CHAPTER

31

INDICATING/ RECORDING SYSTEMS

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INDICATING/RECORDING SYSTEMS

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

31-EFFECTIVE PAGES

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		AURAL WARNING SYSTEM			**31-010-00-01**
DATE	TASK				RELATED CARD
	FUNCTIONAL				
TAIL NUMBER	WORK AREA	VERSION	THRESHOLD	REPEAT	APPLICABILITY
	CREW CABIN	**1.1**	**15000 FH**	**15000 FH**	AIRPLANE **ALL** ENGINE **ALL**
STATION	SKILL				
	AVION				
		ACCESS			ZONE
					211 212

Functional check of the aural warning module (AWM) using bite check.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-010-00-01

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TASK 31-51-00-740-801

1. Aural Warning Module BITE Test

A. General

(1) The BITE does an operational check of the two channels within the aural warning module. You need to do a test of channel A and channel B separately. Failure of this BITE test indicates a failure of the module only.

B. Procedure

SUBTASK 31-51-00-860-001

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 31-51-00-860-002

(2) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	18	C00451	LANDING GEAR AURAL WARN

SUBTASK 31-51-00-740-001

(3) Do the channel A BITE test as follows:

(a) Turn and hold the ROTATE TO TEST switch on top of the aural warning module to the A position.

1) Make sure you hear the intermittent horn.

(b) Release the ROTATE TO TEST switch.

1) Make sure you hear the clacker for approximately 5 seconds.

SUBTASK 31-51-00-740-002

(4) Do the channel B BITE test as follows:

(a) Turn and hold the ROTATE TO TEST switch on top of the aural warning module to the B position.

1) Make sure you hear the intermittent horn.

(b) Release the ROTATE TO TEST switch.

1) Make sure you hear the clacker for approximately 5 seconds.

C. Put the Airplane Back to Its Usual Condition

SUBTASK 31-51-00-860-003

(1) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		CABIN PRESSURE SWITCH			**31-020-00-01**
DATE	TASK **FUNCTIONAL**				RELATED CARD
TAIL NUMBER	WORK AREA **LWR FUSELAGE**	VERSION **1.1**	THRESHOLD **6000 FH**	REPEAT **6000 FH**	APPLICABILITY AIRPLANE **ALL** ENGINE **ALL**
STATION	SKILL **AVION**				
		ACCESS **112A**			ZONE **112**

Functional check of the cabin pressure switch.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1914	Test Set - Air Data Model FLMTS (Flight Line Maintenance) Part #: 18910920000 Supplier: 89944 Part #: ADTS405F Supplier: U0427 Part #: ADTS530 Supplier: U0427 Part #: ADTS552F Supplier: U0427 Part #: D60340MK Supplier: K1474 Part #: DPS1000 Supplier: 21844 Part #: DPS350 Supplier: 21844 Part #: DPS450 Supplier: 21844 Part #: MODEL 6300 Supplier: 0RDZ5 Part #: MPS34C Supplier: 48RQ2 Part #: MPS43 Supplier: A0197 Part #: MPS45 Supplier: 48RQ2 Part #: MPS49 Supplier: 48RQ2 Part #: TES9463 Supplier: 88277 Opt Part #: 01-0987-00 Supplier: 41364 Opt Part #: 18910480000 Supplier: 89944 Opt Part #: ADTS505 Supplier: U0427 Opt Part #: D60302 Supplier: K1474 Opt Part #: D60340 Supplier: K1474 Opt Part #: D60383 Supplier: K1474 Opt Part #: DPS500 Supplier: 21844 Opt Part #: MPS31C Supplier: 48RQ2

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-020-00-01

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TASK 21-33-00-000-801

1. Cabin Altitude Warning Switch Functional Test

(Figure 1)

A. General

B. Prepare for the Test

SUBTASK 21-33-00-860-001

(1) Supply electrical power. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 21-33-00-860-002

(2) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	17	C00129	LANDING GEAR LATCH & PRESS WARN

Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	18	C00451	LANDING GEAR AURAL WARN
E	12	C00314	INDICATOR MASTER DIM SECT 2
F	12	C00318	INDICATOR MASTER DIM SECT 6

SUBTASK 21-33-00-010-001

(3) Open this access panel:

Number	Name/Location
112A	Forward Access Door

C. Cabin Altitude Warning Switch Functional Test

SUBTASK 21-33-00-720-021

(1) Do a test of the cabin altitude warning switch S128 as follows:

(a) Remove the screen port assembly from the cabin altitude warning switch, S128.

(b) Install an adapter fitting on the cabin altitude warning switch, S128.

NOTE: The female threads on the cabin altitude warning switch are 7/16-20-UNJF-3A.

1) If the Air Data Test Set you use does not have an adapter to connect to the cabin altitude warning switch, you can use one of the adapters that follows:

a) Altitude pressure switch adapter kit P/N JAK136 (Consolidated Controls Corp.)

b) AN807-4D Tube to Hose Adapter, AN924-4 nut and appropriate sized O-ring

c) P/N JUD321 Hose Fitting with MS28778-4 O-ring (Eaton Aerospace LLC, Bethel, CT 02750)

(c) Connect the air data model test set, COM-1914, or equivalent, to the adapter fitting.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-020-00-01

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(d) Slowly increase the altitude of the cabin altitude warning switch, S128, and monitor the altimeter.

1) Do not increase the altitude at a rate more than 4000 ft/minute.

(e) Make sure the aural warning signal comes on at an altitude of 9000 to 11,000 feet.

(f) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 come on.

(g) Press the ALT HORN CUTOUT switch on the P5-16 Cabin Pressure Control Panel.

(h) Make sure the aural warning signal goes off.

(i) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 stay on.

(j) Decrease the altitude on the cabin altitude warning switch, S128, to approximately 1700 feet below the altitude at which the aural warning came on.

1) Do not decrease the altitude at a rate more than 4000 ft/minute.

(k) Make sure the CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 go off.

(l) Increase the altitude on the cabin altitude warning switch, S128, while you monitor the altimeter.

1) Do not increase the altitude at a rate more than 4000 ft/minute.

(m) Make sure the aural warning signal comes on again at an altitude of 9000 to 11,000 feet.

(n) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 come on.

(o) Decrease the altitude on the cabin altitude warning switch, S128, to ground level.

1) Do not decrease the altitude at a rate more than 4000 ft/minute.

(p) Make sure the aural warning signal goes off.

(q) Make sure the CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 go off.

(r) Remove the air data model test set, COM-1914, or equivalent, and the adapter fitting from the cabin altitude warning switch, S128.

(s) Install the screen port assembly on the cabin altitude warning switch, S128.

SUBTASK 21-33-00-720-022

(2) Do a test of the cabin altitude warning switch S1153 as follows:

(a) Remove the screen port assembly from the cabin altitude warning switch, S1153.

(b) Install an adapter fitting on the cabin altitude warning switch, S1153.

NOTE: The female threads on the cabin altitude warning switch are 7/16-20-UNJF-3A.

1) If the Air Data Test Set you use does not have an adapter to connect to the cabin altitude warning switch, you can use one of the adapters that follows:

a) Altitude pressure switch adapter kit P/N JAK136 (Consolidated Controls Corp.)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-020-00-01

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b) AN807-4D Tube to Hose Adapter, AN924-4 nut and appropriate sized O-ring

c) P/N JUD321 Hose Fitting with MS28778-4 O-ring (Eaton Aerospace LLC, Bethel, CT 02750)

(c) Connect the air data model test set, COM-1914, or equivalent, to the adapter fitting.

(d) Slowly increase the altitude of the cabin altitude warning switch, S1153, and monitor the altimeter.

1) Do not increase the altitude at a rate more than 4000 ft/minute.

(e) Make sure the aural warning signal comes on at an altitude of 9000 to 11,000 feet.

(f) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 come on.

(g) Press the ALT HORN CUTOUT switch on the P5-16 Cabin Pressure Control Panel.

(h) Make sure the aural warning signal goes off.

(i) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 stay on.

(j) Decrease the altitude on the cabin altitude warning switch, S1153, to approximately 1700 feet below the altitude at which the aural warning came on.

1) Do not decrease the altitude at a rate more than 4000 ft/minute.

(k) Make sure the CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 go off.

(l) Increase the altitude on the cabin altitude warning switch, S1153, while you monitor the altimeter.

1) Do not increase the altitude at a rate more than 4000 ft/minute.

(m) Make sure the aural warning signal comes on again at an altitude of 9000 to 11,000 feet.

(n) Make sure the red CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 come on.

(o) Decrease the altitude on the cabin altitude warning switch, S1153, to ground level.

1) Do not decrease the altitude at a rate more than 4000 ft/minute.

(p) Make sure the aural warning signal goes off.

(q) Make sure the CABIN ALTITUDE indicators on the captain's instrument panel P1-3 and the first officer's instrument panel P3-1 go off.

(r) Remove the air data model test set, COM-1914, or equivalent, and the adapter fitting from the cabin altitude warning switch, S1153.

(s) Install the screen port assembly on the cabin altitude warning switch, S1153.

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D. Put the Airplane Back to Its Usual Condition

SUBTASK 21-33-00-410-002

(1) Close this access panel:

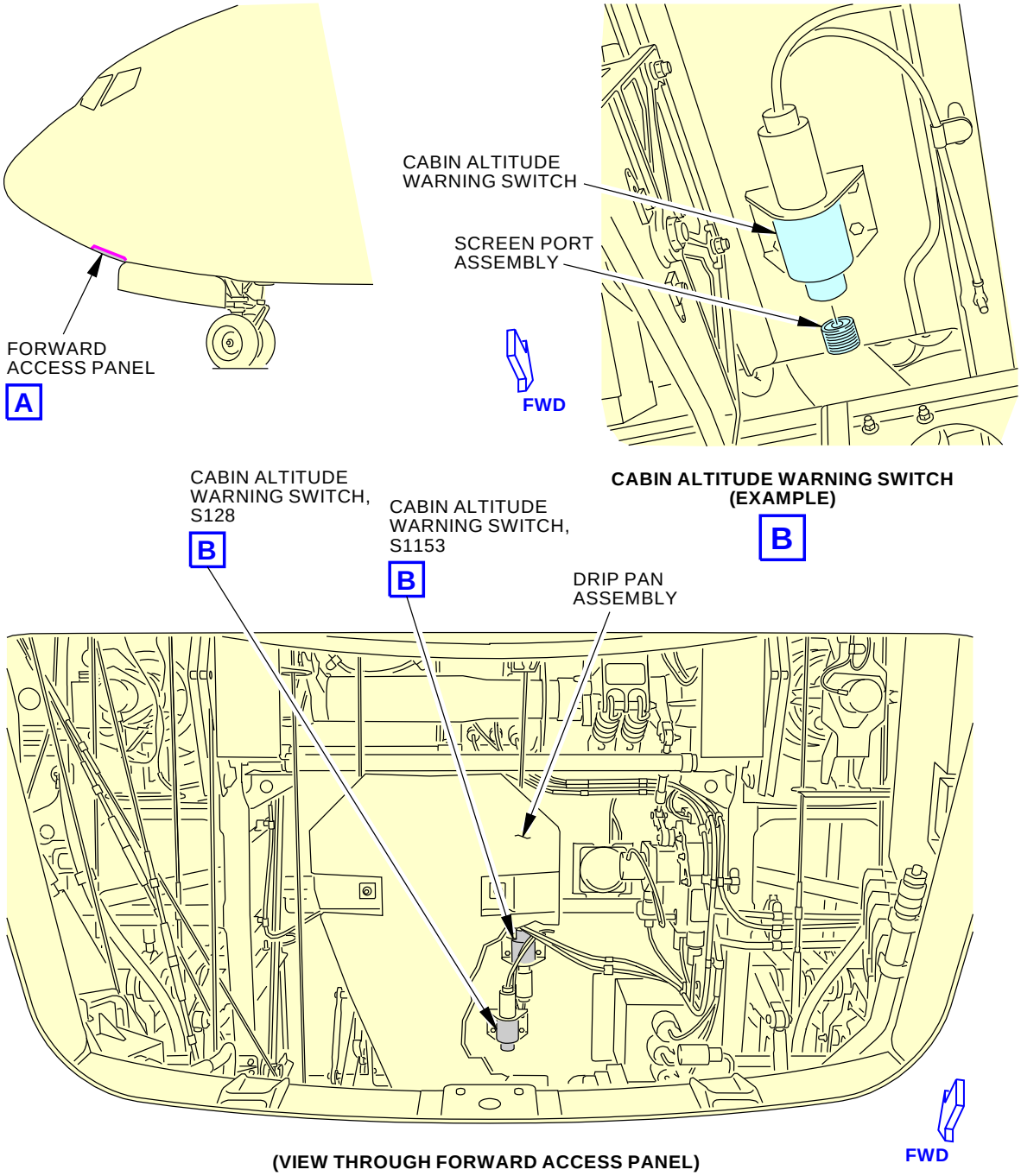
Number	Name/Location
112A	Forward Access Door

SUBTASK 21-33-00-860-003

(2) Remove electrical power if it is not necessary. To remove electrical power, do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-020-00-01



Cabin Altitude Warning Switch Test
Figure 1

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		MACH/AIRSPEED SYSTEM 1 AND 2 DISCRETE OUTPUTS			**31-030-00-01**
DATE	TASK				RELATED CARD
	OPERATIONAL				
TAIL NUMBER	WORK AREA	VERSION	THRESHOLD	REPEAT	APPLICABILITY
	CREW CABIN	**1.1**	**15000 FH**	**15000 FH**	AIRPLANE **ALL** ENGINE **ALL**
STATION	SKILL				
	AVION				
		ACCESS			ZONE **210**

Operational check of mach/airspeed system 1 and 2 discrete outputs for aural warning system.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-030-00-01

MECH	INSP

TASK 34-16-00-730-801

1. Mach Airspeed Warning System - Aural Warning Discrete Output Test

A. Prepare for the Aural Warning Discrete Output Test

SUBTASK 34-16-00-860-002

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

B. Test Procedure

SUBTASK 34-16-00-710-001

(1) Push and hold the NO. 1 MACH AIRSPEED WARNING TEST switch on the P5 panel.

(a) Make sure you hear the warning clacker.

SUBTASK 34-16-00-860-005

(2) Release the NO. 1 MACH AIRSPEED WARNING TEST switch.

(a) Make sure you cannot hear the warning clacker.

SUBTASK 34-16-00-710-002

(3) Push and hold the NO. 2 MACH AIRSPEED WARNING TEST switch on the P5 panel.

(a) Make sure you hear the warning clacker.

SUBTASK 34-16-00-860-006

(4) Release the NO. 2 MACH AIRSPEED WARNING TEST switch.

(a) Make sure you cannot hear the warning clacker.

C. Put the Airplane Back to Its Usual Condition

SUBTASK 34-16-00-840-001

(1) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		LANDING GEAR LOGIC MODULE TO THE AWM SYSTEMS 1 AND 2			**31-040-00-01**
DATE	TASK **OPERATIONAL**				RELATED CARD
TAIL NUMBER	WORK AREA **CREW CABIN**	VERSION **1.1**	THRESHOLD **6000 FH**	REPEAT **6000 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AIRPL**				
		ACCESS			ZONE **211 212**

Operational check of landing gear logic module output to the AWM System 1 and 2.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 29-11-00-860-801	Hydraulic System A or B Pressurization (P/B 201)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
AMM 32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)
AMM 34-33-00-700-801	Radio Altitude Simulation Test (P/B 201)
AMM 36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-106 Supplier: 81205 Opt Part #: A27092-84 Supplier: 81205
SPL-706	Protractor - Thrust Reverser Levers, Digital Readout Part #: G76002-19 Supplier: 81205

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-040-00-01

MECH | INSP

TASK 31-51-00-730-802

1. Landing Warning System Test

A. General

(1) The landing warning system will come on if the airplane is in a landing configuration and any of the gear is not down and locked. The landing warning horn that you will hear is continuous.

(2) The landing warning system receives inputs from the gear down lock sensors, the landing gear lever position sw, the radio altimeters, the thrust lever position switches, the flap landing warning switch (S138), the stall warning yaw damper (SMYD) computers, the horn cutout switch and the engine running relays.

(3) The continuous landing warning horn will sound when a gear is not down and locked and one of these conditions exist:

(a) The trailing edge flaps are from 0 and 10 units when one thrust lever is set to a thrust lever angle (TLA) that is less than 21 degrees of thrust, while the other thrust lever is set to a TLA that is less than 34 degree of thrust and the radio altitude is less than 800 feet.

NOTE: The horn can be silenced with the horn cutout switch only when the radio altitude is between 200 and 800 feet.

(b) The trailing edge flaps are positioned from 15 to 25 units with one of the TLA is at less than 21 degrees of thrust and the other TLA is at less than 34 degrees of thrust. The horn cannot be stopped with the horn cutout switch.

NOTE: The thrust lever settings are different during a one engine landing.

(c) The trailing edge flaps are at more than 25 units. The position of the TLAs does not matter. The horn cannot be stopped with the horn cutout switch.

B. Prepare for the Test

SUBTASK 31-51-00-860-004

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 31-51-00-860-141

(2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	5	C00276	ENGINE 1 THRUST REVERSER CONT
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
AKS ALL			
D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	7	C00277	ENGINE 2 THRUST REVERSER CONT
C	8	C01004	ENGINE 2 THRUST REVERSER IND

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	18	C01398	LANDING GEAR TAKEOFF WARNING CUTOFF

SUBTASK 31-51-00-420-013

(3) Use one of the methods below to set the thrust levers:

NOTE: The value that shows on the digital protractor is measured in thrust lever angle (TLA).

NOTE: The value that shows on the CDU is measured in thrust resolver angle (TRA).

(a) Install a thrust reverser levers, digital readout protractor, SPL-706, on the thrust levers No. 1 and 2 to measure the thrust lever angle (TLA).

NOTE: Idle = 0 degree

(b) Use Thrust Resolver Angle (TRA) value on CDU to set the thrust levers.

1) Do these steps to show engine test menu on the FMCS CDU:

a) Make sure that the applicable engine thrust lever and reverse thrust lever is at the IDLE stop.

b) Get access to the FMCS CDU in the flight compartment.

c) Press the INIT REF key to show the PERF INIT screen on the FMCS CDU.

d) Push these line select keys (LSK) on the FMCS CDU:

<1> INDEX.

<2> MAINT.

NOTE: This LSK causes the MAINT BITE INDEX screen to show.

<3> ENGINE.

NOTE: This LSK causes the ENGINE/EXCEED BITE INDEX screen to show.

<4> ENGINE X for the applicable resolver.

NOTE: This LSK causes the ENGINE X BITE TEST MAIN MENU to show. Also, the ENGINE X LSK automatically applies power to the EEC and causes the EEC to initialize. The CDU will show INITIALIZING EEC X, and EEC SORTING FAULT HISTORY DATA for a short time, just before the ENGINE X BITE TEST MAIN MENU shows.

2) Do these steps to show the TRA values for the Engine X thrust lever:

a) Push the INPUT MONITORING LSK.

NOTE: This will cause the CAUTION SCREEN OF INPUT MONITORING to show.

b) Push the CONTINUE LSK.

c) Push the CONTROL LOOPS LSK.

NOTE: This will cause screen 1 of the CONTROL LOOPS to show.

d) Push the NEXT PAGE key two times.

NOTE: This will cause screen 3 of the CONTROL LOOPS to show.

e) Push the TRA line select key (LSK) on screen 3 of the CONTROL LOOPS.

NOTE: This causes the thrust resolver angle (TRA) for channels A and B, of Engine X, to show.

NOTE: The data for the channel that is in control will show first.

C. Procedure

SUBTASK 31-51-00-860-160

(1) Do this task: Hydraulic System A or B Pressurization, AMM TASK 29-11-00-860-801.

SUBTASK 31-51-00-860-159

(2) Make sure the trailing edge flaps are in the 1 unit position.

(a) Set the stabilizer within 1 unit center of the green band.

(b) Set the speed brake lever to the DOWN position.

(c) Release the parking brake.

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SUBTASK 31-51-00-420-016

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(3) Set the landing gear lever to the OFF position.

(a) Make sure the green and red NOSE GEAR Lights are on.

SUBTASK 31-51-00-860-158

(4) Do these steps to simulate the engine operations:

(a) Make sure that the pneumatic power is OFF to the engine starters.

1) If it is necessary, do this task: Remove Pressure from the Pneumatic System, AMM TASK 36-00-00-860-806.

(b) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2
B	4	C00359	FUEL SPAR VALVE ENG 1

(c) Set the two engine start levers to the IDLE position.

1) Wait a minimum of 5 minutes before proceeding.

SUBTASK 31-51-00-860-122

WARNING: MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR THE WEATHER RADAR SYSTEM. THE FORWARD MOVEMENT OF A THRUST LEVER CAN CAUSE THE AUTOMATIC OPERATION OF THE SYSTEM. THE OPERATION OF THIS SYSTEM CAN CAUSE SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT IN THE AREA OF THE NOSE RADOME.

(5) Move the thrust levers No. 1 and 2 to the full forward thrust position.

SUBTASK 31-51-00-480-001

(6) Put deactuators from the proximity sensor test set, SPL-1690, between the sensor and the target for these switches to simulate a nose gear not down condition:

(a) The #1 nose gear down sensor, S845

(b) The #2 nose gear down sensor, S853.

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SUBTASK 31-51-00-210-001

(7) Make sure the red and green NOSE GEAR lights go off.

NOTE: If the red and green NOSE gear lights do not go off, add additional deactuators as necessary until the lights go out.

SUBTASK 31-51-00-750-050

(8) Do a radio simulation of 700ft at the no.1 radio altimeters. To do the radio altitude simulation, do this task: Radio Altitude Simulation Test, AMM TASK 34-33-00-700-801.

SUBTASK 31-51-00-750-071

(9) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	3	C01046	AFCS SYS B FCC DC

SUBTASK 31-51-00-750-051

WARNING: MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR THE WEATHER RADAR SYSTEM. THE FORWARD MOVEMENT OF A THRUST LEVER CAN CAUSE THE AUTOMATIC OPERATION OF THE SYSTEM. THE OPERATION OF THIS SYSTEM CAN CAUSE SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT IN THE AREA OF THE NOSE RADOME.

(10) Set thrust lever no. 1 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-750-001

(11) Move the thrust lever no. 2 to the idle position.

(a) Make sure the continuous horn comes on when the TLA is approximately less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree) forward of idle.

SUBTASK 31-51-00-750-052

(12) Push the horn cutout switch.

(a) Make sure the continuous horn stops.

SUBTASK 31-51-00-750-053

(13) Move the thrust levers no. 1 and 2 to the full forward thrust position.

SUBTASK 31-51-00-750-054

(14) Set thrust lever no. 2 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-750-003

(15) Move the thrust lever no. 1 to the idle position.

(a) Make sure a continuous horn comes on when the TLA is approximately less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree) forward of idle.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-040-00-01

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SUBTASK 31-51-00-750-004

(16) Push the horn cutout switch.

(a) Make sure the continuous horn stops.

SUBTASK 31-51-00-860-161

(17) Move the thrust lever no. 1 to the full forward thrust position.

SUBTASK 31-51-00-860-162

(18) Set thrust lever no. 2 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-860-163

(19) Set the radio altitude simulation test set to an altitude that is less than 200 ft.

SUBTASK 31-51-00-860-164

(20) Set the thrust lever no. 1 to a position that is less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree).

(a) Make sure a continuous horn comes on.

SUBTASK 31-51-00-860-165

(21) Push the horn cutout switch.

(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-860-166

(22) Move the thrust lever no. 1 to the full forward thrust position.

(a) Make sure a continuous horn stops.

SUBTASK 31-51-00-860-127

(23) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	3	C01046	AFCS SYS B FCC DC

SUBTASK 31-51-00-750-072

(24) Do a radio simulation of 700ft at the no.2 radio altimeters. To do the radio altitude simulation, do this task: Radio Altitude Simulation Test, AMM TASK 34-33-00-700-801

SUBTASK 31-51-00-860-128

(25) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1
D	2	C01045	AFCS SYS A FCC DC

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-040-00-01

MECH | INSP

SUBTASK 31-51-00-860-129

WARNING: MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR THE WEATHER RADAR SYSTEM. THE FORWARD MOVEMENT OF A THRUST LEVER CAN CAUSE THE AUTOMATIC OPERATION OF THE SYSTEM. THE OPERATION OF THIS SYSTEM CAN CAUSE SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT IN THE AREA OF THE NOSE RADOME.

(26) Set thrust lever no. 1 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-750-073

(27) Move the thrust lever no. 2 to the idle position.

(a) Make sure the continuous horn comes on when the TLA is approximately less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree) forward of idle.

SUBTASK 31-51-00-730-007

(28) Push the horn cutout switch.

(a) Make sure the continuous horn stops.

SUBTASK 31-51-00-860-130

(29) Move the thrust levers no. 1 and 2 to the full forward thrust position.

SUBTASK 31-51-00-860-131

(30) Set thrust lever no. 2 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-750-074

(31) Move the thrust lever no. 1 to the idle position.

(a) Make sure a continuous horn comes on when the TLA is approximately less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree) forward of idle.

SUBTASK 31-51-00-750-075

(32) Push the horn cutout switch.

(a) Make sure the continuous horn stops.

SUBTASK 31-51-00-860-167

(33) Move the thrust lever no. 1 to the full forward thrust position.

SUBTASK 31-51-00-860-168

(34) Set thrust lever no. 2 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

SUBTASK 31-51-00-860-169

(35) Set the radio altitude simulation test set to an altitude that is less than 200 ft.

SUBTASK 31-51-00-860-170

(36) Set the thrust lever no. 1 to a position that is less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree).

(a) Make sure a continuous horn comes on.

SUBTASK 31-51-00-860-171

(37) Push the horn cutout switch.

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(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-860-172

(38) Move the thrust lever no. 1 to the full forward thrust position.

(a) Make sure a continuous horn stops.

SUBTASK 31-51-00-860-132

(39) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	3	C01046	AFCS SYS B FCC DC

SUBTASK 31-51-00-750-062

(40) Set thrust lever no. 2 to between 29.5 and 30.5 degree TLA, or 60.5 and 61.5 degree TRA.

(a) Move the thrust lever no. 1 to the idle position.

1) Make sure the horn does not come on.

(b) Move the thrust lever no. 1 to the full forward position.

SUBTASK 31-51-00-750-056

(41) Move the trailing edge flaps to the 15 unit position.

SUBTASK 31-51-00-750-040

(42) Move thrust lever no. 1 to the idle position.

(a) Make sure the continuous horn comes on when the TLA is less than 20 degree TLA (+/- 0.5 degree), or 52 degree TRA (+/- 0.5 degree) forward of idle.

SUBTASK 31-51-00-750-063

(43) Push the horn cutout switch.

(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-860-013

(44) Move the thrust lever no. 1 to the full forward thrust position.

(a) Make sure the continuous horn stops.

SUBTASK 31-51-00-860-099

(45) Move thrust lever no. 2 to the full forward thrust position.

SUBTASK 31-51-00-860-179

(46) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	4	C01384	RADIO NAVIGATION RADIO ALTM 1
D	2	C01045	AFCS SYS A FCC DC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
A	16	C01385	RADIO NAVIGATION RADIO ALTM 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	3	C01046	AFCS SYS B FCC DC

SUBTASK 31-51-00-860-174

WARNING: MAKE SURE THAT ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE CONTROL SURFACES AND LANDING GEAR DOOR AREAS. THE CONTROL SURFACES, THE LANDING GEAR, AND THE LANDING GEAR DOORS CAN MOVE WHEN YOU DO THE AIR MODE SIMULATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(47) Use the PSEU BITE panel to set SYS 1 and SYS 2 to the air mode. To set SYS 1 and SYS 2 to the air mode, do this task; Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

SUBTASK 31-51-00-860-014

(48) Move the trailing edge flaps to any position that is greater than 25 units.

(a) Make sure the continuous horn comes on when the trailing edge flaps go past 25 units.

SUBTASK 31-51-00-750-008

(49) Move the thrust lever no. 1 to the idle position.

(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-750-058

(50) Move the thrust lever no. 2 to the idle position.

(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-750-009

(51) Push the horn cutout switch.

(a) Make sure the continuous horn stays on.

SUBTASK 31-51-00-750-059

(52) Move the thrust lever no. 1 and 2 to the full forward thrust position.

SUBTASK 31-51-00-750-060

(53) Move the trailing edge flaps to the 1 unit position.

(a) Make sure the continuous horn has stopped when the trailing edge flaps are at 25 units.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-51-00-860-177

(1) Set the two engine start levers to the CUT OFF position.

SUBTASK 31-51-00-860-176

(2) Move the trailing edge flaps to the 0 units position.

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SUBTASK 31-51-00-860-107

(3) Do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

SUBTASK 31-51-00-480-005

(4) Remove the deactuator from these switches:

(a) The #1 nose gear down sensor, S845

(b) The #2 nose gear down sensor, S853.

SUBTASK 31-51-00-860-178

(5) Use the PSEU BITE panel to set SYS 1 and SYS 2 to the ground mode. To set SYS 1 and SYS 2 to the ground mode, do this task; Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802

SUBTASK 31-51-00-480-007

(6) Set the landing gear lever to the DOWN position.

SUBTASK 31-51-00-420-003

(7) Move the thrust levers no. 1 and 2 to the idle position.

SUBTASK 31-51-00-420-002

(8) Remove the thrust reverser levers, digital readout protractor, SPL-706, if installed.

SUBTASK 31-51-00-420-005

(9) Remove the radio altimeter test set. To remove it, do this task: Radio Altitude Simulation Test, AMM TASK 34-33-00-700-801.

SUBTASK 31-51-00-860-173

(10) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	5	C00276	ENGINE 1 THRUST REVERSER CONT
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS 001-024, 026, 028-999

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-040-00-01

AKS 001-024, 026, 028-999 (Continued)

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(Continued)

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

AKS ALL

D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	7	C00277	ENGINE 2 THRUST REVERSER CONT
C	8	C01004	ENGINE 2 THRUST REVERSER IND
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2
B	4	C00359	FUEL SPAR VALVE ENG 1
C	18	C01398	LANDING GEAR TAKEOFF WARNING CUTOFF

SUBTASK 31-51-00-860-019

(11) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		TAKEOFF WARNING FOR THE AURAL WARNING SYSTEM			**31-050-00-01**
DATE	TASK **FUNCTIONAL**				RELATED CARD
TAIL NUMBER	WORK AREA **CREW CABIN**	VERSION **1.1**	THRESHOLD **6000 FH**	REPEAT **6000 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AIRPL**				
		ACCESS			ZONE **211 212**

Functional check of the take off warning system. This task tests: Trailing edge and leading edge flap, thrust lever, upper and lower stabilizer trim limit, ground spoiler pressure, speed brake, park brake and ground spoiler bypass valve switches for the aural warning module (AWM).

A. References

Reference	Title
AMM 10-11-05 P/B 201	CHOCK INSTALLATION
AMM 21-33-00-000-801	Cabin Altitude Warning Switch Functional Test (P/B 501)
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 29-11-00-860-801	Hydraulic System A or B Pressurization (P/B 201)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
AMM 32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-106 Supplier: 81205 Opt Part #: A27092-84 Supplier: 81205
SPL-706	Protractor - Thrust Reverser Levers, Digital Readout Part #: G76002-19 Supplier: 81205

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-050-00-01

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TASK 31-51-00-730-803

1. Takeoff Warning System Test

A. General

(1) TAKEOFF CONFIG indicator lights are installed on the captains instrument panel, P1-3, and the first officer's instrument panel, P3-1. They will come on when the takeoff warning horn comes on.

(2) The takeoff warning system will come on if the airplane is not in a takeoff configuration and you move the thrust levers forward for takeoff. The takeoff warning horn that you will hear is intermittent.

(3) The parking brake is released during the takeoff warning test. This prevents the parking brake function of the takeoff warning horn from overriding the tests. Put chocks on the landing gear wheels.

(4) The intermittent takeoff warning horn will sound when the airplane is on the ground and you move one or both of the thrust levers forward for takeoff and at least one of these conditions exist:

(a) The stabilizer is not in the green band

(b) The trailing edge flaps are at less than 1 unit or more than 25 units

(c) The leading edge flaps/slats are not in the extend or full extend position, or are in a UCM condition

(d) The speedbrake handle is not down

(e) The parking brake is set

(f) The ground spoilers are not down

(5) The intermittent takeoff warning horn will also sound when the airplane is in the air and all of the conditions below exist:

(a) The ground spoiler valve is not closed

(b) The leading edge flaps are not extended

(c) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	18	C01398	LANDING GEAR TAKEOFF WARNING CUTOFF

(6) The takeoff warning system has these inputs:

(a) A left throttle forward input from the left autothrottle switchpack, M1766

(b) A right throttle forward input from the right autothrottle switchpack, M1767

(c) Ground spoiler up pressure switch, S1049

(d) Ground spoiler interlock valve, S1050

(e) A logic input from the flap/slat electronics unit, M1746

(f) The speed brake switch, S651

(g) The airplane nose up (stabilizer leading edge down) switches, S132 & S1184

(h) The airplane nose down (stabilizer leading edge up) switches, S546 & S1183

MECH	INSP

(i) A parking brake input.

B. Prepare for the Test

SUBTASK 31-51-00-860-020

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 31-51-00-860-022

(2) Use the PSEU to make sure SYS 1 and SYS 2 is in the ground mode. To set the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

SUBTASK 31-51-00-860-023

(3) Install chocks on the landing gear wheels (CHOCK INSTALLATION, AMM 10-11-05/201).

SUBTASK 31-51-00-860-111

(4) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	5	C00276	ENGINE 1 THRUST REVERSER CONT
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
AKS ALL			
D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	7	C00277	ENGINE 2 THRUST REVERSER CONT
C	8	C01004	ENGINE 2 THRUST REVERSER IND

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SUBTASK 31-51-00-420-014

(5) Use one of the methods below to set the thrust levers:

NOTE: The value that shows on the digital protractor is measured in thrust lever angle (TLA).

NOTE: The value that shows on the CDU is measured in thrust resolver angle (TRA).

(a) Install a thrust reverser levers, digital readout protractor, SPL-706, on the thrust levers No. 1 and 2 to measure the thrust lever angle (TLA).

NOTE: Idle = 0 degree

(b) Use Thrust Resolver Angle (TRA) value on the CDU to set the thrust levers.

1) Do these steps to show engine test menu on the FMCS CDU:

a) Make sure that the applicable engine thrust lever and reverse thrust lever is at the IDLE stop.

b) Get access to the FMCS CDU in the flight compartment.

c) Press the INIT REF key to show the PERF INIT screen on the FMCS CDU.

d) Push these line select keys (LSK) on the FMCS CDU:

<1> INDEX.

<2> MAINT.

NOTE: This LSK causes the MAINT BITE INDEX screen to show.

<3> ENGINE.

NOTE: This LSK causes the ENGINE/EXCEED BITE INDEX screen to show.

<4> ENGINE X for the applicable resolver.

NOTE: This LSK causes the ENGINE X BITE TEST MAIN MENU to show. Also, the ENGINE X LSK automatically applies power to the EEC and causes the EEC to initialize. The CDU will show INITIALIZING EEC X, and EEC SORTING FAULT HISTORY DATA for a short time, just before the ENGINE X BITE TEST MAIN MENU shows.

2) Do these steps to show the TRA values for the Engine X thrust lever:

a) Push the INPUT MONITORING LSK.

NOTE: This will cause the CAUTION SCREEN OF INPUT MONITORING to show.

b) Push the CONTINUE LSK.

c) Push the CONTROL LOOPS LSK.

NOTE: This will cause screen 1 of the CONTROL LOOPS to show.

d) Push the NEXT PAGE key two times.

NOTE: This will cause screen 3 of the CONTROL LOOPS to show.

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e) Push the TRA line select key (LSK) on screen 3 of the CONTROL LOOPS.

NOTE: This causes the thrust resolver angle (TRA) for channels A and B, of Engine X, to show.

NOTE: The data for the channel that is in control will show first.

SUBTASK 31-51-00-750-083

(6) Do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

SUBTASK 31-51-00-860-108

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

(7) Do this task: Hydraulic System A or B Pressurization, AMM TASK 29-11-00-860-801.

SUBTASK 31-51-00-860-102

(8) Do these steps to set the airplane in the takeoff configuration:

(a) Move the trailing edge flaps to the 15 unit position.

(b) Set the stabilizer within 1 unit center of the green band.

(c) Set the speed brake lever to the DOWN position.

(d) Release the parking brakes.

(e) Set the thrust lever no. 2 to the idle position.

WARNING: MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR THE WEATHER RADAR SYSTEM. THE FORWARD MOVEMENT OF A THRUST LEVER CAN CAUSE THE AUTOMATIC OPERATION OF THE SYSTEM. THE OPERATION OF THIS SYSTEM CAN CAUSE SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT IN THE AREA OF THE NOSE RADOME.

(f) Set the thrust lever no. 1 to the full forward thrust position.

C. Procedure

SUBTASK 31-51-00-750-064

(1) Do these steps to do a test of the autothrottle inputs to the takeoff warning system:

(a) Make sure you did the Prepare for Test.

(b) Set the parking brakes.

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(c) Move the thrust lever no. 1 to the idle position.

1) Make sure the intermittent horn stops when the thrust lever is approximately less than 20 degrees TLA (52 degree TRA) forward of idle.

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2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

WARNING: MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR THE WEATHER RADAR SYSTEM. THE FORWARD MOVEMENT OF A THRUST LEVER CAN CAUSE THE AUTOMATIC OPERATION OF THE SYSTEM. THE OPERATION OF THIS SYSTEM CAN CAUSE SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT IN THE AREA OF THE NOSE RADOME.

(d) Move the thrust lever no. 2 to the full forward thrust position.

1) Make sure the intermittent horn comes on when the thrust lever is greater than approximately 20 degree TLA (52 degree TRA) forward of idle.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(e) Move the thrust lever no. 2 to the idle position.

1) Make sure the intermittent horn goes out when the thrust lever is approximately less than 20 degree TLA (52 degree TRA) forward of idle.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

(f) Release the parking brakes.

(g) Move the thrust lever no. 1 to the full forward thrust position.

SUBTASK 31-51-00-750-065

(2) Do these steps to do a test of the trailing edge flaps input to the takeoff warning system:

(a) If the airplane is not in the takeoff configuration, do the steps in the Prepare for the Test that put the airplane into the takeoff configuration.

(b) Move the trailing edge flaps to the 0 unit position.

1) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

2) Make sure the intermittent horn comes on.

NOTE: The intermittent horn can sound when the leading edge flaps are in transit.

(c) Move the thrust lever no. 1 to the idle position.

1) Make sure the intermittent horn stops.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

(d) Move the trailing edge flaps to a position in the takeoff range (1, 2, 5, 10, 15, or 25 units detent).

(e) Move the thrust lever no. 1 to the full forward thrust position.

1) Make sure the intermittent horn does not come on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, do not come on.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-050-00-01

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(f) Move the trailing edge flaps to a position greater than 25 units.

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(g) Move the trailing edge flaps to the 15 unit position.

1) Make sure the intermittent horn stops when the trailing edge flaps are in a position in the takeoff range.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

SUBTASK 31-51-00-750-066

(3) Do these steps to do a check of the parking brake input and circuit breaker function to the takeoff warning system:

(a) If the airplane is not in the takeoff configuration, do the steps in the Prepare for the Test that put the airplane in the takeoff configuration.

(b) Set the parking brakes.

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(c) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	17	C00129	LANDING GEAR LATCH & PRESS WARN

(d) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	18	C00451	LANDING GEAR AURAL WARN

1) Make sure the intermittent horn stops.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(e) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	18	C00451	LANDING GEAR AURAL WARN

1) Make sure the intermittent horn turns on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(f) Release the parking brakes.

1) Make sure the intermittent horn stops.

MECH	INSP

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

SUBTASK 31-51-00-750-067

(4) Do these steps to do a check of the speed brake handle input to the takeoff warning system:

(a) If the airplane is not in the takeoff configuration, do the steps in the Prepare for the Test that put the airplane in the takeoff configuration.

(b) Set the speed brake handle to the up position.

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(c) Set the speed brake handle to the down position.

1) Make sure the intermittent horn stops.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

SUBTASK 31-51-00-750-068

(5) Do these steps to do a check of the stabilizer input to the takeoff warning system:

(a) If the airplane is not in the takeoff configuration, do the steps in the Prepare for the Test that put the airplane into the takeoff configuration.

(b) Move the stabilizer through the full range of motion.

1) Make sure the intermittent horn comes on when the green band pointer is outside of the green band range by ±1/2 unit.

a) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

2) Set the stabilizer outside the green band range by greater than 1 unit toward the nose down position.

3) Do the following steps at the PSEU BITE panel to access the state of the input output pin:

a) Push ON/OFF to start PSEU BITE display.

b) Select OTHER FUNCTIONS MENU.

NOTE: Push the Up and Down Arrows to move through menu options.

c) Select I/O MONITOR.

d) Select INPUTS.

e) Select CONN D10982.

<1> Verify D10982 pin 51 is GND.

f) Select CONN D10984.

<1> Verify D10984 pin 51 is NO GND.

4) Set the stabilizer outside the green band range by greater than 1 unit toward the nose up position.

MECH | INSP

5) Do the following steps at the PSEU BITE panel to access the state of the input output pin:
   a) Push ON/OFF to start PSEU BITE display.
   b) Select OTHER FUNCTIONS MENU.
      NOTE: Push the Up and Down Arrows to move through menu options.
   c) Select I/O MONITOR.
   d) Select INPUTS.
   e) Select CONN D10982.
      <1> Verify D10982 pin 51 is GND.
   f) Select CONN D10984.
      <1> Verify D10984 pin 51 is NO GND.
6) Set the stabilizer to within one unit center of the green band.
7) Do the following steps at the PSEU BITE panel to access the state of the input output pin:
   a) Push ON/OFF to start PSEU BITE display.
   b) Select OTHER FUNCTIONS MENU.
      NOTE: Push the Up and Down Arrows to move through menu options.
   c) Select I/O MONITOR.
   d) Select INPUTS.
   e) Select CONN D10982.
      <1> Verify D10982 pin 51 is NO GND.
   f) Select CONN D10984.
      <1> Verify D10984 pin 51 is GND.

(c) Set the thrust lever No. 1 to the idle position.

(d) Set the trailing edge flaps to the 0 unit position.

SUBTASK 31-51-00-750-069

(6) Do these steps to do a check of the takeoff warning system when the airplane is in the air:

(a) Make sure the thrust lever No. 1 is in the idle position.

(b) Make sure the leading edge flaps are in the up position.

(c) Use the PSEU BITE panel to set SYS 1 and SYS 2 to the air mode. To set SYS 1 and SYS 2 to the air mode, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

NOTE: The ground spoiler interlock is opened when you use the PSEU BITE panel or slug the air/gnd sensor target far to simulate air mode. The interlock valve is closed when you lift the airplane on jacks to simulate air mode.

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

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(d) Open this circuit breaker and attach safety tag:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	18	C01398	LANDING GEAR TAKEOFF WARNING CUTOFF

1) Make sure the intermittent horn stops.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

(e) Remove safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	18	C01398	LANDING GEAR TAKEOFF WARNING CUTOFF

1) Make sure the intermittent horn comes on.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, come on.

(f) Put a steel actuator from the proximity sensor test set, SPL-1690, on the ground spoiler interlock valve sensor, S1050, to simulate that the ground spoiler interlock valve is closed.

NOTE: You can also use the pull/push cable, located in the right main landing gear up link, to open and close the ground spoiler interlock valve. When the airplane is on the ground, the interlock valve closes when you push the cable up. The interlock valve opens when you pull the cable down.

1) Make sure the intermittent horn stops.

2) Make sure that the TAKEOFF CONFIG lights on the Captain's instrument panel, P1-3, and the First Officer's instrument panel, P3-1, go off.

(g) Use the PSEU Bite panel to return SYS 1 and SYS 2 to the ground mode. To return SYS 1 and SYS 2 to the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(h) Remove the actuator.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-51-00-020-002

(1) Remove the thrust reverser levers, digital readout protractor, SPL-706.

SUBTASK 31-51-00-860-035

(2) Set the parking brakes.

SUBTASK 31-51-00-020-003

(3) Remove the chocks from the landing gear wheels.

SUBTASK 31-51-00-860-109

(4) Do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

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SUBTASK 31-51-00-860-113

(5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	5	C00276	ENGINE 1 THRUST REVERSER CONT
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
AKS ALL			
D	13	C00120	WEATHER RADAR RT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	7	C00277	ENGINE 2 THRUST REVERSER CONT
C	8	C01004	ENGINE 2 THRUST REVERSER IND

SUBTASK 31-51-00-860-037

(6) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DOWNLOAD FDR DATA REQD PARAMETERS TO CHECK INTERFACING SYSTEMS			**31-120-00-04**
DATE	TASK **FUNCTIONAL**				RELATED CARD **W-31-130-00-04**
TAIL NUMBER	WORK AREA **PASS CABIN**	VERSION **1.1**	THRESHOLD **7500 FH**	REPEAT **7500 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**				
		ACCESS			ZONE **242**

Download data from flight data recorder (FDR) to check interfacing system output to FDR (off aircraft).

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 29-21-00-000-802	Standby Hydraulic System Power Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-12815	Download Unit - Flight Data Recorder Part #: 69001074-060 Supplier: 97896 Part #: FDS400-301 Supplier: Z7C70 Opt Part #: PL69001074-001 Supplier: 97896
COM-13695	Cable - Adapter, HHMPI (Honeywell SSDFDR only) Part #: FDS400-203 Supplier: Z7C70
COM-13696	Cable - Adapter, HHMPI (Honeywell HFR5-D only) Part #: FDS400-232 Supplier: Z7C70
COM-13697	Cable - Adapter, HHMPI (L-3 Comm FA2100 DFDR only) Part #: FDS40-0202 Supplier: Z7C70
COM-13750	Cable - Adapter, HHMPI (L-3 Comm F1000 DFDR only) Part #: FDS400-201 Supplier: Z7C70
STD-1048	Stepladder - 6 foot (1.83m)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-120-00-04

MECH | INSP

TASK 31-31-00-700-801

1. Flight Data Recorder - Single State Analog Discrete Parameter Test

A. General

(1) This task includes the steps to set parameters recorded by the Flight Data Recorder (FDR) before the data is downloaded.

B. Prepare for the task.

SUBTASK 31-31-00-700-007

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

(2) Put the flight data recorder TEST-NORMAL switch on the P5 panel in the TEST position.

C. Procedure

SUBTASK 31-31-00-700-008

(1) Do these steps to set the applicable overheat/fire discrete signals:

(a) Push the fire test switch on the overheat/fire detection panel , P8, to the OVHT/FIRE position and hold for at least 4 seconds.

1) Make sure these lights on the overheat/fire detection panel, P8, are on:

a) ENG 1 fire handle light

b) ENG 2 fire handle light

c) Wheel Well light

d) APU fire light

(2) Push and hold the cargo smoke detection and fire suppression test button, P8-75, for at least 4 seconds.

(a) Make sure the CARGO light comes on.

(3) Do these steps to set the stall warning discrete signal:

(a) Push the NO. 1 STALL WARNING TEST switch.

1) Make sure the captains shaker operates.

(b) Push the NO. 2 STALL WARNING TEST switch.

1) Make sure the first officers shaker operates.

(4) Do these steps to set the applicable hydraulic system low pressure discrete signals:

(a) Make sure the A and B hydraulic systems are not pressurized. To remove hydraulic pressure, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) Make sure the STBY hydraulic system is not pressurized. To remove hydraulic pressure, do this task: Standby Hydraulic System Power Removal, AMM TASK 29-21-00-000-802.

(c) Do these steps to set the low hydraulic pressure system A engine 1 discrete signal:

1) Remove connector D2684 from the system A engine 1 low pressure switch, S796.

a) Make sure the ENG 1 LOW PRESSURE light of system A on the hydraulic pump panel, P5, is off.

MECH | INSP

2) Wait at least 4 seconds.

3) Install connector D2684 to the system A engine 1 low pressure switch, S796.

a) Make sure the ENG 1 LOW PRESSURE light of system A on the hydraulic pump panel, P5, is on.

(d) Do these steps to set the low hydraulic pressure system B engine 2 discrete signal:

1) Remove connector D2686 from the system B engine 2 low pressure switch, S797.

a) Make sure the ENG 2 LOW PRESSURE light of system B on the hydraulic pump panel, P5, is off.

2) Wait at least 4 seconds.

3) Install connector D2686 to the system B engine 2 low pressure switch, S797.

a) Make sure the ENG 2 LOW PRESSURE light of system B on the hydraulic pump panel, P5, is on.

(e) Do these steps to set the standby hydraulic pressure transmitter discrete signal:

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES BEFORE YOU SUPPLY HYDRAULIC POWER. AILERONS, RUDDERS, ELEVATORS, FLAPS, SPOILERS, LANDING GEAR, AND THRUST REVERSERS CAN MOVE QUICKLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

1) Make sure the FLT CONTROL hydraulic pressure system switches A and B on the P5 panel are not in the STBY RUD position.

2) Set the FLT CONTROL switch A on the P5 panel to STBY RUD.

a) Make sure the STANDBY HYD low pressure light on the P5 panel is off.

NOTE: The STANDBY HYD low pressure light may come on briefly when the FLT CONTROL switch is set to STBY RUD.

3) Open this circuit breaker and install safety tag:

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
F	2	C01449	STANDBY HYDRAULIC PUMP

a) Make sure the STANDBY HYD low pressure light on the P5 panel is on.

4) Wait at least 4 seconds.

5) Set the FLT CONTROL switch A on the P5 panel to the ON position.

6) Remove the safety tag and close this circuit breaker:

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
F	2	C01449	STANDBY HYDRAULIC PUMP

(5) Do these steps to set the cabin altitude > 10K discrete signal:

(a) Remove connector D776 from the cabin pressure switch (S128).

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(b) Apply a ground to pin A of D776 connector.

1) Make sure the aural warning horn in the flight compartment comes on.

(c) Wait at least 4 seconds.

(d) Remove the ground from pin A of D776 connector.

(e) Install connector D776 to the cabin pressure switch (S128).

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-31-00-700-009

(1) Put the flight data recorder TEST-NORMAL switch on the P5 panel in the NORMAL position.

(2) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-120-00-04

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TASK 31-31-00-970-807

2. Copy of the Data from the Honeyweefll SSFDR with the Flight Data Recorder Download Unit

A. General

(1) This task uses a customer owned dedicated portable laptop with the Flight Data Recorder Download Unit, COM-12815, HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750, HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695, HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696, or HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697 to make a copy of the flight data from a Honeywell solid state flight data recorder (SSFDR) while the FDR is in the airplane.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel or this service can be ordered though Flight Recorder Data Services found on MyBoeingFleet.

B. Procedure

SUBTASK 31-31-00-860-703

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811

SUBTASK 31-31-00-860-704

(2) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-705

(3) To get access to the flight data recorder in the aft passenger compartment, open the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

SUBTASK 31-31-00-860-706

(4) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder [2].

SUBTASK 31-31-00-860-707

(5) Connect the Flight Data Recorder Download Unit to the Honeywell SSFDR.

- Flight Data Recorder Download Unit, COM-12815
- HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697
- HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696
- HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695
- HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750

SUBTASK 31-31-00-860-708

(6) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

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MECH | INSP

SUBTASK 31-31-00-860-709

(7) Switch ON the Flight Data Recorder Download Unit, COM-12815.

SUBTASK 31-31-00-860-710

(8) Put the flight data recorder TEST-NORM switch to the TEST position.

SUBTASK 31-31-00-860-711

(9) Run the Downloader program.

(a) Click the Download button.

1) Follow the prompts on the Flight Data Recorder Download Unit, COM-12815 to complete data download.

(b) After the copy procedure is completed, click on the QUIT button.

SUBTASK 31-31-00-860-712

(10) Put the flight data recorder TEST-NORM switch to the NORM position.

SUBTASK 31-31-00-860-713

(11) Switch OFF the Flight Data Recorder Download Unit, COM-12815.

SUBTASK 31-31-00-860-714

(12) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-715

(13) Disconnect the Flight Data Recorder Download Unit, COM-12815 from the FDR.

SUBTASK 31-31-00-860-716

(14) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-717

(15) Close the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001

SUBTASK 31-31-00-860-718

(16) Do this task if necessary: Remove Electrical Power, AMM TASK 24-22-00-860-812

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DOWNLOAD FDR DATA REQD PARAMETERS TO CHECK INTERFACING SYSTEMS			**31-120-00-05**
DATE	TASK **FUNCTIONAL**				RELATED CARD **W-31-130-00-05**
TAIL NUMBER	WORK AREA **PASS CABIN**	VERSION **1.1**	THRESHOLD **7500 FH**	REPEAT **7500 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**				
		ACCESS			ZONE **242**

Download data from flight data recorder (FDR) to check interfacing system output to FDR (off aircraft).

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
AMM 25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 29-21-00-000-802	Standby Hydraulic System Power Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-13694	Unit - Interface, Hand-Held Multi-Purpose (HHMPI) Part #: FDS400-301 Supplier: Z7C70
COM-13695	Cable - Adapter, HHMPI (Honeywell SSDFDR only) Part #: FDS400-203 Supplier: Z7C70
COM-13696	Cable - Adapter, HHMPI (Honeywell HFR5-D only) Part #: FDS400-232 Supplier: Z7C70
COM-13697	Cable - Adapter, HHMPI (L-3 Comm FA2100 DFDR only) Part #: FDS40-0202 Supplier: Z7C70
COM-13750	Cable - Adapter, HHMPI (L-3 Comm F1000 DFDR only) Part #: FDS400-201 Supplier: Z7C70
STD-1048	Stepladder - 6 foot (1.83m)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-120-00-05

TASK 31-31-00-700-801

MECH | INSP

1. Flight Data Recorder - Single State Analog Discrete Parameter Test

A. General

(1) This task includes the steps to set parameters recorded by the Flight Data Recorder (FDR) before the data is downloaded.

B. Prepare for the task.

SUBTASK 31-31-00-700-007

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

(2) Put the flight data recorder TEST-NORMAL switch on the P5 panel in the TEST position.

C. Procedure

SUBTASK 31-31-00-700-008

(1) Do these steps to set the applicable overheat/fire discrete signals:

(a) Push the fire test switch on the overheat/fire detection panel , P8, to the OVHT/FIRE position and hold for at least 4 seconds.

1) Make sure these lights on the overheat/fire detection panel, P8, are on:

a) ENG 1 fire handle light

b) ENG 2 fire handle light

c) Wheel Well light

d) APU fire light

(2) Push and hold the cargo smoke detection and fire suppression test button, P8-75, for at least 4 seconds.

(a) Make sure the CARGO light comes on.

(3) Do these steps to set the stall warning discrete signal:

(a) Push the NO. 1 STALL WARNING TEST switch.

1) Make sure the captains shaker operates.

(b) Push the NO. 2 STALL WARNING TEST switch.

1) Make sure the first officers shaker operates.

(4) Do these steps to set the applicable hydraulic system low pressure discrete signals:

(a) Make sure the A and B hydraulic systems are not pressurized. To remove hydraulic pressure, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) Make sure the STBY hydraulic system is not pressurized. To remove hydraulic pressure, do this task: Standby Hydraulic System Power Removal, AMM TASK 29-21-00-000-802.

(c) Do these steps to set the low hydraulic pressure system A engine 1 discrete signal:

1) Remove connector D2684 from the system A engine 1 low pressure switch, S796.

a) Make sure the ENG 1 LOW PRESSURE light of system A on the hydraulic pump panel, P5, is off.

MECH | INSP

2) Wait at least 4 seconds.

3) Install connector D2684 to the system A engine 1 low pressure switch, S796.

a) Make sure the ENG 1 LOW PRESSURE light of system A on the hydraulic pump panel, P5, is on.

(d) Do these steps to set the low hydraulic pressure system B engine 2 discrete signal:

1) Remove connector D2686 from the system B engine 2 low pressure switch, S797.

a) Make sure the ENG 2 LOW PRESSURE light of system B on the hydraulic pump panel, P5, is off.

2) Wait at least 4 seconds.

3) Install connector D2686 to the system B engine 2 low pressure switch, S797.

a) Make sure the ENG 2 LOW PRESSURE light of system B on the hydraulic pump panel, P5, is on.

(e) Do these steps to set the standby hydraulic pressure transmitter discrete signal:

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES BEFORE YOU SUPPLY HYDRAULIC POWER. AILERONS, RUDDERS, ELEVATORS, FLAPS, SPOILERS, LANDING GEAR, AND THRUST REVERSERS CAN MOVE QUICKLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

1) Make sure the FLT CONTROL hydraulic pressure system switches A and B on the P5 panel are not in the STBY RUD position.

2) Set the FLT CONTROL switch A on the P5 panel to STBY RUD.

a) Make sure the STANDBY HYD low pressure light on the P5 panel is off.

NOTE: The STANDBY HYD low pressure light may come on briefly when the FLT CONTROL switch is set to STBY RUD.

3) Open this circuit breaker and install safety tag:

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
F	2	C01449	STANDBY HYDRAULIC PUMP

a) Make sure the STANDBY HYD low pressure light on the P5 panel is on.

4) Wait at least 4 seconds.

5) Set the FLT CONTROL switch A on the P5 panel to the ON position.

6) Remove the safety tag and close this circuit breaker:

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
F	2	C01449	STANDBY HYDRAULIC PUMP

(5) Do these steps to set the cabin altitude > 10K discrete signal:

(a) Remove connector D776 from the cabin pressure switch (S128).

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MECH	INSP

(b) Apply a ground to pin A of D776 connector.

1) Make sure the aural warning horn in the flight compartment comes on.

(c) Wait at least 4 seconds.

(d) Remove the ground from pin A of D776 connector.

(e) Install connector D776 to the cabin pressure switch (S128).

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-31-00-700-009

(1) Put the flight data recorder TEST-NORMAL switch on the P5 panel in the NORMAL position.

(2) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-120-00-05

MECH | INSP

TASK 31-31-00-970-808

2. Copy the Data from the Solid State Flight Data Recorder (SSFDR) with the Hand Held Multi Purpose Interface (HHMPI)

A. General

(1) This task uses the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694 with the HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697, HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750, HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695, or HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695 to copy data from the solid state flight data recorder (SSFDR) while the SSFDR is on the airplane.

(2) The HHMPI can store SSFDR data on the HHMPI internal memory, SD card, compact flash card or a removal PC card, Personal Computer Memory Card International Association (PCMCIA).

(3) A reasonability assessment of the stored data can then can be done at a different location by the applicable airline personnel or this service can be ordered though Flight Data Recorder Services found on MyBoeingFleet.

B. Prepare to copy the SSFDR data

SUBTASK 31-31-00-860-719

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811

SUBTASK 31-31-00-860-720

(2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-010-009

(3) To get access to the flight data recorder in the aft passenger compartment, open the lowered ceiling panel Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

SUBTASK 31-31-00-800-006

(4) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder.

SUBTASK 31-31-00-840-010

(5) Make sure the HHMPI is OFF.

SUBTASK 31-31-00-840-011

(6) Connect the HHMPI cable to the SSFDR.

- HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697
- HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696
- HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695
- HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750

SUBTASK 31-31-00-840-012

(7) Install the removable media into the HHMPI if required.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-120-00-05

MECH | INSP

SUBTASK 31-31-00-860-721

(8) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-013

(9) Put the flight data recorder TEST-NORM switch to the TEST position.

C. Procedure

SUBTASK 31-31-00-970-001

(1) Select aircraft type, model and tail number if required.

(2) Select the memory device to store the data.

NOTE: A file download onto the HHMPI's Internal Memory will not appear if an SD memory card is connected. The SD card will override the internal memory function. Remove the SD storage card if access to the internal memory is required.

(3) Make sure DOWNLOAD ALL DATA initializes.

(a) Press the C button to cancel the download.

(4) Press the OK button when download has completed.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-31-00-860-722

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-014

(2) Disconnect the HHMPI cable from the SSFDR.

(3) Remove the media if required.

SUBTASK 31-31-00-860-723

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-015

(5) Put the flight data recorder TEST-NORM switch to the NORMAL postion.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-120-00-05

MECH	INSP

SUBTASK 31-31-00-410-009

(6) Close the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DOWNLOAD FDR DATA REQD PARAMETERS TO CHECK DFDAU OUTPUT			**31-130-00-04**
DATE	TASK **FUNCTIONAL**				RELATED CARD **W-31-120-00-04**
TAIL NUMBER	WORK AREA **PASS CABIN**	VERSION **1.1**	THRESHOLD **7500 FH**	REPEAT **7500 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**				
		ACCESS			ZONE **242**

Functional check of required parameters (FDR, DFDAU output)

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-12815	Download Unit - Flight Data Recorder Part #: 69001074-060 Supplier: 97896 Part #: FDS400-301 Supplier: Z7C70 Opt Part #: PL69001074-001 Supplier: 97896
COM-13695	Cable - Adapter, HHMPI (Honeywell SSDFDR only) Part #: FDS400-203 Supplier: Z7C70
COM-13696	Cable - Adapter, HHMPI (Honeywell HFR5-D only) Part #: FDS400-232 Supplier: Z7C70
COM-13697	Cable - Adapter, HHMPI (L-3 Comm FA2100 DFDR only) Part #: FDS40-0202 Supplier: Z7C70
COM-13750	Cable - Adapter, HHMPI (L-3 Comm F1000 DFDR only) Part #: FDS400-201 Supplier: Z7C70
STD-1048	Stepladder - 6 foot (1.83m)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-130-00-04

MECH | INSP

TASK 31-31-00-970-807

1. Copy of the Data from the Honeyweefll SSFDR with the Flight Data Recorder Download Unit

A. General

(1) This task uses a customer owned dedicated portable laptop with the Flight Data Recorder Download Unit, COM-12815, HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750, HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695, HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696, or HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697 to make a copy of the flight data from a Honeywell solid state flight data recorder (SSFDR) while the FDR is in the airplane.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel or this service can be ordered though Flight Recorder Data Services found on MyBoeingFleet.

B. Procedure

SUBTASK 31-31-00-860-703

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811

SUBTASK 31-31-00-860-704

(2) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-705

(3) To get access to the flight data recorder in the aft passenger compartment, open the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

SUBTASK 31-31-00-860-706

(4) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder [2].

SUBTASK 31-31-00-860-707

(5) Connect the Flight Data Recorder Download Unit to the Honeywell SSFDR.

- Flight Data Recorder Download Unit, COM-12815
- HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697
- HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696
- HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695
- HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750

SUBTASK 31-31-00-860-708

(6) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-130-00-04

MECH	INSP

SUBTASK 31-31-00-860-709

(7) Switch ON the Flight Data Recorder Download Unit, COM-12815.

SUBTASK 31-31-00-860-710

(8) Put the flight data recorder TEST-NORM switch to the TEST position.

SUBTASK 31-31-00-860-711

(9) Run the Downloader program.

(a) Click the Download button.

1) Follow the prompts on the Flight Data Recorder Download Unit, COM-12815 to complete data download.

(b) After the copy procedure is completed, click on the QUIT button.

SUBTASK 31-31-00-860-712

(10) Put the flight data recorder TEST-NORM switch to the NORM position.

SUBTASK 31-31-00-860-713

(11) Switch OFF the Flight Data Recorder Download Unit, COM-12815.

SUBTASK 31-31-00-860-714

(12) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-715

(13) Disconnect the Flight Data Recorder Download Unit, COM-12815 from the FDR.

SUBTASK 31-31-00-860-716

(14) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-860-717

(15) Close the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001

SUBTASK 31-31-00-860-718

(16) Do this task if necessary: Remove Electrical Power, AMM TASK 24-22-00-860-812

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DOWNLOAD FDR DATA REQD PARAMETERS TO CHECK DFDAU OUTPUT			**31-130-00-05**
DATE	TASK **FUNCTIONAL**				RELATED CARD **W-31-120-00-05**
TAIL NUMBER	WORK AREA **PASS CABIN**	VERSION **1.1**	THRESHOLD **7500 FH**	REPEAT **7500 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**				
		ACCESS			ZONE **242**

Functional check of required parameters (FDR, DFDAU output)

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
AMM 25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-13694	Unit - Interface, Hand-Held Multi-Purpose (HHMPI) Part #: FDS400-301 Supplier: Z7C70
COM-13695	Cable - Adapter, HHMPI (Honeywell SSDFDR only) Part #: FDS400-203 Supplier: Z7C70
COM-13696	Cable - Adapter, HHMPI (Honeywell HFR5-D only) Part #: FDS400-232 Supplier: Z7C70
COM-13697	Cable - Adapter, HHMPI (L-3 Comm FA2100 DFDR only) Part #: FDS40-0202 Supplier: Z7C70
COM-13750	Cable - Adapter, HHMPI (L-3 Comm F1000 DFDR only) Part #: FDS400-201 Supplier: Z7C70
STD-1048	Stepladder - 6 foot (1.83m)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-130-00-05

MECH	INSP

TASK 31-31-00-970-808

1. Copy the Data from the Solid State Flight Data Recorder (SSFDR) with the Hand Held Multi Purpose Interface (HHMPI)

A. General

(1) This task uses the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694 with the HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697, HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750, HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695, or HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695 to copy data from the solid state flight data recorder (SSFDR) while the SSFDR is on the airplane.

(2) The HHMPI can store SSFDR data on the HHMPI internal memory, SD card, compact flash card or a removal PC card, Personal Computer Memory Card International Association (PCMCIA).

(3) A reasonability assessment of the stored data can then can be done at a different location by the applicable airline personnel or this service can be ordered though Flight Data Recorder Services found on MyBoeingFleet.

B. Prepare to copy the SSFDR data

SUBTASK 31-31-00-860-719

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811

SUBTASK 31-31-00-860-720

(2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-010-009

(3) To get access to the flight data recorder in the aft passenger compartment, open the lowered ceiling panel Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

SUBTASK 31-31-00-800-006

(4) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder.

SUBTASK 31-31-00-840-010

(5) Make sure the HHMPI is OFF.

SUBTASK 31-31-00-840-011

(6) Connect the HHMPI cable to the SSFDR.

- HHMPI Adapter Cable (L-3 Comm FA2100 DFDR), COM-13697
- HHMPI Adapter Cable (Honeywell HFR5-D), COM-13696
- HHMPI Adapter Cable (Honeywell SSDFDR), COM-13695
- HHMPI Adapter Cable (L-3 Comm F1000 DFDR), COM-13750

SUBTASK 31-31-00-840-012

(7) Install the removable media into the HHMPI if required.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-130-00-05

MECH | INSP

SUBTASK 31-31-00-860-721

(8) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-013

(9) Put the flight data recorder TEST-NORM switch to the TEST position.

C. Procedure

SUBTASK 31-31-00-970-001

(1) Select aircraft type, model and tail number if required.

(2) Select the memory device to store the data.

NOTE: A file download onto the HHMPI's Internal Memory will not appear if an SD memory card is connected. The SD card will override the internal memory function. Remove the SD storage card if access to the internal memory is required.

(3) Make sure DOWNLOAD ALL DATA initializes.

(a) Press the C button to cancel the download.

(4) Press the OK button when download has completed.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 31-31-00-860-722

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-014

(2) Disconnect the HHMPI cable from the SSFDR.

(3) Remove the media if required.

SUBTASK 31-31-00-860-723

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

SUBTASK 31-31-00-840-015

(5) Put the flight data recorder TEST-NORM switch to the NORMAL postion.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-130-00-05

MECH	INSP

SUBTASK 31-31-00-410-009

(6) Close the lowered ceiling panel Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001

——— END OF TASK ———

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DFDR ULB OPS CHECK			**31-140-00-01**
DATE	TASK				RELATED CARD
	OPERATIONAL				**W-31-150-00-01**
TAIL NUMBER	WORK AREA	VERSION	THRESHOLD	REPEAT	APPLICABILITY
	PASS CABIN	**1.1**	**NOTE**		AIRPLANE **ALL** ENGINE **ALL**
STATION	SKILL	**NOTE**			
	AVION				
		ACCESS			ZONE
		NOTE			**240**

Operational check of the ULB at battery replacement.

INTERVAL NOTE: At battery replacement or national requirement.

ACCESS NOTE: FDR Hinged Ceiling Panel.

A. References

Reference	Title
AMM 31-31-09-700-803	Underwater Locator Beacon Test with a Seacom TS100 Test Set (P/B 201)
AMM 31-31-09-700-804	Underwater Locator Beacon Test with a TS200 Test Set (P/B 201)
AMM 31-31-11-000-802	Flight Data Recorder Removal (P/B 401)
AMM 31-31-11-400-802	Flight Data Recorder Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
B00541	Cleaner - General Purpose Household Detergent	
G00270	Tape - Scotch Flatback Masking 250	ASTM D6123 (Supersedes A-A-883)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-10768	Test Set - 42A12, Underwater Locator Beacon (ULB) Part #: 42A12-1 Supplier: 94970
COM-10771	Test Set - Underwater Locator Beacon (ULB) Part #: 42A12-1 Supplier: 94970 Opt Part #: PL1 Supplier: 94970
COM-10772	Test Set - Underwater Locator Beacon (ULB) Part #: 42A12-1 Supplier: 94970 Opt Part #: PL3 Supplier: 94970
COM-978	Test Set - ATS-260, Underwater Locator Beacon (ULB) Part #: ATS-260 Supplier: 26858
STD-1048	Stepladder - 6 foot (1.83m)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

MECH	INSP

TASK 31-31-09-000-801

1. Underwater Locator Beacon Removal

(Figure 1)

A. General

(1) The underwater locator beacon (ULB) has a battery as the power source. The ULB has no external electrical connections.

B. Removal Procedure

SUBTASK 31-31-09-010-002

(1) To get access to the flight data recorder [2] in the aft passenger compartment, open the lowered ceiling panel.

SUBTASK 31-31-09-010-003

(2) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder [2].

SUBTASK 31-31-09-020-001

(3) Do this task: Flight Data Recorder Removal, AMM TASK 31-31-11-000-802.

SUBTASK 31-31-09-020-003

(4) Do these steps to remove the ULB [6] from the AlliedSignal solid state flight data recorder [2]:

(a) Loosen the screws [3] that hold the ULB [6] on the flight data recorder [2].

(b) Remove the screw(s) [3] and the clamp on one end of the ULB [6].

(c) Remove the ULB [6].

(d) Keep the screw(s) [3] and the clamp.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

MECH | INSP

TASK 31-31-09-960-804

2. Underwater Locator Beacon Test with a PL1 Test Set

A. Procedure

SUBTASK 31-31-09-700-006

(1) If you have a ULB Test Set, COM-10771, do this test of the ULB:

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

(a) Use Scotch Flatback Masking Tape 250, G00270 to attach a piece of wire or other conductive material 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 ULB Test Set, COM-10771 against the ULB, approximately one inch from the water switch.

(c) Push and hold the operation switch on the ULB Test Set, COM-10771.

1) Make sure that the BEACON ACTIVE WHEN FLASHING light flashes.

2) Remove the piece of wire or other conductive material from the ULB case and the center of the water switch.

3) Make sure that the BEACON ACTIVE WHEN FLASHING light does not flash.

(d) Release the operation switch on the ULB Test Set, COM-10771.

(e) Remove the ULB Test Set, COM-10771.

(f) Make sure that the water switch end of the ULB has no grease or dirt.

(g) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

TASK 31-31-09-700-801

MECH	INSP

3. Underwater Locator Beacon Test with a PL3 Test Set

A. Procedure

SUBTASK 31-31-09-720-003

(1) If you have a ULB test set, COM-10772, do this test of the ULB [4]:

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

(a) Put the end of the ULB test set, COM-10772 against the water switch of the ULB [4].

1) Make sure that you hear a tone.

2) Make sure that the LED light flashes.

(b) Remove the ULB test set, COM-10772.

(c) Make sure that the water switch on theULB [4] has no grease or dirt.

(d) If necessary, do these steps:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

MECH | INSP

TASK 31-31-09-700-802

4. Underwater Locator Beacon Test with a ATS-260 Test Set

A. Procedure

SUBTASK 31-31-09-720-004

(1) If you have an ATS-260 ULB test set, COM-978, do this test of the ULB [4]:

NOTE: ATS-260 can only do a test for the ELP-362D ULB.

(a) Put the ATS-260 ULB test set, COM-978 clip on the ULB [4].

(b) Push and hold the PUSH TO TEST button.

(c) Put the ATS-260 ULB test set, COM-978 probe on the ULB water switch.

1) Make sure that a green LED shows.

2) Make sure that you can hear sounds from the ATS-260 ULB test set, COM-978.

3) Make sure that the amber LED flashes.

(d) Release the PUSH TO TEST button.

(e) Remove the ATS-260 ULB test set, COM-978.

(f) Make sure that the water switch on the ULB has no grease or dirt.

(g) If necessary, do these steps:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

MECH | INSP

TASK 31-31-09-960-803

5. Underwater Locator Beacon Test with a 42A12 Series Test Set

A. Procedure

SUBTASK 31-31-09-700-007

(1) If you have a 42A12 ULB Test Set, COM-10768, do this test of the ULB:

NOTE: 42A12 can do a test for all ULBs.

(a) Put the 42A12 ULB Test Set, COM-10768 as close as possible to the ULB.

(b) Set the GAIN control switch on the 42A12 ULB Test Set, COM-10768 to the maximum clockwise position.

NOTE: A background noise is heard. If you do not hear noise from the test set, replace the test set battery.

(c) Set the TUNING control switch to the middle position.

(d) Make sure that the 42A12 ULB Test Set, COM-10768 operates correctly.

1) Rub your thumb and fingers together in front of the microphone to make sure that it operates.

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

a) Make sure that you hear sounds through the speaker.

(e) Use tape to attach a piece of wire, a shorting tab, or other conductive material to the ULB case and to 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.

(f) Set the GAIN control switch to a comfortable listening level.

(g) Point the microphone of the test set towards the water switch end of the beacon for best results.

1) Make sure you hear a pulse tone.

(h) Remove the wire, shorting tab, or other conducting material from the ULB case and the center of the water switch.

(i) Set the GAIN control switch to the OFF position.

(j) Make sure that the water switch on the ULB has no grease or dirt.

(k) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-140-00-01

TASK 31-31-09-400-801

MECH | INSP

6. Underwater Locator Beacon Installation

(Figure 1)

A. Installation Procedure

SUBTASK 31-31-09-420-004

(1) Do these steps to install the ULB [4] on the AlliedSignal solid state flight data recorder [2]:

(a) Make sure that the water switch end of the ULB [4] has no grease or dirt.

(b) Clean the water switch on the ULB [4] with a weak general purpose household detergent cleaner, B00541.

(c) Put the ULB [4] in the cradle on the flight data recorder [2].

(d) Make sure you can read the replacement date on the ULB [4].

(e) Install the screw(s) [3] that hold the clamp on the end of the ULB.

(f) Tighten the scews [3] to 23 ±3 in-lb (3 ±1 N·m).

SUBTASK 31-31-09-700-004

(2) Do one of these tasks to test the ULB:

Underwater Locator Beacon Test with a 42A12 Series Test Set, TASK 31-31-09-960-803 or Underwater Locator Beacon Test with a PL1 Test Set, TASK 31-31-09-960-804 or Underwater Locator Beacon Test with a ATS-260 Test Set, TASK 31-31-09-700-802 or Underwater Locator Beacon Test with a PL3 Test Set, TASK 31-31-09-700-801 or Underwater Locator Beacon Test with a Seacom TS100 Test Set, AMM TASK 31-31-09-700-803 or Underwater Locator Beacon Test with a TS200 Test Set, AMM TASK 31-31-09-700-804

SUBTASK 31-31-09-420-006

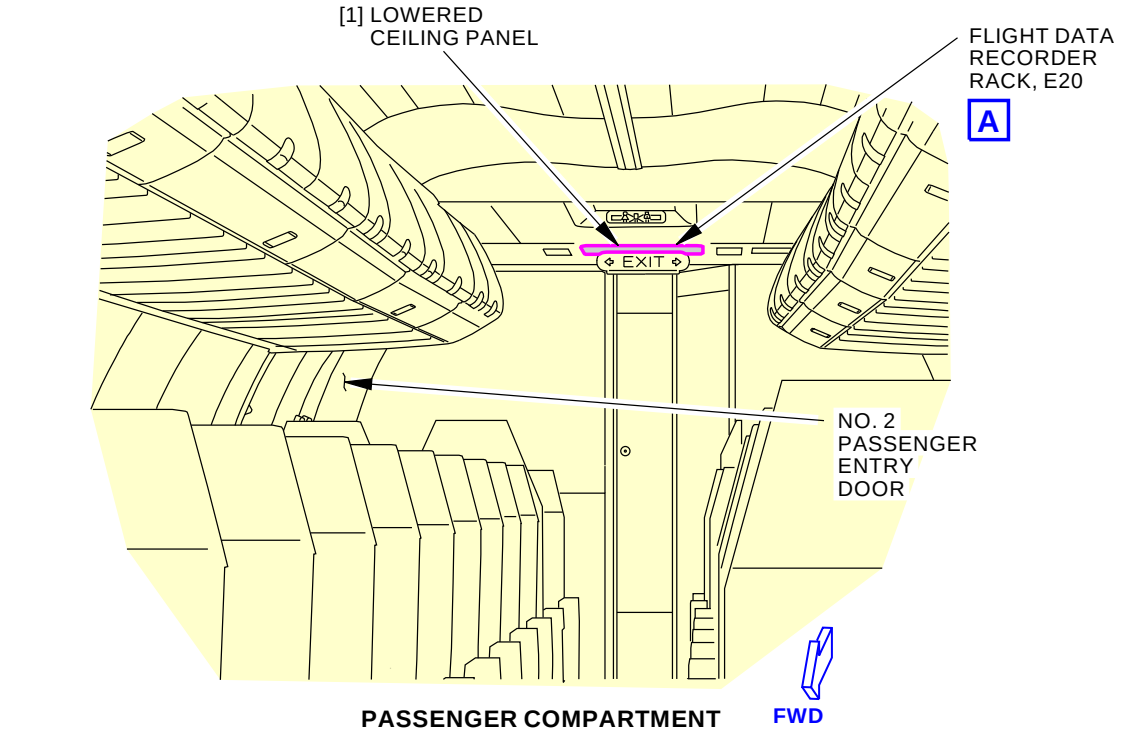
(3) Do this task: Flight Data Recorder Installation, AMM TASK 31-31-11-400-802.

SUBTASK 31-31-09-410-002

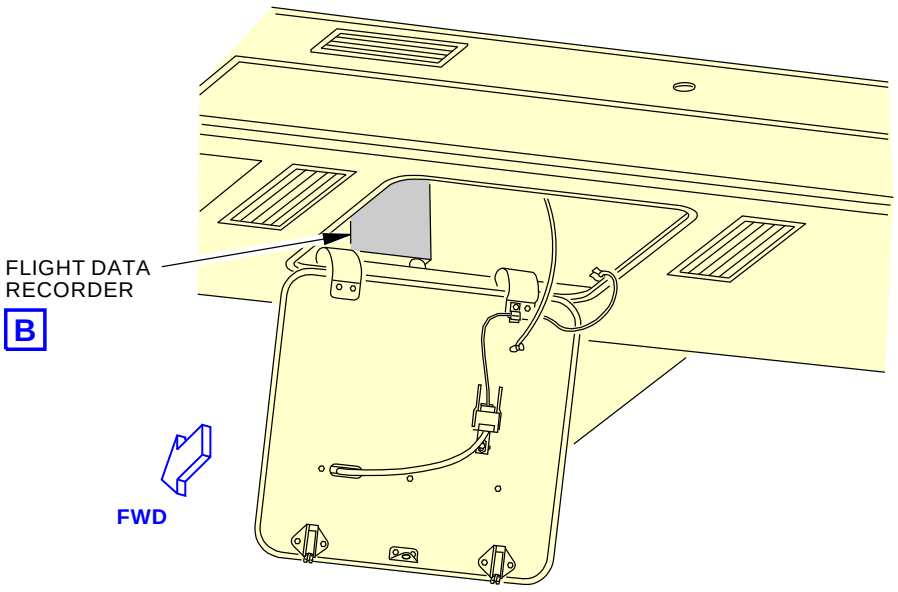
(4) Close the lowered ceiling panel.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-140-00-01



PASSENGER COMPARTMENT



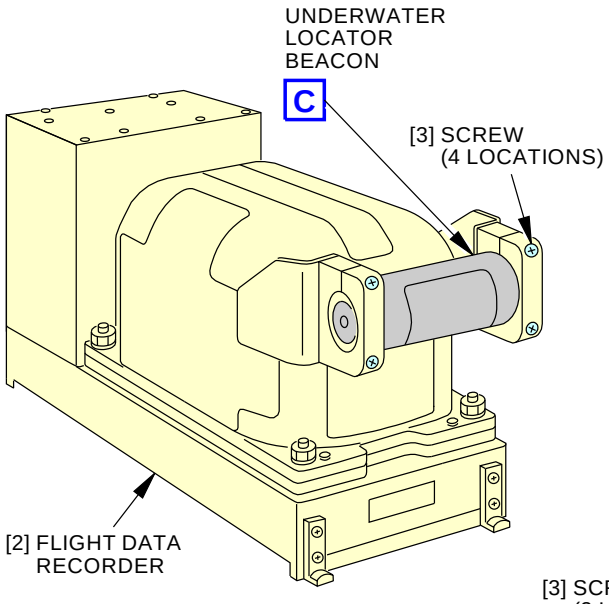
FLIGHT DATA RECORDER RACK, E20

A

F69968 S0006574378_V2

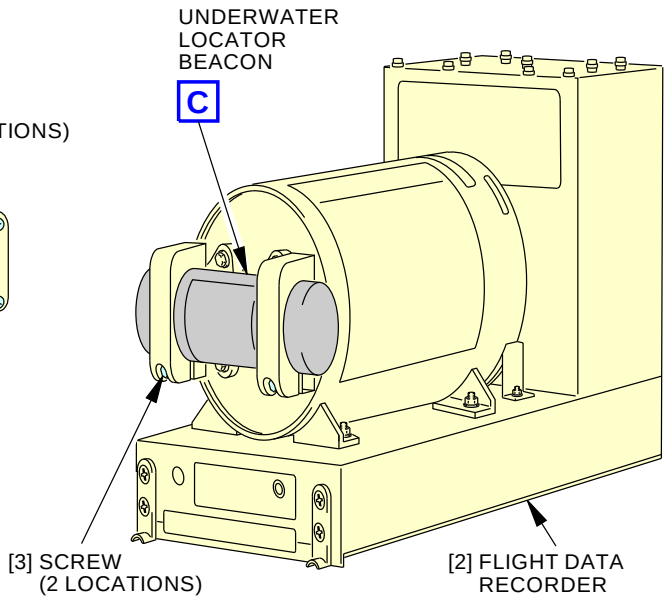
Underwater Locator Beacon Installation
Figure 1 (Sheet 1 of 2)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-140-00-01



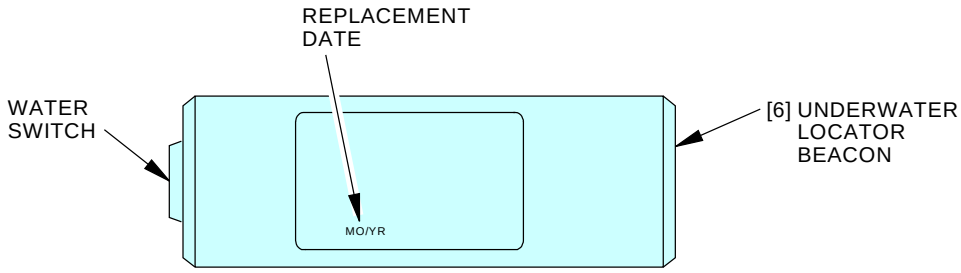
FLIGHT DATA RECORDER

B



FLIGHT DATA RECORDER

B



UNDERWATER LOCATOR BEACON
(EXAMPLE)

C

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Underwater Locator Beacon Installation
Figure 1 (Sheet 2 of 2)

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		DFDR ULB BATTERY REPLACEMENT			**31-150-00-01**
DATE	TASK **REPLACE**				RELATED CARD **W-31-140-00-01**
TAIL NUMBER	WORK AREA **PASS CABIN**	VERSION **1.1**	THRESHOLD **NOTE**	REPEAT	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**	**NOTE**			
		ACCESS **NOTE**			ZONE **240**

Replace ULB battery at vendor's recommendation.

INTERVAL NOTE: At vendor's recommendation or national requirement.

ACCESS NOTE: FDR Hinged Ceiling Panel.

A. References

Reference	Title
AMM 31-31-09-700-801	Underwater Locator Beacon Test with a PL3 Test Set (P/B 201)
AMM 31-31-09-700-802	Underwater Locator Beacon Test with a ATS-260 Test Set (P/B 201)
AMM 31-31-09-700-803	Underwater Locator Beacon Test with a Seacom TS100 Test Set (P/B 201)
AMM 31-31-09-700-804	Underwater Locator Beacon Test with a TS200 Test Set (P/B 201)
AMM 31-31-09-960-803	Underwater Locator Beacon Test with a 42A12 Series Test Set (P/B 201)
AMM 31-31-09-960-804	Underwater Locator Beacon Test with a PL1 Test Set (P/B 201)
AMM 31-31-11-000-802	Flight Data Recorder Removal (P/B 401)
AMM 31-31-11-400-802	Flight Data Recorder Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
B00541	Cleaner - General Purpose Household Detergent	
D50082	Lubricant - 810-346	
G02440	Battery - Lithium Battery	MIL-I-45208A
G50272	Battery - Teledyne Benthos (P/N C362-04270-2)	
G50273	O-ring - Lubricated, Teledyne Benthos (P/N 2-022)	
G50275	O-ring	

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01

Reference	Description
COM-1619	Wrench - Spanner, Used on Underwater Locator Beacon Part #: 008407 Supplier: 26858 Part #: 810-2007/KVS Supplier: 94970 Part #: 810-325 Supplier: 94970 Opt Part #: B362-04180A Supplier: 26858 Opt Part #: B362-09111 Supplier: 26858
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 260-8XPI Supplier: 88277 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536
COM-2543	Torque - Adapter, Used on Underwater Locator Beacon Part #: 008407 Supplier: 26858 Opt Part #: B362-04180A Supplier: 26858 Opt Part #: B362-09111 Supplier: 26858
STD-1048	Stepladder - 6 foot (1.83m)
STD-1066	Hose - Radiator, Split, 1-1/4 Inch Diameter, 5 Inch Length

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-150-00-01

MECH | INSP

TASK 31-31-09-000-801

1. Underwater Locator Beacon Removal

(Figure 1)

A. General

(1) The underwater locator beacon (ULB) has a battery as the power source. The ULB has no external electrical connections.

B. Removal Procedure

SUBTASK 31-31-09-010-002

(1) To get access to the flight data recorder [2] in the aft passenger compartment, open the lowered ceiling panel.

SUBTASK 31-31-09-010-003

(2) Use a 6 foot (1.83m) stepladder, STD-1048 to access the flight data recorder [2].

SUBTASK 31-31-09-020-001

(3) Do this task: Flight Data Recorder Removal, AMM TASK 31-31-11-000-802.

SUBTASK 31-31-09-020-003

(4) Do these steps to remove the ULB [6] from the AlliedSignal solid state flight data recorder [2]:

(a) Loosen the screws [3] that hold the ULB [6] on the flight data recorder [2].

(b) Remove the screw(s) [3] and the clamp on one end of the ULB [6].

(c) Remove the ULB [6].

(d) Keep the screw(s) [3] and the clamp.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01

MECH | INSP

AKS ALL; FLIGHT DATA RECORDERS WITH DUKANE ULBS
TASK 31-31-09-960-801

2. Dukane Underwater Locator Beacon Battery - Replacement

(Figure 2 or Figure 3)

A. General

(1) This procedure contains the steps to replace the Dukane ULB battery.

B. Removal Procedure

SUBTASK 31-31-09-800-004

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 ULB 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 [4], send it to the manufacturer for servicing.

SUBTASK 31-31-09-020-008

(2) If you do not have a DK100/DK130 ULB [4], remove the ULB battery [28]:

CAUTION: DO NOT HOLD THE UNDERWATER LOCATOR BEACON IN A VISE. THIS CAN CAUSE DAMAGE TO THE BEACON BODY.

(a) Hold the ULB [4] body with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066 [22].

(b) Use the spanner wrench, COM-1619 [21] to remove the end cap [25] that is identified BATTERY ACCESS.

(c) Remove the rubber shock cushion [27] from the battery end if it is not removed with the end cap [25].

(d) Hit the ULB [4] lightly to remove the battery [28].

C. Installation Procedure

SUBTASK 31-31-09-420-008

(1) Make sure that the new battery is the same as the battery code on the ULB label. See the table below.

NOTE: It is necessary to replace the removed Battery Code C with a new Battery Code C. Battery Codes B and D are interchangeable.

BATTERY CODE	REQUIRED BATTERY KIT
B	810-2007/K
C	810-2008/K
D	810-2007/K

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-150-00-01

AKS ALL; FLIGHT DATA RECORDERS WITH DUKANE ULBS (Continued)

MECH | INSP

(2) Install the ULB battery, G02440 [28].

NOTE: The Dukane 810-2007/K battery or the Dukane 810-2008/K are 6 year lithium batteries used in the Dukane model DK120 and DK140 ULB.

NOTE: Battery, O-ring and lubricant are provided in battery replacement kit.

(a) Put a new battery replacement label [23] on the ULB [4] body.

(b) On the date label [23], write the next scheduled replacement date for the new ULB battery that you installed.

NOTE: The date label [23] is blank so you can write in a replacement date based on your maintenance schedule.

CAUTION: REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(c) Clean the threads and the O-ring contact area in the ULB [4] body.

CAUTION: MAKE SURE THE POLARITY IS CORRECT. INCORRECT POLARITY CAN CAUSE PERMANENT DAMAGE TO THE BEACON.

(d) Put the new battery, G02440 [28] in the ULB [4] with the end identified INSERT THIS END in first.

(e) Do these steps to test the beacon off-current:

1) Put the positive probe of a digital/analog multimeter, COM-1793 on the positive end of the battery [28].

2) Put the negative probe on the outer surface of the ULB [4].

3) Make sure that the multimeter shows an electrical current of 3 microamperes or less.

a) If the current is more than 3 microamperes, then replace the ULB.

(f) Remove and discard the used O-ring [26] from the end cap [25].

CAUTION: REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(g) Clean the threads and the O-ring groove in the ULB [4] body.

(h) Apply a thin layer of lubricant, D50082 to the new o-ring, G50275 [26], O-ring groove, and threads.

(i) Install the new o-ring, G50275 [26] on the end cap [25].

(j) Put the rubber shock cushion [27] smoothly on the end cap [25].

(k) Put the end cap [25] into the ULB [4] body.

(l) Use the spanner wrench, COM-1619 [21] to tighten the end cap [25] until the cap flange touches the ULB [4] body.

NOTE: Only use hand force on the spanner wrench, COM-1619 [21].

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01

MECH	INSP

AKS ALL; FLIGHT DATA RECORDERS WITH DATASONIC ULBS
TASK 31-31-09-960-802

3. Teledyne Benthos Underwater Locator Beacon Battery - Replacement

(Figure 4)

A. General

(1) This procedure contains the steps to replace the Teledyne Benthos ULB battery.

B. Prepare for the Removal

SUBTASK 31-31-09-860-001

(1) Measure the battery voltage of the ELP-362D ULB [4]. 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.

C. Removal Procedure

SUBTASK 31-31-09-800-002

(1) If the measured voltage is less than 6.0 Volts, send the ELP-362D ULB [4] to the manufacturer for servicing.

SUBTASK 31-31-09-020-006

(2) If the measured voltage is 6.0 Volts or more, remove the battery, G50272 [28] from the ELP-362D ULB [4]:

CAUTION: DO NOT HOLD THE ULB WITH A VISE. THIS CAN CAUSE DAMAGE TO THE ULB.

(a) Hold the ULB [4] body with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066.

(b) Use the underwater locator beacon torque adapter, COM-2543 to remove the end-cap [25] identified as “BATTERY ACCESS”.

(c) Turn the housing up to remove the battery from the unit.

(d) Discard the battery [28].

NOTE: Refer to local instructions when you discard the battery [28].

D. Installation Procedure

SUBTASK 31-31-09-420-002

(1) Install the ULB battery, G50272 [28]:

(a) Set the battery [28] until the arrow points to the top end of the unit.

NOTE: The battery label has an arrow mark.

(b) On the date label [23], write the next scheduled replacement date for the new ULB battery that you installed.

NOTE: The date label [23] is blank so you can write in a replacement date based on your maintenance schedule.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-150-00-01

AKS ALL; FLIGHT DATA RECORDERS WITH DATASONIC ULBS (Continued)

MECH | INSP

CAUTION: REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(c) Clean the threads and the O-ring contact area in the ULB [4] body.

CAUTION: INSTALL THE ULB BATTERY [28] CORRECTLY. INCORRECT POLARITY WILL CAUSE PERMANENT DAMAGE TO THE ULB.

(d) Put the new battery, G50272 [28] in the ULB [4] with the end identified INSERT THIS END in first.

(e) Do these steps to test the beacon off-current:

1) Put the positive probe of a digital/analog multimeter, COM-1793 on the positive end of the battery [28].
2) Put the negative probe on the outer surface of the ULB [4].
3) Make sure that the multimeter shows an electrical current of 3 microamperes or less.
4) If the current is more than 3 microamperes, then replace the ULB [4].

(f) Remove and discard the O-ring [26] from its groove in the end-cap [25].

CAUTION: REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(g) Clean the threads and the O-ring groove in the end cap.

NOTE: Lubricant and O-ring are supplied in the battery replacement kit.

(h) Apply a thin layer of lubricant, D50082 to the new o-ring, G50273 [26], O-ring groove, and threads.

(i) Put the lubricated o-ring, G50273 [26] in the end-cap groove.

(j) Attach the end-cap [25] to the housing.

(k) Use the underwater locator beacon torque adapter, COM-2543 to install the end-cap [25] tightly.

NOTE: Only use hand force on the underwater locator beacon torque adapter, COM-2543.

(l) Torque the end-cap [25] to 25 to 30 inch pounds.

AKS ALL

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-150-00-01

TASK 31-31-09-400-801

MECH | INSP

4. Underwater Locator Beacon Installation

(Figure 1)

A. Installation Procedure

SUBTASK 31-31-09-420-004

(1) Do these steps to install the ULB [4] on the AlliedSignal solid state flight data recorder [2]:

(a) Make sure that the water switch end of the ULB [4] has no grease or dirt.

(b) Clean the water switch on the ULB [4] with a weak general purpose household detergent cleaner, B00541.

(c) Put the ULB [4] in the cradle on the flight data recorder [2].

(d) Make sure you can read the replacement date on the ULB [4].

(e) Install the screw(s) [3] that hold the clamp on the end of the ULB.

(f) Tighten the scews [3] to 23 ±3 in-lb (3 ±1 N·m).

SUBTASK 31-31-09-700-004

(2) Do one of these tasks to test the ULB:

Underwater Locator Beacon Test with a 42A12 Series Test Set, AMM TASK 31-31-09-960-803 or Underwater Locator Beacon Test with a PL1 Test Set, AMM TASK 31-31-09-960-804 or Underwater Locator Beacon Test with a ATS-260 Test Set, AMM TASK 31-31-09-700-802 or Underwater Locator Beacon Test with a PL3 Test Set, AMM TASK 31-31-09-700-801 or Underwater Locator Beacon Test with a Seacom TS100 Test Set, AMM TASK 31-31-09-700-803 or Underwater Locator Beacon Test with a TS200 Test Set, AMM TASK 31-31-09-700-804

SUBTASK 31-31-09-420-006

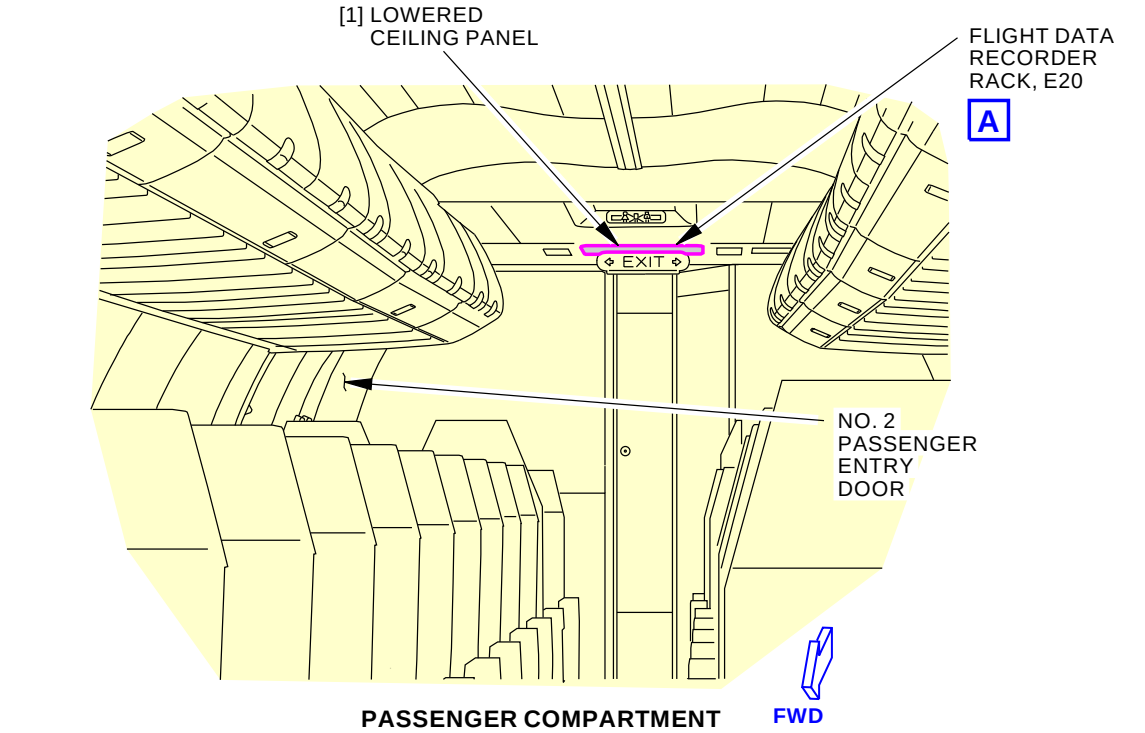
(3) Do this task: Flight Data Recorder Installation, AMM TASK 31-31-11-400-802.

SUBTASK 31-31-09-410-002

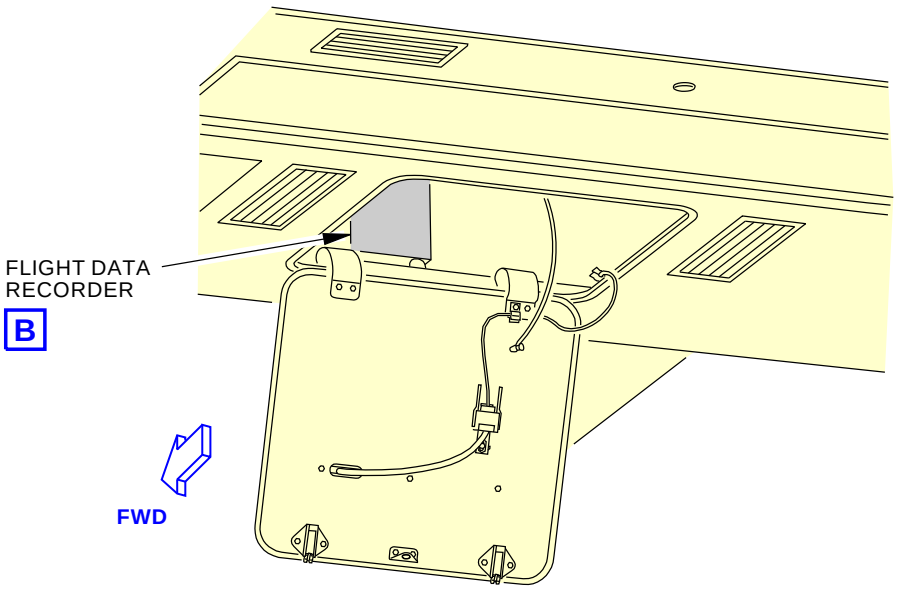
(4) Close the lowered ceiling panel.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01



PASSENGER COMPARTMENT



FLIGHT DATA RECORDER RACK, E20

A

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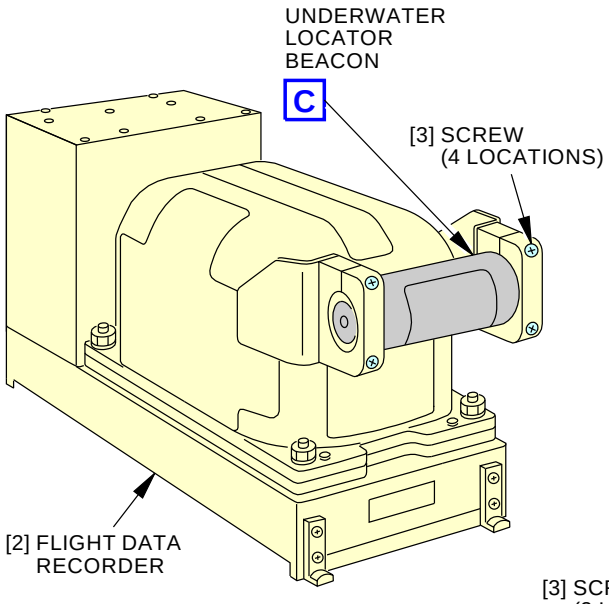
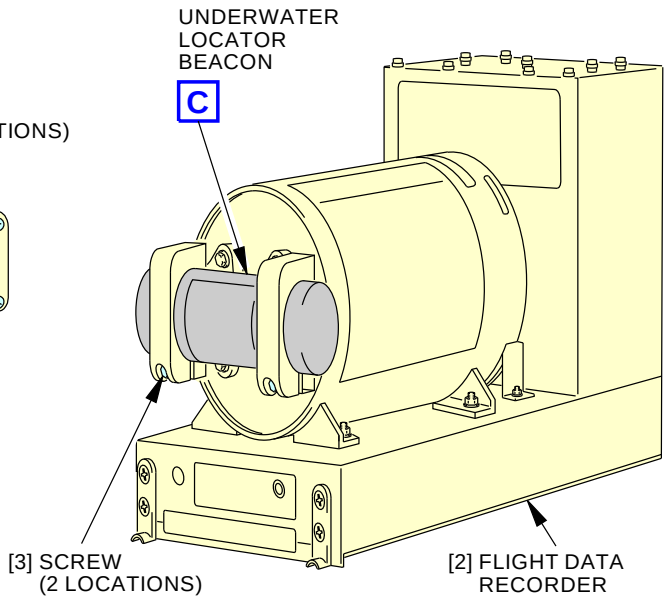
Underwater Locator Beacon Installation
Figure 1 (Sheet 1 of 2)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01



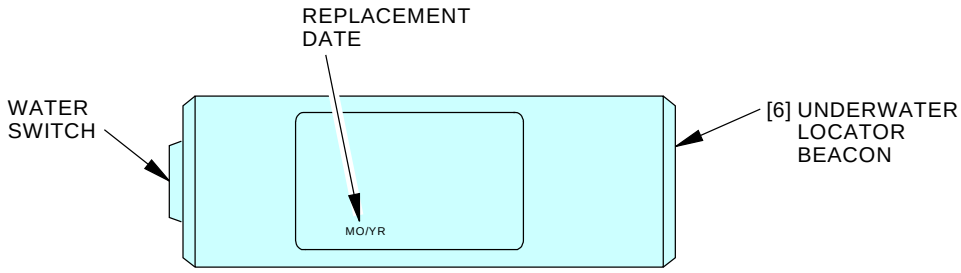
FLIGHT DATA RECORDER

B



FLIGHT DATA RECORDER

B



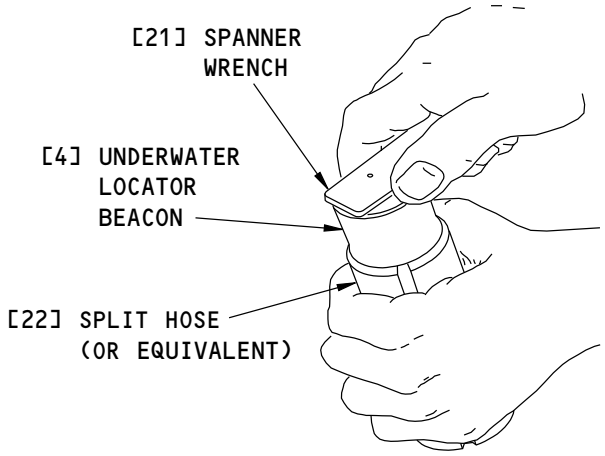
UNDERWATER LOCATOR BEACON
(EXAMPLE)

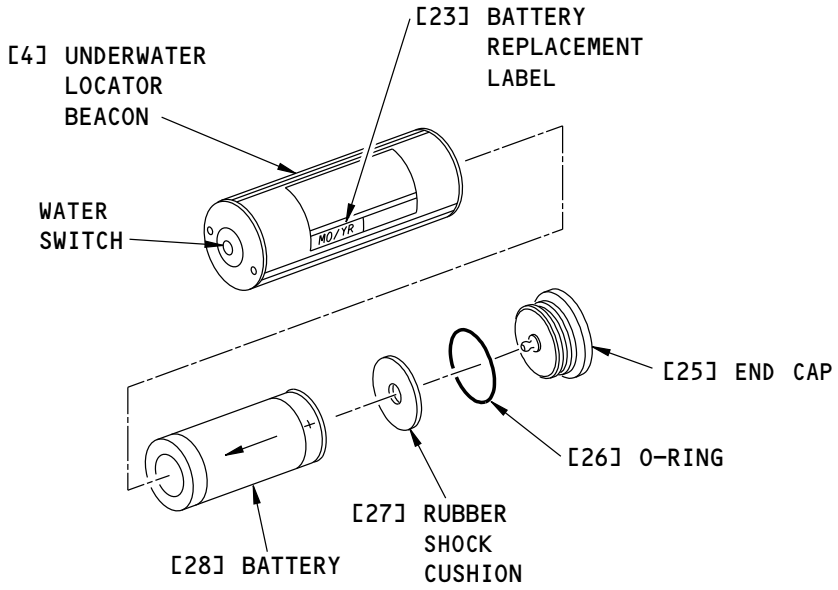
C

F69975 S0006574379_V3

Underwater Locator Beacon Installation
Figure 1 (Sheet 2 of 2)

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01

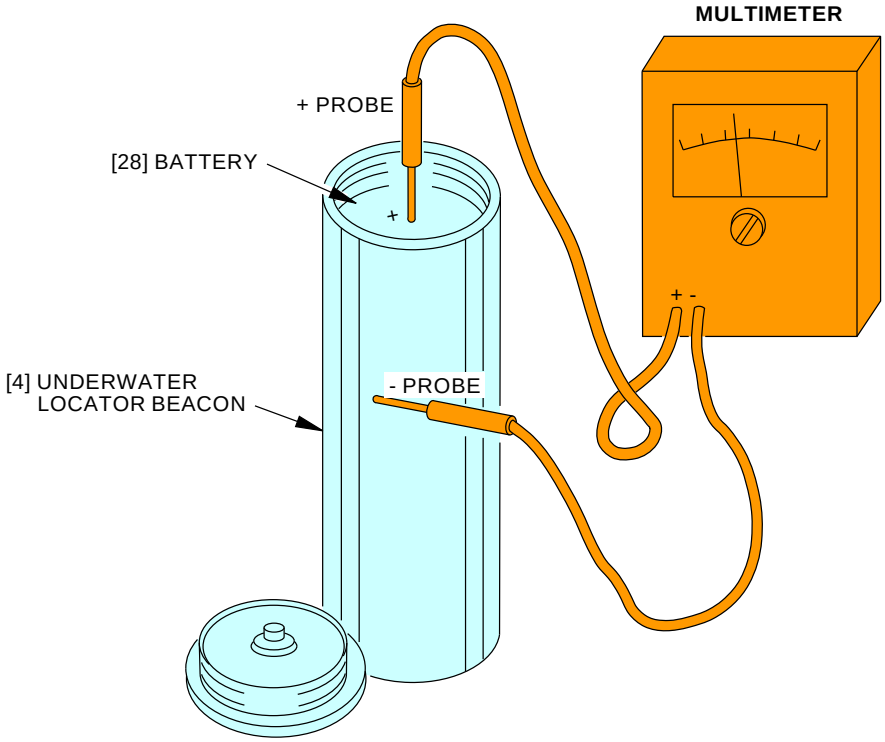




E11040 S0006417281_V2

Underwater Locator Beacon Battery Replacement
Figure 2

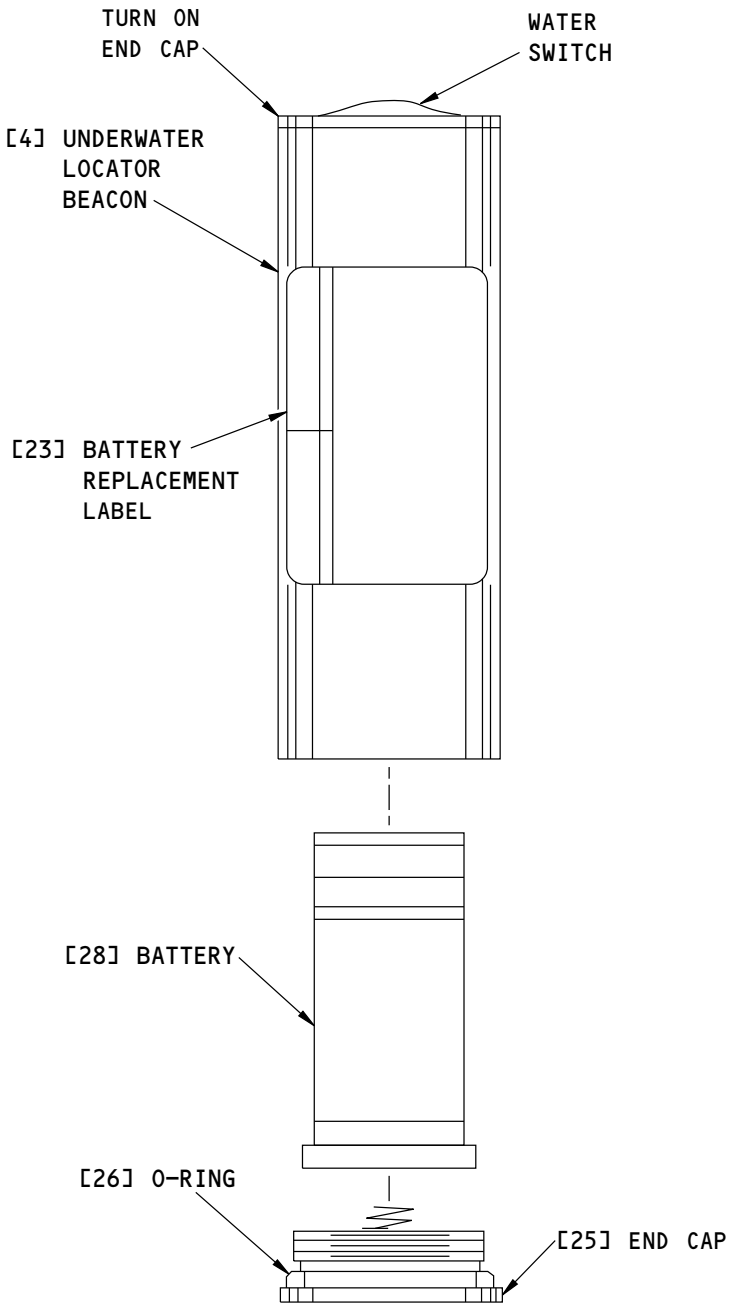
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01



2279078 S0000514233_V2

Beacon Off-Current Test
Figure 3

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-150-00-01



1578730 S0000296580_V1

Underwater Locator Beacon Battery Replacement
Figure 4

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		CAPTAIN'S DISPLAY UNITS VENTILATION HOLE CLEANING			**31-160-01-01**
DATE	TASK **RESTORE**				RELATED CARD
TAIL NUMBER	WORK AREA **CREW CABIN**	VERSION **1.1**	THRESHOLD **6000 FH**	REPEAT **6000 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**	**NOTE**			
		ACCESS			ZONE **211 212**

Restore (Clean) all lint, dust and debris from the ventilation holes located on the aft side of the captain's primary flight, navigation, and center lower engine display units.

INTERVAL NOTE: Display unit lint, dust and debris accumulation rates are dependent on operator environment, route structure and time of the year. Airline operators are encouraged to evaluate their particular 737NG operating environment, accompanied with debris findings at time of cleaning to identify and implement the most effective and economic maintenance interval. Operators should negotiate with their local regulatory agency to adjust intervals to a best fit for their individual operational environments.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 31-62-00-710-801	Common Display System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2618	Cleaner - Vacuum Part #: 98606 Supplier: 08531 Part #: BP80 Supplier: $0373 Part #: R80 Supplier: $0373 Part #: RSV130 Supplier: $1291 Opt Part #: 02146A Supplier: 0A5X2 Opt Part #: 44SPEC Supplier: 0Y8U0 Opt Part #: 655406-7M Supplier: 0Y8U0 Opt Part #: C-39485-41 Supplier: 16893 Opt Part #: C-39485-42 Supplier: 16893 Opt Part #: WD80 Supplier: $0373

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-01-01

MECH | INSP

TASK 31-62-11-000-801

1. Display Unit Removal

(Figure 1)

A. Removal Procedure

SUBTASK 31-62-11-860-001

(1) For the applicable display unit open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

SUBTASK 31-62-11-800-001

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 MOVE THE CONTROL COLUMN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure hydraulic power is removed from the flight controls before you move the control column. To remove hydraulic power, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

SUBTASK 31-62-11-020-001

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

(3) Do these steps to remove the display UNIT [1] from the instrument panel:

NOTE: The center lower display UNIT [1] is installed with the latch mechanism at the top. All other display UNIT [1] are installed with the latch mechanism at the bottom.

(a) Release the quarter-turn fastener [2] on the handle [3] of the display UNIT [1].

(b) Pull the handle [3] to approximately 90 degrees from the face of the display UNIT [1].

(c) If the center lower display unit is being removed, move the speed brake lever from the DOWN position to the UP position.

NOTE: Moving the speed brake lever will provide the clearance needed to remove the center lower display unit.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-01-01

MECH	INSP

(d) Pull the display UNIT [1] out carefully to remove it from the instrument panel.

(e) Push the handle [3] until it is flat against the face of the display UNIT [1].

(f) Turn and lock the quarter-turn fastener [2] on the handle of the display UNIT [1].

(g) Put protective covers on the electrical connectors.

(h) If the center lower display unit is being removed, move the speed brake lever from the UP position to the DOWN position.

1) Make sure the speed brake lever is in the DOWN and locked position.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-01-01

MECH | INSP

TASK 31-62-11-100-803

2. How to Clean the Holes on the Rear of the Display Unit

A. Procedure

SUBTASK 31-62-11-010-001

(1) Do this task: Display Unit Removal, TASK 31-62-11-000-801.

SUBTASK 31-62-11-210-001

(2) Examine the air holes on the rear of the display unit.

SUBTASK 31-62-11-100-012

(3) If contamination causes a blockage of more than 50 percent of the holes, then clean the holes on the rear of the display units.

SUBTASK 31-62-11-100-007

CAUTION: DO NOT USE COMPRESSED AIR TO CLEAN THE HOLES ON THE REAR OF THE DISPLAY UNIT. COMPRESSED AIR WILL PUSH CONTAMINATION INTO THE DISPLAY UNIT. THIS CAN CAUSE DAMGE TO THE EQUIPMENT.

(4) Do this step to clean the holes on the rear of the display unit.

(a) Remove all lint, dust, and debris from the air inlet and exhaust holes on the rear of the display unit with a vacuum cleaner, COM-2618.

SUBTASK 31-62-11-410-001

(5) Do this task: Display Unit Installation, TASK 31-62-11-400-801.

SUBTASK 31-62-11-860-007

(6) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-160-01-01

MECH | INSP

TASK 31-62-11-400-801

3. Display Unit Installation

(Figure 1)

A. General

(1) The installation procedure includes an installation test. The installation test makes sure that the display UNIT [1] is connected correctly to ARINC 429 feedback busses.

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	UNIT	31-11-21-06-095	AKS ALL
		31-11-31-06-025	AKS ALL
		31-11-51-08-035	AKS ALL
		31-11-81-02-020	AKS ALL
		31-62-11-03-105	AKS 001-027

C. Installation Procedure

SUBTASK 31-62-11-860-002

(1) For the applicable display unit:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

SUBTASK 31-62-11-800-002

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 MOVE THE CONTROL COLUMN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure hydraulic power is removed from the flight controls before you move the control column. To remove hydraulic power, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-01-01

MECH | INSP

SUBTASK 31-62-11-420-001

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

(3) Do these steps to install the display unit:

NOTE: You must install the center lower display UNIT [1] with the latch mechanism at the top. You install all other display UNITS [1] with the latch mechanism at the bottom.

(a) Remove the protective covers from the electrical connectors.

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Release the quarter-turn fastener [2] on the handle [3] of the display UNIT [1].

(d) Pull the handle [3] to approximately 90 degrees from the face of the display UNIT [1].

(e) If the center lower display unit is being installed, move the speed brake lever from the DOWN position to the UP position.

NOTE: Moving the speed brake lever will provide the clearance needed to install the center lower display unit.

(f) Put the display UNIT [1] carefully into its position in the instrument panel.

(g) Push the display UNIT [1] forward until it stops.

(h) Push the handle [3] until it is flat against the face of the display UNIT [1].

(i) Turn and lock the quarter-turn fastener [2] on the handle of the display UNIT [1].

(j) If the center lower display unit is being installed, move the speed brake lever from the UP position to the DOWN position.

1) Make sure the speed brake lever is in the DOWN and locked position.

SUBTASK 31-62-11-860-003

(4) For the applicable display unit:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

MECH | INSP

SUBTASK 31-62-11-800-003

(5) Make sure that the engine start levers on the P8 aisle stand are in the CUTOFF position, and install DO-NOT-OPERATE tags.

SUBTASK 31-62-11-860-009

(6) Put the engine start switches on the P5 overhead panel to CONT for a minimum of 10 seconds.

NOTE: This will cause the EECs to transmit all of the download limits to the DEU.

D. Installation Test

SUBTASK 31-62-11-860-004

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 31-62-11-860-005

(2) If you installed the lower center display unit, then do this step:

(a) Set the LOWER DU switch on the captain's display select module to the ENG PRI position.

SUBTASK 31-62-11-710-001

(3) Make sure the applicable display UNIT [1] is not blank.

(4) If you installed the lower-center multi-function display (MFD), then do these steps:

(a) Make sure the Flight Deck Entry Video Surveillance System (FDEVSS) can show on the lower-center MFD.

NOTE: Video-capable MFDs are required.

1) Make sure that the P5-13 IFE/PASS SEAT switch in the flight deck is in the ON position.

2) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

3) Press the DSPL button on the Camera Control Panel (CCP), M3000.

4) Make sure that a video image appears on the lower-center MFD.

SUBTASK 31-62-11-710-002

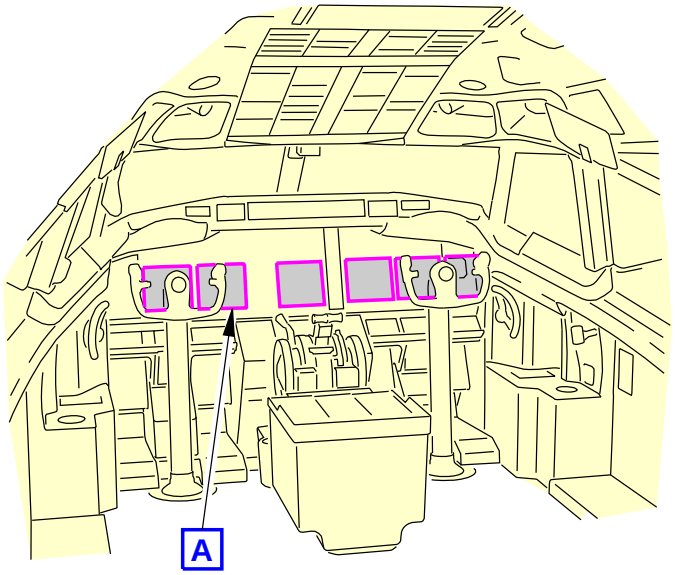
(5) To do the display unit operational test (optional), do this task: Common Display System - Operational Test, AMM TASK 31-62-00-710-801.

SUBTASK 31-62-11-860-006

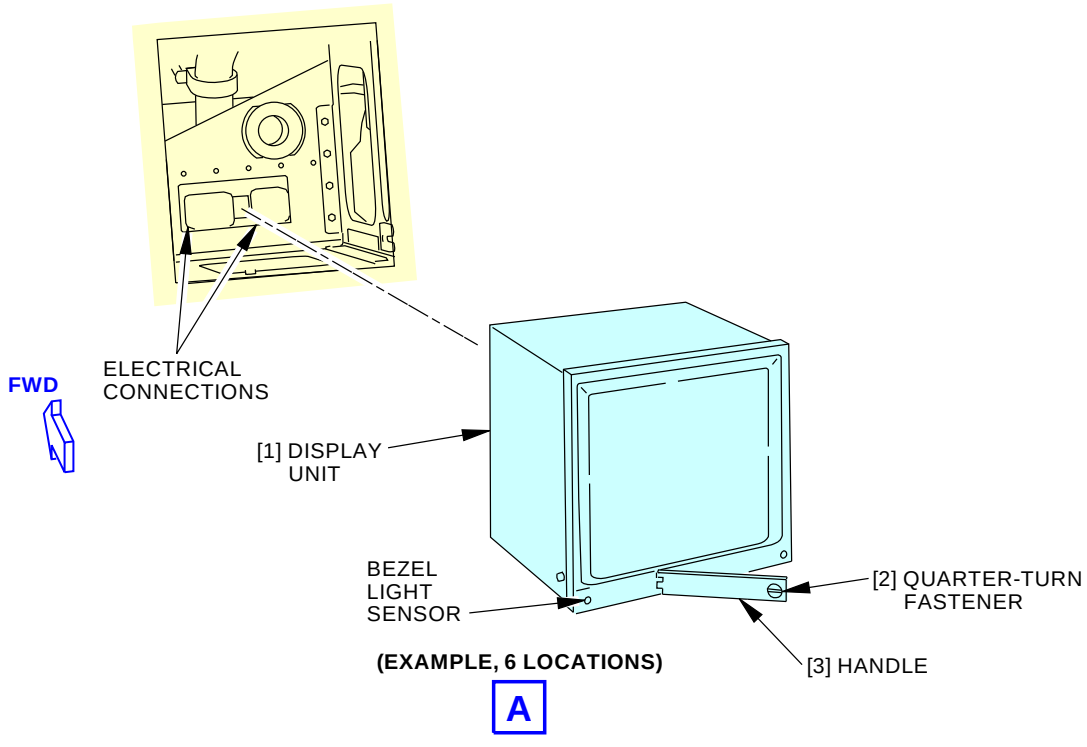
(6) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-160-01-01



FLIGHT COMPARTMENT



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Display Unit Installation
Figure 1

AIRLINE CARD NO		TITLE			BOEING CARD NO.
		FIRST OFFICER'S DISPLAY UNITS VENTILATION HOLE CLEANING			**31-160-02-01**
DATE	TASK **RESTORE**				RELATED CARD
TAIL NUMBER	WORK AREA **CREW CABIN**	VERSION **1.1**	THRESHOLD **3000 FH**	REPEAT **3000 FH**	APPLICABILITY AIRPLANE: **ALL** ENGINE: **ALL**
STATION	SKILL **AVION**	**NOTE**			
		ACCESS			ZONE **211 212**

Restore (Clean) all lint, dust and debris from the ventilation holes located on the aft side of the first officer's primary flight, navigation, and upper center engine display units.

INTERVAL NOTE: Display unit lint, dust and debris accumulation rates are dependent on operator environment, route structure and time of the year. Airline operators are encouraged to evaluate their particular 737NG operating environment, accompanied with debris findings at time of cleaning to identify and implement the most effective and economic maintenance interval. Operators should negotiate with their local regulatory agency to adjust intervals to a best fit for their individual operational environments.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 29-11-00-860-805	Hydraulic System A or B Power Removal (P/B 201)
AMM 31-62-00-710-801	Common Display System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2618	Cleaner - Vacuum Part #: 98606 Supplier: 08531 Part #: BP80 Supplier: $0373 Part #: R80 Supplier: $0373 Part #: RSV130 Supplier: $1291 Opt Part #: 02146A Supplier: 0A5X2 Opt Part #: 44SPEC Supplier: 0Y8U0 Opt Part #: 655406-7M Supplier: 0Y8U0 Opt Part #: C-39485-41 Supplier: 16893 Opt Part #: C-39485-42 Supplier: 16893 Opt Part #: WD80 Supplier: $0373

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-02-01

MECH | INSP

TASK 31-62-11-000-801

1. Display Unit Removal

(Figure 1)

A. Removal Procedure

SUBTASK 31-62-11-860-001

(1) For the applicable display unit open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

SUBTASK 31-62-11-800-001

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 MOVE THE CONTROL COLUMN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure hydraulic power is removed from the flight controls before you move the control column. To remove hydraulic power, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

SUBTASK 31-62-11-020-001

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

(3) Do these steps to remove the display UNIT [1] from the instrument panel:

NOTE: The center lower display UNIT [1] is installed with the latch mechanism at the top. All other display UNIT [1] are installed with the latch mechanism at the bottom.

(a) Release the quarter-turn fastener [2] on the handle [3] of the display UNIT [1].

(b) Pull the handle [3] to approximately 90 degrees from the face of the display UNIT [1].

(c) If the center lower display unit is being removed, move the speed brake lever from the DOWN position to the UP position.

NOTE: Moving the speed brake lever will provide the clearance needed to remove the center lower display unit.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-02-01

MECH	INSP

(d) Pull the display UNIT [1] out carefully to remove it from the instrument panel.

(e) Push the handle [3] until it is flat against the face of the display UNIT [1].

(f) Turn and lock the quarter-turn fastener [2] on the handle of the display UNIT [1].

(g) Put protective covers on the electrical connectors.

(h) If the center lower display unit is being removed, move the speed brake lever from the UP position to the DOWN position.

1) Make sure the speed brake lever is in the DOWN and locked position.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-02-01

MECH | INSP

TASK 31-62-11-100-803

2. How to Clean the Holes on the Rear of the Display Unit

A. Procedure

SUBTASK 31-62-11-010-001

(1) Do this task: Display Unit Removal, TASK 31-62-11-000-801.

SUBTASK 31-62-11-210-001

(2) Examine the air holes on the rear of the display unit.

SUBTASK 31-62-11-100-012

(3) If contamination causes a blockage of more than 50 percent of the holes, then clean the holes on the rear of the display units.

SUBTASK 31-62-11-100-007

CAUTION: DO NOT USE COMPRESSED AIR TO CLEAN THE HOLES ON THE REAR OF THE DISPLAY UNIT. COMPRESSED AIR WILL PUSH CONTAMINATION INTO THE DISPLAY UNIT. THIS CAN CAUSE DAMGE TO THE EQUIPMENT.

(4) Do this step to clean the holes on the rear of the display unit.

(a) Remove all lint, dust, and debris from the air inlet and exhaust holes on the rear of the display unit with a vacuum cleaner, COM-2618.

SUBTASK 31-62-11-410-001

(5) Do this task: Display Unit Installation, TASK 31-62-11-400-801.

SUBTASK 31-62-11-860-007

(6) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-160-02-01

MECH | INSP

TASK 31-62-11-400-801

3. Display Unit Installation

(Figure 1)

A. General

(1) The installation procedure includes an installation test. The installation test makes sure that the display UNIT [1] is connected correctly to ARINC 429 feedback busses.

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	UNIT	31-11-21-06-095	AKS ALL
		31-11-31-06-025	AKS ALL
		31-11-51-08-035	AKS ALL
		31-11-81-02-020	AKS ALL
		31-62-11-03-105	AKS 001-027

C. Installation Procedure

SUBTASK 31-62-11-860-002

(1) For the applicable display unit:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

SUBTASK 31-62-11-800-002

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 MOVE THE CONTROL COLUMN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure hydraulic power is removed from the flight controls before you move the control column. To remove hydraulic power, do this task: Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-02-01

MECH | INSP

SUBTASK 31-62-11-420-001

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

(3) Do these steps to install the display unit:

NOTE: You must install the center lower display UNIT [1] with the latch mechanism at the top. You install all other display UNITS [1] with the latch mechanism at the bottom.

(a) Remove the protective covers from the electrical connectors.

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Release the quarter-turn fastener [2] on the handle [3] of the display UNIT [1].

(d) Pull the handle [3] to approximately 90 degrees from the face of the display UNIT [1].

(e) If the center lower display unit is being installed, move the speed brake lever from the DOWN position to the UP position.

NOTE: Moving the speed brake lever will provide the clearance needed to install the center lower display unit.

(f) Put the display UNIT [1] carefully into its position in the instrument panel.

(g) Push the display UNIT [1] forward until it stops.

(h) Push the handle [3] until it is flat against the face of the display UNIT [1].

(i) Turn and lock the quarter-turn fastener [2] on the handle of the display UNIT [1].

(j) If the center lower display unit is being installed, move the speed brake lever from the UP position to the DOWN position.

1) Make sure the speed brake lever is in the DOWN and locked position.

SUBTASK 31-62-11-860-003

(4) For the applicable display unit:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	2	C01372	DISPLAY CTR UPR
D	3	C01365	DISPLAY CAPT INBD
D	4	C01363	DISPLAY CAPT OUTBD

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	10	C01364	DISPLAY F/O OUTBD
E	11	C01366	DISPLAY F/O INBD
E	12	C01373	DISPLAY CTR LWR

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 31-160-02-01

MECH | INSP

SUBTASK 31-62-11-800-003

(5) Make sure that the engine start levers on the P8 aisle stand are in the CUTOFF position, and install DO-NOT-OPERATE tags.

SUBTASK 31-62-11-860-009

(6) Put the engine start switches on the P5 overhead panel to CONT for a minimum of 10 seconds.

NOTE: This will cause the EECs to transmit all of the download limits to the DEU.

D. Installation Test

SUBTASK 31-62-11-860-004

(1) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

SUBTASK 31-62-11-860-005

(2) If you installed the lower center display unit, then do this step:

(a) Set the LOWER DU switch on the captain's display select module to the ENG PRI position.

SUBTASK 31-62-11-710-001

(3) Make sure the applicable display UNIT [1] is not blank.

(4) If you installed the lower-center multi-function display (MFD), then do these steps:

(a) Make sure the Flight Deck Entry Video Surveillance System (FDEVSS) can show on the lower-center MFD.

NOTE: Video-capable MFDs are required.

1) Make sure that the P5-13 IFE/PASS SEAT switch in the flight deck is in the ON position.

2) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

3) Press the DSPL button on the Camera Control Panel (CCP), M3000.

4) Make sure that a video image appears on the lower-center MFD.

SUBTASK 31-62-11-710-002

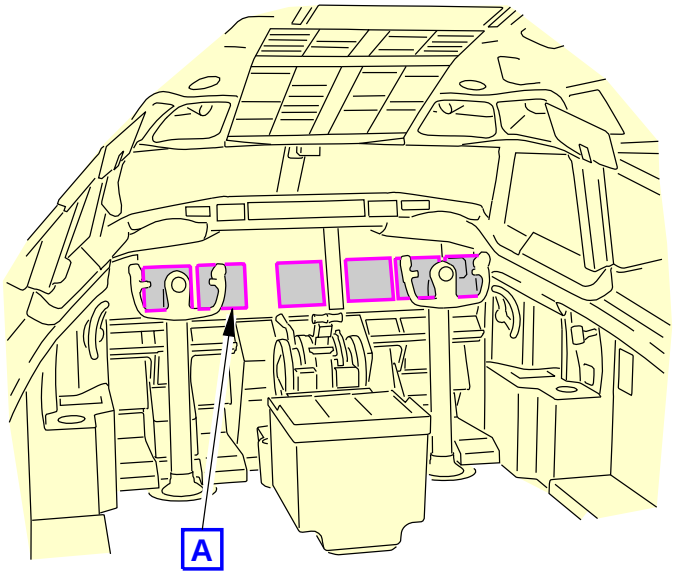
(5) To do the display unit operational test (optional), do this task: Common Display System - Operational Test, AMM TASK 31-62-00-710-801.

SUBTASK 31-62-11-860-006

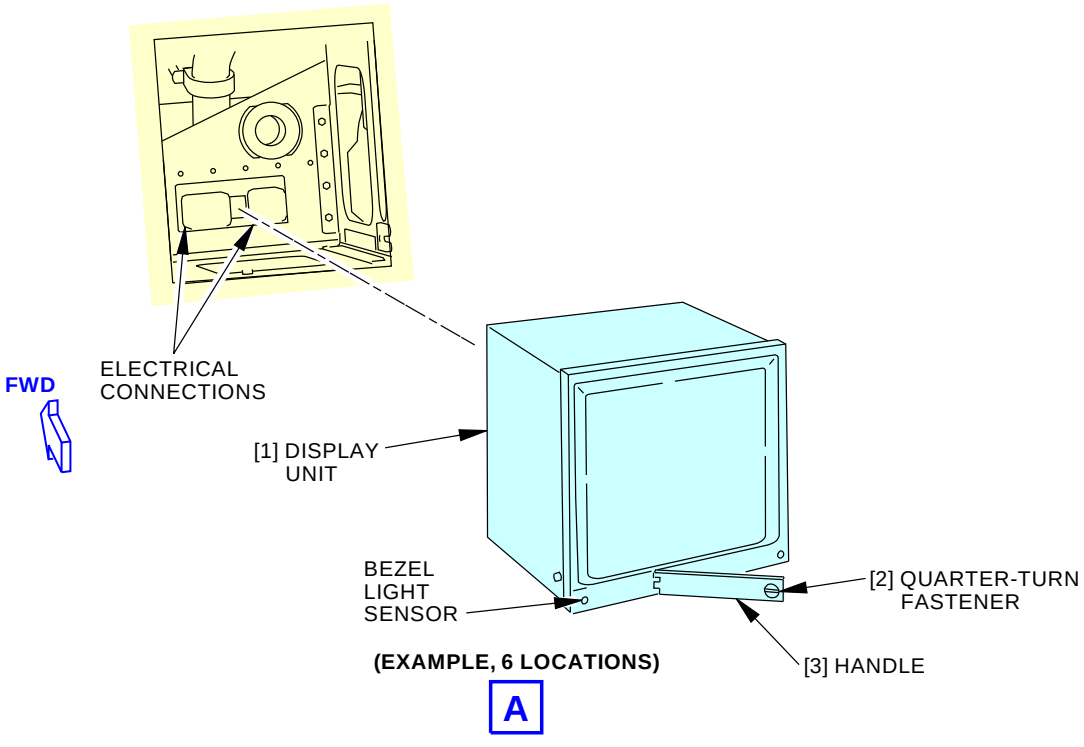
(6) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

——— END OF TASK ———

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO.
				31-160-02-01



FLIGHT COMPARTMENT



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Display Unit Installation
Figure 1