTIVITY

31-002-02

AIRLINE CARD NO.

### SAS FOR TASK CARD

MECH INSP

- (i) Use the torque adapter to install the end cap tightly.
  NOTE: Only use hand force on the torque adapter.
- (j) Torque the end cap to 25 to 30 inch-pounds.
- (2) Do a test of the Underwater Locator Beacon: Task 31-31-02-712-013.

### 4. <u>Underwater Locator Beacon - Operational Test</u>

### A. Equipment

- (1) Ultrasonic Test Set, 42A12 Series (alternative) Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
- (2) Ultrasonic Test Set, PL1
  Dukane Corporation
  2900 Dukane Drive
  St. Charles, IL 60174
- (3) PL3 Ultrasonic Test Set Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
- (4) Acoustic Test Set, ATS-260 Datasonics INC. 1400 Route 28A Cataumet, MA 02534
- (5) Ultrasonic Test Set, TS200 Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
- B. Consumable Materials
  - (1) A00448 Tape-Adhesive
- C. Procedure

RESTORE DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B 31-002-02 PAGE 7 OF 15 AUG 22/09

31-002-02



MECH INSP

(1) If you have a 42A12C test set, do this test of the ULB:

NOTE: 42A12 can do a test for all Dukane and Teledyne Benthos ULBs.

- (a) Put the test set approximately 3 feet from ULB.
- (b) Set the OFF-GAIN control switch on test set to middle position.
  - Make sure that you hear sounds through the earphone on the test set.
- (c) Set the TUNING CONTROL to 37 ±1 kHz.
- (d) Set the INPUT SELECTOR switch to the INT position.
- Make sure the test set operates correctly.
  - Rub your thumb and fingers together in front of the microphone to make sure it operates.

NOTE: This will produce a rushing noise from the speaker.

- Make sure you hear sounds through the test set earphone.
- Use any kind of tape to attach a piece of flexible metal conductor to the ULB case and the center of the water switch.

This will make a short circuit from the center of NOTE: the water switch to the outer part of the ULB.

- Make sure you hear a pulsed tone at 1-second intervals.
- (q) Remove the metal conductor from the ULB case and center of the water switch.
  - 1) Make sure you do not hear a pulsed tone.
- (h) Set the OFF-GAIN control switch to the OFF position.
- (2) If you have a PL1 test set, do this test of the ULB:

NOTE: PL1 can only do a test for the DK100 ULB.

**EFFECTIVITY** 

RESTORE

DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B

31-002-02

PAGE 8 OF 15 APR 22/09

31-002-02

AIRLINE CARD NO.

			TASK CARD		
MECH	INSP		'		
			(a) Use tape to attach a flexible metal conductor to the ULB case and the center of the water switch.		
			NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.		
			(b) Put the end of the test set against the ULB, approximately one inch from the water switch.		
			(c) Push and hold operation switch on the test set.		
			1) Make sure the BEACON ACTIVE WHEN FLASHING light flashes.		
			<ol><li>Remove the metal conductor from the ULB case and center of the water switch.</li></ol>		
			<ol><li>Make sure the BEACON ACTIVE WHEN FLASHING light does not flash.</li></ol>		
			(d) Release the operation switch on the test set.		
			(e) Remove the test set.		
		(3)	If you have a PL3 test set, do this test of the ULB.		
			NOTE: PL3 can only do a test for the DK100 and DK120 ULBs.		
			(a) Put the end of the PL3 test set against the ULB water switch.		
			1) Make sure you hear a tone.		
			2) Make sure the LED light flashes.		
			(b) Remove the PL3 test set from the ULB.		
		(4)	If you have an ATS-260 test set, do this test of ULB:		
			NOTE: ATS-260 can only do a test for the ELP-362D ULB.		
			(a) Put the test set clip on the ULB.		
		(b) Push and hold the PUSH TO TEST button.			
			(c) Put the test set probe on the ULB water switch.		
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31-002-02

				TASK CARD				
MECH	INSP							
				1) Make sure a green LED shows.				
				2) Make sure you can hear sounds from the test set.				
			3) Make sure the amber LED flashes.					
			(d) Release the PUSH TO TEST button.					
			(e) Remove the test set.					
		(5)						
			NOTE:	TS200 can do a test for all Dukane ULBs.				
				Attach the test probe clip of the test set to the be mount.	eacon in its			
		(b) Put the tip of the probe on the silver pad of the wat the end of the beacon.						
				<ol> <li>The LCD display will show the battery voltage of beacon.</li> </ol>	the			
			(c)	Refer to the applicable battery code for the minimum range of the beacon battery voltage:	permitted			
				<u>NOTE</u> : Examine the battery replacement label to find battery code.	l the			
				1) Code A - 3.55 Volts				
				2) Code B - 2.97 Volts				
				3) Code C - 2.97 Volts				
				4) Code D - 2.97 Volts				
		(d) Push the red button on the test set.						
				<ol> <li>The beacon starts and you hear a pinging noise f test set.</li> </ol>	rom the			
			(e)	Remove the test probe clip of the test set from the	ULB.			

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(f) Replace the ULB if necessary.



31-002-02

MECH INSP

### Underwater Locator Beacon Installation

- A. Consumable Materials
  - (1) B00541 Detergent, General Purpose
- References В.
  - (1) AMM 31-31-01/201, Digital Flight Data Recorder
  - (2) AMM 25-22-02/401, Lowered Ceiling Panels
- C. Procedure
  - (1) Install the underwater locator beacon on the flight data recorder:
    - Make sure the water switch end of the ULB has no grease or dirt.
      - 1) Clean the water switch on the ULB with a weak detergent.
    - (b) Put the ULB into its bracket.
    - (c) Install the clamp on the end of the ULB with the two screws.
    - (d) Make sure you can read the replacement date on the ULB.
    - (e) Tighten the four screws.
  - (2) Do this task: Install the DFDR (AMM 31-31-01/201).
  - (3) PASSENGER AIRPLANE; Close the lowered ceiling panels (AMM 25-22-02/401) in the aft passenger compartment.

**EFFECTIVITY** 

RESTORE

DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B

31-002-02

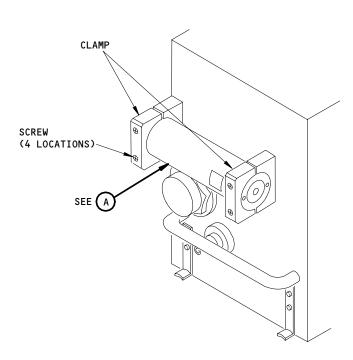
PAGE 11 OF 15 APR 22/09

AIRLINE CARD NO.

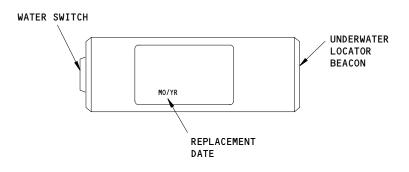
31-002-02

SAS





DIGITAL FLIGHT DATA RECORDER



### UNDERWATER LOCATOR BEACON



Underwater Locator Beacon Installation Figure 201 (Sheet 1)

**EFFECTIVITY** RESTORE DIGITAL FLIGHT DATA RECORDER ULB Sas 050-280 31-31-02-2B 31-002-02 PAGE 12 OF 15 AUG 22/08

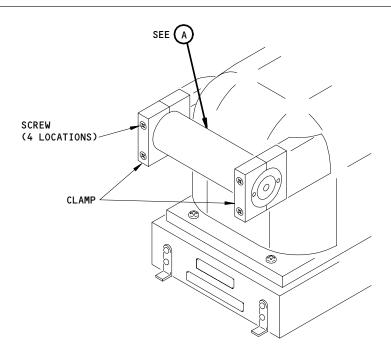
BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

AIRLINE CARD NO.

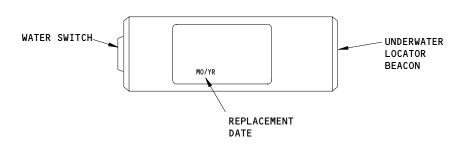
31-002-02

SAS

BOEING 767 TASK CARD







### UNDERWATER LOCATOR BEACON



Underwater Locator Beacon Installation Figure 201 (Sheet 2)

**EFFECTIVITY** S̃AS 281-999

RESTORE

DIGITAL FLIGHT DATA RECORDER ULB

31-31-02-2B

31-002-02

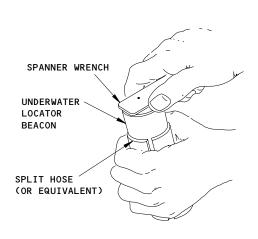
PAGE 13 OF 15 AUG 22/08

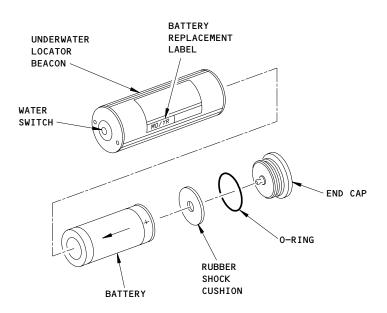
AIRLINE CARD NO.

31-002-02

SAS







### **BATTERY INSTALLATION**

Underwater Locator Beacon Battery Replacement Figure 202

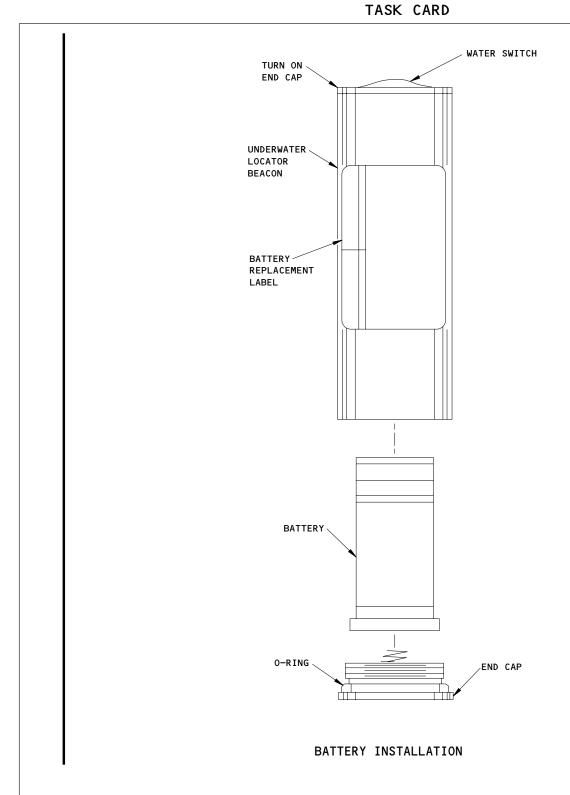
EFFECTIVITY	RESTORE	DIGITAL FLIGHT	DATA RECORDER ULB
E12733	31-31-02-2B	31-002-02 P	PAGE 14 OF 15 AUG 22/09

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31-002-02

SAS 767

AIRLINE CARD NO.



Underwater Locator Beacon Battery Replacement Figure 203

**EFFECTIVITY** RESTORE DIGITAL FLIGHT DATA RECORDER ULB 31-31-02-2B 31-002-02 PAGE 15 OF 15 AUG 22/09

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STATION	
TAIL NO.	
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WORK AREA

SKILL

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BOEING CARD NO.
31-002-03

AIRLINE CARD NO.

PHASE

TASK CARD

AVION PASS CABIN

TASK

TITLE

REV REVISION

00002 YRS

11616

012 APR 22/09

APPLICABILITY
AIRPLANE ENGINE

INTERVAL

OPERATIONAL | FLIGHT DATA RECORDER ULB | NOTE ALL

ZONES ACCESS PANELS

253 NOTE

RELATED TASK

MECH INSP MPD ITEM NUMBER

OPERATIONALLY CHECK THE DIGITAL FLIGHT DATA RECORDER UNDERWATER LOCATOR BEACON.

31-31-02-2C

AIRPLANE NOTE: AIRPLANES EQUIPPED WITH UNDERWATER LOCATOR

BEACONS THAT HAVE A 6-YEAR LIFE-LIMIT

BATTERY.

ACCESS NOTE: ACCESS THROUGH OPEN LOWERED CEILING PANEL AT

STA 1550.

Underwater Locator Beacon - Operational Test

### A. Equipment

- (1) Ultrasonic Test Set, 42A12 Series (alternative) Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
- (2) Ultrasonic Test Set, PL1
  Dukane Corporation
  2900 Dukane Drive
  St. Charles, IL 60174
- (3) PL3 Ultrasonic Test Set
  Dukane Corporation
  2900 Dukane Drive
  St. Charles, IL 60174
- (4) Acoustic Test Set, ATS-260
  Datasonics INC.
  1400 Route 28A
  Cataumet, MA 02534

OPERATIONAL FLIGHT DATA RECORDER ULB

31-31-02-2C 31-002-03 PAGE 1 OF 5 APR 22/07

31-002-03

AIRLINE CARD NO.

## SAS FOR TASK CARD

MECH INSP

- (5) Ultrasonic Test Set, TS200 Dukane Corporation 2900 Dukane Drive St. Charles, IL 60174
- B. Consumable Materials
  - (1) A00448 Tape-Adhesive
- C. Procedure
  - (1) If you have a 42A12C test set, do this test of the ULB:

NOTE: 42A12 can do a test for all Dukane and Teledyne Benthos ULBs.

- (a) Put the test set approximately 3 feet from ULB.
- (b) Set the OFF-GAIN control switch on test set to middle position.
  - Make sure that you hear sounds through the earphone on the test set.
- (c) Set the TUNING CONTROL to 37 ±1 kHz.
- (d) Set the INPUT SELECTOR switch to the INT position.
- (e) Make sure the test set operates correctly.
  - Rub your thumb and fingers together in front of the microphone to make sure it operates.

NOTE: This will produce a rushing noise from the speaker.

- a) Make sure you hear sounds through the test set earphone.
- (f) Use any kind of tape to attach a piece of flexible metal conductor to the ULB case and the center of the water switch.

<u>NOTE</u>: This will make a short circuit from the center of the water switch to the outer part of the ULB.

1) Make sure you hear a pulsed tone at 1-second intervals.

EFFECTIVITY

OPERATIONAL | FLIGHT DATA RECORDER ULB

31-31-02-2C

31-002-03

PAGE 2 OF 5 APR 22/09

31-002-03

### BOEING SAS 767 TASK CARD

MECH	INSP
------	------

- (g) Remove the metal conductor from the ULB case and center of the water switch.
  - 1) Make sure you do not hear a pulsed tone.
- (h) Set the OFF-GAIN control switch to the OFF position.
- (2) If you have a PL1 test set, do this test of the ULB:

NOTE: PL1 can only do a test for the DK100 ULB.

(a) Use tape to attach a flexible metal conductor to the ULB case and the center of the water switch.

NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.

- (b) Put the end of the test set against the ULB, approximately one inch from the water switch.
- (c) Push and hold operation switch on the test set.
  - 1) Make sure the BEACON ACTIVE WHEN FLASHING light flashes.
  - Remove the metal conductor from the ULB case and center of 2) the water switch.
  - 3) Make sure the BEACON ACTIVE WHEN FLASHING light does not flash.
- (d) Release the operation switch on the test set.
- (e) Remove the test set.
- (3) If you have a PL3 test set, do this test of the ULB.

NOTE: PL3 can only do a test for the DK100 and DK120 ULBs.

- (a) Put the end of the PL3 test set against the ULB water switch.
  - 1) Make sure you hear a tone.
  - 2) Make sure the LED light flashes.

**EFFECTIVITY** 

OPERATIONAL FLIGHT DATA RECORDER ULB

31-31-02-2c | 31-002-03

PAGE 3 OF 5 DEC 22/08

31-002-03

AIRLINE CARD NO.

			TASK CARD
MECH	INSP		
			(b) Remove the PL3 test set from the ULB.
		(4)	If you have an ATS-260 test set, do this test of ULB:
			NOTE: ATS-260 can only do a test for the ELP-362D ULB.
			(a) Put the test set clip on the ULB.
			(b) Push and hold the PUSH TO TEST button.
			(c) Put the test set probe on the ULB water switch.
			1) Make sure a green LED shows.
			2) Make sure you can hear sounds from the test set.
			3) Make sure the amber LED flashes.
			(d) Release the PUSH TO TEST button.
			(e) Remove the test set.
		(5)	If you have a TS200 test set, do this test of the ULB:
			NOTE: TS200 can do a test for all Dukane ULBs.
			(a) Attach the test probe clip of the test set to the beacon in its mount.
			(b) Put the tip of the probe on the silver pad of the water switch at the end of the beacon.
			<ol> <li>The LCD display will show the battery voltage of the beacon.</li> </ol>
			(c) Refer to the applicable battery code for the minimum permitted range of the beacon battery voltage:
			NOTE: Examine the battery replacement label to find the battery code.
			1) Code A - 3.55 Volts
			2) Code B - 2.97 Volts
	1		

**EFFECTIVITY** 

31-002-03

AIRLINE CARD NO.

				TASK CARD		
MECH	INSP					1
			3) Code C - 2	2.97 Volts		
			4) Code D - 2	2.97 Volts		
		(d)	Push the red b	outton on the t	est set.	
			1) The beacor test set.	n starts and yo	ou hear a pinging noise	from the
		(e)	Remove the tes	st probe clip o	of the test set from the	e ULB.
		(f)	Replace the UL	B if necessary	<b>'-</b>	
		2. <u>Underwater Lo</u>	ocator Beacon Ir	<u>nstallation</u>		
EFF	ECTI	VITY -		OPERATIONAL	FLIGHT DATA RECORDER U	II D
				OFERALIUNAL	ILIGHI DATA KECUKDEK (	טבט

STATION	
TAIL NO.	
DATE	

SKILL



BOEING CARD NO. 31-004-01

AIRLINE CARD NO.

TASK CARD

MPD

PHASE

REVISION REV 1C 012 APR 22/08 AVION | MAIN EE CTR 11212 STRUCTURAL ILLUSTRATION REFERENCE

INTERVAL

ACCESS PANELS

APPLICABILITY
ANE ENGINE AIRPLANE **OPERATIONAL** WARNING ELECTRONICS UNIT CARD MODULE ALL ALL

ZONES

WORK AREA

119 211

119AL

RELATED TASK

MPD ITEM NUMBER MECH INSP

OPERATIONALLY CHECK THE WARNING ELECTRONICS UNIT CARD MODULES.

31-51-04-4A

#### 1. WEU Card Module Test

- Α. References
  - (1) 22-10-00/501, Autopilot Flight Control
  - (2) 24-22-00/201, Electrical Power Control
  - (3) 31-41-00/501, Engine Indication and Crew Alerting System (EICAS)
  - (4) 31-51-00/501, Warning System
  - 32-09-02/201, Air/Ground Relays
  - (6) 34-12-00/501, Air Data Computer
  - (7) 34-22-00/501, EFIS
  - (8) 34-33-00/501, Radio Altimeter System
- B. Access
  - (1) Location Zones

119/120 Main Equipment Center 211/212 Flight Compartment

Prepare for the Test

The procedures that follow make sure that the card modules are installed correctly. The complete system test is found in the Warning System - Adjustment/Test (AMM 31-51-00/501).

**EFFECTIVITY** OPERATIONAL WARNING ELECTRONICS UNIT CARD MODULE 31-51-04-4A 31-004-01 PAGE 1 OF 8 AUG 10/98

				TASK CARD
MECH	INSP			
			(1)	Supply electrical power (AMM 24-22-00).
			(2)	Make sure that the EICAS system operates correctly (AMM 31-41-00).
			(3)	Make sure that these P11 panel circuit breakers are closed:
				(a) 11B16, AURAL WRN SPKR L
				(b) 11B18, WARN ELEX B
				(c) 11F5, RAD ALTM L
				(d) 11G3, SELCAL
				(e) 11H35, AURAL WARN SPKR R
				(f) 11J34, WARN ELEX A
				(g) 11U15, AIR/GND SYS 1
				(h) 767-300 AIRPLANES;
				11U23, POSITION AIR/GND SYS 2
				(i) 767-200 AIRPLANES;
				11U24, POSITION AIR/GND SYS 2
		D.	Powe	r Supply Card Module Test
			(1)	Push the RESET switch on the WEU.
				(a) Make sure that the PS-A fault indicator shows black.
				(b) Make sure that the PS-B fault indicator shows black.
		E.	Mast	er Warning Card Module Test
			(1)	Open this P11 panel circuit breaker:
				(a) 11B18, WARN ELEX B
			(2)	Make sure the WARNING lights on the P7 panel and the CONFIG light on the P1 panel are off.
			(3)	Push and hold the CONFIG switch on the miscellaneous test panel in the LDG position.

EFFECTIVITY

31-004-01

SAS BOEING TASK CARD

AIRLINE CARD NO.

			THERE STATE
MECH	INSP		
			(a) Make sure that the WARNING lights and the CONFIG light come on.
			NOTE: "GEAR NOT DOWN" light may display on the upper EICAS.
			(b) Momentarily push the captain's or first officer's WARNING light.
			1) Make sure that the two master warning lights go off.
		(4)	Release the CONFIG switch.
		(5)	Close this P11 panel circuit breaker:
			(a) 11B18, WARN ELEX B
		(6)	Open this P11 panel circuit breaker:
			(a) 11J34, WARN ELEX A
		(7)	Make sure that the WARNING and CONFIG lights are off.
		(8)	Push and hold the CONFIG switch on the miscellaneous test panel in the LDG position.
			(a) Make sure that the WARNING lights and CONFIG light come on.
			(b) Momentarily push the captain's or first officer's WARNING light.
			1) Make sure that the two master warning lights go off.
		(9)	Release the CONFIG switch.
		(10)	Make sure that the WARNING and CONFIG lights go off.
		(11)	Close this P11 panel circuit breaker:
			(a) 11J34, WARN ELEX A
		F. Bell	/Chime Aural Warning Card Module Test
		(1)	Make sure that these P11 panel circuit breakers are closed:
			(a) 11B10, WW FIRE/DUCT LEAK 1
			(b) 11B33, WW FIRE IND

EFFECTIVITY

31-004-01

#### SAS BOEING 767 TASK CARD

MECH	INSP	
		(2) Open this P11 circuit breaker:
		(a) 11B18, WARN ELEX B
		(3) Push and hold the WHEEL WELL test switch on the aft electronic control panel.
		(a) Make sure that the fire bell aural warning comes on.
		1) ALL SAS AIRPLANES;
		the fire bell sequence is 0.8 second on and 9.2 seconds off.
		2) ALL MTH AIRPLANES;
		the fire bell sequence is 2 seconds on and 3 seconds off.
		(4) Release the WHEEL WELL switch.
		(a) Make sure that the fire bell aural warning goes off.

- (5) Close this P11 panel circuit breaker:
  - (a) 11B18, WARN ELEX B
- G. Siren/Owl Card Module Test
  - (1) Make sure these P11 panel circuit breakers are closed:

NOTE: Do not continue for a minimum of 20 seconds.

- (a) 11B16, AURAL WARN SPKR L
- (b) 11B18, WARN ELEX B
- (c) 11H35, AURAL WARN SPKR R
- (d) 11J34, WARN ELEX A
- (2) Make sure the parking brake is engaged.
  - (a) Make sure the EICAS message, PARKING BRAKE, shows in yellow on the top EICAS display.

EFFECTIVITY	OPERATIONAL	WARNING ELE	CTRONICS	UNIT	CARD MODULE
	31-51-04-4A	31-004-01	PAGE	4 OF	8 APR 22/08

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31-004-01

AIRLINE CARD NO.

# SAS BOEING TASK CARD

MECH INSP

- (3) On the right side panel, P61, momentarily push the TEST switch on the EICAS MAINT panel.
  - Make sure you hear the siren aural warning from the captain's and first officer's speakers.

The siren comes on for approximately 4 seconds at a NOTE: time.

Make sure you hear the owl aural warning from the captain's and first officer's speakers.

NOTE: The owl comes on for approximately 1 second at a time.

- (c) Make sure the master WARNING lights on the glareshield come on.
- On the EICAS MAINT panel, momentarily push the TEST switch to remove electrical power from the test circuits.
  - (a) Make sure the siren goes off.
  - (b) Make sure the owl goes off.
  - (c) Make sure the master WARNING lights go off.
- Landing Configuration Warning Card Module Test
  - (1) Make sure the Radio Altimeter is operational (Ref 34-33-00/501).
  - Make sure the red CONFIG light on the center instrument panel is (2) off.
  - (3) If the master WARNING lights are on, push the captain's or first officer's WARNING switch-light.
  - (4) Hold the CONFIG switch on the TEST panel in the LDG position.
    - (a) Make sure the red CONFIG light comes on.
    - (b) Make sure the master WARNING lights come on.
    - (c) Make sure you hear the siren aural warning.
    - (d) Make sure the EICAS message, GEAR NOT DOWN, shows on the top display.

**EFFECTIVITY** 

OPERATIONAL

WARNING ELECTRONICS UNIT CARD MODULE

31-51-04-4A

31-004-01

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31-004-01

AIRLINE CARD NO.



MECH INSP

- (5) Release the CONFIG switch.
- I. Takeoff Configuration Warning Card Module Test
  - (1) Set the parking brake to the ON position.
  - (2) Make sure this EICAS message, PARKING BRAKE, shows on the top display.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM ALL CONTROL SURFACES WHEN HYDRAULIC POWER IS SUPPLIED. AILERONS, ELEVATORS, RUDDER, FLAPS, SLATS, SPOILERS, AND STABILIZER ARE FULLY POWERED SURFACES. INJURY OR DAMAGE CAN OCCUR WHEN HYDRAULIC POWER IS SUPPLIED.

- (3) Supply hydraulic power (AMM 29-11-00/201).
- (4) Set the flaps to the O position.
- (5) Move the stabilizer out of the green band area.
- (6) Put the SPEED BRAKE lever in the UP position.
- (7) Make sure that the red CONFIG light is off.
- (8) Push the captain's and first officer's WARNING lights if they are illuminated.
- (9) Make sure that these red EICAS messages do not show:
  - (a) SPOILERS
  - (b) FLAPS
  - (c) PARKING BRAKE
  - (d) STABILIZER
- (10) Push and hold the CONFIG switch in the T/O position.
  - (a) Make sure that the red CONFIG light, WARNING lights, and siren aural warning come on.
  - (b) Make sure that the red PARKING BRAKE, SPOILERS, FLAP, and STABILIZER messages show on the EICAS display unit.

**EFFECTIVITY** 

OPERATIONAL

WARNING ELECTRONICS UNIT CARD MODULE

31-51-04-4A

31-004-01

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31-004-01

AIRLINE CARD NO.

SAS BOEING
767
TASK CARD

TASK CARD MECH INSP (11) Release the CONFIG switch. (12) Return the stabilizer to the green band area. (13) Put the SPEED BRAKE lever in the DOWN position. (14) Remove hydraulic power (AMM 29-11-00/201). J. Put the Airplane Back to Its Usual Condition (1) Remove electrical power if it is not necessary (Ref 24-22-00).

**EFFECTIVITY** 

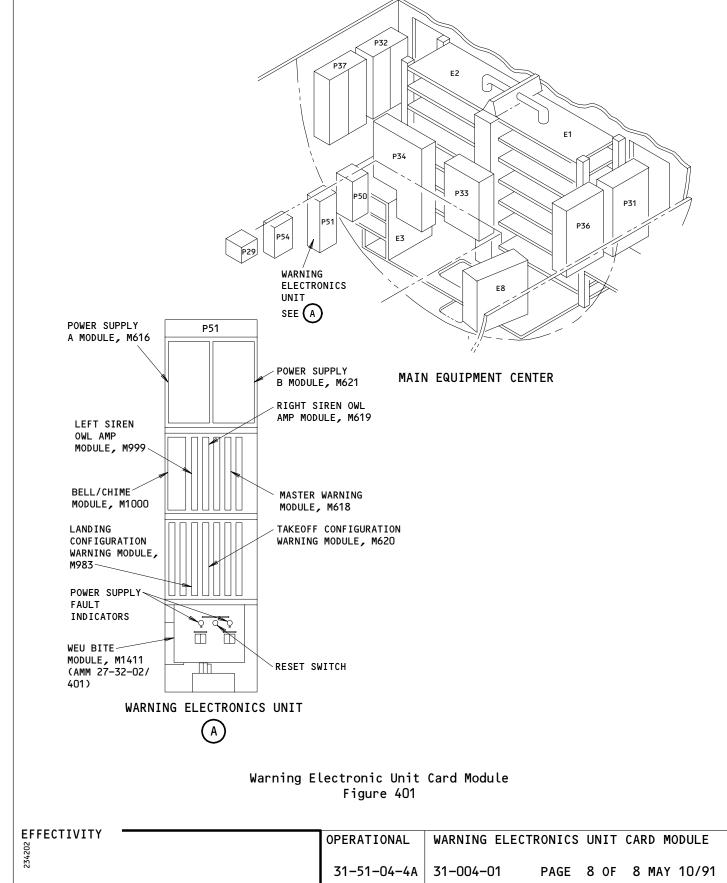
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31-004-01

AIRLINE CARD NO.

BOEING SAS 767

TASK CARD



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STATION	
TAIL NO.	
DATE	

WORK AREA



BOEING CARD NO.
31-007-01

AIRLINE CARD NO.

TASK CARD

MPD

PHASE

AVION CREW CABIN

TASK

TITLE

REV

REVISION

003SC

006 APR 22/05

STRUCTURAL ILLUSTRATION REFERENCE

AIPPLICABILITY
AIRPLANE
ENGINE

OPERATIONAL EICAS MAINTENANCE MESSAGES

NOTE ALL

ZONES ACCESS PANELS

212

SKILL

MECH INSP MPD ITEM NUMBER

PERFORM A READOUT OF ALL EICAS MAINTENANCE MESSAGES BY PRESSING THE ECS/MSG DISPLAY SELECT SWITCH.

31-41-00-2A

AIRPLANE NOTE: THIS TASK IS APPLICABLE TO ALL 767 MODELS EXCEPT THE 767-400ER.

(#) CMR AND MSG-3 DEVELOPED FREQUENCY IS 100 HOURS.

THIS TASK INCLUDES THE REQUIREMENTS OF MPD ITEM 31-41-00-2B.

- 1. EICAS Maintenance and EPCS Messages
  - A. References
    - (1) AMM 24-22-00/201, Electrical Power Control
  - B. Procedure
    - (1) Supply electrical power (AMM 24-22-00/201).
    - (2) Make sure that the EICAS circuit breakers that follow are closed:
      - (a) 11J2, EICAS CMPTR LEFT
      - (b) 11J3, EICAS UPPER DSPL
      - (c) 11J29, EICAS CMPTR RIGHT
      - (d) 11J30, EICAS LOWER DSPL
      - (e) 11J31, EICAS DSPL SW
      - (f) 11J32, EICAS DSPL SELECT
    - (3) Do the steps that follow to show all the EICAS maintenance messages:

OPERATIONAL EICAS MAINTENANCE MESSAGES

31-41-00-2A 31-007-01 PAGE 1 OF 2 APR 22/05

31-007-01

AIRLINE CARD NO.

				TASK CARD	
MECH	INSP				
			(a)	Push the ECS/MSG switch on the EICAS MAINT panel or side panel, P61, to show the ECS MSG page and the maintenance messages.	
			(b)	If PAGE 1 shows, push the ECS MSG switch again.	
			(c)	Continue to push the ECS MSG switch as necessary to additional pages.	see all the
			(d)	After all of the pages of messages show, the ECS MSG show without the message list. Push the ECS MSG swood to go back to the secondary engine page.	
		(4)	Do t	he steps that follow to show all the EICAS EPCS mess	sages:
			(a)	Push the EPCS switch to show the EPCS page and the of EPCS messages.	first page
			(b)	If PAGE 1 shows, push the EPCS switch again.	
			(c)	Continue to push the EPCS switch as necessary to seadditional pages.	e all the
			(d)	After all of the pages of messages show, the EPCS parts show without the message list. Push the EPCS switch go back to the secondary engine page.	
				NOTE: Additional data on the EPCS is included in A	MMM 77-35-00.
		(5)	Remo	ve electrical power if it is not necessary (AMM 24–2	22-00/201).

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STA	TION						BOE	ING CAR	D NO.
TAIL NO.			7	S BOEIL	NG		31-0	08–0′	1
			SAS &	767			AIRI	LINE CAR	D NO.
D.	ATE	`		TASK CAR	, n				
				IASK CAR	ά <b>υ</b>				
SKILL	WORK ARE	EA F	ELATED TASK	INTERV	AL	PHASE	MPD REV		SK CARD VISION
AVION	CREW CA	BIN		10800 HRS	(#)	12121	012	APR	22/06
TAS	K		TITLE		STRUCTURAL ILLUSTRATION RE	FERENCE	APPLICABILITY		
OPERA	TIONAL	RIGHT EIG	CAS COMPUTER				AIRPLAN	ΙE	ENGINE
							NOT	E	ALL
	ZONES				ACCESS PANELS				•
212									

MECH INSP

MPD ITEM NUMBER

OPERATIONALLY CHECK (INCLUDING L-R SWITCHING) THE RIGHT EICAS COMPUTER (IF NOT CHECKED BY CREW).

(#) CMR FREQUENCY IS 10800 HOURS.

31-41-02-4A

AIRPLANE NOTE: APPLICABLE TO ALL 767 AIRPLANES EXCEPT THE 767-400ER.

- (1) Supply electrical power (AMM 24-22-00/201).
- (2) Make sure that these P11 panel circuit breakers are closed:
  - (a) 11J2, EICAS CMPTR L
  - (b) 11J29, EICAS CMPTR R
- (3) Make sure these conditions exist before you verify the software configuration:
  - (a) The airplane is on the ground,
  - (b) The engines are off and,
  - (c) The parking brake is set.
- (4) Do these steps to make sure that the correct software is installed:

NOTE: Make sure you know the correct software part number for the EICAS computer you will check. For the EICAS computer to be an approved installation, the correct software must be checked.

- (a) Press the CONF/MCDP switch on the EICAS MAINT panel (P61).
- (b) If the correct OPS software does not show, install the correct OPS (AMM 31-41-02/201).

OPERATIONAL RIGHT EICAS COMPUTER

31-41-02-4A 31-008-01 PAGE 1 OF 3 APR 22/06

31-008-01

### () BOEING 767 TASK CARD

MECH INSP

- (5) Do the AUTO EVENT, MAN EVENT, and ENG EXCD Erase Procedures (AMM 31-41-00/201).
- (6) Do the EICAS Computer Test procedure.

#### **EICAS Computer Test**

- A. References
  - (1) AMM 24-22-00/201, Electrical Power Control
- В. Access
  - (1) Location Zones 119/120 Main Equipment Center 211/212 Flight Compartment
- Procedure C.
  - (1) Supply electrical power (AMM 24-22-00/201).
  - Make sure that the EICAS circuit breakers that follow are closed: (2)
    - (a) 11J2, EICAS CMPTR LEFT
    - (b) 11J3, EICAS UPPER DSPL
    - (c) 11J29, EICAS CMPTR RIGHT
    - (d) 11J30, EICAS LOWER DSPL
    - (e) 11J31, EICAS DSPL SW
    - (f) 11J32, EICAS DSPL SELECT
  - (3) Turn the COMPUTER switch on the EICAS DISPLAY select panel to the L or R position as applicable.
  - Make sure that the top display shows the engine primary page and the bottom display shows the engine secondary page.
  - (5) Make sure that the parking brake is engaged.
  - (6) Push and release the TEST switch on the EICAS MAINT panel, P61.
  - (7) Make sure that the TEST page shows on both displays.

**EFFECTIVITY** OPERATIONAL RIGHT EICAS COMPUTER 31-41-02-4A 31-008-01 PAGE 2 OF 3 DEC 22/02

31-008-01

#### BOEING 767 TASK CARD

MECH INSP

- (8) Continue after the message TEST IN PROGRESS goes out of view.
- If the message X INTERNAL FAULTS shows, do the EICAS BITE procedure (FIM 31-41-00/101).
- Make sure that the EICAS program pin codes that follow show for the left (right) computer as applicable:
  - SAS 050-051,150-157,162-167,275-278,280-281; 5A20 (5221)
- (11) Turn the COMPUTER switch on the EICAS DISPLAY select-panel to the other computer.
- Make sure that the EICAS program pin code for the other computer is correct.

NOTE: The codes for both computers are given before this step.

- (13) Make sure the the CMPTR FAIL messages do not show.
- (14) Push and release the left master CAUTION switch/light.
- (15) Push and release the TEST switch to go out of the TEST mode.
- D. Put the Airplane Back to Its Usual Condition
  - (1) Remove electrical power if it is not necessary (AMM 24-22-00/201).

**EFFECTIVITY** 

OPERATIONAL

RIGHT EICAS COMPUTER

31-41-02-4A

31-008-01

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STATION
TAIL NO.
DATE

WORK AREA



BOEING CARD NO.
31-009-01

AIRLINE CARD NO.

TASK CARD

MPD

PHASE

AVION CREW CABIN

TASK

TITLE

REV REVISION

10303 012 AUG 22/01

STRUCTURAL ILLUSTRATION REFERENCE APPLICABILITY
AIRPLANE ENGINE

INTERVAL

CLEAN/INSP EICAS DISPLAY UNIT AIR INLET SCREEN NOTE ALL

ZONES ACCESS PANELS

RELATED TASK

211

SKILL

MECH INSP MPD ITEM NUMBER

INSPECT THE EICAS DISPLAY UNIT COOLING AIR INLET SCREEN FOR CONTAMINATION AND CLEAN AS REQUIRED.

31-41-01-4A

AIRPLANE NOTE: THIS TASK IS APPLICABLE TO ALL 767 MODELS EXCEPT THE 767-400ER.

- Remove the EICAS Display Unit (Fig. 401)
  - A. References
    - (1) 20-41-01/201, Electrostatic Discharge Sensitive Devices
    - (2) 24-22-00/201, Electrical Power Control
  - B. Procedure
    - (1) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
      - (a) 11J3, EICAS UPPER DSPL
      - (b) 11J30, EICAS LOWER DSPL

CAUTION: DO NOT MOVE THE EICAS DISPLAY UNITS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (AMM 20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE EICAS DISPLAY UNITS.

(2) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-01).

CLEAN/INSP EICAS DISPLAY UNIT AIR INLET SCREEN

31-41-01-4A 31-009-01 PAGE 1 OF 5 AUG 22/01

31-009-01

AIRLINE CARD NO.

SAS FOR TASK CARD

MECH INSP

CAUTION: DO NOT PULL THE CRT HANDLE. THE HANDLE TURNS OUT AUTOMATICALLY WHEN THE SPRING IS RELEASED. HOLD THE HANDLE UNTIL IT IS COMPLETELY RELEASED FROM THE SCREWS. YOU CAN CAUSE DAMAGE TO THE HANDLE IF YOU TURN IT OUT BEFORE IT IS RELEASED FROM THE SCREWS.

- (3) Hold the handle in the flat position against the unit.
- (4) Loosen the handle screws at the top left and bottom left corners of the display unit.

NOTE: Do not completely remove the handle screws.

(5) Pull the handle out and to the right.

NOTE: If the handle is not fully extended when you remove the CRT, springs installed in the instrument panel can come out.

- (6) Carefully pull the display unit from the center instrument panel, P2.
- Install the EICAS Display Unit (Fig. 401)
  - A. References
    - (1) 20-41-01/201, Electrostatic Discharge Sensitive Devices
    - (2) 24-22-00/201, Electrical Power Control
    - (3) 34-22-00/201, Cathode Ray Tube (CRT)
  - B. Procedure
    - (1) Make sure that these P11 panel circuit breakers are open:
      - (a) 11J3, EICAS UPPER DSPL
      - (b) 11J30, EICAS LOWER DSPL

31-009-01

71-007-01

SAS FOEING
767
TASK CARD

AIRLINE CARD NO.

N	ECH INSP	
		CAUTION: DO NOT MOVE THE EICAS DISPLAY UNITS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (AMM 20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE EICAS DISPLAY UNITS.
		(2) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-01).
		(3) Clean the cooling air inlet screen at the rear of the display unit as necessary (Fig. 401).
		(4) Make sure that the handle is in the fully extended position.
		(5) Carefully move the display unit into the correct position.
		CAUTION: HOLD THE CRT HANDLE IN THE FLAT POSITION AGAINST THE UNIT WHILE YOU TURN THE SCREWS IN. YOU CAN CAUSE DAMAGE TO THE HANDLE IF YOU DO NOT HOLD IT UNTIL THE SCREWS ARE TIGHT.
		(6) Turn and hold the CRT handle to the left and into the flat position.
		CAUTION: DO NOT TIGHTEN THE SCREWS TOO MUCH. TOO MUCH PRESSURE CAN DAMAGE THE THREADS.
		(7) Tighten the CRT handle screws.
		(8) Remove the DO-NOT-CLOSE tags an close these circuit breakers on the P11 panel:
		(a) 11J3, EICAS UPPER DSPL

- C. Display Unit Test
  - (1) Make sure the EICAS circuit breakers that follow are closed:
    - (a) 11J2, EICAS CMPTR LEFT

(b) 11J30, EICAS LOWER DSPL

(b) 11J3, EICAS UPPER DSPL

	_				
EFFECTIVITY	CLEAN/INSP	EICAS DISPLAY	UNIT	AIR IN	ILET SCREEN
	31-41-01-4A	31-009-01	PAGE	3 OF	5 AUG 22/01

31-009-01

AIRLINE CARD NO.



MECH INSP (c) 11J29, EICAS CMPTR RIGHT (d) 11J30, EICAS LOWER DSPL (e) 11J31, EICAS DSPL SW (f) 11J32, EICAS DSPL SELECT (2) Supply electrical power (AMM 24-22-00). (3) Make sure that the airplane parking brake is engaged. (4) Push and release the TEST switch on the EICAS MAINT panel. (5) Make sure that the TEST page shows on the display units. After TEST IN PROGRESS message goes out of view, make sure that the UPPER DU FAIL and the LOWER DU FAIL messages do not show. (7) Push and release the TEST switch to go out of the TEST page. Put the Airplane Back to Its Usual Condition (1) Push and release the left master CAUTION switch/light. (2) Clean the CRT face (AMM 34-22-00). (3) Remove the electrical power if it is not necessary (AMM 24-22-00).

CLEAN/INSP EICAS DISPLAY UNIT AIR INLET SCREEN

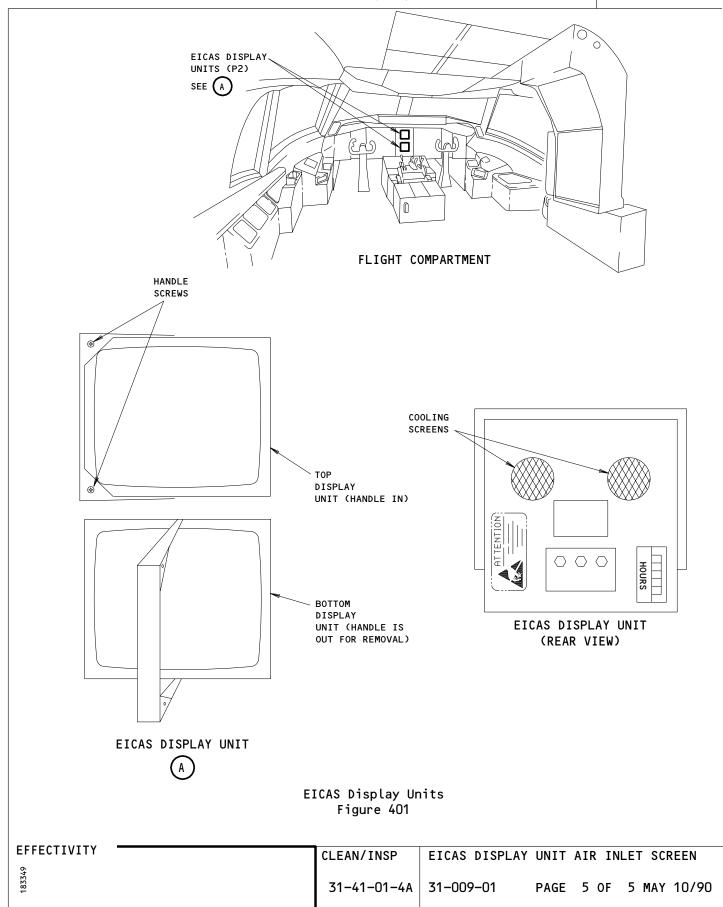
31-41-01-4A 31-009-01 PAGE 4 OF 5 MAY 10/91

31-009-01

AIRLINE CARD NO.

SAS

767 TASK CARD



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STA	TION
TAI	L NO.
D	ATE
SKILL	WORK AREA



BOEING CARD NO.
31-051-01

AIRLINE CARD NO.

TASK CARD

MPD

PHASE

ELECT CREW CABIN

TASK

TITLE

REV REVISION

11212 009 DEC 22/08

STRUCTURAL ILLUSTRATION REFERENCE APPLICABILITY
AIRPLANE ENGINE

INTERVAL

OPERATIONAL TAKE-OFF WARNING SYSTEM

NOTE ALL

ZONES ACCESS PANELS

119 211 212 312

119AL 312AR

RELATED TASK

MECH INSP MPD ITEM NUMBER

OPERATIONALLY CHECK TAKE-OFF WARNING SYSTEM.

31-51-00-5B

AIRPLANE NOTE: THIS TASK IS APPLICABLE TO ALL AIRPLANE MODELS EXCEPT THE 767-400ER, 767-200SF, AND 767-300BCF.

Takeoff Configuration Warning Test

NOTE: This is a scheduled maintenance task.

- A. References
  - (1) AMM 24-22-00/201, Electrical Power Control
  - (2) AMM 27-48-00/501, Stabilizer Trim Position Indicating System
  - (3) AMM 29-11-00/201, Pressurize/Depressurize Main Hydraulic System
  - (4) AMM 31-41-00/501, Engine Indication and Crew Alerting System (EICAS)
  - (5) AMM 32-09-02/201, Air/Ground Relays
- B. Access
  - (1) Location Zones

211/212 Flight Compartment

- C. Prepare for Test
  - (1) Supply electrical power (AMM 24-22-00/201).
  - (2) Make sure the EICAS operates (AMM 31-41-00/501).

OPERATIONAL TAKE-OFF WARNING SYSTEM

31-51-00-5B 31-051-01 PAGE 1 OF 11 DEC 22/08

SAS BOEING TASK CARD

AIRLINE CARD NO.

- Takeoff Configuration Warning Signals Test
  - (1) Open these P11 panel circuit breakers:
    - (a) 11J34, WARN ELEX A
    - (b) 11B18, WARN ELEX B
    - (c) 11J29, EICAS CMPTR R
  - (2) Set the COMPUTER switch on the EICAS control panel to the L position.
  - (3) Set the left and right engine throttles fully forward to the takeoff position.
    - (a) Make sure the siren aural warning is not on.
    - (b) Make sure the red CONFIG light is not on.
    - (c) Make sure the WARNING lights are not on.

NOTE: If the WARNING lights are on, push the captain's or first officer's WARNING switch-light.

- Make sure these red EICAS messages do not show on the EICAS display:
  - SPOILERS
  - 2) FLAPS
  - 3) PARKING BRAKE
  - 4) STABILIZER
- (4) Close this P11 panel circuit breaker:
  - (a) 11J34, WARN ELEX A

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

**EFFECTIVITY** 

OPERATIONAL TAKE-OFF WARNING SYSTEM

31-051-01

PAGE 2 OF 11 AUG 22/01

31-051-01

BOEING 767 TASK CARD

MECH INSP

- (5) Supply hydraulic power to the center system (AMM 29-11-00/201).
- (6) Do these steps to set the airplane in the takeoff configuration:
  - (a) 767-200 AIRPLANES; Set the flap lever to the takeoff position between 1 and 20 units.
  - (b) 767-300 AIRPLANES; Set the flap lever to the takeoff position between 5 and 20 units.
  - Make sure the LE ALTN and TE ALTN switch indicators are in the normal positions (lights off).
  - (d) Make sure the ALTN FLAPS switch is in the NORM position.
  - (e) Make sure the parking brake is off.
  - (f) Make sure the STAB TRIM indicator is in the green band range.
  - (g) Make sure the SPEED BRAKE control is in the DOWN position.
- Hold the CONFIG switch on the TEST panel in the T/O position.
  - (a) Make sure the red CONFIG light is not on.
  - (b) Make sure the WARNING lights are off.
  - (c) Make sure the siren aural warning is not on.
  - (d) Make sure these red EICAS messages do not show on the EICAS display:
    - 1) SPOILERS
    - 2) FLAPS
    - 3) PARKING BRAKE
    - 4) STABILIZER
- (8) Release the CONFIG switch.
- (9) Set the parking brake to on.
- Power Supply Interface Test

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MECH INSP	
	(1) Push the TEST switch on the EICAS MAINT control panel:
	(a) Make sure the red CONFIG light comes on.
	(b) Make sure the WARNING lights come on.
	(c) Make sure the siren aural warning comes on during the test.
	(2) Push the TEST switch on the EICAS MAINT control panel again in less than 3 seconds to cancel the EICAS test.
	(a) Make sure the EICAS message, PARKING BRAKE, shows on the EICAS display.
	NOTE: The red PARKING BRAKE message will show if you push the TEST switch again in less than 6 seconds. After 6 seconds, only the yellow PARKING BRAKE message will show.
	(3) Open these P11 panel circuit breakers:
	(a) 11J2, EICAS CMPTR L
	(b) 11J34, WARN ELEX A
	(4) Close these P11 panel circuit breakers:
	(a) 11B18, WARN ELEX B
	(b) 11J29, EICAS CMPTR R
	(5) Set the COMPUTER switch on the EICAS control panel to the R position.
	(6) Push the TEST switch on the EICAS MAINT control panel:
	(a) Make sure the red CONFIG light comes on.
	(b) Make sure the WARNING lights come on.
	(c) Make sure the siren aural warning comes on during the test.
	(7) Push the TEST switch on the EICAS MAINT control panel again in less than 3 seconds to cancel the EICAS test.

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SAS BOEING TASK CARD

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Make sure the EICAS message, PARKING BRAKE, shows on the EICAS display.

NOTE: The red PARKING BRAKE message will show if you push the TEST switch again in less than 6 seconds. After 6 seconds, only the yellow PARKING BRAKE message will show.

- (8) Close these P11 panel circuit breakers:
  - (a) 11J2, EICAS CMPTR L
  - (b) 11J34, WARN ELEX A
- F. Parking Brake Interface Test

NOTE: During this test you will do a check for EICAS messages. The EICAS messages will show for only 5-15 seconds from when you hold the CONFIG switch in the T/O position.

- (1) Set the parking brake to off.
- (2) Hold the CONFIG switch on the TEST panel in the T/O position.
  - Make sure the EICAS message, PARKING BRAKE, does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
- (3) Release the CONFIG switch.
- (4) Set the parking brake to on.
- Flaps, Slats, and Disagree Interface Test

KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL WARNING: SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (1) Supply hydraulic power to the center system (AMM 29-11-00/201).
- Make sure the LE ALTN and TE ALTN switch indicators are in the normal position (lights off).

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AIRLINE CARD NO.

# SAS FOR TASK CARD

MECH INSP

- (3) Set the flap lever to the 5-unit position.
  - (a) Let the flaps and slats move to the 5-unit position.
- (4) Make sure the ALTN FLAPS switch is in the NORM position.
- (5) Remove hydraulic power from the center system (AMM 29-11-00/201).
- (6) Hold the CONFIG switch on the P61 TEST panel in the T/O position.
  - (a) Make sure the EICAS message, FLAPS, does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
- (7) Release the CONFIG switch.
- (8) Set the flap lever to the 15-unit position.

NOTE: The flaps and slats will stay at the 5-unit position.

- (9) Hold the CONFIG switch on the P61 test panel in the T/O position.
  - (a) Make sure the EICAS message, FLAPS, shows on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
- (10) Release the CONFIG switch.

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (11) Supply hydraulic power to the center system (AMM 29-11-00/201).
  - (a) Let the flaps and slats move to the 15-unit position.
- (12) Put the LE switch in the ALTN position.
- (13) Put the flap lever in the 25-unit position.
  - (a) Let the flaps move to the 25-unit position.
- (14) Hold the CONFIG switch on the P61 test panel in the T/O position.

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			(a) Make sure the EICAS message, FLAPS, shows on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
		(15)	Release the CONFIG switch.
		(16)	Put the LE ALTN switch in the normal position (light off).
			(a) Let the slats move to the 25-unit position.
		(17)	Put the LE ALTN switch in the ALTN position.
		(18)	Put the flap lever in the 5-unit position.
			(a) Let the flaps move to the 5-unit position.
		(19)	Hold the CONFIG switch on the TEST panel in the T/O position.
			(a) Make sure the EICAS message, FLAPS, shows on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
		(20)	Release the CONFIG switch.
		(21)	Put the LE ALTN switch in the normal position (light off).
			(a) Let the slats move to the 5-unit position.
		(22)	Set the flap lever to the O-unit position.
			(a) Let the flaps and slats move to the fully retracted position.
		(23)	Set the flap lever to the 1-unit position.
			(a) Let the slats move to the 1-unit position.
		(24)	Hold the CONFIG switch on the P61 test panel in the T/O position.
			(a) 767-200 AIRPLANES; Make sure the EICAS message, FLAPS, does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
			(b) 767-300 AIRPLANES; Make sure the EICAS message, FLAPS, shows on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
		(25)	Release the CONFIG switch.
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767
TASK CARD

MECH INSP

- (26) Put the flap lever in the 5-unit position.
  - (a) Let the flaps move to the 5-unit position.
- (27) Hold the CONFIG switch on the TEST panel in the T/O position.
  - (a) Make sure the EICAS message, FLAPS, does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
- (28) Release the CONFIG switch.
- (29) Set the flap lever to 0-unit position.
  - (a) Let the flaps and slats move to the fully retracted position.
  - (b) Hold the CONFIG switch on the TEST panel in the T/O position.
    - Make sure the EICAS message, FLAPS, shows on the EICAS display when EICAS COMPUTER switch is in the L and R position.
- H. Spoiler Interface Test
  - (1) Make sure the SPEED BRAKE lever is in the DOWN position.
  - (2) Hold the CONFIG switch on the P61 test panel in the T/O position.
    - (a) Make sure the red EICAS message, SPOILERS, message does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
  - (3) Release the CONFIG switch.
  - (4) Put the SPEED BRAKE lever in the UP position.
  - (5) Hold the CONFIG switch on the TEST panel in the T/O position.
    - (a) Make sure the red EICAS message, SPOILERS, shows on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
  - (6) Release the CONFIG switch.
  - (7) Put the SPEED BRAKE lever in the DOWN position.
- I. Air/Ground Relay Interface Test

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SAS BOEING 767 TASK CARD

AIRLINE CARD NO.

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WARNING: PREPARE THE SAFETY-SENSITIVE SYSTEMS FOR THE AIR MODE BEFORE YOU OPEN THE AIR/GROUND CIRCUIT BREAKERS. IN THE AIR MODE, MANY OF THE AIRPLANE SYSTEMS CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Prepare the safety-sensitive systems for air mode simulation (AMM 32-09-02/201).
- (2) Open these P11 panel circuit breakers:
  - (a) 11C29, LANDING GEAR POSITION AIR/GND SYS 2 ALT (if installed)
  - (b) 11U23 OR 11U24, LANDING GEAR POSITION AIR/GND SYS 2
- (3) Hold the CONFIG switch on the P61 test panel in the T/O position.
  - (a) Make sure that these red EICAS messages do not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
    - 1) SPOILERS
    - 2) FLAPS
    - 3) PARKING BRAKE
    - 4) STABILIZER
- (4) Close these P11 panel circuit breakers:
  - (a) 11C29, LANDING GEAR POSITION AIR/GND SYS 2 ALT (if installed)
  - (b) 11U23 OR 11U24, LANDING GEAR POSITION AIR/GND SYS 2
- J. Stabilizer Interface Test

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Supply hydraulic power to the center system (AMM 29-11-00/201).

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# SAS BOEING TASK CARD

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- (2) Set the flap lever to the 5-unit position.
  - (a) Let the flaps and slats move to the 5-unit positon.
- Make sure the LE ALTN and TE ALTN switch indicators are in the normal positions (lights off).
- Make sure the L and C STAB TRIM shut off switches on the aisle control stand are in the NORM positions.
- Use the control wheel STAB TRIM controls to move the stabilizer such that the stabilizer trim position indicator is in the green band (AMM 27-48-00/501).
- (6) Hold the CONFIG switch on the P61 test panel in the T/O position.
  - Make sure the EICAS message, STABILIZER, does not show on the EICAS display when the EICAS COMPUTER switch is in the L and R positions.
- (7) Release the CONFIG switch.
- Use the control wheel STAB TRIM controls to move the stabilizer such that the stabilizer trim position indicator is equal or greater than 1/2 unit "NOSE UP" of the trim outside the green band.
- (9) Hold the CONFIG switch on the P61 test panel in the T/O position.
  - Make sure the EICAS message, STABILIZER, shows on the EICAS display when the EICAS COMPUTER switch is in the L and then R positions.
- (10) Release the CONFIG switch.
- Put the Airplane Back to Its Usual Condition
  - (1) Return the flaps and slats to their usual position.
  - (2) Set the parking brake to on.
  - (3) Set the left and right engine throttles to the idle positions.
  - (4) Put the safety-sensitive systems back to the initial conditions (AMM 32-09-02/201).
  - (5) Remove hydraulic power from the center system if it is not necessary (AMM 29-11-00/201).

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			(6)	Remove electrical p (AMM 24-22-00/201).	ower if it is	not necessary		
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