CHAPTER

21

AIR CONDITIONING

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G04902 S0000148576_V1

Basic Fault Isolation Process
Figure 1

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Some airplane systems have built-in test equipment (BITE). IF the system finds a fault when you do a BITE test, it will give you a maintenance message.

A maintenance message can be any of these:

- a code
- a text message
- a light
- an indication.

To find the fault isolation task for a maintenance message, go to the Maintenance Message Index in the chapter for the applicable system.

If you do not know which chapter is the correct one, look at the list at the front of any Maintenance Message Index. For each system or component (LRU) that has BITE, this list gives the chapter number where you can find the Index that you need.

Find the maintenance message for the applicable LRU or system in the Index. Then find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps of the task (see Figure 4).

G04950 S0000148578_V1

Getting Fault Information from BITE
Figure 2

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IF YOU HAVE:	THEN DO THIS TO FIND THE TASK IN THE FIM:
FAULT CODE	1. The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code. If the fault code starts with a letter, then go to the Cabin Fault Code Index at the front of the FIM. 2. Find the task number on the same line as the fault code. Go to the task in the FIM and do the steps in the task (see Figure 4).
OBSERVED FAULT DESCRIPTION	1. Go to the Observed Fault List at the front of the FIM and find the best description for the fault. 2. Find the task number on the same line as the fault description. Go to the task in the FIM and do the steps of the task (see Figure 4).
CABIN FAULT DESCRIPTION	1. Go to the Cabin Fault List at the front of the FIM and find the best description for the fault. 2. Find the task number on the same line as the fault description. Go to the task in the FIM and do the steps of the task (see Figure 4).
MAINTENANCE MESSAGE (FROM BITE)	1. Go to the Maintenance Message Index in the chapter for the LRU (the front of each Index gives you the chapter number for all LRUs). Find the maintenance message in the Index. 2. Find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps in the task (see Figure 4).

G04979 S0000148579_V2

Finding the Fault Isolation Task in the FIM
Figure 3

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ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

POSSIBLE CAUSES

- The list of possible causes has the most likely cause first and the least likely cause last.
- You can use the maintenance records of your airline to determine if the fault occurred before. Compare the list of possible causes to the past maintenance actions. This will help prevent repetition of the same maintenance actions.

INITIAL EVALUATION PARAGRAPH

- The primary purpose of the Initial Evaluation paragraph at the start of the task is to help you find out if you can detect the fault right now:
  - If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
  - If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which maintenance action to take. Then monitor the airplane to see if the fault happens again on subsequent flights.
- The Initial Evaluation paragraph can also help you find out which Fault Isolation Procedure to use to isolate and correct the fault.

FAULT ISOLATION STEPS

- The FIM task steps are presented in a specified order. The "If... then" statements will guide you along a logical path. But if you do not plan to follow the FIM task exactly, make sure that you read it before you start to isolate the fault. Some FIM procedures start with important steps that have an effect on the other steps in the procedure.
- When you are at the endpoint of the path, the step says "...you corrected the fault." Complete the step and exit the procedure.

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Doing the Fault Isolation Task
Figure 4

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Subjects at Front of FIM
Figure 5

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Subjects in Each FIM Chapter
Figure 6

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
210 020 00	Smoke: Stops with recirculation fan(s) off, isolation valve closed, and right pack switch at off - flight compartment and passenger cabin.	21-00 TASK 801
210 030 00	Smoke: Stops with recirculation fan(s) off, isolation valve closed, and right pack switch at off - passenger cabin.	21-00 TASK 801
210 040 00	Smoke: Stops with recirculation fan(s) off, isolation valve closed, right pack switch in auto, and left pack switch off - flight compartment.	21-00 TASK 802
210 050 00	Smoke: Stops with recirculation fan(s) off, isolation valve closed, right pack switch in auto, and left pack switch off - flight compartment and passenger cabin.	21-00 TASK 802
210 060 00	Smoke: Stops with recirculation fan(s) off, isolation valve closed, right pack switch in auto, and left pack switch off - passenger cabin.	21-00 TASK 802
210 070 00	Smoke: does not stop with recirculation fans off, isolation valve closed, and both pack switches at off - flight compartment.	21-00 TASK 803
210 080 00	Smoke: does not stop with recirculation fans off, isolation valve closed, and both pack switches at off - flight compartment and passenger cabin.	21-00 TASK 803
210 090 00	Smoke: does not stop with recirculation fans off, isolation valve closed, and both pack switches at off - passenger cabin.	21-00 TASK 803
210 671 00	Smoke or fumes in cabin: Source unknown.	21-00 TASK 806
212 010 31	Windshield: Air outlet does not operate - captain's.	21-22 TASK 801
212 010 32	Windshield: Air outlet does not operate - first officer's.	21-22 TASK 801
212 020 31	Foot air outlet: does not operate - captain's.	21-22 TASK 801
212 020 32	Foot air outlet: does not operate - first officer's.	21-22 TASK 801
212 040 41	Recirculation fan (dual-fan system): does not operate - left.	21-25 TASK 802
212 040 42	Recirculation fan (dual-fan system): does not operate - right.	21-25 TASK 802
212 050 00	Smoke: Stops with recirculation fan(s) off - flight compartment.	21-00 TASK 804
212 060 00	Smoke: Stops with recirculation fan(s) off - flight compartment and passenger cabin.	21-00 TASK 804
212 070 00	Smoke: Stops with recirculation fan(s) off - passenger cabin.	21-00 TASK 804
212 080 00	EQUIP COOLING EXHAUST OFF light: light on with switch at ALTERNATE.	21-27 TASK 805
212 090 00	EQUIP COOLING EXHAUST OFF light: light on with switch at NORMAL.	21-27 TASK 806
212 100 00	EQUIP COOLING SUPPLY OFF light: light on with switch at ALTERNATE.	21-27 TASK 807
212 110 00	EQUIP COOLING SUPPLY OFF light: light on with switch at NORMAL.	21-27 TASK 808

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
213 010 00	AUTO FAIL light: light on and ALTN light on, AUTO FAIL light goes off when pressurization mode selector switch is at ALTN.	21-31 TASK 801
213 020 00	AUTO FAIL light: light on, ALTN light not on.	21-31 TASK 801
213 030 00	Manual mode control of aft outflow valve: does not operate.	21-31 TASK 811
213 040 00	CABIN ALT indication: fluctuates.	21-31 TASK 801
213 050 00	Pressurization: cannot keep the correct cabin pressure.	21-31 TASK 801
213 060 00	Cabin altitude warning system: does not operate.	21-33 TASK 801
213 080 00	CABIN CLIMB indicator: does not operate, pointer does not move.	21-33 TASK 802
213 090 00	FLT ALT display: indication blank.	21-31 TASK 803
213 100 00	LAND ALT display: indication blank.	21-31 TASK 803
213 110 00	MANUAL VALVE indicator: does not operate, pointer does not move.	21-31 TASK 803
213 121 00	Cabin altitude and differential pressure gauge: indicates high cabin pressure differential and low cabin altitude.	21-33 TASK 803
215 010 00	Fog, high humidity, or ice in cabin.	21-51 TASK 801
215 015 00	Noise, pounding heard through air distribution system.	21-51 TASK 802
215 060 00	Temperature indication not correct - air temperature selector at PACK L.	21-61 TASK 854
215 070 00	Temperature indication not correct - air temperature selector at PACK R.	21-61 TASK 855
215 140 00	RAM DOOR FULL OPEN light: light is not on, airplane on the ground.	21-51 TASK 804
215 160 00	RAM DOOR FULL OPEN light: light stays on, airplane in the air.	21-51 TASK 803
215 220 41	PACK light: light on at cruise, light stays off after reset - left.	21-53 TASK 809
215 220 42	PACK light: light on at cruise, light stays off after reset - right.	21-53 TASK 810
215 230 41	PACK light: light on at cruise, light comes on again after reset - left.	21-53 TASK 813
215 230 42	PACK light: light on at cruise, light comes on again after reset - right.	21-53 TASK 814
215 240 41	PACK light: light on, cannot reset - left.	21-53 TASK 801
215 240 42	PACK light: light on, cannot reset - right.	21-53 TASK 802
215 250 41	PACK light: light on during approach, light stays off after reset - left.	21-53 TASK 807
215 250 42	PACK light: light on during approach, light stays off after reset - right.	21-53 TASK 808
215 260 41	PACK light: light on during approach, light comes on again after reset - left.	21-53 TASK 815

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
215 260 42	PACK light: light on during approach, light comes on again after reset - right.	21-53 TASK 816
215 280 41	PACK light: light on during climb, light stays off after reset - left.	21-53 TASK 805
215 280 42	PACK light: light on during climb, light stays off after reset - right.	21-53 TASK 806
215 290 41	PACK light: light on during climb, light comes on again after reset - left.	21-53 TASK 817
215 290 42	PACK light: light on during climb, light comes on again after reset - right.	21-53 TASK 818
215 310 41	PACK light: light on on ground, light stays off after reset - left.	21-53 TASK 803
215 310 42	PACK light: light on on ground, light stays off after reset - right.	21-53 TASK 804
215 320 41	PACK light: light on on ground, light comes on again after reset - left.	21-53 TASK 811
215 320 42	PACK light: light on on ground, light comes on again after reset - right.	21-53 TASK 812
216 040 00	AUTO temperature control: does not operate - CONT CAB.	21-61 TASK 861
216 050 00	AUTO temperature control: does not operate - AFT CAB.	21-61 TASK 863
216 060 00	AUTO temperature control: does not operate - FWD CAB.	21-61 TASK 864
216 120 00	Temperature indication not correct - air temperature selector at AFT ZONE CABIN.	21-61 TASK 857
216 130 00	Temperature indication not correct - air temperature selector at FWD ZONE CABIN.	21-61 TASK 856
216 140 00	Temperature indication not correct - air temperature selector at CONT CAB SUPPLY DUCT.	21-61 TASK 858
216 170 00	Temperature indication not correct - air temperature selector at AFT SUPPLY DUCT.	21-61 TASK 860
216 180 00	Temperature indication not correct - air temperature selector at FWD SUPPLY DUCT.	21-61 TASK 859
216 201 00	ZONE TEMP light: light on, stays off after reset - aft cabin.	21-62 TASK 844
216 202 00	ZONE TEMP light: light on, cannot reset - aft cabin.	21-62 TASK 841
216 203 00	ZONE TEMP light: light on, comes on again after reset - aft cabin.	21-62 TASK 847
216 211 00	ZONE TEMP light: light on, stays off after reset - control cabin.	21-62 TASK 842
216 212 00	ZONE TEMP light: light on, cannot reset - control cabin.	21-62 TASK 839
216 213 00	ZONE TEMP light: light on, comes on again after reset - control cabin.	21-62 TASK 845
216 221 00	ZONE TEMP light: light on, stays off after reset - forward cabin.	21-62 TASK 843
216 222 00	ZONE TEMP light: light on, cannot reset - forward cabin.	21-62 TASK 840
216 223 00	ZONE TEMP light: light on, comes on again after reset - forward cabin.	21-62 TASK 846

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
216 224 00	ZONE TEMP light: Comes on unexpectedly during master caution recall.	21-62 TASK 848
216 310 00	Trim air valve does not operate.	21-62 TASK 838
216 510 00	Temperature control: cannot cool cabins, all temperature selectors set to full cold.	21-62 TASK 849

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LRU/SYSTEM	SHORT NAME	CHAPTER
Air Data Inertial Reference System	ADIRS	34
Air Traffic Controller Transponder - 1 (Left)	ATC XPDR - 1 (L)	34
Air Traffic Controller Transponder - 2 (Right)	ATC XPDR - 2 (R)	34
Airborne Vibration Monitor System Signal Conditioner	AVM SIG COND	77
Antiskid Control Unit	ANTISKID	32
Attendant Control Panel	ACP	23
Automatic Direction Finder Receiver - 1	ADF RECVR - 1	34
Automatic Direction Finder Receiver - 2	ADF RECVR - 2	34
Autothrottle System	A/T	22
Auxiliary Power Unit	APU	49
Auxiliary Power Unit Generator Control Unit	APU GCU	24
Bus Power Control Unit	BPCU	24
Cabin Pressure Controller	CAB PRESS CON	21
Cargo Electronic Unit - Forward	CEU - FWD	26
Cargo Electronic Unit - Lower	CEU - LOWER	26
Cargo Electronic Unit - Main Aft	CEU - MAIN AFT	26
Cargo Electronic Unit - Main Forward	CEU - MAIN FWD	26
Common Display System	CDS	31
Compartment Overheat Detection Control Module	WING/BODY OHT	26
Digital Flight Control System	DFCS	22
Distance Measurement Equipment Interrogator	DME INTRROGTR	34
Electrical Meters, Battery, and Galley Power Module	P5-13	24
Electronic Engine Controller - 1	ENGINE - 1	73
Electronic Engine Controller - 2	ENGINE - 2	73
Emergency Locator Transmitter	ELT	23
Engine Accessory Unit	EAU	78
Engine Accessory Unit/TR DEPLOY ENG 1	EAU/TR DPLOY-ENG 1	78
Engine Accessory Unit/TR DEPLOY ENG 2	EAU/TR DPLOY-ENG 2	78
Engine Accessory Unit/TR STOW ENG 1	EAU/TR STOW-ENG 1	78
Engine Accessory Unit/TR STOW ENG 2	EAU/TR STOW-ENG 2	78
Engine and Auxiliary Power Unit Fire Detection Control Module	ENG/APU FIRE	26
Flap/Slat Electronics Unit	FSEU	27
Flight Data Acquisition Unit	FDAU	31
Flight Management Computer System	FMCS	34
Fuel Quantity Indicating System	FQIS	28

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LRU/SYSTEM	SHORT NAME	CHAPTER
Generator Control Unit - 1	GCU - 1	24
Generator Control Unit - 2	GCU - 2	24
Ground Proximity Computer	GROUND PROX	34
High Frequency Transceiver	HF XCVR	23
Multi-Mode Receiver	MMR	34
Nitrogen Generation System BITE Display Unit	NGS	47
Pack Flow Temperature Controller	PFTC	21
Pack/Zone Temperature Controller - Left	PACK/ZN CON - L	21
Pack/Zone Temperature Controller - Right	PACK/ZN CON - R	21
Proximity Switch Electronics Unit	PSEU	32
Radio Altimeter Receiver/Transmitter	RADIO ALTIMTR	34
Stall Management Yaw Damper Computer - 1	SMYD - 1	27
Stall Management Yaw Damper Computer - 2	SMYD - 2	27
Traffic Alert and Collision Avoidance System Computer	TCAS COMPUTER	34
VHF Omnidirectional Ranging Marker Beacon Receiver	VOR/MKR RCVR	34
Very High Frequency Transceiver	VHF XCVR	23
Waste Tank Logic Control Module	WASTE TANK	38
Weather Radar Receiver/Transmitter	WEATHER RADAR	34
Window Heat Control Unit - Left Forward	WHCU - L FWD	30
Window Heat Control Unit - Left Side	WHCU - L SIDE	30
Window Heat Control Unit - Right Forward	WHCU - R FWD	30
Window Heat Control Unit - Right Side	WHCU - R SIDE	30

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
CAB PRESS CON	ACFT RATE HI	21-31 TASK 815
CAB PRESS CON	AUTO/MAN ERROR	21-31 TASK 821
CAB PRESS CON	CAB DIFF PRESS HI	21-31 TASK 816
CAB PRESS CON	CAB PRESS SW ACTIV	21-31 TASK 820
CAB PRESS CON	CAB RATE HI	21-31 TASK 818
CAB PRESS CON	CONTRLR LRU FAIL	21-31 TASK 801
CAB PRESS CON	DADC #1 INVALID	21-31 TASK 806
CAB PRESS CON	DADC #2 INVALID	21-31 TASK 807
CAB PRESS CON	DRV ENBL ERROR	21-31 TASK 819
CAB PRESS CON	HI CAB ALT	21-31 TASK 817
CAB PRESS CON	LDG GEAR DISAGREE	21-31 TASK 822
CAB PRESS CON	LO INFL/HI LEAKG	21-31 TASK 823
CAB PRESS CON	N1/N2 LOWRU FAIL	21-31 TASK 810
CAB PRESS CON	OFV LRU FAIL	21-31 TASK 802
CAB PRESS CON	OFV OR WIRING	21-31 TASK 805
CAB PRESS CON	SEL PNL LRU FAIL	21-31 TASK 803
CAB PRESS CON	SMC #1 INVALID	21-31 TASK 808
CAB PRESS CON	SMC #2 INVALID	21-31 TASK 809
CAB PRESS CON	SYSTEM WIRING	21-31 TASK 804
PACK/ZN CON - L	BKUP ZONE CABIN SENSOR	21-62 TASK 815
PACK/ZN CON - L	BKUP ZONE SELECTOR	21-62 TASK 809
PACK/ZN CON - L	CONTROLLER FAULT - PACK/ZONE	21-62 TASK 802
PACK/ZN CON - L	CONTROLLER FAULT - RAM AIR	21-62 TASK 802
PACK/ZN CON - L	CONTROLLER FAULT - STANDBY	21-62 TASK 802
PACK/ZN CON - L	FLT DECK CABIN SENSOR	21-62 TASK 811
PACK/ZN CON - L	FLT DECK DUCT SENSOR	21-62 TASK 813
PACK/ZN CON - L	FLT DECK SELECTOR	21-62 TASK 805
PACK/ZN CON - L	FLT DECK TRIM VALVE	21-62 TASK 833
PACK/ZN CON - L	RAM AIR SNSR	21-62 TASK 821
PACK/ZN CON - L	SRADA EXIT	21-62 TASK 853
PACK/ZN CON - L	SRADA INLET	21-62 TASK 851
PACK/ZN CON - L	STBY OTHER PACK - PACK SNSR	21-62 TASK 824
PACK/ZN CON - L	STBY OTHER PACK - TCV	21-62 TASK 829
PACK/ZN CON - L	THIS PACK - MIX MANF SENSOR	21-62 TASK 827
PACK/ZN CON - L	THIS PACK - PACK SNSR	21-62 TASK 825

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PACK/ZN CON - L	THIS PACK - TCV	21-62 TASK 830
PACK/ZN CON - L	ZONE CABIN SENSOR	21-62 TASK 817
PACK/ZN CON - L	ZONE DUCT SENSOR	21-62 TASK 819
PACK/ZN CON - L	ZONE SELECTOR	21-62 TASK 808
PACK/ZN CON - L	ZONE TRIM VALVE	21-62 TASK 835
PACK/ZN CON - R	BKUP ZONE CABIN SENSOR	21-62 TASK 816
PACK/ZN CON - R	BKUP ZONE SELECTOR	21-62 TASK 807
PACK/ZN CON - R	CONTROLLER FAULT - PACK/ZONE	21-62 TASK 803
PACK/ZN CON - R	CONTROLLER FAULT - RAM AIR	21-62 TASK 803
PACK/ZN CON - R	CONTROLLER FAULT - STANDBY	21-62 TASK 803
PACK/ZN CON - R	FLT DECK CABIN SENSOR	21-62 TASK 810
PACK/ZN CON - R	FLT DECK DUCT SENSOR	21-62 TASK 812
PACK/ZN CON - R	FLT DECK SELECTOR	21-62 TASK 804
PACK/ZN CON - R	FLT DECK TRIM VALVE	21-62 TASK 832
PACK/ZN CON - R	RAM AIR SNSR	21-62 TASK 820
PACK/ZN CON - R	SRADA EXIT	21-62 TASK 854
PACK/ZN CON - R	SRADA INLET	21-62 TASK 852
PACK/ZN CON - R	STBY OTHER PACK - PACK SNSR	21-62 TASK 823
PACK/ZN CON - R	STBY OTHER PACK - TCV	21-62 TASK 828
PACK/ZN CON - R	THIS PACK - MIX MANF SENSOR	21-62 TASK 826
PACK/ZN CON - R	THIS PACK - PACK SNSR	21-62 TASK 822
PACK/ZN CON - R	THIS PACK - TCV	21-62 TASK 831
PACK/ZN CON - R	ZONE CABIN SENSOR	21-62 TASK 814
PACK/ZN CON - R	ZONE DUCT SENSOR	21-62 TASK 818
PACK/ZN CON - R	ZONE SELECTOR	21-62 TASK 806
PACK/ZN CON - R	ZONE TRIM VALVE	21-62 TASK 834
PFTC	21-51001 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51002 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51003 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51004 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51005 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51006 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51007 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51008 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51009 PFTC CNTRL INOP	21-62 TASK 858

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51010 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51017 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51018 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51019 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51030 DISPLAY	21-62 TASK 858
PFTC	21-51034 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51035 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51036 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51037 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51038 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51041 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51042 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51043 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51044 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51045 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51046 STBY 28V PWR OFF	21-62 TASK 858
PFTC	21-51053 PFTC CNTRL INOP	21-62 TASK 862
PFTC	21-51056 PFTC CNTRL INOP	21-62 TASK 863
PFTC	21-51061 PFTC CNTRL INOP	21-62 TASK 859
PFTC	21-51066 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51067 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51068 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51069 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51070 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51073 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51074 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51075 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51078 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51079 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51080 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51083 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51084 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51085 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51086 PFTC STBY CNTRL	21-62 TASK 875
PFTC	21-51087 PFTC STBY CNTRL	21-62 TASK 875

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51090 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51091 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51092 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51093 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51097 PFTC STBY CNTRL	21-62 TASK 864
PFTC	21-51100 PFTC STBY CNTRL	21-62 TASK 868
PFTC	21-51101 PFTC STBY CNTRL	21-62 TASK 868
PFTC	21-51110 PFTC CNTRL INOP	21-62 TASK 887
PFTC	21-51111 PFTC CNTRL INOP	21-62 TASK 887
PFTC	21-51112 PFTC CNTRL INOP	21-62 TASK 888
PFTC	21-51113 PFTC CNTRL INOP	21-62 TASK 888
PFTC	21-51114 PFTC CNTRL INOP	21-62 TASK 889
PFTC	21-51115 PFTC CNTRL INOP	21-62 TASK 889
PFTC	21-51116 PFTC CNTRL INOP	21-62 TASK 890
PFTC	21-51117 PFTC CNTRL INOP	21-62 TASK 890
PFTC	21-51118 PFTC CNTRL INOP	21-62 TASK 891
PFTC	21-51119 PFTC CNTRL INOP	21-62 TASK 891
PFTC	21-51120 PFTC CNTRL INOP	21-62 TASK 892
PFTC	21-51121 PFTC CNTRL INOP	21-62 TASK 892
PFTC	21-51122 PFTC CNTRL INOP	21-62 TASK 893
PFTC	21-51123 PFTC CNTRL INOP	21-62 TASK 893
PFTC	21-51124 PFTC CNTRL INOP	21-62 TASK 894
PFTC	21-51125 PFTC CNTRL INOP	21-62 TASK 894
PFTC	21-51126 PFTC CNTRL INOP	21-62 TASK 895
PFTC	21-51127 PFTC CNTRL INOP	21-62 TASK 895
PFTC	21-51128 PFTC CNTRL INOP	21-62 TASK 896
PFTC	21-51129 PFTC CNTRL INOP	21-62 TASK 896
PFTC	21-51131 ARINC 429 INVLD	21-62 TASK 883
PFTC	21-51132 ARINC 429 INVLD	21-62 TASK 884
PFTC	21-51133 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51134 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51135 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51136 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51143 ARINC 429 INVLD	21-62 TASK 883
PFTC	21-51144 ARINC 429 INVLD	21-62 TASK 883

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51145 ARINC 429 INVLD	21-62 TASK 884
PFTC	21-51146 ARINC 429 INVLD	21-62 TASK 884
PFTC	21-51147 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51148 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51149 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51150 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51151 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51152 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51153 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51154 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51190 F/D TEMP SENSOR	21-62 TASK 865
PFTC	21-51191 F/D TEMP SENSOR	21-62 TASK 865
PFTC	21-51193 ZONE TEMP SENSOR	21-62 TASK 867
PFTC	21-51194 ZONE TEMP SENSOR	21-62 TASK 867
PFTC	21-51196 STBY ZONE SENSOR	21-62 TASK 868
PFTC	21-51197 STBY ZONE SENSOR	21-62 TASK 868
PFTC	21-51199 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51200 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51202 ZONE DUCT SENSOR	21-62 TASK 869
PFTC	21-51203 ZONE DUCT SENSOR	21-62 TASK 869
PFTC	21-51205 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51206 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51208 STBY PACK TEMP	21-62 TASK 872
PFTC	21-51209 STBY PACK TEMP	21-62 TASK 872
PFTC	21-51211 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51212 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51217 F/D SELECTOR	21-62 TASK 862
PFTC	21-51218 F/D SELECTOR	21-62 TASK 862
PFTC	21-51220 ZONE SELECTOR	21-62 TASK 863
PFTC	21-51221 ZONE SELECTOR	21-62 TASK 863
PFTC	21-51224 STBY SELECTOR	21-62 TASK 864
PFTC	21-51225 STBY SELECTOR	21-62 TASK 864
PFTC	21-51230 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51231 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51232 PACK IN PRESSURE	21-62 TASK 859

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51233 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51239 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51240 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51246 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51247 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51248 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51249 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51250 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51251 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51252 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51253 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51254 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51255 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51260 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51261 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51263 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51264 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51265 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51266 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51267 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51268 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51269 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51271 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51272 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51273 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51274 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51275 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51276 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51277 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51279 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51280 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51281 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51282 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51283 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51300 STBY TCV VALVE	21-62 TASK 875

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51301 STBY TCV VALVE	21-62 TASK 875
PFTC	21-51310 F/D TEMP SENSOR	21-62 TASK 865
PFTC	21-51311 F/D SELECTOR	21-62 TASK 862
PFTC	21-51312 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51313 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51314 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51331 DISPLAY	21-62 TASK 858
PFTC	21-51332 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51333 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51400 SRADA CNTRL	21-62 TASK 878
PFTC	21-51401 SRADA INLET	21-62 TASK 878
PFTC	21-51402 SRADA EXIT	21-62 TASK 879
PFTC	21-51403 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51405 SRADA INLET	21-62 TASK 878
PFTC	21-51406 SRADA EXIT	21-62 TASK 879
PFTC	21-51407 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51408 SRADA CNTRL	21-62 TASK 880
PFTC	21-51409 SRADA INLET	21-62 TASK 878
PFTC	21-51410 SRADA EXIT	21-62 TASK 879
PFTC	21-51411 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51500 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51501 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51502 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51503 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51504 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51505 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51506 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51507 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51508 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51509 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51510 TEMP CTRL VALVE	21-62 TASK 874

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801. Smoke or Fumes in the Passenger Cabin or Flight Compartment, Reported During Flight, Smoke Stops With Isolation Valve Closed, Right Pack Switch Off - Fault Isolation

A. Description

(1) Smoke or fumes flow into the passenger cabin or the flight compartment through the air distribution system during flight. This problem is usually caused by contamination of the air by oil, glycol, fuel, or hydraulic fluid. In flight, contamination can be caused by leakage of these fluids in one of the engines. Smoke or fumes can also be caused by oil, glycol, hydraulic fluid, fuel fumes or exhaust fumes being ingested into the inlet of one of the engines. From the inlet, the contaminant can go into the pneumatic and/or the air conditioning system and vaporize at higher temperatures. Fumes can also be caused by the use of petroleum jelly during maintenance of the pneumatic ducts or air distribution ducts.

(2) Make sure the fault report shows the smoke or fumes were stopped with the isolation valve closed, the right pack switch off, and the two recirculation fans off. This means that the No. 1 engine, the pneumatic air supply from the No. 1 engine, the left pack, and the related air distribution ducts were not the source of the smoke or fumes. The Fault Isolation procedure below tells you how to find the cause of smoke in the No. 2 engine, the pneumatic air supply from the No. 2 engine, the right pack, the recirculation system, and the related air distribution ducts.

(3) Do not do this procedure with the passengers or the crew on the airplane since it can cause smoke or fumes in the passenger cabin.

(4) (SDS SUBJECT 21-20-00)

(5) (SDS SUBJECT 36-00-00)

B. Possible Causes

(1) Contamination in the Engine No. 2 pneumatic system

(2) Hydraulic fluid leakage

(3) Contamination in the air distribution system

(4) Overheating of recirculation fan

C. Related Data

(1) (SSM 21-25-11)

(2) (WDM 21-25-11)

D. Fault Isolation Procedure

(1) Do these checks of the air recirculation system:

NOTE: Check the air recirculation fans and filters only if there is smoke or fumes in the passenger compartment.

(a) Do this task: Recirculation Air Filter Removal, AMM TASK 21-25-01-000-801.

(b) Examine the air recirculation filters for the following:

1) Contaminants: dust, dirt, lint, and oil.

2) Rips in the filter.

3) Breaks in the filter frame.

(c) If necessary, install new air recirculation filters. To do this, do this task: AMM TASK 21-25-01-400-801

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(d) Do a check to see if the air recirculation fans or the related wiring make smoke while they operate. To do this, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

1) If there is smoke from an air recirculation fan or the related wiring, then do the applicable steps below:

a) Replace the air recirculation fan.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

b) Repair the applicable wiring.

c) Do the Repair Confirmation at the end of this task.

2) If there is no smoke or fumes from the air recirculation fan or the related wiring, and the operational test is satisfactory, then continue.

(2) Do these checks for contamination in the Engine No. 2 pneumatic sytem:

(a) Look for leakage of oil in Engine No. 2. To do this, do this task: External Oil System Inspection, AMM TASK 79-00-00-200-802-F00.

(b) Do an inspection of the vents and drains for indications of leakage of oil, hydraulic fluid, or fuel in Engine No. 2. To do this, do this task: Engine Vents and Drains Inspection, AMM TASK 71-71-00-200-801-F00.

NOTE: It is not necessary to do this task again if you did it during the external oil system inspection.

(c) If you find indications of leakage in Engine No. 2, then do these steps:

1) Do the corrective action shown in the inspection procedures or repair the leakage problems that you find.

2) Do the Repair Confirmation at the end of this task.

(d) If you do not find indications of leakage, then look for indications of oil leakage internal to the engine. To do this, do this task: Internal Oil System Inspection, AMM TASK 79-00-00-200-803-F00.

1) If you find indications of leakage, then do these steps:

a) Repair the leakage.

b) Do the Repair Confirmation at the end of this task.

2) If you do not find indications of leakage, then continue:

(3) Do this check for hydraulic fluid leakage:

(a) Do this task: Hydraulic Fluid Leakage Problem - Fault Isolation, 29-10 TASK 812.

(b) If you find hydraulic fluid leakage, then do the corrective action indicated in the procedure.

1) Do the Repair Confirmation procedure at the end of this task.

(c) If you do not find hydraulic fluid leakage, then continue.

(4) Do this check for contamination in the air distribution system:

(a) Do the oil contamination removal procedure with engine No. 2 and the right pack on until smoke or fumes appear in the cabin. To do this, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(b) If smoke or fumes appear, then do these steps:

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1) Do a check of these areas in the air distribution system for the source of the contamination:
   a) Each of the components of the right pack.
   b) The main distribution manifold
   c) The air distribution ducts where the smoke first appears
2) Replace the component or clean the duct that is the source of the smoke.
3) Do the Repair Confirmation at the end of this task.

(c) If smoke or fumes do not appear, then do the full oil contamination removal procedure with the two engines, the APU, and the two packs on. To do this, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(d) If smoke or fumes appear, then do these steps:
1) Do a check of these areas in the air distribution system for the source of the contamination:
   a) Each of the components of the pack
   b) The main distribution manifold
   c) The air distribution ducts where the smoke or fumes first appear
2) Replace the component or clean the duct that is the source of the smoke.
3) Do the Repair Confirmation at the end of this task.

(e) If smoke or fumes do not appear, and if the problem does not occur on the subsequent flight, then there was an intermittent fault.

E. Repair Confirmation

(1) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(a) If the oil contamination removal procedure is done until there is no smoke or fumes, and if the problem does not occur on the subsequent flight, then you corrected the fault.

——— END OF TASK ———

802. Smoke or Fumes in the Passenger Cabin or Flight Compartment, Reported During Flight, Smoke Stops With Isolation Valve Closed, Left Pack Switch Off - Fault Isolation

A. Description

(1) Smoke or fumes flow into the passenger cabin or the flight compartment through the air distribution system during flight. This problem is usually caused by contamination of the air by oil, glycol, fuel, or hydraulic fluid. In flight, contamination can be caused by leakage of these fluids in one of the engines. Smoke or fumes can also be caused by oil, glycol, hydraulic fluid, fuel fumes or exhaust fumes being ingested into the inlet of one of the engines. From the inlet, the contaminant can go into the pneumatic and/or the air conditioning system and vaporize at higher temperatures. Fumes can also be caused by the use of petroleum jelly during maintenance of the pneumatic ducts or air distribution ducts.

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(2) Make sure the fault report shows the smoke or fumes were stopped with the isolation valve closed, the left pack switch off, and the two recirculation fans off. This means that the No. 2 engine, the pneumatic air supply from the No. 2 engine, the right pack, and the related air distribution ducts were not the source of the smoke or fumes. The Fault Isolation procedure below tells you how to find the cause of smoke in the No. 1 engine, the pneumatic air supply from the No. 1 engine, the APU pneumatic system, the left pack, the recirculation system, and the related air distribution ducts.

(3) Do not do this procedure with the passengers or the crew on the airplane since it can cause smoke or fumes in the passenger cabin.

(4) (SDS SUBJECT 21-20-00)

(5) (SDS SUBJECT 36-00-00)

B. Possible Causes

(1) Contamination in the Engine No. 1 pneumatic system

(2) Contamination in the APU pneumatic system.

(3) Hydraulic fluid leakage

(4) Contamination in the air distribution system

(5) Overheating of recirculation fan

C. Related Data

(1) (SSM 21-25-11)

(2) (WDM 21-25-11)

D. Fault Isolation Procedure

(1) Do these checks of the air recirculation system:

NOTE: Check the air recirculation fans and filters only if there is smoke or fumes in the passenger compartment.

(a) Do this task: Recirculation Air Filter Removal, AMM TASK 21-25-01-000-801.

(b) Examine the air recirculation filters for the following:

1) Contaminants: dust, dirt, lint, and oil.

2) Rips in the filter.

3) Breaks in the filter frame.

(c) If necessary, install new air recirculation filters. To do this, do this task: AMM TASK 21-25-01-400-801

(d) Do a check to see if the air recirculation fans or the related wiring makes smoke while they operate. To do this, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

1) If there is smoke from an air recirculation fan or the related wiring, then do the applicable steps below:

a) Replace the air recirculation fan.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

b) Repair the applicable wiring.

c) Do the Repair Confirmation at the end of this task.

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2) If there is no smoke or fumes from the air recirculation fans or the related wiring, and the operational test is satisfactory, then continue.

(2) Do these checks for contamination in the APU pneumatic system:

(a) To do a check for contamination in the APU pneumatic system, do this task:Fumes or Smoke in Cabin During APU Operation - Fault Isolation, 49-55 TASK 802

(b) If you do not find any indication of contamination, then continue.

(3) Do these checks for contamination in the Engine No. 1 pneumatic sytem:

(a) Look for leakage of oil in Engine No. 1. To do this, do this task: External Oil System Inspection, AMM TASK 79-00-00-200-802-F00.

(b) Do an inspection of the vents and drains for indications of leakage of oil, hydraulic fluid, or fuel in Engine No. 1. To do this, do this task: Engine Vents and Drains Inspection, AMM TASK 71-71-00-200-801-F00.

NOTE: It is not necessary to do this task again if you did it during the external oil system inspection.

(c) If you find indications of leakage in Engine No. 1, then do these steps:

1) Do the corrective action shown in the inspection procedures or repair the leakage problems that you find.

2) Do the Repair Confirmation at the end of this task.

(d) If you do not find indications of leakage, then look for indications of oil leakage internal to the engine. To do this, do this task: Internal Oil System Inspection, AMM TASK 79-00-00-200-803-F00.

1) If you find indications of leakage, then do these steps:

a) Repair the leakage.

b) Do the Repair Confirmation at the end of this task.

2) If you do not find indications of leakage, then continue.

(4) Do this check for hydraulic fluid leakage:

(a) Do this task: Hydraulic Fluid Leakage Problem - Fault Isolation, 29-10 TASK 812.

(b) If you find hydraulic fluid leakage, then do the corrective action indicated in the procedure.

1) Do the Repair Confirmation procedure at the end of this task.

(c) If you do not find hydraulic fluid leakage, then continue.

(5) Do this check for contamination in the air distribution system:

(a) Do the oil contamination removal procedure with engine No. 1 and the left pack on until smoke or fumes appear in the cabin. To do this, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(b) If smoke or fumes appear, then do these steps:

1) Do a check of these areas in the air distribution system for the source of the contamination:

a) Each of the components of the left pack.

b) The main distribution manifold

c) The air distribution ducts where the smoke first appears

2) Replace the component or clean the duct that is the source of the smoke.

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3) Do the Repair Confirmation at the end of this task.

(c) If smoke or fumes do not appear, then do the full oil contamination removal procedure with the two engines, the APU, and the two packs on. To do this, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(d) If smoke or fumes appear, then do these steps:

1) Do a check of these areas in the air distribution system for the source of the contamination:

a) Each of the components of the pack

b) The main distribution manifold

c) The air distribution ducts where the smoke or fumes first appear

2) Replace the component or clean the duct that is the source of the smoke.

3) Do the Repair Confirmation at the end of this task.

(e) If smoke or fumes do not appear, and if the problem does not occur on the subsequent flight, then there was an intermittent fault.

E. Repair Confirmation

(1) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(a) If the oil contamination removal procedure is done until there is no smoke or fumes, and if the problem does not occur on the subsequent flight, then you corrected the fault.

END OF TASK

803. Smoke or Fumes in the Passenger Cabin or Flight Compartment, Reported During Flight, Smoke Does Not Stop With Isolation Valve Closed, Each of the Two Pack Switches Off (In Turn) - Fault Isolation

A. Description

(1) Smoke or fumes flow into the passenger cabin or the flight compartment through the air distribution system during flight. This problem is usually caused by contamination of the air by oil, glycol, fuel, or hydraulic fluid. Fumes can also be caused by the use of petroleum jelly during maintenance of the pneumatic ducts or air distribution ducts.

(2) Make sure the fault report shows the smoke or fumes were not stopped with the isolation valve closed, the two recirculation fans off, the right pack switch set at OFF and then the left pack switch at OFF. Usually during the flight operations procedure, the right pack switch and the left pack switch are turned off in sequence, not at the same time. This usually means that the source of the smoke or fumes is the main air distribution manifold or the air duct system downstream. It is unlikely to be in the pneumatic air supply or the engine since each pack and each engine was used independently with the isolation valve closed. Thus, the source of the smoke or fumes must be in the main air distribution manifold or the air duct system downstream.

(3) Do not do this procedure with the passengers or the crew on the airplane since it can cause smoke or fumes in the passenger cabin.

(4) (SDS SUBJECT 21-20-00)

(5) (SDS SUBJECT 36-00-00)

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B. Possible Causes

(1) Hydraulic fluid leakage

(2) Contamination in the air distribution system

C. Fault Isolation Procedure

(1) Do this check for hydraulic fluid leakage:

(a) Do this task: Hydraulic Fluid Leakage Problem - Fault Isolation, 29-10 TASK 812.

(b) If you find hydraulic fluid leakage, then do the corrective action indicated in the procedure.

1) Do the Repair Confirmation procedure at the end of this task.

(c) If you do not find hydraulic fluid leakage, then continue.

(2) Do this check of the air distribution system:

(a) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(b) If smoke or fumes appear, then do these steps:

1) Do a check of these areas in the air distribution system for the source of the contamination:

a) The main distribution manifold

b) The air distribution ducts where the smoke first appears

2) Replace the component or clean the duct that is the source of the smoke.

3) Do the Repair Confirmation at the end of this task.

(c) If smoke or fumes do not appear, then there was an intermittent fault.

D. Repair Confirmation

(1) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(a) If the oil contamination removal procedure is done until there is no smoke or fumes, and if the problem does not occur on the subsequent flight, then you corrected the fault.

END OF TASK

804. Smoke or Fumes in the Passenger Cabin - Stops With Recirculation Fan Off - Fault Isolation

A. Description

(1) Smoke or fumes flow into the passenger cabin or the flight compartment through the air distribution system. This problem is usually caused by contamination of the air by oil, glycol, fuel, or hydraulic fluid. If you think the problem is caused by one of these types of contamination, then do the applicable fault isolation procedure below:.

(a) Do this task: Smoke or Fumes in the Passenger Cabin or Flight Compartment, Reported During Flight, Smoke Stops With Isolation Valve Closed, Right Pack Switch Off - Fault Isolation, 21-00 TASK 801.

(b) Do this task: Smoke or Fumes in the Passenger Cabin or Flight Compartment, Reported During Flight, Smoke Stops With Isolation Valve Closed, Left Pack Switch Off - Fault Isolation, 21-00 TASK 802.

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(2) But if the problem was corrected when either one or both of the recirculation fans were turned off and the air conditioning system was in its normal configuration with the two packs in operation and the isolation valve open, then the only possible cause is the air recirculation system. Make sure the fault report shows the smoke or fumes were stopped with the recirculation fans off. If this was the only measure taken to stop the smoke and the smoke was stopped, this means that the recirculation system was the cause of the smoke or fumes.

(3) Do not do this procedure with the passengers or the crew on the airplane since it can cause smoke or fumes in the passenger cabin.

(4) (SDS SUBJECT 21-20-00)

(5) (SDS SUBJECT 36-00-00)

B. Possible Causes

(1) Overheating of recirculation fan or the related wiring

C. Related Data

(1) (SSM 21-25-11)

(2) (WDM 21-25-11)

D. Fault Isolation Procedure

(1) Do these checks of the air recirculation system:

(a) Do this task: Recirculation Air Filter Removal, AMM TASK 21-25-01-000-801.

(b) Examine the air recirculation filters for the following:

1) Contaminants: dust, dirt, lint, and oil.

2) Rips in the filter.

3) Breaks in the filter frame.

(c) If necessary, install new air recirculation filters. To do this, do this task: AMM TASK 21-25-01-400-801.

(d) Do a check to see if the air recirculation fans or the related wiring generates smoke while they operate. To do this, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

1) If there is smoke from an air recirculation fan or the related wiring, then do the applicable steps below:

a) Replace the air recirculation fan.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

b) Repair the applicable wiring.

c) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

d) If the operational test is satisfactory and the problem does not occur on the subsequent flight, then you corrected the fault.

2) If there is no smoke or fumes from the air recirculation fans or the related wiring, and the operational test is satisfactory, then there was an intermittent fault.

END OF TASK

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806. Smoke or Fumes in the Cabin, Source Unknown - Fault Isolation

A. General

CAUTION: DO NOT REPLACE PARTS UNTIL YOU IDENTIFY, AND REMOVE THE SOURCE OF THE FUMES. THE FUMES CAN CAUSE THE CONTAMINATION OF A NEW PART. THEN THE NEW PART WILL BE THE SOURCE OF THE FUMES.

(1) To troubleshoot for cabin fumes or smoke, look for obvious sources inside the cabin and then work to the outside. Start with newly leaking fluids from the engine cowling, APU compressors, and APU drain masts.

(2) Smoke or fumes can be caused by an internal APU/engine failures which can release oil into the pneumatic and/or air conditioning systems. Another source of smoke or fumes is oil, glycol or hydraulic fluid being ingested into the inlet of the APU or engines. Contamination that is ingested by the APU or engines can enter the pneumatic and/or air conditioning systems.

(3) Additional sources of smoke or fumes can be the recirculation fans, gasper fans (if installed), equipment cooling fans, cabin temperature sensor fan, compressor assembly, IFE Equipment (if installed), materials in the cargo compartments, ground carts, fuel leaks that have entered the ducts of the air conditioning system, and hydraulic fluid from the reservoir pressurization module tubing.

(4) Odors in the cabin after an engine has been overhauled or the compressor has been washed are not uncommon. These conditions are not considered a fault. Put the airplane "on watch" as necessary.

(5) Odors in the cabin can occur again after the correction of a problem with a bleed air source (APU, engines). Additional flights or the replacement of ozone converters (if installed), trim air mufflers, heat exchangers, or cooling pack components may be necessary to remove all the contamination.

(6) Electrical burning odors in the captains side of the cabin only can be a display unit or other electrical equipment in the forward part of the flight deck. These conditions may not cause a fault. Inspect the flight deck equipment and display units as necessary.

(7) Faults in different systems make fumes with different smells. The table that follows has descriptions of the fumes from different systems to help you isolate the fault.

FUMES	DESCRIPTION	FAULT ISOLATION TASK(S)
OIL	SWEAT, LOCKER ROOM, DIRTY SOCK, RANCID CHEESE, WET DOG, BURNING RUBBER, SOUR MILK, (FRESH OIL) SWEET, MILD IRRITATION TO EYES	Check the APU, Left and Right Engine for Oil Contamination, Check the Cooling Packs for Oil Contamination, Check the Ozone Converter for odor, If present, work upstream to find the source of the contamination
HYDRAULIC FLUID	STRONG IRRITATION TO EYES, PUNGENT, ACRID	Check the Hydraulic Reservoir Pressurization Module tubing and Check Valves for Hydraulic Oil Residue. Check hydraulic system for overservicing condition.
FUEL	(BURNED FUEL) KEROSENE, (UNBURNED FUEL) ACRID, BITTER	Check the engines as cause of Oil/Fuel Fumes/Smoke in Cabin (FIM 71-05)
ELECTRICAL FAULTS	ACRID, BURNING RUBBER, SULFUR	Check the Cabin Equipment, Check Recirculation Fans and Cargo Compartments, Check Light Ballasts and Galley Equipment

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(Continued)

FUMES	DESCRIPTION	FAULT ISOLATION TASK(S)
OTHER	COOKED CHICKEN (BIRD STRIKE), BURNING RESIN, ACRID ODOR THAT IRRITATES NOSE AND THROAT, HOT MUSTY SMELL, HAZE IN FLIGHT WITH NO SMELL	Check the Engines for evidence of Bird Strike, Check Trim Valve operation for zone that is source of complaint. Check under Aft Cargo Floor for dripped fluids or dust around the APU Bleed Duct, Check that fumes are not being ingested into bleed air from an external source. Check cargo floors above and below and behind cargo sidewalls for dust or lint and for unwanted materials spilled or left behind

(8) Do not do this procedure with the crew or passengers on the airplane. This procedure can generate smoke in the airplane.

B. Evaluation Using the Bleed Air Sampling Tool Kit

NOTE: This procedure should be performed only if you are using the air sampler, SPL-11153. The air sampler, SPL-11153 was designed to provide access to the high pressure bleed air via the airplane pneumatic ground port. Smoke and/or burning order (SBO) events may not be confirmed to bleed system sources. The air sampler, SPL-11153 is designed specifically to assist with the isolation of engine and APU oil odor sources.

(1) Install the air sampler, SPL-11153, to the pneumatic ground air connector.

(2) Make sure that electrical power is supplied to the airplane Supply Electrical Power, AMM TASK 24-22-00-860-811.

(3) Make sure these switches on the pilot's overhead panel, P5, which follow are set to the indicated positions:

(a) On the AIR CONDITIONING and BLEED AIR module:

1) APU, BLEED 1, and BLEED 2 switches are set to OFF.

2) ISOLATION VALVE switch is set to CLOSED.

3) L PACK and R PACK switches are set to OFF.

4) RECIRC FAN switch set to OFF.

(b) On the ANTI-ICE module:

1) WING, ENG 1, and ENG 2 switches are set to OFF.

(4) To supply bleed air using the APU, do these steps:

(a) Start the APU and let the APU operation become stable (APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801).

(b) On the BLEED AIR module of the Overhead Panel, P5, set switches that follow to the indicated positions:

1) Put the ISOLATION valve switch to the AUTO position.

2) Put the APU switch to the ON position.

(5) To supply bleed air using the engines, do these steps:

(a) Do this task to start the engines: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00.

(b) On the BLEED AIR module of the Overhead Panel, P5, set switches that follow to the indicated positions:

1) Put the ISOLATION valve switch to the AUTO position.

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2) Put the 1, and 2 BLEED switches to the ON position.

(6) Allow bleed air to run through theair sampler, SPL-11153 , for 10 minutes.

(7) Do these steps to remove bleed air:

(a) If you provided bleed air using the APU, do these steps:

1) Put the APU switch, located on the BLEED AIR module of the Overhead Panel, P5, to OFF.

2) Put the ISOLATION VALVE switch, located on the BLEED AIR module of the Overhead Panel, P5, to the CLOSE position.

3) Stop the operation of the APU (APU Usual Shutdown, AMM TASK 49-11-00-860-802).

(b) If you provided bleed air using the engines, do these steps:

1) Put the ISOLATION VALVE switch, located on the BLEED AIR module of the Overhead Panel, P5, to the CLOSE position.

2) Put the L PACK, and R PACK switches, located on the BLEED AIR module of the Overhead Panel, P5, to the OFF position.

3) Stop the operation of the engines (Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00).

(8) Remove the air sampling pad from the air sampler, SPL-11153.

(9) Remove the air sampler, SPL-11153, from the airplane.

(10) Extract data from the sample using a spectrometer per supplier instructions.

(11) Use the data to determine the source of the of the smoke or fumes.

(12) Based on the results of the spectrometer, do repairs as needed.

(13) Do the Repair Confirmation at the end of this task.

C. Initial Evaluation

(1) Do a check of the low pressure ground connector.

(a) Make sure the check is done less than an hour after the engines are stopped.

(b) To get access to the ground air check valve for the cooling packs, open the ECS low pressure connection door, 191E, do this task: Finding an Access Door or Panel on the Lower Half of the Fuselage, AMM TASK 06-41-00-800-801.

(c) Hold the low pressure flapper valve open.

(d) Use a mirror to look inside the low pressure ground connector for signs of oil contamination.

(e) Feel the surfaces inside the low pressure ground connector to see if fresh oil is present.

(f) If oil contamination is found, the probable source is the left/right engine or APU. The pack must be cleaned. This would rule out E/E cooling and recirculation.

(2) Do a visual inspection of the drain mast.

(a) If nothing is found, then follow the detailed instructions.

(3) Check hydraulic system for overservicing condition.

(a) If necessary, do thsi task, Hydraulic Reservoir Servicing, AMM TASK 12-12-00-610-801.

(4) Check for existing faults for the cabin and IFE equipment.

NOTE: Faults for the cabin and IFE equipment may be related to fumes in the cabin or flight deck.

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(5) Start the APU. To start the APU, do this task: APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801.

(6) Start the left and right engines. To start the engines, do this task: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00.

WARNING: OBSERVE PROPER SAFETY PRECAUTIONS AROUND RUNNING ENGINE. WEAR EAR PROTECTORS AND STAY CLEAR OF ENGINE HAZARD AREAS. SEE "ENGINE GROUND SAFETY PRECAUTIONS" FOR ENGINE HAZARD DESCRIPTION.

(7) Make sure that you obey all safety precautions when you are near an engine that is in operation. To obey the safety precautions, comply with the directions in this task:Engine Ground Safety Precautions, AMM TASK 71-00-00-800-805-F00.

(8) On the BLEED AIR module of the Overhead Panel, P5, set switches that follow to the indicated positions:

(a) Put the ISOLATION VALVE switch to the OPEN position.

(b) Put the ENGINE 1, and ENGINE 2 switches to the ON position.

(c) Put the APU switch to the ON position.

(9) Make sure the hydraulic reservoirs are pressurized. To pressurize the hydraulic reservoirs, do this task: Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801.

(10) Supply conditioned air with the left and right cooling packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(11) Make sure the switches that follow are set to the indicated positions:

(a) On the P5-10 air conditioning panel:

1) L RECIRC FAN and R RECIRC FAN switches are set to OFF.

(b) On the P5-11 thermal anti-ice panel:

1) WING, ENGINE 1, and ENGINE 2, ANTI-ICE switches are set to OFF.

(12) Operate the cooling packs, APU and engines in each of the configurations shown in the table below.

(a) Operate the cooling packs with the trim air ON and the cabin temperatures selected to full Warm (W).

(b) Repeat the steps with the trim air OFF and the cabin temperatures selected to full Cold (C).

(c) Use the REFERENCE NUMBER table to find the applicable fault isolation procedure to perform when fumes are present.

APU	L ENG	R ENG	L PACK	R PACK	FUMES	REFERENCE NUMBER(S)
ON	OFF	OFF	ON	OFF	YES	4,1
ON	OFF	OFF	OFF	ON	YES	4,1
OFF	ON	OFF	ON	OFF	YES	4,2
OFF	OFF	ON	OFF	ON	YES	4,3

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REFERENCE NUMBER	FAULT ISOLATION TASK TITLE
1	Check the APU Bleed Air for Oil Contamination
2	Check the Left Engine Bleed Air for Oil Contamination
3	Check the Right Engine Bleed Air for Oil Contamination
4	Check the Cooling Packs for Oil Contamination

(13) If no fumes or smoke appear, then there was an intermittent fault.

NOTE: Occurrences of smoke or fumes in flight are not always repeatable on the ground.

(a) If no fumes or smoke appear, you may be able to determine the source of the smoke occurrence from the description of the smell and its location from the crew members on the flight.

(b) If a description of the smell of the fumes is available use the fumes description table in the General section to determine which fault isolation procedure may be applicable.

(c) If the type of fumes can not be identified, then do the Fault Isolation task from the beginning.

(14) Stop the cooling packs, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(15) Stop the left and right engines. To stop the engines, do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00.

(16) Stop the APU. To stop the APU, do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-802.

D. Fault Isolation Procedure - Check the APU Bleed Air for Oil Contamination

(1) Do the steps that follow to check the APU for the correct quantity of oil:

(a) To get access to the APU oil level sight gage:

Open this access panel:

Number	Name/Location
315A	APU Cowl Door

1) To open the APU access doors, do these steps:

a) Open the three latches.

b) Open the APU cowl door.

c) Remove the retainer pin from the rod end of the forward hold-open rod on the APU cowl door.

d) Remove the retainer pin from the spring clip on the aft hold-open rod.

e) Disconnect the two hold-open rods from the two spring clips.

f) Connect the two rod ends of the two hold-open rods to the two brackets in the APU compartment.

g) Install the two retainer pins in the two rod ends.

(b) Make sure the APU oil level sight gage shows the correct quantity of oil.

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(c) If the APU oil level is less than FULL, do a check of the maintenance records to see if there is a change in oil consumption averages. do this task: APU Oil Level Inspection, AMM TASK 12-13-31-200-801.

NOTE: The oil consumption for a new or newly overhauled APU is 0.008 quarts (8 cc) per hour. Oil consumption more than this rate does not necessarily indicate a problem with the APU. If the oil consumption increases rapidly, then there could be a problem with the APU.

(2) Check the APU magnetic chip detectors for debris:

(a) Do this task: Magnetic Drain Plug Inspection, AMM TASK 49-91-81-200-801

NOTE: Debris in the oil can cause damage to bearings and seals. Damage to seals can cause oil loss and contamination of the pneumatic system. Oil contamination of the pneumatic system can cause smoke and fumes.

(3) Inspect the APU inlet area and inlet duct:

(a) Inspect the fuselage exterior near the APU inlet door, and the inside of the APU inlet duct for signs that fluid went into the APU inlet.

1) If fluid went into the APU inlet, find the cause of the fluid and correct the problem before you continue.

(4) Do the steps that follow to check the APU:

(a) Remove the APU bleed air valve. To remove the valve, do this task: Bleed Air Valve Removal, AMM TASK 49-52-11-000-801.

(b) Remove the APU surge control valve. To remove the valve, do this task: Surge Control Valve Removal, AMM TASK 49-52-41-000-801.

(c) Examine the APU bleed air valve and the upstream APU bleed duct for wet oil.

(d) Examine the APU surge control valve and the upstream duct for wet oil.

(e) Re-install the APU bleed air valve. To install the valve, do this task: Bleed Air Valve Installation, AMM TASK 49-52-11-400-801.

(f) Re-install the APU surge control valve. To install the valve, do this task: Surge Control Valve Installation, AMM TASK 49-52-41-400-801.

(g) Inspect the APU load compressor for damage. do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.

(h) Inspect the APU power section compressor for damage. do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.

(5) Supply electrical power with a ground cart. To supply electrical power, do this task: Supply External Power, AMM TASK 24-22-00-860-813.

NOTE: Do not operate the APU or the engines to supply electrical power to the airplane.

(6) To get access to the cooling packs, open these access panels, in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

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WARNING: PUT ON GLOVES FOR PROTECTION FROM HOT SURFACES WHEN YOU CONNECT OR DISCONNECT PNEUMATIC FITTINGS. PACK OPERATION CAN MAKE THE GROUND AIR CONNECTOR VERY HOT. A HOT GROUND AIR CONNECTOR WILL BURN YOUR BARE HANDS.

(7) Install the deactivator, SPL-2462, in the ground air connector as follows:

(a) Put the deactivator, SPL-2462, in the ground air connector so that the check valve flappers are open.

(b) Install the coupling on the supply hose from the ground air cart onto the nipple of the ground air connector check valve assembly so that the deactivator, SPL-2462 is held in place.

NOTE: The supply hose should not be connected to the ground cart as the exhaust from the hose should be vented to ambient.

(8) Make sure these switches on the P5 overhead panel, are set to the indicated positions:

(a) On the P5-10 air conditioning panel:

1) L PACK and R PACK switches are set to OFF.

2) L RECIRC FAN and R RECIRC FAN switches are set to OFF.

3) TRIM AIR switch is set to OFF.

(b) On the P5-11 thermal anti-ice panel:

1) WING, ENGINE 1, and ENGINE 2, ANTI-ICE switches are set to OFF.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(9) Do the steps which follow to do a check for oil contamination from the APU:

NOTE: The APU bleed air will go out through the check valve in the pneumatic ground air connector.

(a) Start the APU and let the APU operation become stable. To start and operate the APU, do this task: APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801.

(b) Make sure the ISOLATION VALVE switch on the P5-10 air conditioning panel is set to OPEN.

(c) Make sure the APU BLEED switch, on the P5-10 air conditioning panel, is set to ON.

(d) Operate the APU for 5 minutes.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(e) Stand near the pneumatic ground air connector and smell if there is contaminated air.

NOTE: You can do a smell check of the bleed air from a different APU if it is necessary to compare the bleed air fumes.

(f) Look for smoke in the APU bleed air.

(g) If there is contaminated bleed air from the APU, do the steps that follow:

1) Replace the APU. To replace the APU,

These are the tasks:

(APU Power Plant Removal, AMM TASK 49-11-00-000-801, APU Power Plant Removal, AMM TASK 49-11-00-000-801, APU Power Plant Removal (Fishpole Hoist Procedure), AMM TASK 49-11-00-000-802, APU Power Plant Removal (Hydraulic Jack Procedure), AMM TASK 49-11-00-000-803).

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(APU Power Plant Installation, AMM TASK 49-11-00-400-801, APU Power Plant Installation (Fishpole Hoist Procedure), AMM TASK 49-11-00-400-802, APU Power Plant Installation (Hydraulic Jack Procedure), AMM TASK 49-11-00-400-803).

2) Do the oil contamination removal task, To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

3) If the oil contamination removal task does not remove the fumes it may be necessary to replace components of the affected cooling pack. To replace the components, do the tasks that follow.

a) Replace the heat exchanger for the oil contaminated cooling pack. To replace the heat exchanger,

These are the tasks:

Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002,

Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002.

b) Replace the condenser for the oil contaminated cooling pack. To replace the condenser,

These are the tasks:

Condenser Removal, AMM TASK 21-51-12-000-801,

Condenser Installation, AMM TASK 21-51-12-400-802.

c) Replace the reheater for the oil contaminated cooling pack. To replace the reheater,

These are the tasks:

Reheater Removal, AMM TASK 21-51-13-000-801,

Reheater Installation, AMM TASK 21-51-13-400-801.

d) If there is smoke or fumes from the left cooling pack replace the flight deck mufflers. To replace the flight deck mufflers,

These are the tasks:

Flight Deck Air Distribution System Muffler/Duct Assembly Removal, AMM TASK 21-22-05-000-801,

Flight Deck Air Distribution System Muffler/Duct Assembly Installation, AMM TASK 21-22-05-400-801.

4) Do the Repair Confirmation at the end of this task.

(h) If there is not contaminated bleed air from the APU, then continue.

(i) Set the ISOLATION VALVE switch on the P5-10 air conditioning panel to CLOSE.

(j) Stop the operation of the APU, do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-802.

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(10) Remove the ground cart supply hose and deactivator, SPL-2462, from the pneumatic ground connector.

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(11) Close these access panels in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

E. Fault Isolation Procedure - Check the Left Engine Bleed Air for Oil Contamination

(1) Do the steps that follow to check the left engine for the correct quantity of oil:

(a) Do the applicable steps from this task:

Replenish the Engine Oil, AMM TASK 12-13-11-600-801

(b) Make sure the engine has the correct quantity of oil.

(c) If the oil level is near or over the top of the sight glass, correct the oil level before you continue. Do the task to drain the engine oil (Drain the Engine Oil, AMM TASK 12-13-11-600-803).

NOTE: Too much oil in the engine(s) can cause smoke or fumes in the pneumatic system.

(d) If the oil level is less than FULL, do a check of the maintenance records to see if there is a change in oil consumption averages.

NOTE: An increase in oil consumption can be an indication of oil loss and possible contamination of the pneumatic system. This can cause smoke or fumes in the pneumatic system.

(2) Do the steps that follow to do a check of the left engine for damage:

(a) Examine the area behind the fan blades for large oil stains or puddles of oil.

(b) Examine the area behind the fan blades for signs of a bird strike.

(3) Supply electrical power with a ground cart. To supply electrical power, do this task: Supply External Power, AMM TASK 24-22-00-860-813.

NOTE: Do not operate the APU or the engines to supply electrical power to the airplane.

(4) Make sure these switches on the P5 overhead panel, are set to the indicated positions:

(a) On the P5-10 air conditioning panel:

1) APU, ENGINE 1, and ENGINE 2 switches are set to OFF

2) ISOLATION VALVE switch is set to CLOSE

3) L PACK and R PACK switches are set to OFF.

4) L RECIRC FAN and R RECIRC FAN switches are set to OFF.

5) TRIM AIR switch is set to OFF.

(b) On the P5-11 thermal anti-ice panel:

(c) WING, ENGINE 1, and ENGINE 2, ANTI-ICE switches are set to OFF.

(5) To get access to the cooling packs, open these access panels, in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

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WARNING: PUT ON GLOVES FOR PROTECTION FROM HOT SURFACES WHEN YOU CONNECT OR DISCONNECT PNEUMATIC FITTINGS. PACK OPERATION CAN MAKE THE GROUND AIR CONNECTOR VERY HOT. A HOT GROUND AIR CONNECTOR WILL BURN YOUR BARE HANDS.

(6) Install the deactivator, SPL-2462, in the ground air connector as follows:

(a) Put the deactivator, SPL-2462, in the ground air connector so that the check valve flappers are open.

(b) Install the coupling on the supply hose from the ground air cart onto the nipple of the ground air connector check valve assembly so that the deactivator, SPL-2462 is held in place.

NOTE: The supply hose should not be connected to the ground cart as the exhaust from the hose should be vented to ambient.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(7) Do these steps which follow to check for oil contamination from the left engine:

NOTE: The left engine bleed air will go out through the pneumatic ground air connector duct opening.

(a) Start the left engine and let the engine operate at ground idle speed. To start and operate the left engine, do this task: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00.

1) Use the APU to start the engine as it is still in operation.

2) Set the APU BLEED switch, on the P5-10 air conditioning panel, to OFF.

3) Set the ISOLATION VALVE switch on the P5-10 air conditioning panel to OPEN.

(b) Set the engine pneumatic BLEED 1 switch, on the P5-10 air conditioning panel, to ON.

WARNING: OBSERVE PROPER SAFETY PRECAUTIONS AROUND RUNNING ENGINE. WEAR EAR PROTECTORS AND STAY CLEAR OF ENGINE HAZARD AREAS. SEE "ENGINE GROUND SAFETY PRECAUTIONS" FOR ENGINE HAZARD DESCRIPTION.

(c) Make sure that you obey all safety precautions when you are near an engine that is in operation. To obey the safety precautions, comply with the directions in this task:Engine Ground Safety Precautions, AMM TASK 71-00-00-800-805-F00.

(d) Let the engine operate for 2 minutes.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(e) Stand near the pneumatic ground air connector and smell if there is contaminated air.

NOTE: You can do a smell check of the bleed air from the right engine if it is necessary to compare the bleed air fumes.

(f) If there is contaminated bleed air from the left engine, do the steps that follow:

1) Check the left engine as cause of oil/fuel fumes/smoke in the cabin Fumes or Smoke in Cabin, Pneumatic Power Supplied by Engine - Fault Isolation, 71-05 TASK 807.

2) Do the oil contamination removal task, To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

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3) If the oil contamination removal task does not remove the fumes it may be necessary to replace components of the affected cooling pack. To replace the components, do the tasks that follow.

a) Replace the heat exchanger for the oil contaminated cooling pack. To replace the heat exchanger,

These are the tasks:

Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002,

Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002.

b) Replace the condenser for the oil contaminated cooling pack. To replace the condenser,

These are the tasks:

Condenser Removal, AMM TASK 21-51-12-000-801,

Condenser Installation, AMM TASK 21-51-12-400-802.

c) Replace the reheater for the oil contaminated cooling pack. To replace the reheater,

These are the tasks:

Reheater Removal, AMM TASK 21-51-13-000-801,

Reheater Installation, AMM TASK 21-51-13-400-801.

d) If there is smoke or fumes from the left cooling pack replace the flight deck mufflers. To replace the flight deck mufflers,

These are the tasks:

Flight Deck Air Distribution System Muffler/Duct Assembly Removal, AMM TASK 21-22-05-000-801,

Flight Deck Air Distribution System Muffler/Duct Assembly Installation, AMM TASK 21-22-05-400-801.

4) Do the Repair Confirmation at the end of this task.

(g) If there is not contaminated bleed air from the left engine, then continue.

(h) Set the engine pneumatic BLEED 1 switch to OFF.

(i) Stop the operation of the left engine, do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00.

WARNING: PUT ON GLOVES FOR PROTECTION FROM HOT SURFACES WHEN YOU CONNECT OR DISCONNECT PNEUMATIC FITTINGS. PACK OPERATION CAN MAKE THE GROUND AIR CONNECTOR VERY HOT. A HOT GROUND AIR CONNECTOR WILL BURN YOUR BARE HANDS.

(8) Remove the ground cart supply hose and deactivator, SPL-2462, from the pneumatic ground connector.

(9) Close these access panels in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

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F. Fault Isolation Procedure - Check the Right Engine Bleed Air for Oil Contamination

(1) Do the steps that follow to check the right engine for the correct quantity of oil:

(a) Do this task:

Replenish the Engine Oil, AMM TASK 12-13-11-600-801.

(b) Make sure the engine has the correct quantity of oil.

(c) If the oil level is near or over the top of the sight glass, correct the oil level before you continue. Do the task to drain the engine oil (Drain the Engine Oil, AMM TASK 12-13-11-600-803).

NOTE: Too much oil in the engine(s) can cause smoke or fumes in the pneumatic system.

(d) If the oil level is less than FULL, do a check of the maintenance records to see if there is a change in oil consumption averages.

NOTE: An increase in oil consumption can be an indication of oil loss and possible contamination of the pneumatic system. This can cause smoke or fumes in the pneumatic system.

(2) Do the steps that follow to do a check of the right engine for damage:

(a) Examine the area behind the fan blades for large oil stains or puddles of oil.

(b) Examine the area behind the fan blades for signs of a bird strike.

(3) Supply electrical power with a ground cart. To supply electrical power, do this task: Supply External Power, AMM TASK 24-22-00-860-813.

NOTE: Do not operate the APU or the engines to supply electrical power to the airplane.

(4) Make sure these switches on the P5 overhead panel, are set to the indicated positions:

(a) On the P5-10 air conditioning panel:

1) APU, ENGINE 1, and ENGINE 2 switches are set to OFF

2) ISOLATION VALVE switch is set to CLOSE

3) L PACK and R PACK switches are set to OFF.

4) L RECIRC FAN and R RECIRC FAN switches are set to OFF.

5) TRIM AIR switch is set to OFF.

(b) On the P5-11 thermal anti-ice panel:

(c) WING, ENGINE 1, and ENGINE 2, ANTI-ICE switches are set to OFF.

(5) To get access to the cooling packs, open these access panels, in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

WARNING: PUT ON GLOVES FOR PROTECTION FROM HOT SURFACES WHEN YOU CONNECT OR DISCONNECT PNEUMATIC FITTINGS. PACK OPERATION CAN MAKE THE GROUND AIR CONNECTOR VERY HOT. A HOT GROUND AIR CONNECTOR WILL BURN YOUR BARE HANDS.

(6) Install the deactivator, SPL-2462, in the ground air connector as follows:

(a) Put the deactivator, SPL-2462, in the ground air connector so that the check valve flappers are open.

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(b) Install the coupling on the supply hose from the ground air cart onto the nipple of the ground air connector check valve assembly so that the deactivator, SPL-2462 is held in place.

NOTE: The supply hose should not be connected to the ground cart as the exhaust from the hose should be vented to ambient.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(7) Do the steps which follow to check for oil contamination from the right engine:

NOTE: The right engine bleed air will go out through the pneumatic ground air connector duct opening.

(a) Start the right engine and let the engine operate at ground idle speed. To start and operate the right engine, do this task: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00.

1) Use the APU to start the engine as it is still in operation.

2) Set the APU BLEED switch, on the P5-10 air conditioning panel, to OFF.

3) Set the ISOLATION VALVE switch on the P5-10 air conditioning panel to OPEN.

(b) Set the engine pneumatic BLEED 1 switch, on the P5-10 air conditioning panel, to ON.

WARNING: OBSERVE PROPER SAFETY PRECAUTIONS AROUND RUNNING ENGINE. WEAR EAR PROTECTORS AND STAY CLEAR OF ENGINE HAZARD AREAS. SEE "ENGINE GROUND SAFETY PRECAUTIONS" FOR ENGINE HAZARD DESCRIPTION.

(c) Make sure that you obey all safety precautions when you are near an engine that is in operation. To obey the safety precautions, comply with the directions in this task: Engine Ground Safety Precautions, AMM TASK 71-00-00-800-805-F00.

(d) Let the engine operate for 2 minutes.

WARNING: DO NOT PUT YOUR HAND OR BODY IN THE AIR THAT COMES OUT OF THE PNEUMATIC GROUND CONNECTOR. THE HOT AIR WILL CAUSE INJURIES.

(e) Stand near the pneumatic ground air connector and smell if there is contaminated air.

NOTE: You can do a smell check of the bleed air from the left engine if it is necessary to compare the bleed air fumes.

(f) If there is contaminated bleed air from the right engine, do the steps that follow:

1) Check the right engine as cause of oil/fuel fumes/smoke in the cabin Fumes or Smoke in Cabin, Pneumatic Power Supplied by Engine - Fault Isolation, 71-05 TASK 807.

2) Do the oil contamination removal task, To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

3) If the oil contamination removal task does not remove the fumes it may be necessary to replace components of the affected cooling pack. To replace the components, do the tasks that follow.

a) Replace the heat exchanger for the oil contaminated cooling pack. To replace the heat exchanger,

These are the tasks:

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Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002,

Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002.

b) Replace the condenser for the oil contaminated cooling pack. To replace the condenser,

These are the tasks:

Condenser Removal, AMM TASK 21-51-12-000-801,

Condenser Installation, AMM TASK 21-51-12-400-802.

c) Replace the reheater for the oil contaminated cooling pack. To replace the reheater,

These are the tasks:

Reheater Removal, AMM TASK 21-51-13-000-801,

Reheater Installation, AMM TASK 21-51-13-400-801.

d) If there is smoke or fumes from the left cooling pack replace the flight deck mufflers. To replace the flight deck mufflers,

These are the tasks:

Flight Deck Air Distribution System Muffler/Duct Assembly Removal, AMM TASK 21-22-05-000-801,

Flight Deck Air Distribution System Muffler/Duct Assembly Installation, AMM TASK 21-22-05-400-801.

4) Do the Repair Confirmation at the end of this task.

(g) If there is not contaminated bleed air from the right engine, then continue.

(h) Set the engine pneumatic BLEED 1 switch to OFF.

(i) Stop the operation of the right engine, do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00.

WARNING: PUT ON GLOVES FOR PROTECTION FROM HOT SURFACES WHEN YOU CONNECT OR DISCONNECT PNEUMATIC FITTINGS. PACK OPERATION CAN MAKE THE GROUND AIR CONNECTOR VERY HOT. A HOT GROUND AIR CONNECTOR WILL BURN YOUR BARE HANDS.

(8) Remove the ground cart supply hose and deactivator, SPL-2462, from the pneumatic ground connector.

(9) Close these access panels in this sequence:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

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G. Fault Isolation Procedure - Check the Cooling Packs for Oil Contamination

(1) Do these steps to check for oil contamination from the conditioned air supplied by the left and right cooling packs:

(a) Supply pressure to the pneumatic system. To do this, do this task: Supply Pressure to the Pneumatic System (Selection), AMM TASK 36-00-00-860-801.

NOTE: Do not use a contaminated source to pressurize the pneumatic system.

(b) Supply conditioned air with the left and right cooling packs. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

NOTE: Operate the left or right cooling pack independently of the other to find which pack has the contamination.

(c) Put the TRIM AIR switch to the ON position.

(d) Turn the CONT CAB, FWD CAB, AND AFT CAB temperature selectors, on the P5-17 cabin temperature control panel, to the full WARM position.

(e) Let the packs operate and smell the air that goes into the control cabin and the passenger cabin for contaminated air.

NOTE: You can do a smell check of the conditioned air from a different airplane if it is necessary to compare the conditioned air fumes.

(f) If you smell contaminated air from a cooling pack, then do the steps that follow to the applicable pack:

1) Do the oil contamination removal task, To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

2) If the oil contamination removal task does not remove the fumes do the steps that follow:

a) Replace the heat exchanger for the oil contaminated cooling pack. To replace the heat exchanger,

These are the tasks:

Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002,

Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002.

b) Replace the condenser for the oil contaminated cooling pack. To replace the condenser,

These are the tasks:

Condenser Removal, AMM TASK 21-51-12-000-801,

Condenser Installation, AMM TASK 21-51-12-400-802.

c) Replace the reheater for the oil contaminated cooling pack. To replace the reheater,

These are the tasks:

Reheater Removal, AMM TASK 21-51-13-000-801,

Reheater Installation, AMM TASK 21-51-13-400-801.

d) If there is smoke or fumes from the left cooling pack replace the flight deck mufflers. To replace the flight deck mufflers,

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These are the tasks:

Flight Deck Air Distribution System Muffler/Duct Assembly Removal, AMM TASK 21-22-05-000-801,

Flight Deck Air Distribution System Muffler/Duct Assembly Installation, AMM TASK 21-22-05-400-801.

3) Do the Repair Confirmation at the end of this task.

(g) If you do not smell contaminated air from a cooling pack, then do the step that follows and continue.

1) Shut down the cooling packs. To shut down the cooling packs, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(h) Remove pressure from the pneumatic system. To do this, do this task: Remove Pressure from the Pneumatic System, AMM TASK 36-00-00-860-806.

H. Fault Isolation Procedure - Check the Air Charging Valve Manifold Assemblies

(1) Make sure that system A and B hydraulic reservoirs are depressurized. To depressurize the hydraulic reservoirs, do this task: Hydraulic Reservoirs Depressurization, AMM TASK 29-09-00-860-802.

(2) Get access to the flight deck or passenger compartment to smell the conditioned air for contamination.

(3) Do these steps to make sure the air charging valve manifold assembly is not the source of the smoke or fumes:

(a) Start the APU and let the APU operation become stable. To start and operate the APU, do this task: APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801.

(b) Supply conditioned air to the airplane with the left and right cooling packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(c) Pressurize the hydraulic system reservoir. To pressurize the hydraulic reservoir, do this task: Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801

(d) Operate the APU and cooling packs for 5 minutes.

(e) Stop the cooling packs, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(f) Set the APU BLEED switch, on the P5-10 air conditioning panel, to OFF.

1) Wait for approximately 5 minutes.

NOTE: This will permit hydraulic fluid to leak past the check valve if there is a failure.

(g) Set the APU BLEED switch, on the P5-10 air conditioning panel, to ON.

(h) Supply conditioned air to the airplane with the left and right cooling packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(i) If the fumes are present, then there is a problem with the air charging valve manifold assembly. To replace the air charging valve manifold assembly,

These are the tasks:

Air Charging Valve Manifold Assembly - Removal, AMM TASK 29-09-02-000-801,

Air Charging Valve Manifold Assembly - Installation, AMM TASK 29-09-02-400-801.

1) Do the Repair Confirmation at the end of this task.

(j) If no fumes are present, then continue.

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I. Fault Isolation Procedure - Check the Cabin Equipment

(1) Do these steps to make sure the cabin equipment is not the source of the smoke or fumes:

(a) Operate the cabin equipment, galley equipment, IFE equipment, and light ballasts.

(b) If there is smoke or fumes from the equipment, then do the steps below:

1) Replace the applicable equipment.

(c) Operate the applicable equipment for approximately 3 minutes.

(d) If the fumes go away, then you corrected the fault.

J. Fault Isolation Procedure - Check Recirculation Fans

(1) Do these checks of the air recirculation system:

NOTE: Check the air recirculation fans and filters only if there is smoke or fumes in the passenger compartment.

(a) Do this task: Recirculation Air Filter Removal, AMM TASK 21-25-01-000-801.

(b) Examine the air recirculation filters for the following:

1) Contaminants: dust, dirt, lint, and oil.

2) Rips in the filter.

3) Breaks in the filter frame.

(c) If necessary, install new air recirculation filters. To do this, do this task: Recirculation Air Filter Installation, AMM TASK 21-25-01-400-801.

(d) Do a check to see if the air recirculation fans or the related wiring make smoke while they operate. To do this, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

1) If there is smoke from an air recirculation fan or the related wiring, then do the applicable steps below:

a) Replace the air recirculation fan.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

b) Repair the applicable wiring.

c) Do the Repair Confirmation at the end of this task.

2) If there is no smoke or fumes from the air recirculation fan or the related wiring, and the operational test is satisfactory, then continue.

K. Repair Confirmation

(1) Start the left and right engines. To start the engines, do this task: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00.

WARNING: OBSERVE PROPER SAFETY PRECAUTIONS AROUND RUNNING ENGINE. WEAR EAR PROTECTORS AND STAY CLEAR OF ENGINE HAZARD AREAS. SEE "ENGINE GROUND SAFETY PRECAUTIONS" FOR ENGINE HAZARD DESCRIPTION.

(2) Make sure that you obey all safety precautions when you are near an engine that is in operation. To obey the safety precautions, comply with the directions in this task:Engine Ground Safety Precautions, AMM TASK 71-00-00-800-805-F00.

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(3) Start the APU. To start the APU, do this task: APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801.

(4) Set the BLEED AIR switches, on the P5 panel, to the positions shown:

(a) APU, ENGINE 1, and ENGINE 2 switches are set to ON

(b) Put the ISOLATION VALVE switch to the OPEN position.

(5) Make sure the hydraulic reservoirs are pressurized. To pressurize the hydraulic reservoirs, do this task: Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801.

(6) Set the L RECIRC FAN and R RECIRC FAN switches to the applicable position as follows:

(a) If the fault is electrical, set the L RECIRC FAN and R RECIRC FAN switches to the AUTO position.

(b) If the fault is oil, fuel or hydraulic fluid, set the L RECIRC FAN and R RECIRC FAN switches to the OFF position.

(7) Supply conditioned air with the applicable left or right cooling packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(8) Let the systems operate for approximately 5 minutes.

(a) If no fumes or smoke appear, then you have corrected the fault.

L. Put the airplane back to its usual condition:

(1) Stop the operation of the left and right cooling packs, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(2) Set the L RECIRC FAN and R RECIRC FAN switches to the AUTO position.

(3) Stop the operation of the left and right engines, do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00.

(4) Stop the operation of the APU, do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-802.

(5) Remove electrical power, if it is not necessary, do this task: Remove External Power, AMM TASK 24-22-00-860-814.

——— END OF TASK ———

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807. Airplane Cannot Maintain Cabin Pressure On a Single Pack Within Specified Limits - Fault Isolation

A. Description

Pressurization requires proper operation of the pneumatic (engine bleed) system, the air conditioning packs, and the cabin pressure control system. The pneumatic system supplies air to the air conditioning packs. The air conditioning packs regulate the air flow into the fuselage. The cabin pressure control system regulates air escaping from the fuselage to control cabin pressure. Air leaking from the fuselage must be within specified limits in order for the packs to operate efficiently.

Unusual pressurization occurrences are typically associated with low air inflow, high fuselage leakage, or a combination of the two. Examples of theses occurrences are:

- Cabin altitude is above the pressurization schedule during cruise
- Cabin altitude climbs during cruise
- Cabin altitude climbs during initial descent

The inflow of air depends on the bleed air source (engines, APU) and air conditioning pack flow. Bleed air pressure is one method for determining if sufficient air is available to the packs. Low bleed pressures may indicate poor bleed performance even if the pressures are not zero.

NOTE: Bleed air pressure must exceed cabin pressure by at least 10 psi to ensure air flow into the cabin through an air conditioning pack.

Airplanes have controlled air leakage from the fuselage. Air exits the fuselage from galley ventilation and drains, aft outflow valves, forward outflow valves (where applicable), and certain bulkhead penetrations such as control cables. Air also leaks from the fuselage in uncontrolled ways. These paths can include worn door seals, bilge drain valves, bulkhead penetrations, and APU bleed air duct bulkhead seals.

NOTE: Fault Code 30 on the Cabin Pressure Controller indicates low inflow or high fuselage leakage and not a problem with the Cabin Pressure Controller.

The fault isolation procedure below will help determine if the inability of the airplane to maintain cabin pressure within the specified limits is caused by problems with the bleed system, the air conditioning packs, a leaky fuselage, or a combination of the three.

B. Possible Causes

(1) Air conditioning packs cannot pressurize the airplane to specification.

(a) Secondary heat exchanger

(2) Fuselage leaks excessively.

(a) Air leaking around cabin doors and over-wing hatches.

(b) Air leaking around service door seals.

(c) Air leaking from bilge drains (they should close at about 2.0 psid).

(d) Air leaking from APU duct to fuselage seals at station 540, station 727 and station 1016.

(e) Air leaking from nose gear view port

(f) Air leaking from forward outflow valve/EE cooling overboard vent

(3) Bleed system does not supply enough pressure to the packs to allow the packs to operate efficiently.

(a) Precooler control valve not modulating correctly or stuck closed

(b) Precooler control valve sensor (390° F sensor) is out-of-tolerance, stuck closed or plugged

(c) Pressure regulator and shutoff valve (PRSOV) has a butterfly valve that is sticking

(d) 450° F thermostat has failed open

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(e) Bleed air regulator (M1180) regulates control pressure too low

(f) High stage valve has a butterfly valve that is sticking

(g) High stage regulator not regulating properly

(h) Sense lines have pressure leaks

(i) Sense lines are obstructed

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	5	C00259	AIR CONDITIONING BLEED AIR VALVE ISLN
A	6	C01470	AIR CONDITIONING BLEED AIR XDCR LEFT
A	7	C00796	AIR CONDITIONING BLEED AIR VALVES L
B	5	C00077	AIR CONDITIONING BLEED AIR PRESS IND
B	6	C01469	AIR CONDITIONING BLEED AIR XDCR RIGHT
B	7	C00797	AIR CONDITIONING BLEED AIR VALVES R

D. Related Data

(1) Cabin Pressure Leak Test, AMM TASK 05-51-91-790-801

(2) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(3) Equipment Cooling Overboard Exhaust Valve Removal, AMM TASK 21-27-05-000-801Equipment Cooling Overboard Exhaust Valve Installation, AMM TASK 21-27-05-400-801

(4) Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801

(5) Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801

(6) Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801

(7) Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002

(8) Engine Bleed Air System Leak Check Using the APU, AMM TASK 36-11-00-700-802

(9) Engine Bleed Air Crossover Operational Test, AMM TASK 36-11-00-710-801

(10) 737–SL-36–013

(11) 737–SL-21-045

(12) 737–SL-36–068

(13) 737–SL-36–073

E. Initial Evaluation of the Packs Ability to Pressurize the Cabin

(1) Do this task to supply electrical power to the airplane: AMM TASK 24-22-00-860-811

(2) Install the downlock pins to lock the landing gear by doing this task: AMM TASK 32-00-01-480-801

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(3) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(4) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(5) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(6) Do these steps on the Flight Management Computer (FMC) to display the FMCS ANALOG page 1/4:

(a) Press the INIT REF function key on the CDU front panel.

(b) Push the LSK adjacent to <INDEX (LSK 6L) to show the INIT REF INDEX 1/1 page.

(c) Push the LSK adjacent to MAINT> (LSK 6R) to show the MAINT BITE INDEX page.

(d) Push the LSK adjacent to <FMCS (LSK 1L) to show the FMCS BITE 1/1 page.

(e) Push the LSK adjacent to <DISCRETES (LSK 4L) to show the FMCS ANALOG DISC 1/4 page.

(f) Use the ECS PACK H/L (high flow, low flow) line entry on the ANALOG DISC 1/4 page.

(g) The following information can be displayed on the FMC:

	LEFT	RIGHT
ECS PACK	ON	OFF
ECS PACK H/L	LO	HI
ISOLATION VALVE	OPEN	OPEN

NOTE: ECS PACK indicates if the left or right pack is on or off. ECS PACK H/L indicates the pack is in the low flow mode or if it has been commanded to the high flow mode. A pack can be commanded to the high flow mode even if it is off. ISOLATION VALVE indicates if the valve is open or closed.

(7) Set the L and R RECIRC FAN switches on the air conditioning panel to AUTO.

(8) Start the APU by doing this task: APU Starting and Operation - Activation, AMM TASK 49-11-00-860-801.

(a) Let the APU become stable at the governed speed.

(9) Position the ISOLATION VALVE switch to OPEN.

(10) Set the BLEED 1 and BLEED 2 switches on the P5-10 air conditioning panel to the ON position.

NOTE: The cabin is not being pressurized at this point.

(11) Do these steps to make sure the pack flow control and shutoff valves operate correctly:

(a) Pressurize the pneumatic system with the APU by doing this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(b) Set the APU BLEED switch on the air conditioning panel to ON.

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(c) Set the L and R PACK switches on the air conditioning panel to AUTO.

(d) Make sure the ECS PACK H/L indication on the FMC display shows LO for both packs.

(e) Set the L PACK switch to HIGH.

(f) Make sure the ECS PACK H/L indication on the FMC display shows HI for the left pack and LO for the right pack.

(g) Set the R PACK switch to HIGH.

(h) Make sure the ECS PACK H/L indication on the FMC display shows HI for both packs.

(i) Put the L and R PACK switches on the air conditioning panel to AUTO.

(j) Make sure the ECS PACK H/L indication on the FMC display shows LO for both packs.

(k) Put the L and R PACK switches to OFF.

(12) Pressurize the airplane with both packs as follows:

(a) Pressurize the airplane to 4.0 psid as follows:

NOTE: Follow the instructions in this procedure when you pressurize the airplane: (AMM TASK 05-51-91-790-801).

1) Start the right engine using the APU bleed air.

a) APU BLEED switch is set to ON.

2) Set the ISOLATION VALVE switch to CLOSE.

3) Supply pneumatic pressure to the right pack with the right engine at ground idle. To supply pneumatic pressure with an engine, do this task: Supply Pressure to the Pneumatic System with One or Both Engines, AMM TASK 36-00-00-860-804.

a) BLEED 2 switch is set to ON.

b) BLEED 1 switch is set to OFF.

c) R PACK switch is set to AUTO.

4) Supply pneumatic pressure to the left pack with the APU. To supply pneumatic pressure with the APU, do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

a) APU BLEED switch is set to ON.

b) L PACK switch is set AUTO.

(b) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch to maintain the cabin pressure of 4.0 psid as follows:

NOTE: Pressurizing the airplane to 4.0 psid for the short duration of the test will not harm the airplane.

1) Make sure the pressurization mode selector is set to MAN.

2) Move the MANUAL VALVE CLOSE/OPEN toggle switch as necessary to maintain 4.0 psid on the DIFF PRESS gauge.

(c) If a differential pressure of 4.0 psid cannot be maintained, either a pack supply or airplane leakage problem exists. Do the applicable fault isolation tasks.

(13) Do this check of the right pack's capability to pressurize the passenger cabin in AUTO mode (low flow) with the right engine running:

(a) Make sure the pressure differential on the DIFF PRESS/CABIN ALT indicator on the P5-17 panel indicates a steady 4.0 psid.

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1) If a differential pressure of 4.0 psid cannot be maintained, either a pack supply or airplane leakage problem exists. Do the applicable fault isolation tasks.

(b) Make sure the L and R RECIRC FAN switches on the air conditioning panel is set to AUTO.

(c) Set the ISOLATION VALVE switch is in the CLOSE position.

(d) Set the L PACK switch on the P5-10 air conditioning panel to OFF.

(e) Set the APU BLEED switch on the P5-10 air conditioning panel to OFF.

(f) Set the BLEED 1 switch to OFF.

(g) Make sure the BLEED 2 switch is set to ON.

(h) Make sure the R PACK switch is set to AUTO (low flow).

(i) Set the temperature selector for the right pack to COLD.

(j) Slowly move the right engine throttle until N2% increases to 72% (+0%, -2%).

(k) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch as necessary to maintain 4.0 psid on the DIFF PRESS gauge.

(l) Make a record of the cabin rate of change, right engine bleed duct pressure, and right engine N2% information in the troubleshooting data sheet fields of Figure 302.

(m) Monitor the ANALOG DISC 1/4 page on the FMC CDU to make sure the pack and isolation valve operation is as commanded.

(n) Move the right engine throttle to the ground idle position.

(14) Do this task to check the right pack's capability to pressurize the passenger cabin in the HIGH mode (high flow).

(a) Set the R RECIRC FAN switch on the air conditioning panel to AUTO.

(b) Make sure the ISOLATION VALVE switch in the CLOSE position.

(c) Make sure the L PACK switch is OFF.

(d) Make sure the APU BLEED switch is OFF.

(e) Make sure the engine BLEED 1 switch is OFF.

(f) Make sure the BLEED 2 switch is ON.

(g) Set the R PACK switch to HIGH.

(h) Make sure the temperature selector for the right pack is set to COLD.

(i) Slowly move the right engine throttle until N2% increases to 72% (+0%, -2%).

(j) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch as necessary to maintain 4.0 psid on the DIFF PRESS gauge.

(k) Make sure the ECS PACK H/L indication on the FMC Maintenance Discrete page shows HI for the right pack.

(l) Make a record of the cabin rate of change, right engine bleed duct pressure, and right engine N2% information in the troubleshooting data sheet fields of Figure 302 once HIGH mode is achieve and indications are stable. A cabin rate of -500 fpm is normal.

(m) Move the right engine throttle to the ground idle position.

(n) Put the R PACK switch to AUTO.

(o) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch as necessary to achieve a steady 4.0 psid cabin pressure on the DIFF PRESS indicator.

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(15) Do this check of the left pack capability to pressurize the passenger cabin in AUTO mode (low flow) with the left engine running.

NOTE: Cabin pressure will fluctuate during the switch over to Bleed 1, L PACK.

(a) Set the APU BLEED switch to ON.

(b) Start the left engine with the APU bleed air. Do this task:

Start the Engine Procedure (Normal Start), AMM TASK 71-00-00-800-808-F00

(c) Set the R RECIRC FAN switch on the air conditioning panel to AUTO.

(d) Make sure the ISOLATION VALVE switch is in the CLOSE position.

(e) Make sure the APU BLEED switch is set to OFF.

(f) Set the BLEED 1 switch to ON.

NOTE: A dual bleed light should illuminate. Ignore this indication.

(g) Make sure the L PACK switch is set to AUTO.

(h) Set the R PACK switch to OFF.

(i) Put the BLEED 2 switch to OFF.

(j) Set the temperature selector for the left pack to cold.

(k) Shut down the right engine: AMM TASK 71-00-00-700-819-F00.

(l) Slowly move the left engine throttle until N2% increases to 72% (+0%, -2%).

(m) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch as necessary to maintain 4.0 psid on the DIFF PRESS gauge.

(n) Make a record of the cabin rate of change, right engine bleed duct pressure, and right engine N2% information in the troubleshooting data sheet fields of Figure 302.

(o) Monitor the ANALOG DISC 1/4 page on the FMC CDU to make sure the pack and isolation valve operation is as commanded.

(p) Move the left engine throttle to the ground idle position.

(16) Do this check of the left pack capability to maintain pressure to the passenger cabin with the pack in the HIGH Mode (high flow).

(a) Set the R RECIRC FAN switch on the air conditioning panel to AUTO.

(b) Make sure the ISOLATION VALVE switch is set to CLOSE.

(c) Make sure the APU BLEED switch is OFF.

(d) Make sure the BLEED 1 switch is ON.

(e) Make sure the R PACK switch is OFF.

(f) Make sure the BLEED 2 switch is OFF.

(g) Put the L PACK switch to HIGH.

(h) Make sure the temperature selector for the left pack is set to cold.

(i) Slowly move the left engine throttle until N2% increases to 72% (+0%, -2%).

(j) Stabilize the cabin pressure to 4.0 psid by adjusting the outflow valve.

(k) Make sure the ECS PACK H/L indication on the FMC DISCRETE page shows HI for the left pack.

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(l) Make a record of the cabin rate of change, left engine bleed duct pressure, and left engine N2% information in the troubleshooting data sheet fields of Figure 302 once HIGH Mode is achieved and indications are stable. A cabin rate of -500 fpm is normal.

(m) Move the left engine throttle to the ground idle position.

(n) Return the LPACK switch to AUTO.

(o) Manually operate the outflow valve MANUAL VALVE CLOSE/OPEN switch as necessary to achieve a steady 4.0 psid cabin pressure on the DIFF PRESS indicator.

F. Dispatchability Troubleshooting Table

(1) The following is a Cabin Pressurization Confidence Dispatch Guide. Print out the table and use it as a quick reference guide when determining the dispatchability of an airplane.

Cabin Pressurization Confidence Dispatch Guide

SYSTEM	MINIMUM REQUIREMENT	REQUIREMENT SATISFIED	
		Yes	No
Single Pack Low Flow Mode	Able to maintain cabin differential pressure of 3.9 - 4.1 psid and cabin rate of change is no more than ±100 feet per minute.	Confidence is high that airplane will maintain pressure with single pack in high flow mode while at cruise.	Confidence is low that airplane will maintain pressure on single pack at cruise. Emphasis needs to be placed on the following: Outflow: Was airplane leak down less than 100 seconds? If so, check for cabin leaks and run Phase III test again. Inflow: If the cabin leak down rate was acceptable, then the pack performance needs to be investigated. Perform various pack system health checks per AMM 21-51-00/500 series pages.
Single Pack High Flow Mode	Cabin rate of change is -500 feet per minute or greater.	Confidence is high that airplane will maintain pressure with single pack in high flow mode while at cruise	Confidence is low that airplane will maintain pressure on single pack at cruise. Emphasis needs to be placed on the following: Outflow: Was airplane leak down less than 100 seconds? If so, check for cabin leaks and run Phase III test again. Inflow: If the cabin leak down rate was acceptable, then the pack performance needs to be investigated. Perform various pack system health checks per AMM 21-51-00/500 series pages.

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Cabin Pressurization Confidence Dispatch Guide (Continued)

SYSTEM	MINIMUM REQUIREMENT	REQUIREMENT SATISFIED	
		Yes	No
Airplane/Structure Air Leakage	Leak down rate from 4.0 to 2.5 psid is greater than or equal to a MINIMUM of 100 seconds (110 to 120 seconds is the target).	Cabin leakage is acceptable. Operators should consider conducting AMM 05-51-91 leakage test on C-check basis and monitor performance.	Inspect and repair any air leaks. Specifically: Doors and hatches - missing or torn seals, poor contact between door seals and airplane due to dirt, etc., inspect sealing compound areas and repair door seals per AMM 52-09-10. Aft outflow valve - Test per AMM 21-31-00/501. Bilge drains - Should close at approximately 2.0 psid. Cabin pressure safety relief valve, outflow valve seal, negative pressure relief valve seal, water service panel, flight deck windows, pressure bulkhead penetrations should all have minimal leakage. Significant leaks should be resolved as required.
Engine Bleed Duct Pressure - Ground Idle	With N1 at approximately 20%, duct pressure should be 15 to 20 psi. Reference AMM 36-11-00, page 516.	Continue to maintain bleed system components on 1C-check intervals as specified in MPD Section 1.1.	Consider accomplishing the engine bleed air distribution system adjustment/test AMM 36-11-00, 500 series pages to help improve system performance.
Engine Bleed Duct Pressure - Flight Idle	With N1 at approximately 33%, duct pressure should be 26 to 38 psi. Reference AMM 36-11-00, page 516.	Continue to maintain bleed system components on 1C-check intervals as specified in MPD Section 1.1.	Consider accomplishing the engine bleed air distribution system adjustment/test AMM 36-11-00, 500 series pages to help improve system performance.
Cabin Pressurization Control System	Successful completion of the Phase I, II and III tests and cabin pressure can be maintained.	Confidence is high that cabin pressure can be maintained.	Consider accomplishing pressurization control system adjustment/test per AMM 21-31-00, 500 series pages.

G. Fault Isolation of Low Pack Air Flow

(1) Over a period of time, moisture mixed with contaminants in the air can form sludge in the secondary heat exchanger. This can cause low air flow.

(a) Perform the following procedure to clean the secondary heat exchanger: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801

H. Repair Confirmation for Low Pack Air Flow

(1) Perform the procedure to evaluate the packs again to see if the problem has been solved. If pressurization problems still exist, evaluate the leakage in the fuselage and the bleed air pressure to determine if sufficient air is available to the packs. Low bleed pressures may indicate poor bleed performance even if the pressures are not zero.

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I. Fault Isolation of Fuselage Leakage

(1) Check the airplane for sources of leakage in the fuselage (Figure 301).

(a) Pressurize the airplane with the APU by following this task: AMM TASK 36-00-00-860-803.

(b) Examine these areas from inside the airplane:

1) Main cabin doors

NOTE: There should not be any significant areas where the air jets out the door seals.

2) Over-wing hatches

(c) Examine these areas from outside the airplane:

1) Cargo door seals

2) Bilge drains

NOTE: Bilge drains should close at about 2.0 psid. All bilge drains open create the equivalent of a 4.75 diameter hole (approx.). As few as four or five open drains can cause a noticeable increase in leakage.

3) E/E bay doors

4) Main cabin doors

5) Over-wing hatches

6) APU duct to fuselage seal at station 661.34 (Open access panel 192K forward of the MLG forward bulkhead.)

7) APU duct to fuselage seal at station 727 (Open the access panel at the aft end of the keel beam to access the APU duct at station 727.)

8) APU duct to fuselage seal at station 1016 (Open the door into the tail of the airplane and look at the aft pressure bulkhead for APU duct at station 1016.)

9) Nose gear view port (Feel for air flow from the site glass window.) (Reference IPC 56-41-31-01).

10) Forward outflow valve/E/E cooling overboard vent

(2) Repair all pressure leaks that are found. Perform the airplane leak down check in the Repair Confirmation section to make sure the pressure leakage is within acceptable limits.

J. Repair Confirmation for Fuselage Leakage

(1) Perform the following airplane Leak Down Check to confirm the airplane can maintain pressure within acceptable limits.

(a) Pressurize the airplane with the APU by following this task: AMM PAGEBLOCK 05-51-91/201.

(b) When 4.0 psid on the DIF PRESS gauge has been achieved and stabilized, fully close (manually) the aft outflow valve.

1) Make sure that the indication on the gauge above the CLOSED/OPEN switch on the P5-17 pressurization control panel shows that the valve is fully closed.

(c) Set the L and R PACK switches to OFF.

(d) Set the BLEED 1 and 2 switches to OFF.

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(e) Continue to operate the APU.

NOTE: The APU is kept running in the event a bleed source is needed in case of a very high rapid cabin depressurization below 2.5 psi and for electrical power if a ground source is not used.

(f) Start the check at 4.0 psid (time zero).

(g) Make a record of the pressure differential indications on the Figure 302 at 10 second intervals until the cabin pressure reduces to 2.5 psi.

NOTE: After completing the bleed down check, a pack may be switched ON to reduce cabin rate of depressurization.

(h) Continue to depressurize the airplane and put it back to its unpressurized condition.

(i) Shut down the APU per APU Usual Shutdown, AMM TASK 49-11-00-860-802

(2) Best performance of the air conditioning packs and airplane structure is as follows:

Table 201 Best Performance Data

SYSTEM	BEST PERFORMANCE
Single Pack - Low Flow Mode	Able to maintain or increase cabin differential at 4.0 PSID and cabin rate of change of 0 or negative value (cabin pressurizing).
Single Pack - High Flow Mode	Able to maintain or increase cabin differential at 4.0 PSID and cabin rate of change of -500 feet/minute or greater (cabin pressurizing).
Cabin Leakage Rate from 4.0 to 2.5 psi	Greater than 110 seconds is excellent; 100 -110 seconds is good; less than 100 seconds is unacceptable and requires service..

(3) If the test data agrees with the best performance data for the packs (inflow) and the airplane structure (outflow), you can be very sure that cabin pressure can be maintained at cruise (FL250) on a single pack.

K. Initial Evaluation of Engine Bleed System Performance

NOTE: This procedure is given for Engine #1. Engine #2 is similar unless otherwise stated.

(1) Make sure the applicable engine start lever is in the CUTOFF position.

(a) Install a DO-NOT-OPERATE tag on the engine start lever.

(2) Make sure the L and R PACK switches on the P5-10 panel are in the OFF position.

(3) Make sure the APU BLEED switch on the P5-10 panel is in the OFF position.

(4) Make sure the ISOLATION VALVE switch on the P5-10 panel is in the CLOSE position.

NOTE: For the #2 engine, the ISOLATION VALVE switch should be in the OPEN position.

(5) Supply electrical power to the airplane. Do this task.

(a) Supply Electrical Power, AMM TASK 24-22-00-860-811.

(6) Open the thrust reverser. Do this task:

(a) Open the Thrust Reverser (Selection), AMM TASK 78-31-00-010-801-F00

(7) Use a dental mirror, STD-3907 to look at the Position Indicator/Manual Override Nut [5] on the Precooler Control Valve [4] to make sure it is in the OPEN position (Figure 304).

(a) Use a 3/4-inch wrench on the Manual Override Nut [5] to close the Precooler Control Valve [4] to make sure it moves smoothly.

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(b) Remove the wrench and allow the valve to return to the OPEN position by spring force only.

(c) If the Precooler Control Valve [4] does not close smoothly or return to the OPEN position, replace the valve by following these procedures:

Precooler Control Valve Removal, AMM TASK 36-12-02-000-801

Precooler Control Valve Installation, AMM TASK 36-12-02-400-801

(8) Look at the Position Indicator/Manual Override Nut [2] on the PRSOV [1] to make sure it is in the CLOSED position (Figure 304).

(a) Use a 3/8-inch wrench on the Manual Override Nut [2] to open the PRSOV [1] to make sure it moves smoothly.

(b) Remove the wrench and allow the valve to return to the CLOSED position by spring force only.

(c) If the PRSOV [1] does not open smoothly or return to the CLOSED position, replace the valve by following these procedures:

PRSOV Removal, AMM TASK 36-11-04-000-801

PRSOV Installation, AMM TASK 36-11-04-400-801

(9) Look at the Position Indicator/Manual Override Nut [10] on the High Stage Valve [9] to make sure it is in the CLOSED position (Figure 304).

(a) Use a 3/8-inch wrench on the Manual Override Nut [10] to open the High Stage Valve [9] to make sure it moves smoothly.

(b) Remove the wrench and allow the valve to return to the CLOSED position by spring force only.

(c) If the High Stage Valve does not open smoothly or return to the CLOSED position, replace the valve by following these procedures:

High Stage Valve Removal, AMM TASK 36-11-06-000-801

High Stage Valve Installation, AMM TASK 36-11-06-400-801

L. Fault Isolation Procedure - Do the Bleed Air System Leak Check

(1) Use the APU to pressurize the Bleed Air System. Do this task.

(a) Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

NOTE: The PRSOV [1] should be closed when pressurizing the Bleed Air System.

(2) Put the applicable engine BLEED switch in the ON position.

WARNING: USE A RATCHET-TYPE WRENCH TO OPEN THE PRSOV. PRESSURE IN THE SYSTEM CAN CAUSE THE PRSOV TO OPEN QUICKLY. THIS CAN PULL THE WRENCH FROM YOUR HANDS. INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(3) Use a 3/8-inch socket on a ratchet-type wrench to turn the Manual Override Nut [2] on the PRSOV [1]. Once you begin turning the Manual Override Nut [2], the air pressure should move the PRSOV to the fully open position.

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WARNING: REMOVE THE PRESSURE FROM THE PNEUMATIC DUCTS BEFORE YOU REMOVE A PNEUMATIC SYSTEM COMPONENT. HOT HIGH PRESSURE AIR CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(4) If the PRSOV did not move fully open, test the Relief Valve Assembly [6] on the Bleed Air Regulator [3] for major air leakage.

NOTE: A small amount of air leakage from the Relief Valve Assembly [6] is normal.

(a) Press down on the top of the Relief Valve Assembly [6] to stop the air flow.

(b) If the PRSOV [1] moves fully open when the air flow stops, there is too much leakage from the Relief Valve Assembly [6]. Replace the Bleed Air Regulator [3] by doing these tasks.

1) Bleed Air Regulator Removal, AMM TASK 36-11-03-000-801

2) Bleed Air Regulator Installation, AMM TASK 36-11-03-400-801

(5) Apply leak detector, G50135 to the sense lines and fittings to determine if air leakage exists.

(a) Replace leaking sense lines and fittings as necessary.

NOTE: Apply Never-Seez NSBT compound, D00006 to all male threads before connecting the pneumatic sense lines.

(6) Replace the PRSOV [1] if it does not go fully open when the system is pressurized and there is no major leakage from the Relief Valve Assembly [6] on the Bleed Air Regulator [3] or leaks in the sense lines. Do these tasks:

(a) PRSOV Removal, AMM TASK 36-11-04-000-801

(b) PRSOV Installation, AMM TASK 36-11-04-400-801

(7) Make sure the Precooler Control Valve [4] moves fully closed when the PRSOV is fully open.

(8) If the Precooler Control Valve [4] does not move fully closed, inspect for air leaks by doing the following.

(a) Apply leak detector, G50135 to the supply and control pressure sense lines, fittings, and the 390° sensor.

(b) Replace leaking sense lines, fittings, and the 390° sensor as necessary.

NOTE: Apply Never-Seez NSBT compound, D00006 to all male threads before connecting the pneumatic sense lines.

(9) If the Precooler Control Valve [4] does not move fully closed and no air leaks were found, do the following.

(a) Remove the test cap [12] on the control pressure sense line from the Precooler Control Valve [4] to the 390° sensor and make sure air flows out of the test port.

(b) If air does not flow out of the test port, do the following.

1) Reconnect the test cap [12].

2) Disconnect the sense line from the Precooler Control Valve [4] to make sure there is air flow out of the valve's control pressure port.

3) If air does not flow out of the control pressure port, replace the Precooler Control Valve [4].

a) Precooler Control Valve Removal, AMM TASK 36-12-02-000-801

b) Precooler Control Valve Installation, AMM TASK 36-12-02-400-801

4) If there is air flow out of the control pressure port on the Precooler Control Valve [4], there is blockage in the sense line between the test port and the valve.

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a) Replace the sense line.

(c) If air flows out of the test port when the test cap is removed, do the following.

1) Reconnect the test cap [12].

2) Disconnect the sense line at the 390° sensor to make sure there is no blockage in the sense line between the test port and the sensor.

3) Replace the sense line if there is no air flow out of the end.

(10) Listen for air leakage in the engine.

NOTE: Air leakage in the engine is an indication that the High Stage Valve [9] is allowing air to backflow into the engine.

(a) Replace the High Stage Valve [9] if air can be heard in the engine when the system is pressurized. Do these tasks:

1) High Stage Valve Removal, AMM TASK 36-11-06-000-801

2) High Stage Valve Installation, AMM TASK 36-11-06-400-801

(11) Disconnect the Supply Pressure Sense Line [8] from the High Stage Regulator [7].

(12) Do a check for air leakage at the supply pressure inlet on the High Stage Regulator [7].

NOTE: Air leaking from the supply pressure inlet when the Bleed Air System is pressurized with the APU indicates the reverse flow diaphragm inside the High Stage Regulator [7] is damaged.

(a) Replace the High Stage Regulator [7] if air leakage is detected from the supply pressure inlet. Do these tasks.

1) High Stage Regulator Removal, AMM TASK 36-11-07-000-801

2) High Stage Regulator Installation, AMM TASK 36-11-07-400-801

(b) If no air leakage is detected, reconnect the Supply Pressure Sense Line [8] to the High Stage Regulator [7].

NOTE: Apply Never-Seez NSBT compound, D00006 to all male threads before connecting the pneumatic sense lines.

M. Put the Airplane Back To Its Usual Condition

(1) Remove pneumatic pressure from the Bleed Air System. Do this task:

(a) Remove Pressure from the Pneumatic System, AMM TASK 36-00-00-860-806

(2) Put the ISOLATION VALVE switch on the P5-10 Air Conditioning Module in the AUTO position.

(3) Put the L and R BLEED switches on the P5-10 panel in the OFF position.

(4) Close the thrust reverser. Do this task:

(a) Close the Thrust Reverser (Selection), AMM TASK 78-31-00-010-804-F00.

(5) Remove the electrical power from the airplane. Do this task:

(a) Remove Electrical Power, AMM TASK 24-22-00-860-812.

N. Engine Bleed System Troubleshooting Table

(1) The following is an Engine Bleed System Quick Reference Troubleshooting Table. Print out the table and use it as a quick reference troubleshooting guide along with Figure 305 when working on the bleed system of an airplane.

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Engine Bleed System Quick Reference Troubleshooting Table

STEP	737-600/700/800/900	TROUBLESHOOTING STEP	EXPECTATION - NORMAL 0PERATION	REMEDY FOR ABNORMAL OPERATION
1	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(6) FIM 36-10-804, F.(6)	Open the thrust reverser.		
2.A	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(7) FIM 36-10-804, F.(7)	Look at the position indicator on the precooler control valve.	Should be open.	
2.B	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(7)(a),(b) FIM 36-10-804, F.(7)(a), (b)	Manually wrench CLOSED the precooler control valve and allow it to move OPEN by spring force only.	Should move smoothly to the CLOSED position and return to the OPEN position by spring force only.	If the valve does not move smoothly and return to OPEN, replace per the R/I in AMM 36-12-02/400 series pages.
3.A	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(8) FIM 36-10-804, F.(9)	Look at the position indicator on the pressure regulating shutoff valve (PRSOV).	Should be CLOSED.	
3.B	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(8)(a), (b) FIM 36–10–804, F.(9)(a), (b)	Manually wrench OPEN the PRSOV and allow it to move CLOSED by spring force only.	Should move smoothly to the OPEN position and return to the CLOSED position by spring force only.	If the valve does not move smoothly and return to CLOSED, replace per the R/I in AMM 36-11-04/400 series pages.
4.A	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(9) FIM 36-10-804, F.(10)	Look at the position indicator on the high stage valve.	Should be CLOSED.	
4.B	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.F.(9)(a), (b) FIM 36-10-804, F.(10)(a), (b)	Manually wrench OPEN the high stage valve and allow it to move CLOSED by spring force only.	Should move smoothly to the OPEN position and return to the CLOSED position by spring force only.	If the valve does not move smoothly and return to CLOSED, replace per the R/I in AMM 36-11-06/400 series pages.
5A	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.G.(1)(a) FIM 36-10-804, F.(11)	Supply pneumatic pressure from the APU or ground supply (pressure should be less than 40 psig).		

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Engine Bleed System Quick Reference Troubleshooting Table (Continued)

STEP	737-600/700/800/900	TROUBLESHOOTING STEP	EXPECTATION - NORMAL 0PERATION	REMEDY FOR ABNORMAL OPERATION
5.B	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.G.(3), (4) FIM 36-10-804, F.(13)	Manually OPEN the PRSOV with a wrench if it does not OPEN when the APU bleed is selected ON. WARNING: Use a ratchet-type wrench when opening the PRSOV to avoid injury.	PRSOV will move to and stay in the FULL OPEN position. Low control pressure from the BAR or leaking control pressure lines can result in low duct pressure when the PRSOV is regulating the pneumatic pressure. Check for leaking relief valve on the bleed air regulator, leaking flex line to the PRSOV, leaking control pressure line from the PRSOV to the 450° F sensor, excessive venting of the 450° F sensor.	Check for leaks on: 1. the supply and control pressure lines. 2. relief valve on the regulator. If the relief valve is leaking, replace the bleed air regulator per the R/I in AMM 36-11-03/400 series pages.
5.C	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.G.(7) FIM 36-10-804, F.(20)	When the PRSOV moves OPEN, the precooler control valve should move CLOSED.	The precooler control valve moves to the CLOSED position.	If the valve does not move CLOSED, check for leaks on the supply and control pressure lines. If no leaks are found, replace the precooler control valve per the R/I in AMM 36-12-02/400 series pages.
5.D	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.G.(9) FIM 36-10-804, F.(21)(a)	Disconnect the test cap on the precooler control valve control pressure line.	The precooler control valve should move to the OPEN position.	If the valve does not move OPEN; check for blockage in the sense line.
5.E	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.G.(10)	Listen for air leakage in the engine.	Air leakage in the engine indicates the high stage valve is allowing air to backflow into the engine.	If you can hear air leakage in the engine, replace the high stage valve per the R/I in the AMM: 36–11–06/400 series pages.
5.F	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.H.(11), (12) FIM 36-10-804, F.(15)	Disconnect the supply line connection from the high stage regulator port.	No air should flow from the supply port.	If air flows from the supply port, the reverse flow diaphragm is ruptured. Replace the high stage regulator per the R/I in AMM 36-11-07/400 series pages

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Engine Bleed System Quick Reference Troubleshooting Table (Continued)

STEP	737-600/700/800/900	TROUBLESHOOTING STEP	EXPECTATION - NORMAL 0PERATION	REMEDY FOR ABNORMAL OPERATION
6.A	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.H.(1)-(3)	Return pneumatic system to normal configuration.		
6.B	AMM 36-11-00/500 Task 36-11-00-700-802 Para 6.H.(4), (5)	Return airplane to normal configuration.		

O. Repair Confirmation

(1) Do this task: Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807-F00

(2) Put these switches, on the P5-10 panel, to the positions that follow:

(a) ISOLATION VALVE - CLOSED

(b) ISOLATION VALVE - CLOSED

(c) 2 BLEED - OFF

(d) APU BLEED - OFF

(e) L PACK - OFF

(f) R PACK - OFF

(3) Examine the dual duct pressure indicator on the P5-10 panel.

NOTE: Ignore the fluctuation in the dual duct pressure indicator with these conditions: you move the BLEED switch, the isolation valve is closed, or the PACK switch is in the OFF position.

(a) Make sure the dual duct pressure indicator shows 10.0 psig or less.

(4) Make sure that engine is at idle.

(5) Put the engine 1 BLEED switch to the ON position.

(a) Permit the pressure in the pneumatic ducts to become stable.

(b) Make sure the dual duct pressure indicator shows 10.0 - 25.0 psig.

NOTE: Pneumatic duct pressure must be a minimum of 18 psig to supply sufficient air for cabin pressurization.

(6) Put the L PACK switch to the AUTO position.

(7) Slowly increase the engine power in 10% increments when following these steps and log the pressure values in the DUCT PRESSURE VALUES AS N1% INCREASES table below.

NOTE: The duct pressures should follow the graphs in Figure 306. The minimum serviceable pneumatic duct pressure under in-flight airplane configuration and operating conditions are shown in Figure 307.

(a) As N1 increases, make sure the duct pressure is at 32 ± 6 psig and becomes stable when N1 is at 40%.

(b) Continue to slowly increase the engine power to 80% N1.

(c) Make sure the duct pressure goes to 42 ± 8 psig and becomes stable.

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INCREASE N1%

N1%	IDLE	20%	30%	40%
LEFT ENGINE				
RIGHT ENGINE				
PSIG RANGE	18–20	18–20	26–38	26–38

INCREASE N1%

N1%	50%	60%	70%	80%
LEFT ENGINE				
RIGHT ENGINE				
PSIG RANGE	26–38	34–50	34–50	34–50

DUCT PRESSURE VALUES AS N1% INCREASES

(8) Slowly decrease the engine power.

(a) Log the pressure values at every 10% N1 interval in the DUCT PRESSURE VALUES AS N1% DECREASES table below.

(b) Make sure the duct pressure goes to 32 ± 6 psig and becomes stable as shown in the graphs in Figure 306.

NOTE: When the engine bleed system goes from the 5th-stage bleed to the 9th-stage bleed, the duct pressure can decrease to approximately 20.0 psig. This can occur before the high- stage valve opens and regulates the bleed air.

DECREASE N1%

N1%	80%	70%	60%	50%
LEFT ENGINE				
RIGHT ENGINE				
PSIG RANGE	34–50	34–50	34–50	26–38

DECREASE N1%

N1%	40%	30%	20%	IDLE
LEFT ENGINE				
RIGHT ENGINE				
PSIG RANGE	26–38	26–38	18–20	18–20

DUCT PRESSURE VALUES AS N1% DECREASES

(9) Put the engine 1 BLEED switch to the OFF position.

(10) Put the L PACK switch to the OFF position.

(11) After the duct pressure is stable.

(a) Make sure the duct pressure is at 10.0 psig or less.

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(12) To stop the engine, do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819-F00

(13) Do this procedure again for the engine 2 bleed system, if it is necessary.

END OF TASK

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1578814 S0000264845_V1

Fuselage Leakage Sources
Figure 301/21-00-00-990-810

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AIRPLANE _____ HOURS _____ CYCLES _____ DATE _____

INITIAL CABIN PRESSURIZATION (0.0 TO 4.0 PSID)

CONDITION OF CARGO AND MAIN ENTRY DOOR SEALS _____

FLOW CONTROL VALVE INDICATOR MODULATION LEFT VALVE _____ RIGHT VALVE _____

ANY OBVIOUS AIR LEAK NOISE FROM INSIDE CABIN _____

ANY OBVIOUS LEAKS OUTSIDE AIRPLANE _____

ESTIMATED TIME TO PRESSURIZE FROM 0.0 TO 4.0 PSID _____

BLEED SOURCE(S) USED TO ACHIEVE 4.0 PSID LEFT ENGINE RIGHT ENGINE APU

SINGLE PACK ABILITY TO PRESSURIZE THE CABIN (LOW AND HIGH FLOW MODE)

	CABIN RATE OF CHANGE	BLEED SOURCE & DUCT PRESSURE	ENGINE N2 %
LEFT PACK LOW FLOW MODE	_____	_____	_____
LEFT PACK HIGH FLOW MODE	_____	_____	_____
RIGHT PACK LOW FLOW MODE	_____	_____	_____
RIGHT PACK HIGH FLOW MODE	_____	_____	_____

AIRPLANE LEAK DOWN (NO PACK OPERATION)

CABIN TEMPERATURE _____

TIME (SECONDS)	CABIN (PSID)	CABIN (RATE OF CHANGE)
10	_____	_____
20	_____	_____
30	_____	_____
40	_____	_____
50	_____	_____
60	_____	_____
70	_____	_____
80	_____	_____
90	_____	_____
100	_____	_____
110	_____	_____
120	_____	_____

1579064 S0000289455_V1

Single Pack Operation Troubleshooting Data Sheet
Figure 302/21-00-00-990-811

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Single Pack Expected Flows
Figure 303/21-00-00-990-813 (Sheet 1 of 3)

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Single Pack Expected Flows
Figure 303/21-00-00-990-813 (Sheet 2 of 3)

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1416741 S0000255258_V2

Single Pack Expected Flows
Figure 303/21-00-00-990-813 (Sheet 3 of 3)

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U71200 S0000214518_V3

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 1 of 6)

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U71886 S0000214519_V3

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 2 of 6)

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U71900 S0000214520_V2

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 3 of 6)

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D

U71901 S0000214521_V3

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 4 of 6)

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U71902 S0000214522_V2

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 5 of 6)

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G

1337969 S0000236688_V3

Engine Bleed Air System Leakage Check
Figure 304/21-00-00-990-815 (Sheet 6 of 6)

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Engine Bleed Air Distribution System Control Schematic
Figure 305/21-00-00-990-816

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AIRPLANE CONFIGURATION:
ASSOCIATED PACK: AUTO
ASSOCIATED BLEED: ON
ASSOCIATED CTAI: OFF
ISOLATION VALVE: CLOSED
WTAI: OFF

1 WHEN THE ENGINE THROTTLE IS RETARDED AND THE ENGINE BLEED SYSTEM SWITCHOVER OCCUR FROM 5TH-STAGE PRESSURE TO 9TH-STAGE PRESSURE, DUCT PRESSURE CAN DECAY TO AS LOW AS 20 PSIG BEFORE THE HIGH STAGE VALVE OPENS AND REGULATES THE DUCT PRESSURE TO NOMINAL 32 PSIG.

G50747 S0006744860_V2

Duct Pressure Versus N1 at Sea Level and 5000 Feet
Figure 306/21-00-00-990-817

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MINIMUM SERVICEABLE PNEUMATIC DUCT PRESSURE

AIRPLANE CONFIGURATION:
ASSOCIATED PACK: AUTO
WING ANTI-ICE: OFF
COWL ANTI-ICE: OFF

NOTE: MINIMUM POWER IN FLIGHT IS GREATER THAN MINIMUM POWER ON THE GROUND.

LEGEND:

- SEA LEVEL
- 5000 FEET
- BLEED SYSTEM OPERATING NORMALLY.
- BLEED SYSTEM PERFORMANCE DRIFTING. AIRPLANE CAN BE OPERATED NORMALLY BUT ACTION TO RESTORE BLEED SYSTEM TO OPTIMUM OPERATION SHOULD BE TAKEN AT A CONVENIENT OPPORTUNITY.
- BLEED SYSTEM INOPERATIVE. RESTORE TO NORMAL OPERATION BEFORE FLIGHT OR IMPOSE THE MEL RESTRICTION FOR CONTINUED OPERATION.

1418175 S0000255925_V4

Minimum Serviceable Pneumatic Duct Pressure
Figure 307/21-00-00-990-818

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801. Windshield or Foot Air Outlet Does Not Operate - Fault Isolation

A. Description

(1) The captain's or the first officer's windshield or foot air outlet has no air flow or less air flow than expected.

(2) (SDS SUBJECT 21-22-00)

B. Possible Causes

(1) Windshield and foot air outlet valve

(2) The cables for the windshield and foot air outlet valve

(3) The air distribution ducts for the flight compartment

(4) Defective muffler/duct assembly

C. Initial Evaluation

(1) Supply conditioned air to the flight compartment with the left air conditioning pack. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure the left air conditioning pack is on.

(3) Pull the applicable knob on the P1 panel (captain's instrument panel) or the P3 panel (first officer's instrument panel) for the applicable outlet (FOOT AIR or WINDSHIELD AIR).

(4) If the air flow from the applicable air outlet is satisfactory, then there was an intermittent fault.

(5) If the air flow from the applicable air outlet is not satisfactory, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

(1) Do these steps to do a check of the other air distribution outlets in the flight compartment:

(a) Examine all of the other air distribution outlets in the flight compartment for satisfactory airflow:

(b) If you find that all of the other air distribution outlets in the flight compartment do not have satisfactory air flow, then do this task: Low Conditioned Air Flow to the Flight Deck - Fault Isolation, 21-22 TASK 802.

(c) If all of the other air distribution outlets in the flight compartment have satisfactory air flow, then continue.

(2) Do these steps to do a check of the cables for the applicable windshield and foot air outlet valve:

(a) To get access to the captain's windshield and foot air outlet valve and cables, remove the display units on the captain's instrument panel (P1). To do this, do this task: Display Unit Removal, AMM TASK 31-62-11-000-801.

(b) To get access to the first officer's windshield and foot air outlet valve and cables, remove the display units on the first officer's instrument panel (P3). To do this, do this task: Display Unit Removal, AMM TASK 31-62-11-000-801.

(c) Do a check to see if the cables for the applicable air outlet are connected and correctly adjusted. To do this, do this task: Air Outlet Valve Control Cables Adjustment and Test, AMM TASK 21-22-02-820-801.

1) If there is a problem with the cables, then do these steps:

a) If it is necessary, adjust the cables. To do this, do this task: Air Outlet Valve Control Cables Adjustment and Test, AMM TASK 21-22-02-820-801.

b) If it is necessary, replace the cables. To do this,

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These are the tasks:

Air Outlet Valve Control Cables Removal, AMM TASK 21-22-02-000-801,

Air Outlet Valve Control Cables Installation, AMM TASK 21-22-02-400-801.

c) Do the Repair Confirmation at the end of this task.

2) If the cables for the applicable air outlet are connected and correctly adjusted, then continue.

(3) Do these steps to do a check of the applicable windshield and foot air outlet valve:

(a) Remove the applicable windshield and foot air outlet valve. To do this, do this task: Windshield and Foot Air Outlet Valve Removal, AMM TASK 21-22-01-000-801.

(b) Do a check to see if the air flow from the open air distribution duct where you removed the valve is satisfactory.

1) If the air flow from the duct is satisfactory, then do these steps:

a) Replace the windshield and foot air outlet valve with a new valve. To do this, do this task: Windshield and Foot Air Outlet Installation, AMM TASK 21-22-01-400-801.

b) Do the Repair Confirmation at the end of this task.

2) If the air flow from the duct is not satisfactory, then continue.

(4) Examine the air distribution ducts for the applicable outlet.

(a) Look for leakage or blockage in the air distribution ducts between the connection to the valve and applicable air outlet.

(b) Repair the air distribution ducts or remove the blockage.

(c) Install the applicable windshield and foot air outlet valve. To do this, do this task: Air Outlet Valve Control Cables Installation, AMM TASK 21-22-02-400-801.

(d) Do the Repair Confirmation at the end of this task.

(e) If the Repair Confirmation is not satisfactory, then continue.

E. Repair Confirmation

(1) Do these steps to make sure you corrected the fault:

(a) If conditioned air is not supplied to the flight compartment, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Make sure the left air conditioning pack is on.

(c) Pull the applicable FOOT AIR or WINDSHIELD AIR knob on the P1 or P3 panel to open to applicable valve.

(d) If the air flow at the applicable outlet is satisfactory, then you corrected the fault.

(2) Do these steps to put the airplane back to its usual condition:

(a) Make sure the applicable knobs on the P1 and P3 panel, WINDSHIELD AIR and FOOT AIR are pushed in to the closed position.

(b) Do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

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802. Low Conditioned Air Flow to the Flight Deck - Fault Isolation

A. Description

(1) The flow of conditioned air from the flight deck conditioned air outlets is low and seems to be decreasing with continued use.

(2) (SDS 21-22-00)

B. Possible Causes

(1) Disconnected, crushed or leaking flight deck distribution duct

(2) Defective muffler/duct assembly - collapsed lining material in the muffler

(3) Duct assembly with blocked wire mesh screen

NOTE: This duct assembly is roughly shaped like a “Y”.

C. Initial Evaluation

(1) Supply conditioned air to the flight compartment with the left air conditioning pack. To supply the conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(a) Make sure that the L PACK switch on the P5 air conditioning module is set to ON.

(2) Open or operate the conditioned air outlets in the flight compartment.

(3) If the air flow from the air outlets appears to be satisfactory, then there was an intermittent fault.

(4) If the conditioned air flow from all the air outlets listed below appears to be unsatisfactory, then do the Fault Isolation Procedure.

(a) Overhead outlets and gasper

(b) Underseat diffusers

(c) Foot air diffusers

(d) Windshield air diffusers

(e) Sidewall outlets (shoulder warmers)

(f) Individual panel gaspers.

D. Fault Isolation Procedure

(1) Make sure that conditioned air is supplied to the flight compartment.

(a) Examine the left flow control and shutoff valve to make sure that it is open.

(2) Do these steps to do a check of the flight compartment air distribution ducts:

(a) Do a check of the air distribution ducts between the mix manifold outlet and the flight compartment outlets for air leakage or blockage.

NOTE: The air distribution ducts between the mix manifold outlet and the flight compartment outlets are located on the left side of the forward cargo compartment and the Electronics/Equipment bay.

(b) If you find air leakage, damaged ducts or blocked ducts, then do these steps:

1) Repair the leaking or damaged/blocked duct.

a) If you determine that the blockage is at the muffler/duct assembly in the mix bay, then replace the muffler/duct assembly.

These are the tasks:

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Flight Deck Air Distribution System Muffler/Duct Assembly Removal, AMM TASK 21-22-05-000-801,

Flight Deck Air Distribution System Muffler/Duct Assembly Installation, AMM TASK 21-22-05-400-801.

2) Do the Repair Confirmation at the end of this task.

3) If the conditioned airflow from the outlets in the flight compartment is not satisfactory, then clean the flight deck duct assembly with the screen. To clean the duct assembly, do this task: AMM TASK 21-22-07-100-801.

NOTE: Muffler debris can build up on the wire mesh screen located inside of the "Y" duct assembly and reduce the airflow.

4) Do the Repair Confirmation at the end of this task.

E. Repair Confirmation

(1) Do these steps to make sure you corrected the fault.

(a) If conditioned air is not supplied to the flight compartment, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Make sure that the L PACK switch on the P5-10 air conditioning panel is set to ON.

(c) Make sure there is satisfactory airflow from these outlets:

1) Overhead outlets and gasper

2) Underseat diffusers

3) Foot air diffusers

4) Windshield air diffusers

5) Sidewall outlets (shoulder warmers)

6) Individual panel gaspers.

(d) If the conditioned air flow from the outlets is satisfactory, then you corrected the fault.

(2) Do these steps to put the airplane back to its usual condition:

(a) Do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

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802. Left or Right Recirculation Fan Does Not Operate - Fault Isolation

A. Description

(1) You set the L and R RECIRC FAN switches on the air conditioning panel to AUTO and the recirculation fans do not come on as shown in the table below.

Table 201

L PACK Switch Position	R PACK Switch Position	L Fan Condition	R Fan Condition
OFF	OFF	ON	ON
OFF	AUTO	ON	ON
OFF	HIGH	ON	ON
AUTO	OFF	ON	ON
AUTO	AUTO	ON	ON
AUTO	HIGH	ON	ON
HIGH	OFF	ON	ON
HIGH	AUTO	ON	ON
HIGH	HIGH	OFF	ON

B. Possible Causes

(1) Left recirculation fan, M1440

(2) Right recirculation fan, M1441

(3) Left cabin air recirculation fan relay, R429

(4) Right cabin air recirculation fan relay, R331

(5) Left air conditioning accessory unit, M324

(6) Right air conditioning accessory unit, M1455

(7) Switch for the left recirculation fan, S11

(8) Switch for the right recirculation fan, S3

(9) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	7	C00911	A/C RECIRC FAN LEFT CABIN AIR
E	9	C01156	A/C RECIRC FAN LEFT CONT

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
E	2	C01023	A/C RECIRC FAN RIGHT CONT.
E	4	C00884	AC RECIRC FAN RIGHT CABIN AIR

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D. Related Data

(1) (SSM 21-25-11)

(2) (WDM 21-25-11)

E. Initial Evaluation

(1) AIRPLANES WITH CAB/UTIL SWITCH ON THE P5-13 PANEL;

Make sure that the CAB/UTIL switch on the P5-13 panel is set to the ON position.

(2) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

(3) If the operational test shows that the left recirculation fan does not operate with any setting of the L PACK switch or the R PACK switch, then do the Fault Isolation Procedure - Left Recirculation Fan Does Not Come On At Any Setting of L PACK and R PACK Switches.

(4) If the operational test shows that the right recirculation fan does not operate with any setting of the L PACK switch or the R PACK switch, then do the Fault Isolation Procedure - Right Recirculation Fan Does Not Come On At Any Setting of L PACK and R PACK Switches.

(5) If the operational test shows that the left or right recirculation fan operates but does not come on as specified in the operational test, then do the Fault Isolation Procedure - Left or Right Recirculation Fan Does Not Come On as Specified With the L PACK and R PACK Switches.

(6) If the operational test does not show a problem, then there was an intermittent fault.

F. Fault Isolation Procedure - Right Recirculation Fan Does Not Come On At Any Setting of L PACK and R PACK Switches

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to one of these possible causes:

- recirculation fan, M1441
- recirculation fan relay, R331
- recirculation fan switch, S3
- wiring

(1) Do this check of the right recirculation fan, M1441:

(a) Disconnect connector D3854 from the right recirculation fan.

(b) Do a continuity check between these pins of the connector on the recirculation fan:

FAN CONNECTOR		FAN CONNECTOR
pin 5	. . . . .	pin 6
pin 2	. . . . .	pin 3
pin 3	. . . . .	pin 4

(c) If there is not continuity between a pair of pins, then do these steps:

1) Replace the right recirculation fan, M1441.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

2) If you did not do it as part of the replacement procedure, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002

3) If the operational test is satisfactory, then you corrected the fault.

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(d) If there is continuity between all the pairs of pins, then continue.

(2) Do this check for a path to ground for the right recirculation fan:

(a) Do a continuity check between pin 5 of the connector D3854 and structure ground.

(b) If there is not continuity between pin 5 and the structure ground, then do these steps:

1) Repair the wiring.

2) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

3) If the operational test is satisfactory, then you corrected the fault.

(c) If there is continuity between pin 5 and the structure ground, then continue.

(3) Do this voltage check at the right recirculation fan, M1441:

(a) Make sure the R RECIRC FAN switch on the P5-10 air conditioning panel is in the AUTO position.

(b) Disconnect connector D3854 from the recirculation fan, M1441.

(c) Do a check for 28 VDC between pin 6 of connector D3854 and structure ground.

(d) If there is not 28 VDC at pin 6 of D3854, then do these steps:

1) Do a check for 28 VDC between terminal X2 of right cabin air recirculation fan relay, R331 and structure ground.

2) If there is not 28 VDC at terminal X2, then replace right cabin air recirculation fan relay, R331.

a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

b) If the operational test is satisfactory, then you corrected the fault.

c) If the operational test is not satisfactory, then continue.

d) Do a check of the wiring between these pins of circuit breaker C1023 on the P6-4 panel and relay R331 behind the P6 panel:

C1023		**R331**
term L	. . . . .	term X1

e) Repair the wiring.

f) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

g) If the operational test is satisfactory, then you corrected the fault.

3) If there is 28 VDC at terminal X2 of recirculation fan relay, R331, then replace right recirculation fan switch, S3.

a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

b) If the operational test is satisfactory, then you corrected the fault.

c) If the operational test is not satisfactory, then continue.

d) Do a check for an open circuit between these pins of the R331 relay and D680 connector on the P5-10 panel:

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R331	D680
term X2	pin 46

e) Do a check for an open circuit between these pins of the D680 connector on the P5-10 panel and the D40562P connector on the E4-1 electronic equipment rack:

D680	D40562P
pin 47	pin A13

f) Do a check for an open circuit between these pins of the D40562P connector on the E4-1 electronic equipment rack and connector D3854 for the recirculation fan:

D40330P	D3854
pin 3	pin 6

g) If you find an open circuit, then repair the wiring.

h) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

i) If the operational test is satisfactory, then you corrected the fault.

(e) If there is 28 VDC at pin 6 of D3854, then do these steps:

1) Install a jumper wire between pin 5 and pin 6 of connector D3854.

2) Do a check for 200 VAC 3-phase power between pins 2, 3, and 4 of connector D3854.

3) If there is not 200 VAC 3-phase power between pins 2, 3, and 4 of connector D3854, then replace right recirculation fan relay, R331.

a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

b) If the operational test is satisfactory, then you corrected the fault.

c) If the operational test is not satisfactory, then continue.

d) Do a check of the wiring between these pins of circuit breaker C884 on the P6-4 panel and connector D3854 for the right recirculation fan:

C884	D3854
term A1	pin 2
term B1	pin 3
term C1	pin 4

e) If you find a problem with the wiring, then repair the wiring.

f) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

g) If the operational test is satisfactory, then you corrected the fault.

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G. Fault Isolation Procedure - Left Recirculation Fan Does Not Come On At Any Setting of L PACK and R PACK Switches

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to one of these possible causes:

- recirculation fan, M1440
- recirculation fan relay, R429
- recirculation fan switch, S11
- wiring

(1) Do this check of the left recirculation fan, M1440:

(a) Disconnect connector D3856 from the left recirculation fan, M1440.

(b) Do a continuity check between these pins on the connector of the fan:

FAN	CONNECTOR
pin 5	pin 6
pin 2	pin 3
pin 3	pin 4

(c) If there is not continuity between a pair of pins, then do these steps:

1) Replace the left recirculation fan, M1440.

These are the tasks:

Recirculation Fan Removal, AMM TASK 21-25-02-000-801,

Recirculation Fan Installation, AMM TASK 21-25-02-400-801.

2) If you did not do it as part of the replacement procedure, then, do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002

3) If the operational test is satisfactory, then you corrected the fault.

(d) If there is continuity between all the pairs of pins, then continue.

(2) Do this check for a path to ground for the left recirculation fan:

(a) Do a continuity check between pin 5 of the connector D3856 and structure ground.

(b) If there is not continuity between pin 5 and structure ground, then do these steps:

1) Repair the wiring.

2) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

3) If the operational test is satisfactory, then you corrected the fault.

(c) If there is continuity between pin 5 and structure ground, then continue.

(3) Do this check for 28 VDC at the left recirculation fan, M1440:

(a) Make sure the L RECIRC FAN switch on the P5-10 air conditioning panel is in the AUTO position.

(b) Disconnect connector D3856 from the recirculation fan, M1440.

(c) Do a check for 28 VDC between pin 6 of connector D3856 and structure ground.

(d) If there is not 28 VDC at pin 6 of connector D3856, then do these steps:

1) Do a check for 28 VDC between terminal X2 of left cabin air recirculation fan relay, R429 and structure ground.

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2) If there is not 28 VDC at terminal X2, then replace left cabin air recirculation fan relay, R429.
   a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.
   b) If the operational test is satisfactory, then you corrected the fault.
   c) If the operational test is not satisfactory, then continue.
   d) Do a check of the wiring between these pins of circuit breaker C1156 on the P18-3 panel and relay R429 of the J22 junction box (located in left side of the nose wheel well):

C1156		R429
term L	. . . . .	term X1

   e) Repair the wiring.
   f) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.
   g) If the operational test is satisfactory, then you corrected the fault.
3) If there is 28 VDC at terminal X2 of recirculation fan relay, R429, then replace left recirculation fan switch, S11.
   a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.
   b) If the operational test is satisfactory, then you corrected the fault.
   c) If the operational test is not satisfactory, then continue.
   d) Do a check for an open circuit between these pins of relay R429 in the J22 junction box and connector D646 on the P5-10 air conditioning panel:

R429		D646
term X2	. . . . .	pin 53

   e) Do a check for an open circuit between these pins of connector D646 on the P5-10 panel and connector D40554P on the E4-1 electronic equipment rack:

D646		D40554P
pin 54	. . . . .	pin B12

   f) Do a check for an open circuit between these pins of connector D40554P on the E4-1 rack and connector D3856 for recirculation fan:

D40244P		D3856
pin B4	. . . . .	pin 6

   g) If you find a problem with the wiring, then repair the wiring.
   h) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.
   i) If the operational test is satisfactory, then you corrected the fault.

(e) If there is 28 VDC at pin 6 of connector D3856, then do these steps:
   1) Install a jumper wire between pin 5 and pin 6 of connector D3856.

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2) Do a check for 200 VAC 3-phase power between pins 2, 3, and 4 of connector D3856.

3) If there is not 200 VAC 3-phase power between pins 2, 3, and 4 of connector D3856, then replace right recirculation fan relay, R429.

a) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

b) If the operational test is satisfactory, then you corrected the fault.

c) If the operational test is not satisfactory, then continue.

d) Do a check of the wiring between these pins of circuit breaker C911 on the P18-3 panel and connector D3856 for the recirculation fan:

C911		D3856
term A1	. . . . .	pin 2
term B1	. . . . .	pin 3
term C1	. . . . .	pin 4

e) If you find a problem with the wiring, then repair the wiring.

f) Do this task: Recirculation System - Operational Test, AMM TASK 21-25-00-710-802-002.

g) If the operational test is satisfactory, then you corrected the fault.

H. Fault Isolation Procedure - Left or Right Recirculation Fan Does Not Come On As Specified With the L PACK and R PACK Switches

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to this cause:

- air conditioning accessory unit, M324
- air conditioning accessory unit, M1455

(1) Replace the two air conditioning accessory units, M324 and M1455.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) If you did not do it after installation, then, do this task: Air Conditioning Accessory Unit - Operational Test, AMM TASK 21-51-02-710-802-002.

(b) If the operational test of the air conditioning accessory units, M324 and M1455 is satisfactory, then you corrected the fault.

END OF TASK

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805. EQUIP COOLING EXHAUST OFF Light On With the Switch at ALTERNATE - Fault Isolation

A. Description

(1) The EQUIP COOLING EXHAUST OFF light on the equipment cooling panel is on with the EQUIP COOLING EXHAUST switch at ALTERNATE.

(2) The EQUIP COOLING EXHAUST OFF light comes on when the alternate exhaust fan does not pull enough cooling air through the equipment cooling ducts. The monitoring circuit in the exhaust low flow detector then detects an inadequate air flow condition and provides a ground to allow the light to come on.

B. Possible Causes

(1) Alternate exhaust fan, M99

(2) Low flow detector, M100 - dirty or defective

(3) Alternate exhaust fan control relay, R30

(4) Equipment cooling switch, S59

(5) Wiring problem

(6) Duct blockage or leakage

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	18	C01434	EQPT COOLING LOW FLOW DETECT EXHAUST

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

D. Related Data

(1) (SSM 21-27-21)

(2) (WDM 21-27-21)

E. Initial Evaluation

(1) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(a) If the EQUIP COOLING EXHAUST OFF light is off or goes off within approximately 20 seconds, then there was an intermittent fault.

(b) If the EQUIP COOLING EXHAUST OFF light is on, then continue.

(2) Put the EQUIP COOLING EXHAUST switch to NORMAL.

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(a) If the EQUIP COOLING EXHAUST OFF light goes off within 20 seconds, then do the Fault Isolation Procedure - Fan Circuit Problem below.

(b) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then do the Fault Isolation Procedure - Airflow or Indication Circuit Problem below.

F. Fault Isolation Procedure - Fan Circuit Problem

(1) Do these steps check the alternate exhaust fan:

(a) Do these steps to get access to the alternate exhaust fan, M99:

1) Open this access panel to enter the EE compartment:

Number	Name/Location
117A	Electronic Equipment Access Door

2) Remove the access panel on the top of the raised platform that is just aft and outboard of this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect connector D162 from the alternate exhaust fan.

NOTE: The alternate exhaust fan is the more aft of the two exhaust fans.

(c) Do a continuity check between these pins on the connector of the fan:

FAN CONNECTOR	FAN CONNECTOR
pin 5	pin 6
pin 1	pin 2
pin 2	pin 3
pin 1	pin 3

(d) If there is not continuity between any two pins, then do these steps:

1) Replace the alternate exhaust fan, M99.

These are the tasks:

Equipment Cooling Exhaust Fan Removal, AMM TASK 21-27-04-000-801,

Equipment Cooling Exhaust Fan Installation, AMM TASK 21-27-04-400-801.

2) Make sure the alternate exhaust fan operates.

3) If the EQUIP COOLING EXHAUST OFF light goes off you corrected the fault.

(e) If there is continuity between all the pins, then continue.

(2) Do this check for a path to ground for the alternate exhaust fan:

(a) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(b) Do a continuity check between pin 6 of connector D162 and the structure ground.

(c) If there is not continuity check between pin 6 of connector D162 and the structure ground, do these steps:

1) Lower the P5 forward overhead panel to get access to the electrical connections on the equipment cooling switch, S59.

2) Do a continuity check between terminals 4 and 5 of the equipment cooling switch, S59.

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3) If there is not continuity between terminals 4 and 5, then do these steps:

a) Replace the equipment cooling switch.

NOTE: Put the switch in the ALTERNATE position.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

c) Re-install connector D162 to the alternate exhaust fan M99.

d) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

4) If there is continuity between terminals 4 and 5, then do these steps:

a) Repair the wiring between pin 6 of connector D162 and the structure ground.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

c) Re-install connector D162 to the alternate exhaust fan M99.

d) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(d) If there is continuity check between pin 6 of connector D162 and the structure ground, then continue.

(3) Do this check for power to the alternate exhaust fan:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

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(b) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(c) Check for 28VDC at pin 5 of connector D162.

(d) If there is not 28VDC at pin 5, do these steps:

1) Check for 28VDC at pin X1 of connector D1626 of the alternate exhaust fan control relay R30.

2) If there is 28VDC at pin X1 of connector D1626, then replace the alternate exhaust fan control relay R30.

3) If there is not 28VDC at pin X1 of connector D1626, then repair the wiring between the pins:

C1436		D162
term L	. . . . .	pin 5

4) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

5) Install connector D162 on the alternate exhaust fan.

6) Make sure the alternate exhaust fan operates.

7) If the EQUIP COOLING EXHAUST OFF light goes off you corrected the fault.

(e) If there is 28VDC at pin 5, then continue.

(f) Install a jumper wire between pin 5 and pin 6 on D162.

(g) Do a check for 3-phase 115 VAC from pins 1, 2 and 3 of connector D162.

(h) If there is not 115 VAC from pins 1, 2 and 3 of D162, then do these steps:

1) Repair the wiring between these connectors:

C837		D162
term A	. . . . .	pin 1
term B	. . . . .	pin 2
term C	. . . . .	pin 3

2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

3) Remove the jumper wire from connector D162.

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4) Install connector D162 on the alternate exhaust fan.

5) If the alternate exhaust fan operates and the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

G. Fault Isolation Procedure - Airflow or Indication Circuit Problem

(1) Do these steps to clean and test the low flow detector, M100:

(a) Do this task to remove the low flow detector: Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802.

(b) Do this task to clean the low flow detector: Equipment Cooling Low Flow Sensors Cleaning, AMM TASK 21-27-03-400-803.

(c) Do this task to install the low flow detector: Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(d) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(e) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

(f) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(2) Replace the equipment cooling exhaust low flow detector, M100.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(b) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(3) Do this check of the wiring:

(a) Disconnect connector D164 from the exhaust low flow detector, M100.

(b) Disconnect connector D11418 from the P91 power distribution panel No. 1 in the EE compartment.

(c) Lower the P5 forward overhead panel to get access to the electrical connections on the EQUIP COOLING EXHAUST OFF light, L47.

(d) Do a check of the wiring between these pins of connector D164 and circuit breaker C1434:

D164		**C1434**
pin 1	. . . . .	term L

(e) Do a check of the wiring between these pins of connector D164 and connector D11418:

D164		**D11418**
pin 9	. . . . .	pin 11

(f) Do a check of the wiring between these pins of connector D164 and L47:

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D164		L47
pin 9	. . . . .	term 2

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install the P5 forward overhead panel.
3) Re-connect connector D11418 to the P91 Power Distribution Panel No. 1 in the EE compartment.
4) Re-connect connector D164 to the Exhaust Low Flow Detector, M100.
5) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.
6) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(4) Examine all of the ducts of the equipment cooling exhaust system for blockage or leakage.

(a) Repair the blockage or leakage.

(b) If the EQUIP COOLING EXHAUST OFF LIGHT goes off within 20 seconds, then you corrected the fault.

——— END OF TASK ———

806. EQUIP COOLING EXHAUST OFF Light On With the Switch at NORMAL - Fault Isolation

A. Description

(1) The EQUIP COOLING EXHAUST OFF light on the equipment cooling panel is on with the EQUIP COOLING EXHAUST switch on NORMAL.

(2) The EQUIP COOLING EXHAUST OFF light comes on when the normal exhaust fan does not pull enough cooling air through the equipment cooling ducts. The monitoring circuit in the exhaust low flow detector then detects an inadequate air flow condition and provides a ground to allow the light to come on.

B. Possible Causes

(1) Normal exhaust fan, M98

(2) Low flow detector, M100 - dirty or defective

(3) Normal exhaust fan control relay, R29

(4) Equipment cooling switch, S59

(5) Wiring problem

(6) Duct blockage or leakage

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	18	C01434	EQPT COOLING LOW FLOW DETECT EXHAUST

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F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

D. Related Data

(1) (SSM 21-27-21)

(2) (WDM 21-27-21)

E. Initial Evaluation

(1) Put the EQUIP COOLING EXHAUST switch to NORMAL.

(a) If the EQUIP COOLING EXHAUST OFF light is off or goes off within approximately 20 seconds, then there was an intermittent fault.

(b) If the EQUIP COOLING EXHAUST OFF light is on, then continue.

(2) Put the EQUIP COOLING EXHAUST switch to ALTERNATE.

(a) If the EQUIP COOLING EXHAUST OFF light goes off within 20 seconds, then do the Fault Isolation Procedure - Fan Circuit Problem below.

(b) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then do the Fault Isolation Procedure - Airflow or Indication Circuit Problem below.

F. Fault Isolation Procedure - Fan Circuit Problem

(1) Do these steps to do a check of the normal exhaust fan:

(a) Do these steps to get access to the normal exhaust fan, M98:

1) Open this access panel to enter the EE compartment:

Number	Name/Location
117A	Electronic Equipment Access Door

2) Remove the access panel on the top of the raised platform that is just aft and right of this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect connector D160 from the normal exhaust fan.

NOTE: The normal exhaust fan is the more forward of the two exhaust fans.

(c) Do a continuity check between these pins on the connector of the fan:

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FAN CONNECTOR	FAN CONNECTOR
pin 5	pin 6
pin 1	pin 2
pin 2	pin 3
pin 1	pin 3

(d) If there is not continuity between any two pins, then do these steps:

1) Replace the normal exhaust fan, M98.

These are the tasks:

Equipment Cooling Exhaust Fan Removal, AMM TASK 21-27-04-000-801,

Equipment Cooling Exhaust Fan Installation, AMM TASK 21-27-04-400-801.

2) Make sure the normal exhaust fan operates.

3) If the EQUIP COOLING EXHAUST OFF light goes off you corrected the fault.

(e) If there is continuity between all the pins, then continue.

(2) Do this check for a path to ground for the normal exhaust fan:

(a) Put the EQUIP COOLING EXHAUST switch to NORMAL.

(b) Do a continuity check between pin 6 of connector D160 and the structure ground.

(c) If there is not continuity check between pin 6 of connector D160 and the structure ground, do these steps:

1) Lower the P5 forward overhead panel to get access to the electrical connections on the equipment cooling switch, S59.

2) Do a continuity check between terminals 2 and 3 of the equipment cooling switch, S59.

3) If there is not continuity between terminals 2 and 3, then do these steps:

a) Replace the equipment cooling switch.

NOTE: Put the switch in the NORMAL position.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

c) Re-install connector D160 on the normal exhaust fan, M98.

d) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

4) If there is continuity between terminals 2 and 3, then do these steps:

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a) Repair the wiring between pin 6 of connector D160 and the structure ground.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

c) Re-install connector D160 on the normal exhaust fan, M98.

d) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(d) If there is continuity check between pin 6 of connector D160 and the structure ground, then continue.

(3) Do this check for power to the normal exhaust fan:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

(b) Put the EQUIP COOLING EXHAUST switch to NORMAL.

(c) Check for 28VDC at pin 5 of connector D160.

(d) If there is not 28VDC at pin 5, do these steps:

1) Check for 28VDC at pin X1 of connector D1624 of the normal exhaust fan control relay R29.

2) If there is 28VDC at pin X1 of connector D1624, then replace the normal exhaust fan control relay R29.

3) If there is not 28VDC at pin X1 of connector D1624, then repair the wiring between the pins:

C1435		**D160**
term L	. . . . .	pin 5

4) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

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Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

5) Re-connect connector D160 to the normal exhaust fan.
6) Make sure the normal exhaust fan operates.
7) If the EQUIP COOLING EXHAUST OFF light goes off you corrected the fault.

(e) If there is 28VDC at pin 5, then continue.

(f) Install a jumper wire between pin 5 and pin 6 on D160.

(g) Do a check for 3-phase 115 VAC from pins 1, 2 and 3 of connector D160.

(h) If there is not 115 VAC from pins 1, 2 and 3 of D160, then do these steps:

1) Repair the wiring between these connectors:

C836		D160
term A	. . . . .	pin 1
term B	. . . . .	pin 2
term C	. . . . .	pin 3

2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

3) Remove the jumper wire from connector D160.
4) Re-connect connector D160 to the normal exhaust fan.
5) If the normal exhaust fan operates and the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

G. Fault Isolation Procedure - Airflow or Indication Circuit Problem

(1) Do these steps to clean and test the low flow detector, M100:

(a) Do this task to remove the low flow detector: Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802.

(b) Do this task to clean the low flow detector: Equipment Cooling Low Flow Sensors Cleaning, AMM TASK 21-27-03-400-803.

(c) Do this task to install the low flow detector: Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(d) Put the EQUIP COOLING EXHAUST switch to NORMAL.

(e) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

(f) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

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(2) Replace the equipment cooling exhaust low flow detector, M100.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) Put the EQUIP COOLING EXHAUST switch to NORMAL.

(b) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(3) Do this check of the wiring:

(a) Disconnect connector D164 from the exhaust low flow detector, M100.

(b) Disconnect connector D11418 from the P91 power distribution panel No. 1 in the EE compartment.

(c) Lower the P5 forward overhead panel to get access to the electrical connections on the EQUIP COOLING EXHAUST OFF light, L47.

(d) Do a check of the wiring between these pins of connector D164 and circuit breaker C1434:

D164		**C1434**
pin 1	. . . . .	term L

(e) Do a check of the wiring between these pins of connector D164 and connector D11418:

D164		**D11418**
pin 9	. . . . .	pin 11

(f) Do a check of the wiring between these pins of connector D164 and L47:

D164		**L47**
pin 9	. . . . .	term 2

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install the P5 forward overhead panel.

3) Re-connect connector D11418 to the P91 Power Distribution Panel No. 1 in the EE compartment.

4) Re-connect connector D164 to the Exhaust Low Flow Detector, M100.

5) If the EQUIP COOLING EXHAUST OFF light is off or goes off within 20 seconds, then you corrected the fault.

6) If the EQUIP COOLING EXHAUST OFF light does not go off within 20 seconds, then continue.

(4) Examine all of the ducts of the equipment cooling exhaust system for blockage or leakage.

(a) Repair the blockage or leakage.

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(b) If the EQUIP COOLING EXHAUST OFF LIGHT goes off within 20 seconds, then you corrected the fault.

——— END OF TASK ———

807. EQUIP COOLING SUPPLY OFF Light On With the Switch at ALTERNATE - Fault Isolation

A. Description

(1) The EQUIP COOLING SUPPLY OFF light on the equipment cooling panel is on with the EQUIP COOLING SUPPLY switch on ALTERNATE.

(2) The EQUIP COOLING SUPPLY OFF light comes on when the alternate supply fan does not blow enough cooling air through the equipment cooling duct. The monitoring circuit in the supply low flow detector then detects an inadequate air flow condition and provides a ground to allow the light to come on.

B. Possible Causes

(1) Alternate supply fan, M1323

(2) Supply low flow detector, M1915 - dirty or defective

(3) Alternate supply fan control relay, R373

(4) EQUIP COOLING SUPPLY switch, S870

(5) Equipment cooling air filter

(6) Wiring problem

(7) Duct blockage or leakage

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	17	C01433	EQPT COOLING LOW FLOW DETECT SUPPLY

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

D. Related Data

(1) (SSM 21-27-31)

(2) (WDM 21-27-31)

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E. Initial Evaluation

(1) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(a) If the EQUIP COOLING SUPPLY light is off or goes off within 20 seconds, then there was an intermittent fault.

(b) If the EQUIP COOLING SUPPLY light is on, then continue.

(2) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(a) If the EQUIP COOLING SUPPLY light goes off within 20 seconds, then do the Fault Isolation Procedure - Fan Circuit Problem below.

(b) If the EQUIP COOLING SUPPLY light does not go off within 20 seconds, then do the Fault Isolation Procedure - Airflow or Indication Circuit Problem below.

F. Fault Isolation Procedure - Fan Circuit Problem

(1) Do these steps check the alternate supply fan:

(a) Open this access panel to enter the EE compartment:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect connector D3472 from the alternate supply fan.

NOTE: The alternate supply fan is the lower of the two supply fans.

(c) Do a continuity check between these pins on the connector of the fan:

FAN CONNECTOR	FAN CONNECTOR
pin 5	pin 6
pin 1	pin 2
pin 2	pin 3
pin 1	pin 3

(d) If there is not continuity between any two pins, then do these steps:

1) Replace the alternate supply fan, M1323.

These are the tasks:

Equipment Cooling Supply Fan Removal, AMM TASK 21-27-02-000-801,

Equipment Cooling Supply Fan Installation, AMM TASK 21-27-02-400-801.

2) Make sure the alternate supply fan operates.

3) If the EQUIP COOLING SUPPLY OFF light goes off you corrected the fault.

(e) If there is continuity between all the pins, then continue.

(2) Do this check for a path to ground for the alternate supply fan:

(a) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(b) Do a continuity check between pin 6 of connector D3472 and the structure ground.

(c) If there is not continuity check between pin 6 of connector D3472 and the structure ground, do these steps:

1) Lower the P5 forward overhead panel to get access to the electrical connections on the equipment cooling switch, S870.

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2) Do a continuity check between terminals 4 and 5 of the equipment cooling supply switch, S870.

3) If there is not continuity between terminals 4 and 5, then do these steps:

a) Replace the equipment cooling supply switch, S870.

NOTE: Put the switch in the ALTERNATE position.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

c) Re-install connector D3472 to the alternate supply fan, M1323.

d) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

4) If there is continuity between terminals 4 and 5, then do these steps:

a) Repair the wiring between pin 6 of connector D3472 and the structure ground.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

c) Re-install connector D3472 on the alternate supply fan, M1323.

d) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(d) If there is continuity check between pin 6 of connector D3472 and the structure ground, then continue.

(3) Do this check for power to the alternate supply fan:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

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Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

(b) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(c) Check for 28VDC at pin 5 of connector D3472.

(d) If there is not 28VDC at pin 5, do these steps:

1) Check for 28VDC at pin X1 of connector D3468 of the alternate supply fan control relay R373.

2) If there is 28VDC at pin X1 of connector D3468, then replace the alternate exhaust fan control relay R373.

3) If there is not 28VDC at pin X1 of connector D3468, then repair the wiring between the pins:

C935		D3472
term L	. . . . .	pin 5

4) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

5) Re-connect connector D3472 to the alternate supply fan.

6) Make sure the alternate supply fan operates.

7) If the EQUIP COOLING SUPPLY OFF light goes off you corrected the fault.

(e) If there is 28VDC at pin 5, then continue.

(f) Install a jumper wire between pin 5 and pin 6 on D3472.

(g) Do a check for 3-phase 115 VAC from pins 1, 2 and 3 of connector D3472.

(h) If there is not 115 VAC from pins 1, 2 and 3 of D3472, then do these steps:

1) Repair the wiring between these connectors:

C935		D3472
term A	. . . . .	pin 1
term B	. . . . .	pin 2
term C	. . . . .	pin 3

2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

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Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

3) Remove the jumper wire from connector D3472.
4) Re-connect connector D3472 to the alternate supply fan.
5) If the alternate supply fan operates and the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

G. Fault Isolation Procedure - Airflow or Indication Circuit Problem

(1) Do these steps to clean and test the supply low flow detector, M1915:

(a) Do this task to remove the low flow detector, Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802.

(b) Do this task to clean the low flow detector, Equipment Cooling Low Flow Sensors Cleaning, AMM TASK 21-27-03-400-803.

(c) Do this task to install the low flow detector, Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

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

(e) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(f) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

(g) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(2) Replace the equipment cooling air filter.

These are the tasks:

Equipment Cooling Air Filter Removal, AMM TASK 21-27-01-000-801,

Equipment Cooling Air Filter Installation, AMM TASK 21-27-01-400-801.

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

(b) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(3) Replace the equipment cooling supply low flow detector, M1915.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(b) If the EQUIP COOLING SUPPLY OFF light is off or goes off with 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(4) Do this check of the wiring:

(a) Disconnect connector D3464 from the supply low flow detector, M1915.

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(b) Disconnect connector D11452 from the P92 power distribution panel No. 2.

(c) Lower the P5 forward overhead panel to get access to the electrical connections on the EQUIP COOLING SUPPLY OFF light, L1141.

(d) Do a check of the wiring between these pins of connector D3464 and connector D11452.

D3464	**D11452**
pin 9	pin 7

(e) Do a check of the wiring between these pins of connector D3464 and L1141:

D3464	**L1141**
pin 9	term 2

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Raise the P5 forward overhead panel to the closed position.
3) Re-connect connector D11452 to the P92 power distribution panel No. 2.
4) Re-connect connector D3464 to the supply low flow connector, M1915.
5) If the EQUIP COOLING SUPPLY OFF goes off within 20 seconds, then you corrected the fault.

(g) If you do not find a problem with the wiring, then do these steps and continue:

1) Raise the P5 forward overhead panel to closed position.
2) Re-connect connector D11452 to the P92 power distribution panel No. 2 in the EE compartment.
3) Re-connect connector D3464 to the supply low flow detector, M1915.

(5) Examine all of the ducts of the equipment cooling supply system for leakage or blockage.

(a) Repair the leakage or blockage.

(b) If the EQUIP COOLING SUPPLY OFF goes off within 20 seconds, then you corrected the fault.

——— **END OF TASK** ———

808. EQUIP COOLING SUPPLY OFF Light On With the Switch at NORMAL - Fault Isolation

A. Description

(1) The EQUIP COOLING SUPPLY OFF light on the equipment cooling panel is on with the EQUIP COOLING SUPPLY switch on NORMAL.

(2) The EQUIP COOLING SUPPLY OFF light comes on when the normal supply fan does not blow enough cooling air through the equipment cooling duct. The monitoring circuit in the supply low flow detector then detects an inadequate air flow condition and provides a ground to allow the light to come on.

B. Possible Causes

(1) Normal supply fan, M1322

(2) Supply low flow detector, M1915 - dirty or defective

(3) Normal supply fan control relay, R347

(4) EQUIP COOLING SUPPLY switch, S870

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(5) Equipment cooling air filter

(6) Wiring problem

(7) Duct blockage or leakage

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	17	C01433	EQPT COOLING LOW FLOW DETECT SUPPLY

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

D. Related Data

(1) (SSM 21-27-31)

(2) (WDM 21-27-31)

E. Initial Evaluation

(1) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(a) If the EQUIP COOLING SUPPLY light is off or goes off within 20 seconds, then there was an intermittent fault.

(b) If the EQUIP COOLING SUPPLY light is on, then continue.

(2) Put the EQUIP COOLING SUPPLY switch to ALTERNATE.

(a) If the EQUIP COOLING SUPPLY light goes off within 20 seconds, then do the Fault Isolation Procedure - Fan Circuit Problem below.

(b) If the EQUIP COOLING SUPPLY light does not go off within 20 seconds, then do the Fault Isolation Procedure - Airflow or Indication Circuit Problem below.

F. Fault Isolation Procedure - Fan Circuit Problem

(1) Do these steps check the normal supply fan:

(a) Open this access panel to enter the EE compartment:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect connector D3470 from the normal supply fan.

NOTE: The normal supply fan is the higher of the two supply fans on the right side of the EE compartment.

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(c) Do a continuity check between these pins on the connector of the fan:

FAN CONNECTOR	FAN CONNECTOR
pin 5	pin 6
pin 1	pin 2
pin 2	pin 3
pin 1	pin 3

(d) If there is not continuity between any two pins, then do these steps:

1) Replace the normal supply fan, M1322.

These are the tasks:

Equipment Cooling Supply Fan Removal, AMM TASK 21-27-02-000-801,

Equipment Cooling Supply Fan Installation, AMM TASK 21-27-02-400-801.

2) Make sure the normal supply fan operates.

3) If the EQUIP COOLING SUPPLY OFF light goes off you corrected the fault.

(e) If there is continuity between all the pins, then continue.

(2) Do this check for a path to ground for the normal supply fan:

(a) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(b) Do a continuity check between pin 6 of connector D3470 and the structure ground.

(c) If there is not continuity check between pin 6 of connector D3470 and the structure ground, do these steps:

1) Lower the P5 forward overhead panel to get access to the electrical connections on the equipment cooling switch, S870.

2) Do a continuity check between terminals 2 and 3 of the equipment cooling supply switch, S870.

3) If there is not continuity between terminals 2 and 3, then do these steps:

a) Replace the equipment cooling supply switch, S870.

NOTE: Put the switch in the NORMAL position.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

c) Re-install connector D3470 to the normal supply fan, M1322.

d) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

4) If there is continuity between terminals 2 and 3, then do these steps:

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a) Repair the wiring between pin 6 of connector D3470 and the structure ground.

b) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

c) Re-install connector D3470 on the normal supply fan, M1322.

d) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

e) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(d) If there is continuity check between pin 6 of connector D3470 and the structure ground, then continue.

(3) Do this check for power to the normal supply fan:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

(b) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(c) Check for 28VDC at pin 5 of connector D3470.

(d) If there is not 28VDC at pin 5, do these steps:

1) Check for 28VDC at pin X1 of connector D3466 of the normal supply fan control relay R347.

2) If there is 28VDC at pin X1 of connector D3466, then replace the normal supply fan control relay R347.

3) If there is not 28VDC at pin X1 of connector D3466, then repair the wiring between the pins:

C1116		D3470
term L	. . . . .	pin 5

4) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL

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Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

5) Re-connect connector D3470 to the normal supply fan.
6) Make sure the normal supply fan operates.
7) If the EQUIP COOLING SUPPLY OFF light goes off you corrected the fault.

(e) If there is 28VDC at pin 5, then continue.

(f) Install a jumper wire between pin 5 and pin 6 on D3470.

(g) Do a check for 3-phase 115 VAC from pins 1, 2 and 3 of connector D3470.

(h) If there is not 115 VAC from pins 1, 2 and 3 of D3470, then do these steps:

1) Repair the wiring between these connectors:

C934		D3470
term A	. . . . .	pin 1
term B	. . . . .	pin 2
term C	. . . . .	pin 3

2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

3) Remove the jumper wire from connector D3470.
4) Re-connect connector D3470 to the normal supply fan.
5) If the normal supply fan operates and the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

G. Fault Isolation Procedure - Airflow or Indication Circuit Problem

(1) Clean the equipment cooling supply low flow detector, M1915.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Cleaning, AMM TASK 21-27-03-400-803,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

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

(b) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(c) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

(d) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

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(2) Replace the equipment cooling air filter.

These are the tasks:

Equipment Cooling Air Filter Removal, AMM TASK 21-27-01-000-801,

Equipment Cooling Air Filter Installation, AMM TASK 21-27-01-400-801.

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

(b) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(3) Replace the equipment cooling supply low flow detector, M1915.

These are the tasks:

Equipment Cooling Low Flow Sensors Removal, AMM TASK 21-27-03-000-802,

Equipment Cooling Low Flow Sensors Installation, AMM TASK 21-27-03-400-802.

(a) Put the EQUIP COOLING SUPPLY switch to NORMAL.

(b) If the EQUIP COOLING SUPPLY OFF light is off or goes off within 20 seconds, then you corrected the fault.

(c) If the EQUIP COOLING SUPPLY OFF light does not go off within 20 seconds, then continue.

(4) Do this check of the wiring:

(a) Disconnect connector D3464 from the supply low flow detector, M1915.

(b) Disconnect connector D11452 from the P92 power distribution panel No. 2.

(c) Lower the P5 forward overhead panel to get access to the electrical connections on the EQUIP COOLING SUPPLY OFF light, L1141.

(d) Do a check of the wiring between these pins of connector D3464 and connector D11452.

D3464		**D11452**
pin 9	. . . . .	pin 7

(e) Do a check of the wiring between these pins of connector D3464 and L1141:

D3464		**L1141**
pin 9	. . . . .	term 2

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Raise the P5 forward overhead panel to the closed position.

3) Re-connect connector D11452 to the P92 power distribution panel No. 2.

4) Re-connect connector D3464 to the supply low flow connector, M1915.

5) If the EQUIP COOLING SUPPLY OFF light goes off within 20 seconds, then you corrected the fault.

(g) If you do not find a problem with the wiring, then do these steps and continue:

1) Raise the P5 forward overhead panel to closed position.

2) Re-connect connector D11452 to the P92 power distribution panel No. 2 in the EE compartment.

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3) Re-connect connector D3464 to the supply low flow detector, M1915.

(5) Examine all of the ducts of the equipment cooling supply system for leakage or blockage.

(a) Repair the leakage or blockage.

(b) If the EQUIP COOLING SUPPLY OFF goes off within 20 seconds, then you corrected the fault.

——— END OF TASK ———

809. Equipment Cooling Overboard Exhaust Valve Does Not Open When Commanded - Fault Isolation

A. This task is for observed fault 222 222 22.

B. Description

(1) When smoke/fumes are detected in the aircraft, the flight crew must take action to open the overboard exhaust valve so that differential pressure will evacuate the smoke/fumes from the aircraft. This procedure fault isolates for conditions that prevent the overboard exhaust valve from opening when smoke removal is commanded. The flight crew will have set the L and R PACK switches to HIGH and the right recirculation fan switch to OFF when commanding smoke removal.

(2) The acronym OEV will be used in this procedure as an abbreviation for overboard exhaust valve.

C. Possible Causes

(1) Overboard exhaust valve, V157

(2) Smoke control relay R648

(3) Overboard exhaust valve open enable relay, R650

(4) Smoke control relay, R648

(5) Ground sensing relay, R592

(6) P5-10 air conditioning module (L or R PACK switch, R RECIRC FAN switch, wiring)

(7) Forward fire alarm latch relay, R945

(8) Recirculation fan switch bypass relay, R644

(9) Ground sensing relay, R589

(10) Wiring

D. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	15	C01355	LANDING GEAR AIR/GND SYS 2

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

E. Related Data

(1) SSM 21-43-21

(2) WDM 21-43-21

F. Preparation for the Initial Evaluation

(1) Do the steps that follow to get access to the equipment cooling overboard exhaust valve (OEV):

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Remove the access panel in the electronic equipment bay on the top of the raised platform that is just aft and outboard of the electronic equipment compartment access door 117A

(c) If required, remove the crew oxygen system cylinder. To remove the oxygen cylinder, do this task: Crew Oxygen Cylinder Replacement, AMM TASK 12-15-21-600-803-002.

G. Initial Evaluation for Condition 1

(1) Condition 1 involves testing the operation of the OEV when the close signal goes through the overboard exhaust valve open control relay R649.

(2) Do the steps that follow to command the OEV to move to the SMOKE position:

(a) Put the airplane in the air mode.

(b) Make sure pneumatic power is removed.

(c) Put the L PACK switch in HIGH with R PACK switch in AUTO or put the R PACK switch in HIGH with L PACK switch in AUTO.

(d) Put the R RECIRC FAN switch in the AUTO position.

(3) If the overboard exhaust valve moved to the SMOKE position when commanded, then there was an intermittent fault..

(4) If the overboard exhaust valve did not move to the SMOKE position when commanded, then do the Fault Isolation Procedure - Overboard Exhaust Valve Does Not Move to SMOKE Position When Commanded for Condition 1.

H. Initial Evaluation for Condition 2

(1) Condition 2 involves evaluating the operation of the OEV when the close signal goes through the smoke control relay R648.

(2) Do the steps that follow to command the OEV to move to the SMOKE position:

(a) Put the airplane in the air mode.

(b) Make sure pneumatic power is removed.

(c) Put the L PACK switch in HIGH.

(d) Put the R PACK switch to OFF.

(e) Put the R RECIRC FAN switch to OFF.

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(f) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(3) Make sure that the DCPC display shows CARGO HT VLV HIGH which indicates the OEV moved to the SMOKE position..

(a) If the overboard exhaust valve moved to the SMOKE position when commanded, then there was an intermittent fault.

(b) If the overboard exhaust valve did not move to the SMOKE position when commanded, then do the Fault Isolation Procedure - Overboard Exhaust Valve Does Not Move to SMOKE Position When Commanded for Condition 2.

I. Fault Isolation Procedure for Condition 1- Overboard Exhaust Valve Does Not Move to Smoke Position When Commanded

(1) This procedure fault isolates the Condition 1 when the OEV does not move to the smoke position when commanded under the conditions that follow:

(a) Airplane in the air mode

(b) Pneumatic power is removed

(c) L PACK switch is in HIGH with R PACK switch in AUTO or R PACK switch is in HIGH with L PACK switch in AUTO.

(d) R RECIRC FAN switch is in AUTO

(2) Make sure the airplane is not pressurized when you do this fault isolation.

(3) Get access to the equipment cooling OEV as follows:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Remove the access panel in the electronic equipment bay on the top of the raised platform that is just aft and outboard of the electronic equipment access door, 117A.

(c) If required, remove the crew oxygen system cylinder. To remove the oxygen cylinder, do this task: Crew Oxygen Cylinder Replacement, AMM TASK 12-15-21-600-803-002.

WARNING: OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Put the airplane in the air mode. Do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(5) Set the L PACK switch on the P5-10 air conditioning panel to HIGH.

(6) Set the R RECIRC FAN switch on P5-10 air conditioning panel to AUTO.

(7) Do this check for 28 V dc at the OEV connector D11880:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Disconnect electrical connector D11880 from the OEV V157.

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(c) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Do a check for 28V dc on the ship's wiring side of connector D11880 between pins 2 and 3.

(8) If there is 28 V dc between pins 2 and 3 of connector D11880, then replace the equipment cooling OEV, V157. To replace the valve, do these tasks: Equipment Cooling Overboard Exhaust Valve Removal, AMM TASK 21-27-05-000-801 and Equipment Cooling Overboard Exhaust Valve Installation, AMM TASK 21-27-05-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation was satisfactory, then you corrected the fault.

2) If the Repair Confirmation was not satisfactory, then continue.

(9) If 28 V dc is not present between pins 2 and 3 of connector D11880, then do this check of the ground circuit wiring:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Disconnect electrical connector D11880 from the OEV V157.

(c) Do a check of the wiring between pin 3 of connector D11880 and ground GD 1008-DC.

(d) If you find a problem with the wiring or the ground, then do these steps:

1) Repair any problems that you find.

2) Reconnect the electrical connector D11880 to the OEV, V157.

3) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the problem.

b) If the Repair Confirmation is not satisfactory, then continue.

(e) If the ground circuit wiring check is satisfactory, then continue.

(10) Do this check for 28 V dc at the overboard exhaust valve command relay R650 in the J24 junction box:

(a) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

(b) Remove the cover from the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Make sure the airplane is still in the air mode.

(e) Make sure the L PACK switch is still in the HIGH position.

(f) Make sure the R RECIRC FAN switch is in the AUTO position.

(g) Remove relay R650 from the B06B position.

(h) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(i) Do a check for 28 V dc between pins X1 and X2 of connector D11878.

1) If 28 V dc is present between pins X1 and X2 of connector D11878, then replace relay R650.

a) Do the Repair Confirmation at the end of this task.

<1> If the Repair Confirmation is satisfactory, then you corrected the fault.

<2> If the Repair Confirmation is not satisfactory, then continue.

2) If 28 V dc is not present between pins X1 and X2 of connector D11878, then do these checks:

a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

b) Do a check of the ground from pin X2 of connector D11878 on the ships' wiring to the ground GD544-DC.

<1> Repair any problems you find.

c) Do a check for 28 V dc at pin B2 of connector D11878.

<1> If 28 V dc is not present at pin B2 of connector D11878, do a check of the wiring between pin B2 of connector D11878.

<2> Repair any problems you find.

3) Reinstall relay R650.

4) Do the Repair Confirmation at the end of this task.

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

J. Fault Isolation Procedure for Condition 2 - Overboard Exhaust Valve Does Not Move to SMOKE Position When Commanded

NOTE: Condition 2 isolates for faults when the close signal goes through the smoke control relay R648.

(1) Do the steps that follow to get access to the equipment cooling overboard exhaust valve:

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(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Remove the access panel in the electronic equipment bay on the top of the raised platform that is just aft and outboard of the electronic equipment access door, 117A.

(c) If required, remove the crew oxygen system cylinder. To remove the oxygen cyclinder, do this task: AMM TASK 12-15-21-600-803-002.

(2) Put the airplane in the air mode. To put the airplane in the air mode, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(3) Set the L PACK switch on the P5-10 air conditioning panel to HIGH.

(4) Set the R PACK switch on the P5-10 air conditioning panel to OFF.

(5) Set the R RECIRC FAN switch on the P5-10 air conditioning panel to OFF.

(6) Do this check for 28V dc at the overboard exhaust valve:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Disconnect electrical connector D11880 from the overboard exhaust valve V157.

(c) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Do a check for 28V dc on the ship's wiring side of connector D11880 between pins 2 and 3 (ground).

(7) If 28V dc is present between pins 2 and 3 of connector D11880, then replace the overboard exhaust valve V157 as follows:

(a) Do these tasks to replace the valve: Equipment Cooling Overboard Exhaust Valve Removal, AMM TASK 21-27-05-000-801 and Equipment Cooling Overboard Exhaust Valve Installation, AMM TASK 21-27-05-400-801.

(b) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation was satisfactory, then you corrected the fault.

2) If the Repair Confirmation was not satisfactory, then continue.

(8) If 28V dc is not present between pins 2 and 3 of connector D11880, then do this check of the ground circuit wiring:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Do a check of the wiring between pin 3 of connector D11880 on the ship's side and the ground GD1008-DC.

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(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Reconnect electrical connector D11880 to the overboard exhaust valve V157.

3) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) If the Repair Confirmation is not satisfactory, then continue.

(9) Do this check of the smoke control relay R648 in the J24 junction box:

(a) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

(b) Remove the cover from the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Remove relay R648 from the A11 position.

(e) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(f) Do a check for 28V dc between pins X1 and X2 of connector D11874 on the ship's side wiring.

(10) If 28V dc is present between pins X1 and X2 of connector D11874, then replace relay R648.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(11) If 28V dc is not present between pins X1 and X2 of connector D11874, then do this check of the ground circuit wiring:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Do a check of the wiring between pin X2 of connector D11874 and the ground GD544-DC.

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(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Reconnect the electrical connector D11874.

3) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) If the Repair Confirmation is not satisfactory, then continue.

(12) Do this check for 28V dc to pin B2 on connector D11874 on smoke control relay R648:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

(c) Remove the cover from the J24 junction box.

(d) Remove smoke control relay R648.

(e) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(f) Do a check for 28V dc at pin B2 of connector D11874.

(13) If 28V dc is not present at pin B2 of connector D11874, make sure that 28V dc is available on the load side of circuit breaker C01444.

(a) If 28V dc is not available on the load side of circuit breaker C01444, fault isolate the 28V dc battery bus, section 2.

1) Repair any problems you find.

2) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) f the Repair Confirmation is not satisfactory, then continue.

(b) If 28V dc is available on the load side of circuit breaker C01444, do these steps:

1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

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2) Do this continuity check:

P6-4 C/B Panel C01444 Load side	J24 Junction Box D11874 pin B2

3) Repair any problems you find.

4) Reinstall relay R648.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

6) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) If the Repair Confirmation is not satisfactory, then continue.

(14) Do this check for 28V dc input to the P5-10 air conditioning panel:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Get access to the back of the P5-10 air conditioning panel.

(c) Disconnect connector D646.

(d) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(e) Do a check for 28V dc at pin 30 of connector D646 on the ship's wiring.

(15) If 28V dc is not present at pin 30 of connector D646 on the ship's wiring, do these steps:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Do a continuity check between the load side of circuit breaker C01444 and pin 30 of connector D646 on the ship's wiring:

1) If you find a problem, do these steps:

a) Repair the wiring.

b) Do the Repair Confirmation at the end of this task:

<1> If the Repair Confirmation is satisfactory, then you corrected the fault.

<2> If the Repair Confirmation is not satisfactory, then continue.

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2) If there is continuity, do these steps:
   a) Reconnect connector D646.
   b) Continue.

(16) Do this check for 28V dc at ground sensing relay air/gnd system 1 R592 in the J22 junction box:
   (a) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

   (b) Remove the cover from the J22 junction box.
   (c) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

   (d) Remove the air/gnd system 1 relay R592 from position A13.
   (e) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

   (f) Do a check for 28V dc between pin B2 of connector D11018 and a structural ground.

(17) If 28V dc is not present between pin B2 of connector D11018 and a structural ground, do these steps:
   (a) Get access to the back of the P5-10 air conditioning panel.
   (b) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

   (c) Disconnect electrical connector D680 from the back of the P5-10 air conditioning panel.
   (d) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

   (e) Do a check for 28V dc between pin 51 of connector D680 and a structural ground.

(18) If 28V dc is present between pin 51 of connector D680 and a structural ground, do a check of the wiring between pin 51 of connector D680 and pin B2 of connector D11018 on the air/gnd relay R592.
   (a) Repair any problems you find.
   (b) If you made any repairs to the wiring, do these steps:

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1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

2) Reconnect connector D680 to the back of the P5-10 air conditioning panel.
3) Install the air/gnd relay R592 in its position in the J22 junction box.
4) Do the Repair Confirmation at the end of this task.
   a) If the Repair Confirmation is satisfactory, then you corrected the fault.
   b) If the Repair Confirmation is not satisfactory, then continue.

(19) If 28V dc is not present between pin 51 of connector D680 and a structural ground, do these steps:
   (a) Disconnect connector D646 from the back of the P5-10 air conditioning panel.
   (b) Do a continuity check of the P5-10 panel internal wiring between pin 51 of connector D680 and pin 30 of connector D646.
   (c) If there is no continuity, do these tasks to replace the air conditioning module: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801 and Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   (d) Do the Repair Confirmation at the end of this task:
      1) If the Repair Confirmation is satisfactory, then you corrected the fault.
      2) If the Repair Confirmation is not satisfactory, then continue.

(20) Do this check for 28V dc at recirculation fan switch bypass relay R644 in the J24 junction box as follows:
   (a) If not already done, do these steps:
      1) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

      2) Remove the cover from the J24 junction box.
   (b) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

   (c) Remove recirc fan switch bypass relay R644.
   (d) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

   (e) Do a check for 28V dc between pins 6 and 12 of connector D11866 on the ship's side wiring.

(21) If 28V dc is present between pins 6 and 12 of connector D11866, then replace relay R644.
   (a) Do the Repair Confirmation at the end of this task.

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1) If the Repair Confirmation is satisfactory, then you corrected the fault.
2) If the Repair Confirmation is not satisfactory, then continue.

(22) If 28V dc is not present between pins 6 and 12 of connector D11866, then do this check of the ground circuit wiring:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

(b) Do a check of the wiring between pin 12 of connector D11866 and the ground GD544-DC.

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Reinstall the relay R644.
3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

4) Do the Repair Confirmation at the end of this task.
   a) If the Repair Confirmation is satisfactory, then you corrected the fault.
   b) If the Repair Confirmation is not satisfactory, then continue.

(23) Do this check for 28V dc at the forward fire alarm latch relay R945 in the J24 junction box as follows:

(a) If not already done, do these steps:

1) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

2) Remove the cover from the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(c) Remove relay R945.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(e) Do a check for 28V dc between pin 7 of D12225 and a ground to structure.

(24) If there is 28V dc between pin 7 on connector D12225 and a ground, then replace relay R945.

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(a) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(25) Do this check for 28V dc at the aft fire alarm latch relay R946 in the J24 junction box as follows:

(a) If not already done, do these steps:

1) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

2) Remove the cover from the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(c) Remove relay R946.

(d) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(e) Do a check for 28V dc between pin 7 of D12227 and a ground to structure.

(26) If there is 28V dc between pin 6 connector D12227 and a ground, then replace relay R946.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(27) Do these steps to make sure the voltage to energize R945 finds the ground in the P8-75 cargo smoke detection & fire suppression module:

(a) Make sure the airplane is in the air mode.

(b) Make sure these switches are in the positions noted:

1) L PACK is in HIGH

2) R PACK is in OFF

3) R RECIRC FAN switch is in OFF

(c) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(28) If the FWD and AFT red cargo fire lights do not come on, do these steps:

(a) If not already done, do these steps:

1) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

2) Remove the covers from the J22 and J24 junction boxes.

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3) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Remove ground sensing relay R589 from J22 junction box..

5) Remove forward fire alarm latch relay R945 from J24 junction box.

6) Make sure there is continuity between pins B2 and B3 and between pins A2 and A3 of relay R589.

   a) Secure a new relay if continuity does not exist.

7) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	16	C01523	CARGO FIRE FWD DET B
C	17	C01522	CARGO FIRE FWD DET A
C	18	C01525	CARGO FIRE AFT DET B
C	19	C01524	CARGO FIRE AFT DET A

8) Disconnect connector D12760 from the P8-75 cargo smoke detection & fire suppression module.

9) Do the wiring checks that follow:

J24/J22 Junction Boxes

R945	**R589**
D12225	**D11012**
pin 12	pin B3

J22 Junction Box/P8-75 Module

Relay R589	**P8-75 Module**
D11012	**D12760**
pin B2	pin 58

10) If you find a problem with the wiring, then do these steps:

   a) Repair the wiring.

   b) Reinstall the relays R945 and R589.

   c) Reconnect connector D12760 to the P8-75 cargo smoke detection & fire suppression module.

   d) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	16	C01523	CARGO FIRE FWD DET B
C	17	C01522	CARGO FIRE FWD DET A
C	18	C01525	CARGO FIRE AFT DET B
C	19	C01524	CARGO FIRE AFT DET A

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F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

e) Do the Repair Confirmation at the end of this task:

<1> If the Repair Confirmation is satisfactory, then you corrected the fault.

<2> If the Repair Confirmation is not satisfactory, then continue.

(29) Refer to WDM 21-43-21 before you do wiring checks as follows:

If there is an isolation diode in the wiring run to be checked, put the positive lead of the multimeter on the contact point closest to the anode side of the diode and the negative lead on the contact point closest to the cathode side of the diode.

NOTE: The cathode end of the diode is the end with the stripe on it.

(30) Do the wiring checks that follow :

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Do a continuity check between these connections:

J24 Junction Box

R648	**R644**
D11874	**D11866**
pin B1	pin 5

J24 Junction Box

R644	**R945**
D11866	**D12225**
pin 4	pin 7

J24 Junction Box

R945	**R946**
D12225	**D12227**
pin 14	pin 7

J24 Junction Box

R946	**R650**
D12227	**D11878**
pin 14	X1

R650	**OEV V157**
D11878	**D11880**
pin B1	pin 2

(c) If you find a problem with the wiring, then do these steps:

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1) Repair the wiring.
2) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

3) Do the Repair Confirmation at the end of this task:
   a) If the Repair Confirmation is satisfactory, then you corrected the fault.

K. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.
(2) Reinstall all components that were removed.
(3) Close all circuit breakers that were opened.
(4) Do an operational test of the overboard exhaust valve. To do the operational test, do this task: Smoke Clearance Mode - Operational Test, AMM TASK 21-27-00-700-807.
(5) If the Repair Confirmation is unsatisfactory, return to the step in the Fault Isolation Procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation Procedure.
(6) If the Repair Confirmation is satisfactory, make sure that you do all the applicable steps that follow to return the system to a serviceable condition:
(7) Reinstall all access panels that were removed.

——— END OF TASK ———

810. Equipment Cooling Supply Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert - Fault Isolation

A. Description

(1) When smoke/fumes are detected in the aircraft, the flight crew must take action to open the overboard exhaust valve so that differential pressure will evacuate the smoke/fumes from the aircraft. This action also shuts off the operating equipment cooling supply fan for five minutes. This procedure fault isolates for conditions that prevent the equipment cooling supply fan from shutting down when smoke removal is commanded. The flight crew will have set one of the PACK switches to HIGH and the applicable recirculation fan switch to OFF along with the action required on the P8 cargo fire control panel when commanding smoke removal.
(2) This fault isolation task investigates the circuit from the forward fire alarm latch relay R945 in the J24 junction box to the supply system control interrupt relay R645 in the J20 junction box. Faults in the system circuitry at the R945 relay and upstream of the R945 relay are investigated in FIM 21-27, Task 809.

B. Possible Causes

(1) Supply System Control Interrupt Relay R645
(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

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(a) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM

D. Related Data

(1) SSM 21-43-21

(2) SSM 21-27-31

(3) WDM 21-43-21

(4) WDM 21-27-31

E. Initial Evaluation

(1) Do an operational test of the equipment cooling overboard exhaust valve smoke clearance mode. To do the operational test, do this task: Smoke Clearance Mode - Operational Test, AMM TASK 21-27-00-700-807.

(a) If the equipment cooling supply fan shuts off when commanded, then there was an intermittent fault.

(2) If the equipment cooling supply fan does not shut off when commanded, then do the Fault Isolation Procedure - Equipment Cooling Supply Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert.

F. Fault Isolation Procedure - Equipment Cooling Supply Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert.

(1) Do the steps that follow to command the overboard exhaust valve to the SMOKE position which also shuts off the operating supply fan for 5 minutes:

(a) Make sure that pneumatic power is removed:

1) Make sure that the L and R indicators on the duct pressure gauge on the P5-10 air conditioning panel indicate zero psi.

(b) Put the L PACK switch in HIGH.

(c) Put the R PACK switch in OFF.

(d) Put the R RECIRC FAN switch in OFF.

(e) Do this task to put the airplane in the air mode: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

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(f) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(2) Do this check for 28V dc at the supply system control interrupt relay R645 in the J20 junction box:

(a) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

(b) Remove the cover from the J20 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Remove supply system control interrupt relay R645.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(f) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(g) Do a check for 28V dc between pins X1 and X2 of connector D11868.

(3) If 28V dc is present between pins X1 and X2 of connector D11868, then replace relay R645.

(a) Do the Repair Confirmation at the end of the task.

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(4) If 28V dc is not present between pins X1 and X2 of connector D11868, then do this check of the ground circuit wiring:

Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(a) Do a check of the wiring between pin X2 of connector D11874 and the ground GD528-DC.

(b) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Install the relay R645.

3) Reconnect connector D11868.

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4) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

5) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) If the Repair Confirmation is not satisfactory, then continue.

(5) Do a check of the wiring (refer to WDMs 21-27-31 and 21-43-21) between the supply system control interrupt relay R645 in the J20 junction box and the forward fire alarm latch relay R945 in the J24 junction box as follows:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Remove the cover from the J24 junction box.

(c) Remove forward fire alarm latch relay R945.

(d) Remove supply system control interrupt relay R645 from J20 junction box.

(e) Do a continuity check from pin 8 of relay R945 to pin X1 of relay R645.

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Reinstall relay R645 in the J20 junction box and relay R945 in the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do an operational test of the overboard exhaust valve. To do the operational test, do this task: Smoke Clearance Mode - Operational Test, AMM TASK 21-27-00-700-807.

(5) f the Repair Confirmation is unsatisfactory, return to the step in the Fault Isolation Procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation Procedure.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the necessary steps to return the system to a serviceable condition:

(7) Do this task to put the airplane in the ground mode: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

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(8) Reinstall all access panels that were removed.

——— END OF TASK ———

811. Equipment Cooling Exhaust Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert - Fault Isolation

A. Description

(1) When smoke/fumes are detected in the aircraft, the flight crew must take action to open the overboard exhaust valve so that differential pressure will evacuate the smoke/fumes from the aircraft. This action also shuts off the equipment cooling exhausty fan that is in operation for the duration of the flight. This procedure fault isolates for conditions that prevent the equipment cooling exhaust fan from shutting down when smoke removal is commanded. The flight crew will have set one of the PACK switches to HIGH and the recirculation fan switch to OFF along with the action required on the P8 cargo fire control panel when commanding smoke removal.

(2) This fault isolation task investigates the circuit from the forward fire alarm latch relay R945 in the J24 junction box to the exhaust system control interrupt relay R949 in the J24 junction box. Faults in the system circuitry at the R945 relay and upstream of the R945 relay are investigated in FIM 21-27, Task 809.

B. Possible Causes

(1) Exhaust system control interrupt relay R949

(2) Wiring

C. Circuit Breakers

(1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

Power Distribution Panel Number 2, P92

Row	Col	Number	Name
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

D. Related Data

(1) SSM 21-43-21

(2) SSM 21-27-21

(3) WDM 21-43-21

(4) WDM 21-27-21

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E. Initial Evaluation

(1) Do an operational test of the equipment cooling overboard exhaust valve smoke clearance mode. To do the operational test, do this task: Smoke Clearance Mode - Operational Test, AMM TASK 21-27-00-700-807.

(a) If the equipment cooling exhaust fan shuts off when commanded, then there was an intermittent fault.

(2) If the equipment cooling exhaust fan does not shut off when commanded, then do the Fault Isolation Procedure - Equipment Cooling Supply Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert.

F. Fault Isolation Procedure - Equipment Cooling Exhaust Fans Do Not Shut Off When Commanded During a Cargo Compartment Smoke Alert.

(1) Do the steps that follow to command the overboard exhaust valve to the SMOKE position which also shuts off the operating supply fan for the duration of the flight:

(a) Make sure that pneumatic power is removed:

1) Make sure that the L and R indicators on the duct pressure gauge on the P5-10 air conditioning panel indicate zero psi.

(b) Put the R RECIRC FAN switch in OFF.

(c) Do this task to put the airplane in the air mode: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801

(d) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(2) Do this check for 28V dc at the exhaust system control interrupt relay R949 in the J24 junction box:

(a) Open this access panel:

Number	Name/Location
114AC	Fwd Nose Wheel Well Upper Access Panel

(b) Remove the cover from the J24 junction box.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(d) Remove exhaust system control interrupt relay R949.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(f) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(g) Do a check for 28V dc between pins X1 and X2 of connector D12229.

(h) Press and hold the TEST switch on the P8 Cargo Fire Control Panel until the FWD and AFT red cargo fire lights come on.

(3) If 28V dc is present between pins X1 and X2 of connector D12229, then replace relay R949.

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(a) Do the Repair Confirmation at the end of the task.

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(4) If 28V dc is not present between pins X1 and X2 of connector D12229, then do this check of the ground circuit wiring:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Remove the relay R949.

(c) Do a check of the wiring between pin X2 of connector D12229 and the ground GD544-DC.

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Install the relay R949.

3) Reconnect the connector D12229.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

5) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

b) If the Repair Confirmation is not satisfactory, then continue.

(5) Do a check of the wiring between the forward fire alarm latch relay R945 in the J24 junction box and the exhaust system control interrupt relay R949 in the J24 junction box as follows:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

(b) Remove the cover from the J24 junction box.

(c) Remove the forward fire alarm latch relay R945.

(d) Remove the exhaust system control interrupt relay R949.

(e) Do a continuity check from pin 8 of relay R945 to pin X1 of relay R949 (refer to WDMs .21-27-21 and 21-43-21).

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Reinstall relays R945 and R949 in the J24

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3) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT

4) Do the Repair Confirmation at the end of this task

a) If the Repair Confirmation is satisfactory, then you corrected the fault.

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do an operational test of the overboard exhaust valve. To do the operational test, do this task: Smoke Clearance Mode - Operational Test, AMM TASK 21-27-00-700-807.

(5) If the Repair Confirmation is unsatisfactory, return to the step in the Fault Isolation Procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation Procedure.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the necessary steps to return the system to a serviceable condition:

(7) Do this task to return the airplane to the ground mode: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(8) Reinstall all access panels that were removed.

END OF TASK

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801. Digital Cabin Pressure Controller (DCPC) BITE Procedure(Figure 201, Figure 202)

A. General

(1) There are certain conditions that a pilot report might address that do not require fault isolation. For example, if the cabin pressure climbs briefly and then stabilizes because of lavatory usage, it is not necessary to do a BITE procedure for such a condition. Other conditions such as aircraft operation beyond the capability of the pressurization control system also do not require fault operation. For example, aircraft descent at a rate such that the pressurization control system can not adjust quickly enough can result in the observation that the CABIN CLIMB gage indicates an unusually high rate.

(2) There are two identical digital cabin pressure controllers (DCPC).

(a) DCPC No. 1 is on the E2-2 shelf in the electronic equipment bay.

(b) DCPC No. 2 is on the E1-1 shelf in the electronic equipment bay.

(3) If the DCPC shows "FAULT" on the front panel display, there is a fault currently being detected by the DCPC. There may also be faults recorded in the fault history of the DCPC.

(a) The cabin pressure controller should not be replaced unless additional fault isolation indicates that replacement is required.

(4) This BITE procedure must be done on both pressure controllers. Shortly after aircraft touchdown, the controller in charge of control status will switch to the standby controller in the last flight leg.

(5) If the DCPC front panel display is blank, there may be faults currently being detected or faults recorded in fault history or both current faults and recorded faults may exist.

(a) The complete BITE procedure must be completed to determine if maintenance needs to be done on the digital cabin pressurization control system components, the air conditioning pack, the pneumatic system, air leakage problems, or wiring.

(6) The steps that follow provide a summary of the DCPC button functions.

(a) ON/OFF button

1) The ON/OFF button will activate or de-activate the BITE functions in the DCPC.

(b) MENU button

1) The MENU button is used to display the BITE menus in the DCPC. If you push the MENU button, it will take you up one level in the BITE menus.

(c) YES button

1) Used to respond YES to questions on the DCPC.

(d) NO button

1) Used to respond NO to questions on the DCPC.

(e) Up arrow button

1) Used to scroll up through the menu or the results of a BITE test.

(f) Down arrow button

1) Used to scroll down through the menu or the results of a BITE test.

(7) The steps that follow provide a summary of the main menu selections:

(a) EXISTING FAULTS

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1) The EXISTING FAULTS main menu selection provides a list of all faults that are currently detected by the DCPC.

NOTE: Subsequent maintenance action is needed to resolve those maintenance message(s) that show in the EXISTING FAULTS.

(b) FAULT HISTORY

1) The FAULT HISTORY main menu selection provides a list of previous flight legs for which faults have been recorded. It also provides a list of faults for the present flight leg. Each flight leg is numbered. The present flight leg is numbered 00. The previous flight leg is 01. Each previous flight leg is numbered successively higher.

2) If a fault was active during a flight leg and subsequently became inactive, it will be recorded in FAULT HISTORY. It may not be in EXISTING FAULTS.

3) FAULT HISTORY can be cleared when you run a SYSTEM TEST from the GROUND TESTS main menu.

NOTE: Maintenance message(s) that show in the FAULT HISTORY are for reference only and do not require maintenance action.

(c) GROUND TESTS

1) The GROUND TESTS main menu selection provides the test selections that follow:

a) A DISPLAY test selection that tests the LED display on the front panel of the DCPC.

b) A SYSTEM test selection that is used to perform a system test of the DCPC and the associated components.

NOTE: During the SYSTEM test when the DCPC shows "SYS TEST AND CLR?", and you press the YES button, all faults from all flight legs will be cleared from FAULT HISTORY.

(d) SYSTEM STATUS

1) The SYSTEM STATUS main menu selection has the selections that follow:

a) A PRESENT STATUS selection that shows the current input parameters to the DCPC such as air conditioning pack state (for example, L PACK ON or OFF).

b) A SYSTEM CONFIG selection that shows system configuration information such as LRU elapsed time and program pin states.

(e) SYSTEM TEST AND CLEAR

1) The SYSTEM TEST AND CLEAR main menu selection is used to prepare the digital cabin pressurization control system for a system test and to clear the FAULT HISTORY.

NOTE: When the test is complete, all faults from all flight legs will be cleared from FAULT HISTORY.

(8) There are two types of faults identified by the BITE:

(a) Maintenance messages

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1) Maintenance messages are listed in the BITE Message Index at the end of this task and are found when you examine for faults from the EXISTING FAULTS and FAULT HISTORY main menu selections. There are nineteen maintenance messages. An example of the text displayed for a maintenance message is "OFV LRU FAIL". Each of the maintenance messages has a specified FIM task associated with it. From the main menu EXISTING FAULTS selection, the maintenance message is displayed when you press the YES button. From the main menu FAULT HISTORY selection, the maintenance message is displayed after you push the YES button to select the flight leg you want, and then push the YES button again to examine faults for that particular flight leg.

(b) Fault details or fault numbers

1) Fault details or fault numbers are listed and described in the DCPCS Fault Number List (Table 201). They are found when you push the YES button when a maintenance message is displayed. Some maintenance messages can have different fault details (or fault numbers), depending on the type of fault that occurred. There are approximately 112 fault numbers. An example of the text displayed for a fault detail or fault number is "FAULT: 088".

NOTE: The DCPCS Fault Number List is to be used for reference only. It is not intended to be a trouble shooting guide. Its' purpose is to list information that may provide insight into a solution of cabin pressurization system problems.

2) All fault code numbers except numbers 001, 009, 010 and 052 are RESET recoverable.

3) Fault details or fault numbers should be recorded on your maintenance records. This information could be used later to help identify faults that are difficult to trouble shoot.

4) Fault numbers 001 through 015 relate to pressurization system issues.

5) Fault numbers 016 through 031 relate to issues with systems that interface with the pressurization control system.

6) Fault numbers 032 through 063 relate to issues with the pressurization system controllers, M1653 and M1654.

7) Fault numbers 064 through 095 relate to issues with the aft outflow valve, V48.

8) Fault numbers 096 through 111 relate to issues with the P5-6 cabin pressure selector panel.

B. Initial Evaluation

(1) If FAULT shows on the DCPC front panel display, then do these steps:

NOTE: If FAULT shows on the DCPC front panel display, there are existing faults in the digital cabin pressurization control system.

(a) Push the ON/OFF button on the DCPC front panel.

(b) If the airplane is not in the ground mode, "A/P NOT IN GND" will show for two seconds; then "BITE ABORTED" will show for two seconds.

1) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(c) Reset the cabin pressure controller for any reset recoverable faults as follows:

1) Set the mode selector on the cabin pressure control module on the P5-6 panel to MAN for 10 seconds.

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2) Set the mode selector on the cabin pressure control module to AUTO.

(d) Do the BITE procedure for EXISTING FAULTS (step C.) below.

(2) If the DCPC front panel display is blank, then do these steps:

(a) Push the ON/OFF button on the DCPC front panel.

(b) If the airplane is not in the ground mode, "A/P NOT IN GND" will show for two seconds; then "BITE ABORTED" will show for two seconds.

1) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(c) If the DCPC front panel display shows "SYSTEM OK", then do these steps:

NOTE: If SYSTEM OK is shown, there are no existing faults or faults in FAULT HISTORY present.

1) Push the MENU button.

2) Make sure that the DCPC front panel display shows EXISTING FAULTS.

3) Push the down arrow button until the DCPC front panel display shows GROUND TEST.

4) Do the GROUND TEST BITE procedure (step E.) below.

(d) If the DCPC front panel display shows nn EXIST FAULTS for two seconds, then nn PREV FAULTS for two seconds, and then EXISTING FAULTS, do the BITE procedure for EXISTING FAULTS (step C.) below.

NOTE: The nn is the number of faults.

(e) If the DCPC front panel display shows nn PREV FAULTS for two seconds, then FAULT HISTORY, do the BITE procedure for FAULT HISTORY (step D.) below.

NOTE: The nn is the number of faults.

C. BITE Procedure for EXISTING FAULTS

(1) Make sure that the DCPC front panel display shows EXISTING FAULTS.

(2) Push the YES button on the DCPC front panel.

(3) The DCPC front panel display shows the first fault (maintenance message) in the existing fault list.

NOTE: The text of the fault will be the same as one of the maintenance messages listed in the BITE Message Index at the end of this task. These existing faults are referred to as maintenance messages.

(4) Find and record the existing faults as follows:

(a) Make a record of the existing fault (maintenance message).

(b) Push the YES button on the DCPC front panel to see the fault details (fault numbers) for the maintenance message.

NOTE: The fault details for a maintenance message will be the same as one or more of the fault numbers that are listed in the DCPCS Fault Number List (Table 201). The number of fault details (fault numbers) varies with each maintenance message.

(c) Make a record of the fault detail (fault number) for the maintenance message.

(d) Push the down arrow button on the DCPC front panel to look for the next fault detail (fault number).

(e) Make a record of this fault detail (fault number) also.

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(f) Do the above two steps again until the DCPC front panel display shows BOTTOM OF LIST for two seconds, then shows the maintenance message again.

(g) Push the MENU button on the DCPC front panel to go back to see the maintenance message in the existing fault list.

(h) Push the down arrow button on the DCPC front panel to see the next maintenance message in the EXISTING FAULTS list.

NOTE: If there are no more faults, the display will show "BOTTOM OF LIST" for two seconds, then the previous maintenance message will show.

(i) Do the eight steps above until the DCPC front panel display shows BOTTOM OF LIST for two seconds so that all maintenance messages and associated fault numbers have been recorded.

(5) Push the MENU button on the DCPC front panel.

(6) Refer to the BITE Message Index at the end of this task to find the fault isolation task for the applicable maintenance message.

(7) Push the down arrow button on the DCPC front panel until FAULT HISTORY shows and do the BITE procedure for FAULT HISTORY below.

D. BITE Procedure for FAULT HISTORY

(1) Make sure that the DCPC front panel display shows FAULT HISTORY.

(2) Push the YES button on the DCPC front panel.

(3) The DCPC front panel display shows FLIGHT LEG XX.

NOTE: XX is the last flight leg that faults were recorded in history.

(4) If there are no FLIGHT LEGS displayed on the DCPC front panel, go to step D.(11).

NOTE: This indicates that there are no faults recorded in FAULT HISTORY.

(5) Push the YES button on the DCPC front panel.

(6) The DCPC front panel display shows the first fault (maintenance message) in the flight leg fault list.

NOTE: The text of the fault will be the same as one of the maintenance messages listed in the BITE Message Index at the end of this task. These faults are referred to as maintenance messages.

(7) Find and record the faults in the flight leg fault list as follows:

(a) Make a record of the fault (maintenance message).

(b) Push the YES button on the DCPC front panel to see the fault details (fault numbers) for the maintenance message.

NOTE: The fault details for a maintenance message will be the same as one or more of the fault numbers that are listed in the DCPCS Fault Number List (Table 201). The number of fault details (fault numbers) varies with each maintenance message.

(c) Make a record of the fault detail (fault number) for the maintenance message.

(d) Push the down arrow button on the DCPC front panel to look for the next fault detail (fault number) for the maintenance message.

(e) Make a record of this fault detail (fault number) also.

(f) Do the above two steps again until the DCPC front panel display shows BOTTOM OF LIST for two seconds, then returns to the maintenance message in the fight leg fault list.

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(g) Push the down arrow button on the DCPC front panel to look for the next fault (maintenance message) for the flight leg.

(h) Do the seven steps above until all fault entries in the flight leg fault list have been examined and recorded for the flight leg.

(8) Push the MENU button on the DCPC front panel until the display shows FLIGHT LEG XX.

(9) Push the down arrow button on the DCPC front panel to look for the next flight leg that recorded faults in fault history.

(10) Do above steps D.(6) through D.(8) until all flight legs with faults in fault history have been examined and recorded.

(11) Refer to the BITE Message Index at the end of this task to find the fault isolation task for the applicable maintenance message to find which FIM task(s) to use to fault isolate the maintenance message(s) that was recorded.

(12) If the DCPC front panel display is not at a main menu selection, push the MENU button until you are in the main menu.

E. GROUND TEST BITE Procedure

(1) Push the up or down arrow as necessary until the DCPC front panel display shows GROUND TEST.

(2) Do the GROUND TEST as follows:

CAUTION: MAKE SURE ONE OF THE EXTERNAL DOORS OR WINDOWS IS OPEN BEFORE YOU CONTINUE WITH THE TEST. UNCONTROLLED PRESSURIZATION OF THE CABIN CAN OCCUR WHEN THE OUTFLOW VALVE IS CLOSED. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

(a) Make sure at least one external door or window is open or that the L and R PACK switches on the P5-10 air conditioning panel are OFF.

(b) Push the YES button on the DCPC front panel.

(c) Make sure the DCPC front panel display shows DISPLAY TEST.

(d) Push the down arrow button on the DCPC front panel until the display shows SYSTEM TEST.

(e) Push the YES button on the DCPC front panel to start the system test.

(f) Make sure the DCPC front panel display shows "DOORS OPEN?".

(g) Make sure that at least one external airplane door is open.

(h) Push the YES button on the DCPC front panel.

(i) Make sure the DCPC front panel display shows "DADC ON?".

(j) Make sure that both ADIRU L and R are on.

(k) Push the YES button on the DCPC front panel.

(l) Make sure the DCPC front panel display shows "SMC ON?".

(m) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	5	C01204	SMYD-1 CMPTR DC
E	6	C01205	SMYD-1 SNSR EXC AC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
B	4	C01207	SMYD-2 SNSR EXC AC
B	5	C01206	SMYD-2 CMPTR DC

(n) Push the YES button on the DCPC front panel.

(o) Make sure the DCPC front panel display shows "OFV CLEAR?".

(p) Do these steps in less than one minute or the test will fail.

NOTE: You will try to do a system test on pressure controller No. 2 while the test for pressure controller No. 1 is in progress. The system test cannot be done on the two controllers at the same time. This step makes sure that if you try to do the system test on pressure controller No. 2 when the test is in progress on pressure controller No. 1, that the test on pressure controller No. 2 will be aborted.

WARNING: DO NOT PUT YOUR HANDS OR TOOLS IN THE OUTLET OF THE OUTFLOW VALVE. THE VALVE IS MOTOR-OPERATED. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

1) Push the YES button on the DCPC No. 1 front panel after you make sure the outflow valve is not blocked.

(q) Make sure the DCPC front panel display on pressure controller No. 1 shows TESTING.

NOTE: The lower digits will come on below the word "TESTING" at intervals of approximately 12 seconds. For older controllers, each of the 8 lower digits come on. For newer controllers, only five of the lower digits come on. If faults are detected during this testing, the DCPC front panel display will show nn EXIST FAULTS for two seconds, then the main menu selection EXISTING FAULTS will show.

(r) If this function finds faults, the DCPC front panel display will show nn EXIST FAULTS for two seconds, then show main menu item EXISTING FAULTS.

1) Do the procedure for existing faults in step C.

(s) Do these steps on the DCPC front panel on pressure controller No. 2:

1) Push the ON/OFF button on the DCPC front panel.

2) Push the MENU button on the DCPC front panel.

3) Continue to push the down arrow button until the DCPC front panel display shows GROUND TEST.

4) Push the YES button on the DCPC front panel.

5) Make sure the DCPC front panel display shows DISPLAY TEST.

6) Continue to push the down arrow button until the DCPC front panel display shows SYSTEM TEST.

7) Push the YES button on the DCPC front panel to start the system test.

8) Make sure the DCPC front panel display shows these messages:

NOTE: The messages will show one after the other with a two second delay between the first and the second messages. This shows that the test on pressure controller No. 2 is aborted.

a) BOTH SYS IN IBIT

b) IBIT ABORTED

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9) Push the ON/OFF button on the DCPC front panel on pressure controller No. 2.

(t) Make sure that five or eight digits are on for pressure controller No. 1.

NOTE: The lower digits come on sequentially to show that the test is in progress. For older controllers, each of the 8 lower digits come on at 12 second intervals. This takes approximately 100 seconds. For newer controllers, only five of the lower digits come on.

(u) Make sure the display on the DCPC front panel on pressure controller No. 1 shows these messages:

NOTE: The messages will show one after the other with a two second delay between the first and the second messages.

1) SYSTEM OK

2) SYSTEM TEST & CLEAR

NOTE: This clears all faults in EXISTING FAULTS and all flight leg faults from FAULT HISTORY.

(v) Push the YES button on the DCPC front panel on pressure controller No. 1.

(w) Push the ON/OFF button on the DCPC No. 1 front panel.

(3) Do the DCPC BITE procedure for the other pressure controller.

Table 201 DCPCS Fault Number List

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
001	SYSTEM WIRING	X	A communication fail (no bus activity, parity error, short/long word, faulty data) is detected by the CTR and the ARINC wraparound of the CTR and the PNL is passed.	804
001	SYSTEM WIRING	X	A communication fail (no bus activity, parity error, short/long word, faulty data) is detected by the CTR and the ARINC wraparound of the CTR and the PNL is passed.	804
002	SYSTEM WIRING	X	No RS422 activity is detected by the CTR and the fault is isolated to the interconnect (CTR RS422 wrap around passed and CONNECT_ACT_CTR_IN = false).	
003	HI CAB ALT	X	Cabin pressure lower than 8 psi and the OFV position is still above 5 degrees after 1 second.	817
004	CAB DIFF PRESS HI	X	Cabin differential pressure exceeded 8.65 psi .	816
005	CAB RATE HI	X	Cabin pressure rate greater than ±2000 SLFPM and the OFV position is still above (below) 5 degrees after 5 seconds.	818

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
006	SYSTEM WIRING	X	OFV cannot follow the state of the CTR and the failure is not isolated to the PNLs sever switch or the CTRs HSS switch. Interconnect failure in the DRIVE_ENABLE_CTR_PNL line, the DRIVE_ENABLE_PNL_ACT line or MNL_MODE_PNL_CTR line.	804
007	OFV LRU FAIL	X	OFV cannot follow the CTR position command (OFV_LOOP_CLOSURE_STATUS is set to TRUE) and the OFV position is below 20 degrees.	802
008	AUTO/MAN ERROR	-	More than one or none of the AUTO, ALTN or MANUAL indications are received by the CTR.	821
009	OFV LRU FAIL	X	OFV does not reach the mechanical stop within time or the calibration constant is out of range. (IBIT only.) Mechanical blockage/restriction of the OFV or OFV failure.	802
010	OFV LRU FAIL	X	OFV is not able to drive fully open to fully closed or vice versa within the given time constrains. (IBIT only.)	802
011	OFV LRU FAIL	X	OFV is not able to move from fully open to 105 degrees and back within the given time constrains. (SCBIT only.)	802
012	CONTRLR BBJ PIN [2]	X	BBJ_SEL_IN is not tied to Ground. May be caused by a wire failure or connection failure outside of the CTR (Fault Detail msg CONTRLR BBJ PIN).	804
012	[3]		Unused	
013	SYSTEM WIRING	X	CTR MASTER/SLAVE pin programming is contradictory. May be caused by a wire failure or connection failure outside of the CTR.	804
014	SYSTEM WIRING	X	CTR receives consecutively for 5 minutes an indication that the other CTR performs IBIT while in flight.	804
015	OFV OR WIRING	X	CTR cannot detect OFV RS422 activity and the CTR RS422 wraparound is passed and the CONNECT_ACT_CTR_IN is true.	805
016	SEL PNL LRU FAIL		The CTR detects that the PNL was unable to open the sever switch. The test is performed if a switch from AUTO to MANUAL or from ALTN to MANUAL is detected (CTRs opmode switched to MANUAL). This test cannot be rerun during IBIT.	803
017			Unused	
018			Unused	

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
019	OFV LRU FAIL	X	The CTR receives faulty data from the OFV for longer than 3 seconds. This failure may be caused by an ELACT hardware or software failure.	802
020	SYSTEM WIRING	-	A mismatch between the discrete OK_PNL_CTR signal and the PNL health information on the PNL fault word is detected.	
021	SYSTEM WIRING	-	A failure of the discrete CONNECT_ACT _CTR line is detected (RS422 activity is present and CONNECT_ACT_CTR = false).	804
022	DADC#1 INVALID	-	Computed Airspeed (CAS) received from DADC #1 is invalid or not updated.	806
023	DADC#2 INVALID	-	CAS received from DADC #2 is invalid or not updated.	807
024	DADC#1 INVALID	X	No bus activity of DADC1 is detected, pressure altitude or baro-corrected pressure altitude are not received or invalid for longer than 2 seconds. Auto channel fail will be set if DADC2 FAIL is set too. Auto channel fail will not be set if true air speed only is missing or faulty for longer than 2 seconds.	806
025	DADC#2 INVALID	X	No bus activity of DADC2 is detected, pressure altitude or baro-corrected pressure altitude are not received or invalid for longer than 2 seconds. Auto channel fail will be set if DADC1 FAIL is set too. Auto channel fail will not be set if true air speed only is missing or faulty for longer than 2 seconds.	807
026	SMC #1 INVALID	-	No bus activity of SMC1 is detected, or N1 value or N2 value is not received or invalid for longer than 2 seconds. Auto channel fail will be set if SMC2 FAIL is set too. Auto channel fail will only be set as long as the mode is GR or TO.	808
027	SMC #2 INVALID	-	No bus activity of SMC2 is detected, or N1 value or N2 value is not received or invalid for longer than 2 seconds. Auto channel fail will be set if SMC1 FAIL is set too. Auto channel fail will only be set as long as the mode is GR or TO.	809
028	LDG/ GEAR DISAGREE	-	A mode switch GR to CI or TO to CI occurs due to ambiguous landing gears using the condition for true air speed. May be caused by a failure of the LEFT_WHEELS_ON_GND or RIGHT_ WHEELS_ON_GND signals outside of the CTR.	822

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
029	N1/N2 LOW	-	A mode switch GR to CI occurred due to no valid N1 or N2 value available or a valid N1 or N2 value below the value required for the mode switch. May be caused by a lower throttle lever setting during take off run or a SMC fail.	810
030	LO INFL/HI LEAKG	-	The OFV position was below 3 degrees for longer than 5 seconds. This is no failure of the DCPCS. May be caused by a low inflow situation or a high leakage.	823
031	ACFT RATE HI	-	Cabin pressure rate is above the allowed selected hard limit for more than 5 seconds caused by a high a/c rate in conjunction with maximum dp (7.95 psi) or negative dp (-0.05 psi).	815
032	CONTRLR LRU FAIL	X	The CPC97 gate array tests detected a failure in the CPC97 gate array.	824
033	CONTRLR LRU FAIL	X	The non destructive RAM test detected a failure in the internal RAM of the 8097µP.	824
034	CONTRLR LRU FAIL	X	The non destructive RAM test detected a failure in the external CTR RAM.	824
035	CONTRLR LRU FAIL	X	The Cyclic Redundancy Check detected a failure of the CTR EPROMs. It has to be assumed that the software contained in the PROMs is not in an operative condition.	824
036	CONTRLR LRU FAIL	X [4]	The arithmetic test of the µP detected a failure.	824
036		[3]	Unused	
037	CONTRLR LRU FAIL	X	The +15V DC and -15V DC from the power supply are continuously monitored at an analog input port of the A/D converter. The fail flag is set if the difference of both power lines is out of the range required to drive the ARINC transmitters.	824
038	CONTRLR LRU FAIL	X	The A/D converter is continuously tested against +5V dc via an analog input. If the measured value differs more than 4% from the nominal value, the fail flag is set.	824
039	CONTRLR LRU FAIL	X	No RS422 transmitter interrupt activity is detected.	824
040	CONTRLR LRU FAIL	X	The wraparound of the CTR RS422 interface fails.	824
041	CONTRLR LRU FAIL	X	No ARINC transmitter interrupt activity is detected.	824

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
042	CONTRLR LRU FAIL	X	The CTR watchdog was not correctly served by the software. May be caused by a software anomaly.	824
043	CONTRLR LRU FAIL	X	The ARINC wraparound of ARINC transmitter circuit 1, MUX1 and ARINC receiver 1 fails.	824
044	CONTRLR LRU FAIL	X	The ARINC wraparound of ARINC transmitter circuit 2, MUX2 and ARINC receiver 2 fails.	824
045	CONTRLR LRU FAIL	X	The ARINC wraparound of ARINC transmitter circuit 3, MUX3 and ARINC receiver 3 fails.	824
046	CONTRLR LRU FAIL	X	A write to the NVM cannot be performed correctly.	824
046	[3]	X	Unused	
047	CONTRLR LRU FAIL	X	The data read out of the NVM flight buffer or NVM power down buffer after POR or pilot reset not within the valid range.	824
048	CONTRLR LRU FAIL	X	The checksum test of the sensor EEPROM data fails.	824
049	CONTRLR LRU FAIL	X	The sensed pressure of the sensor is above 26 psi or below 2.471 psi.	824
050	CONTRLR LRU FAIL	X	The pressure value is not refreshed by the pressure sensor within the valid time frame.	824
051	CONTRLR LRU FAIL	X	The temperature value is not refreshed by the temperature sensor within the valid time frame.	824
052	CONTRLR LRU FAIL	X	The PC differs from the PA value more than 0.2 psi absolute. This test is part of the IBIT and the SCBIT only.	824
053			Unused	
054			Unused	
055			Unused	
056	CONTRLR LRU FAIL	X	The DRIVE_ENABLE_CTR_PNL_OUT line is powered while the HSS should be open.	824
057	CONTRLR LRU FAIL	X	The DRIVE_ENABLE_CTR_PNL_OUT line is unpowered while the HSS should be closed.	824
058 [4]			Unused	
058 [3]			MANUAL_SWITCH_MESSAGE Set if system operates in manual mode.	
059	CONTRLR LRU FAIL	X	The wraparound of the OSD_CTR_OUT line fails.	824

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
060	CONTRLR LRU FAIL	X	The wraparound of the AUTO_UNDER_TEST _CTR_CTR_OUT line fails.	824
061	CONTRLR LRU FAIL	X	The wraparound of the series discrete output AUTO_FAIL_CTR_OUT failed.	824
062			Unused	
063	-	-	The self test of the BCM fails.	-
064	OFV LRU FAIL	X	The non destructive test of the OFV µP RAM fails during CBIT.	802
065	OFV LRU FAIL	X	The non destructive test of the OFV µP external RAM fails during CBIT.	802
066	OFV LRU FAIL	X	The non destructive test of the OFV µP RAM fails during PUBIT.	802
067	OFV LRU FAIL	X	The non destructive test of the OFV µP external RAM fails during PUBIT.	802
068	OFV LRU FAIL	X	The current limitation for the auto- matic motor fails.	802
069	OFV LRU FAIL	X	The +15V dc of the ELACT feed into an A/D converter input is not in range.	802
070			Unused	
071			Unused	
072	OFV LRU FAIL	X	The cyclic redundancy check of the ELACT EPROMs fails.	802
073	OFV LRU FAIL	X	The wraparound of the ELACT RS422 interface fails.	802
074	OFV OR WIRING	X	The ELACT does not detect RS422 activity of the CTR and the CTR RS422 wraparound is passed.	805
075	OFV LRU FAIL	X	No ELACT RS422 transmitter interrupt activity is detected by the ELACT.	802
076	OFV LRU FAIL	X	The wraparound of the discrete input MUX in the ELACT failed.	802
077	OFV LRU FAIL	X	The ELACT internal discrete wraparound fails.	802
078	OFV LRU FAIL	X	The RVT reference voltage for the position feedback is detected out of range.	802
079	OFV LRU FAIL	X	OFV connector J4 internal pin programming is not set to B737 mode.	802
080	OFV LRU FAIL	X	The A/D conversion is not performed within the defined time frame.	802
081 [4]	-	-	This status fail flag will be set on the OFV fault word by the ELACT and evaluated by the CTR. If the additional conditions are fulfilled the CTR sets as result fail flag 007 on the system fault word.	-

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
081 [3]			Unused	
082			Unused	
083	OFV LRU FAIL	X	The arithmetic operation tests of the ALU of the ELACT fails.	802
084			Unused	
085			Unused	
086			Unused	
087	OFV LRU FAIL	X	The -15V dc feed into the A/D con- verter is out of range. May be caused by a power supply or A/D converter fail.	802
088	OFV LRU FAIL	X	The hall sensor signals are detected in incorrect combinations.	802
089			Unused	
090	CAB PRES SW ACTIV	-	This status flag will be set as long as the cabin pressure switch of the ELACT is active.	-
091 [4]	CONTRLR LRU FAIL	X	The ELACT receives invalid P messages from the CTR for longer than 3 seconds.	824
091 [3]			Unused	
092	OFV LRU FAIL	X	ELACT internal pin programming shows a forbidden combination.	802
093			Unused	
094			Unused	
095			Unused	
096	SEL PNL LRU FAIL	-	The cyclic redundancy check of the PNL PROMs fails.	803
097			Unused	
098	SEL PNL LRU FAIL	-	The test of the PNL RAM fails.	803
099	SEL PNL LRU FAIL	-	The PNL µP arithmetic operation test fails.	803
100	SEL PNL LRU FAIL	-	The PNL detects a wraparound fail of the ARINC interface to the master CTR.	803
101	SEL PNL LRU FAIL	-	The PNL detects a wraparound fail of the ARINC interface to the slave CTR.	803
102	SEL PNL LRU FAIL	-	The PNL A/D converter test fails.	803

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Table 201 DCPCS Fault Number List (Continued)

BCM FAULT NUMBER	FAULT DISPLAYED	AUTO FAIL *[1]	FAULT DESCRIPTION	REFER TO FIM TASK
103	SEL PNL LRU FAIL	-	Wraparound of the discrete output AUTO_FAIL_PNL_OUT fails.	803
104	SEL PNL LRU FAIL	-	The PNL resets 3 times without detected reason within 6 minutes.	803
105	SEL PNL LRU FAIL	-	The PNL watchdog timer expires.	803
106	SEL PNL LRU FAIL	-	One discrete input value is out of range.	803
107	SEL PNL LRU FAIL	X	The CTR state is SB and the OFV state is OP while the CTRs opmode is not MANUAL and the PNL indicates a high voltage drop from either sever switch relay.	803
108	SYSTEM WIRING	X	The PNL detects no ARINC activity or receives faulty data from the CTR1 and no wraparound failure of the PNL and the CTR ARINC interface is detected.	804
109	DRV ENBL ERROR	X	The PNL detects both CTRs are operational at the same time.	819
110	SYSTEM WIRING	X	The PNL detects no ARINC activity or receives faulty data from the CTR2 and no wraparound failure of the PNL and the CTR ARINC interface is detected.	804
111	-	-	A PNL internal fail (fail flags 96 to 106) is detected.	-

*[1] X in column indicates "AUTO FAIL" comes on.
[2] Pressure controller P/N 7121-19971-01BA
[3] Pressure controllers P/N 21933-01AA, 21933-01AB, 21933-01AC
[4] Pressure controllers P/N 7121-19971-01AA, 7121-19971-01AB, 7121-19971-01AC, 7121-19971-01BA

F. SYSTEM STATUS Bite Procedure

(1) If the DCPC front panel display is not at a main menu selection, push the MENU button until you are in the main menu.

(2) Push the ↑ or ↓ button as necessary until the DCPC front panel display shows SYSTEM STATUS.

(3) Close these circuit breakers:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	5	C01204	SMYD-1 CMPTR DC
E	6	C01205	SMYD-1 SNSR EXC AC

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
B	4	C01207	SMYD-2 SNSR EXC AC
B	5	C01206	SMYD-2 CMPTR DC
C	14	C01008	ADIRU RIGHT AC
C	17	C01010	ADIRU RIGHT DC

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	16	C01356	LANDING GEAR AIR/GND SYS 1
D	1	C01399	PSEU PRI
D	2	C01400	PSEU ALTN
D	15	C01401	LANDING GEAR AIR/GND RELAY

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
D	1	C01444	A/C OVERBOARD EXHAUST VALVE CONT
D	2	C01445	A/C OVERBOARD EXH VALVE RECONFIG CONT
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2

(4) Set the pressurization mode selector switch on the P5-6 panel to AUTO.

NOTE: The AUTO FAIL light may momentarily flash when AUTO is selected.

(5) Open this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2

(6) Continue after a minimum of one second.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2

(8) Set 33,000 feet in the FLT ALT window of the P5-6 pressurization control panel.

(9) Set 500 feet in the LAND ALT window of the P5-6 pressurization control panel.

(10) Set the R RECIRC FAN switch on the P5-10 air conditoning panel to OFF.

(11) Set the L PACK and R PACK switches on the P5-10 air conditioning panel to OFF.

(12) Push the ON/OFF button on the front of the pressure controller No.1 (M1653) on the E2-2 shelf of the E/E compartment.

(13) Push the MENU button.

(14) Continue to push the ↓ button until the display shows SYSTEM STATUS.

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(15) Push the YES button.

(16) Make sure the display shows PRESENT STATUS after two seconds.

(17) Push the YES button.

(18) Make sure the display shows FLT ALT +33000FT.

(19) Push the ↓ button.

(20) Make sure the display shows LAND ALT +500FT.

(21) Push the ↓ button.

(22) Make sure the display shows AUTO IN CTRL.

(23) Push the ↓ button.

(24) Make sure the display is between OFV + 100 and OFV + 122 DEG OPEN DEG OPEN.

(25) Push the ↓ button.

(26) Make sure the display shows NO AUTO FAIL.

(27) Push the ↓ button.

(28) Make sure the display is between CAB PRES and CAB PRES 13.70 PSI 15.70 PSI.

(29) Push the ↓ button.

(30) Make sure the display shows CARGO HT VALVE CL.

(31) Push the ↓ button.

(32) Make sure the display shows LFT PACK FLOW OFF.

(33) Push the ↓ button.

(34) Make sure the display shows RT PACK FLOW OFF.

(35) Push the ↓ button.

(36) Make sure the display is BOTTOM OF LIST.

(37) Push the menu button.

(38) Push the ↓ button continuously until the display shows SYSTEM CONFIG.

(39) Push the YES button.

(40) Push the ↓ button continuously until the display shows this message:

NOTE: While you push the button, the display will show CONTRLR XXX HRS and PNL TIME XXX HRS. XXX is the number of hours.

(a) ROC SEL LOW

(41) Push the ↓ button.

(42) Make sure the display shows this message:

(a) ROD SEL2 LOW

(43) Push the ↓ button.

(44) Make sure the display shows MASTERID LOW.

(45) Push the ↓ button.

(46) Make sure the display shows this message:

(a) ROD SEL1 LOW

(47) Push the ↓ button.

(48) Make sure the display shows QFE SEL HIGH

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(49) Push the ↓ button.

(50) Make sure the display shows SLAVE ID HIGH.

(51) Push the ↓ button.

(52) Make sure the display shows OFV CONN LOW.

(53) Push the ↓ button.

(54) Make sure the display shows IBIT IN HIGH.

(55) Push the ↓ button.

(56) Make sure the display shows CARGO HT VLV LOW.

(57) Push the ↓ button.

(58) Make sure the display shows MANUAL IN HIGH.

(59) Push the ↓ button.

(60) Make sure the display shows LEFT A/G LOW.

(61) Push the ↓ button.

(62) Make sure the display shows RT A/G LOW.

(63) Push the ↓ button.

(64) Make sure the display shows SHOP MODE HIGH.

(65) Push the ↓ button.

(66) Make sure the display shows L PACK VLV LOW.

(67) Push the ↓ button.

(68) Make sure the display shows R PACK VLV LOW.

(69) Push the ↓ button.

(70) Make sure the display shows 41K SEL LOW.

(71) Push the ↓ button.

(72) Make sure the display shows AUTO CTL IN LOW.

(73) Push the ↓ button.

(74) Make sure the display shows PNL OK HIGH.

(75) Push the ↓ button.

(76) Make sure the display shows BBJ SEL HIGH.

(77) Push the ↓ button.

(78) Make sure the display shows HIGH LFE HIGH.

(79) Push the ↓ button.

(80) Make sure the display shows BOTTOM OF LIST.

(81) Push the ON/OFF button

(82) Do these steps if the passenger cabin pressure controller passes the BITE test and the passenger cabin temperature can not be made colder or warmer with the temperature selector in the AUTO or MANUAL mode:

(a) For the applicable (forward or aft) cabin zone temperature sensors:

1) Do this task: Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802

2) Do this task: Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

(b) For the applicable (forward or aft) cabin duct temperature sensors:

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1) Do this task: Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002

2) Do this task: Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002.

(83) Do the SYSTEM STATUS Bite procedure for the other pressure controller (M1654).

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
CAB PRESS CON	ACFT RATE HI	21-31 TASK 815
CAB PRESS CON	AUTO/MAN ERROR	21-31 TASK 821
CAB PRESS CON	CAB DIFF PRESS HI	21-31 TASK 816
CAB PRESS CON	CAB PRESS SW ACTIV	21-31 TASK 820
CAB PRESS CON	CAB RATE HI	21-31 TASK 818
CAB PRESS CON	CONTRLR LRU FAIL	21-31 TASK 801
CAB PRESS CON	DADC #1 INVALID	21-31 TASK 806
CAB PRESS CON	DADC #2 INVALID	21-31 TASK 807
CAB PRESS CON	DRV ENBL ERROR	21-31 TASK 819
CAB PRESS CON	HI CAB ALT	21-31 TASK 817
CAB PRESS CON	LDG GEAR DISAGREE	21-31 TASK 822
CAB PRESS CON	LO INFL/HI LEAKG	21-31 TASK 823
CAB PRESS CON	N1/N2 LOWRU FAIL	21-31 TASK 810
CAB PRESS CON	OFV LRU FAIL	21-31 TASK 802
CAB PRESS CON	OFV OR WIRING	21-31 TASK 805
CAB PRESS CON	SEL PNL LRU FAIL	21-31 TASK 803
CAB PRESS CON	SMC #1 INVALID	21-31 TASK 808
CAB PRESS CON	SMC #2 INVALID	21-31 TASK 809
CAB PRESS CON	SYSTEM WIRING	21-31 TASK 804

END OF TASK

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G57907 S0006740546_V1

Cabin Pressure Control System BITE Test
Figure 201/21-31-00-990-807 (Sheet 1 of 2)

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CABIN PRESSURE CONTROLLER

B

G57910 S0006740547_V1

Cabin Pressure Control System BITE Test
Figure 201/21-31-00-990-807 (Sheet 2 of 2)

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DCPC BITE MAIN MENUS

K43609 S0006740548_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 1 of 8)

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BITE ACCESS

K47402 S0006740549_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 2 of 8)

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EXISTING FAULTS MENU

K43633 S0006740550_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 3 of 8)

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FAULT HISTORY MENU

K43825 S0006740551_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 4 of 8)

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GROUND TESTS MENUS - DISPLAYS

K47449 S0006740552_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 5 of 8)

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GROUND TESTS MENUS - SYSTEMS TEST

K47461 S0006740553_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 6 of 8)

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SYSTEM STATUS MENUS

K51277 S0006740554_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 7 of 8)

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SYSTEM TEST & CLEAR MENUS

K51289 S0006740555_V1

Cabin Pressure Control System BITE Procedure
Figure 202/21-31-00-990-808 (Sheet 8 of 8)

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802. Cabin Pressure Outflow Valve Fail - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) OFV LRU FAIL

B. Possible Causes

(1) Cabin pressure outflow valve, V48

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-22

(2) SSM 21-31-23

(3) WDM 21-31-22

(4) WDM 21-31-23

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

803. Cabin Pressure Control Module Display Faults - Fault Isolation

A. Description

(1) Scope: The display faults covered in this task include improper displays of the FLT ALT and LAND ALT settings, improper illumination of the panel light plate or improper movement of the valve position indicator.

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(2) Fault Indication: Depending on the type of failure, display failures of the pressure control module may or may not generate a BITE control module fault code during a cabin pressure control system BITE test.

(3) LCD Displays were replaced by LED Displays on cabin pressure control module (pressure selector panel) part number 1019439-1-001 as part of an obsolescence redesign. Fault Isolation procedures are the same, except where noted.

B. Possible Causes

(1) Pressure control module failure (P5-6 panel)

(2) Defective connectors (D10724, D10726)

(3) Dual AUTO FAIL light indication

(4) Loss of power or delayed power transfer to the cabin pressure controllers, M1653 and M1654

(5) Loss of power to the cabin pressure control module (P5-6 panel)

(6) System wiring fault or communication failure between the cabin pressure controllers and the cabin pressure control module

(7) System wiring fault between the cabin pressure control module (P5-6 panel) and the outflow valve, V48

(8) Outflow valve fault

C. Related Data

(1) SDSs 21-30-00

(2) SSMs 21-31-11 thru 21-31-25

(3) WDMs 21-31-11 thru 21-31-25

D. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

E. Initial Evaluation

(1) Normal Conditions: If no cabin pressure control module faults are currently present, the FLT ALT and LAND ALT displays should be showing the last selected values. These values should be clearly shown with backlighting that responds to the panel lighting controls. The faceplate backlighting should be present and responsive to the panel lighting controls. The valve position indicator should be showing that the aft outflow valve is fully open with the aircraft on the ground.

(a) If the above conditions do not reflect the existing pressure control module displays, then do the Fault Isolation Procedure - Abnormal Conditions.

(b) If the above conditions reflect the existing pressure control module displays, the reported cabin pressure control module fault may no longer be present or may have been a normal condition reported as a fault. Continue to the next subtask to do functional checks of the module to make sure that it functions satisfactorily.

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(2) Do these checks to make sure that the cabin pressure control module functions properly:

(a) Do these checks of the LCD (LED) segment displays on the cabin pressure control module:

1) Do this task: Master Dim and Test - Operational Test, AMM TASK 33-18-00-710-802.

2) Make sure that all of the LCD (LED) segments (all eights) on the LAND ALT and FLT ALT displays come on for two seconds and then go off for one second again and again.

3) If any LCD (LED) segments do not come on or go off properly:

a) For LCD displays, do this task: Fault Isolation Procedure - LCD Display Is Scrambled or One or More Segments Are Missing or Display Is Improperly Illuminated.

b) For LED displays, do this task: Fault Isolation Procedure - LCD (LED) Display is Blank.

4) If all LCD (LED) segments come on and go off properly, continue.

(b) Do a check of the cabin pressure control module LCD (LED) lighting:

1) Rotate the PANEL light control knob on the upper center section of the P5 forward overhead panel to the maximum BRIGHT position (fully clockwise).

2) Make sure that both the FLT ALT and LAND ALT displays increase in intensity.

3) Rotate the PANEL light control knob to the minimum BRIGHT position (fully counterclockwise).

4) Make sure that both the FLT ALT and LAND ALT displays decrease in intensity.

5) If one or more LCD (LED) displays fail to properly increase or decrease in intensity:

a) For LCD displays, do this task: Fault Isolation Procedure - LCD Display Backlighting Is Off or Dim.

b) For LED displays, do this task: Fault Isolation Procedure - LCD (LED) Display is Blank.

6) If the light intensity of both LCD (LED) displays increase and decrease properly, continue.

(c) Do this check of the displays of the altitude range settings in the FLT ALT and LAND ALT windows:

1) Set altitudes in the FLT ALT window from -1000 to 42000.

2) Make sure that all the digits are complete and clearly visible at each selection.

3) Set altitudes in the LAND ALT window from -1000 to 14000.

4) Make sure that all the digits are complete and clearly visible at each selection.

5) If any digit is incomplete:

a) For LCD displays, do this task: Fault Isolation Procedure - LCD Display Is Scrambled, One or More Segments Are Missing or Display Is Improperly Illuminated.

b) For LED displays, do this task: Fault Isolation Procedure - LCD (LED) Display is Blank.

6) If either display fails to adjust across the specified range, do this task: Fault Isolation Procedure - LCD (LED) Display Cannot Be Adjusted Above or Below Certain Values.

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7) If either display fails to adjust at all (display is frozen), do this task: Fault Isolation Procedure - LCD (LED) Display Is Frozen (LCD (LED) does not respond to rotation of the corresponding knob).

8) If all digits are complete and both displays adjust across the specified range, then continue.

(d) Do this check of the valve position indicator on the cabin pressure control module:

1) Turn the mode selector switch to MAN.

2) Make sure that these switches on the P5-10 forward overhead panel are set to OFF:

a) L PACK

b) R PACK

c) BLEED 1

d) BLEED 2

e) APU BLEED.

3) Make sure that an outside cabin door is open.

4) Push and hold the CLOSE/OPEN toggle switch on the pressure control module to the CLOSE position until the outflow valve is fully closed.

a) Make sure that the valve position indicator needle moves smoothly and freely.

b) Visually observe that the valve has fully closed.

5) Push and hold the CLOSE/OPEN toggle switch on the pressure control module to the OPEN position until the outflow valve is fully open.

a) Make sure that the valve position indicator needle moves smoothly and freely.

b) Visually observe that the valve has fully opened.

6) Turn the mode selector switch to AUTO.

7) If the valve position indicator needle did not move, do this task: Fault Isolation Procedure - Valve Position Indicator Needle Does Not Move When Outflow Valve Movement Is Commanded.

8) If the valve position indicator needle did not move freely (sticks), do this task: Fault Isolation Procedure - Valve Position Indicator Needle Is Sticking.

9) If the valve position indicator needle moves satisfactorily, then continue.

(3) Do the DCPC BITE procedure on both cabin pressure controllers, M1653 and M1654. To do the BITE, do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(a) If the BITE test shows the maintenance message SEL PNL LRU FAIL in EXISTING FAULTS or FAULT HISTORY, then do this task: Cabin Pressure Control Module Display Faults - Fault Isolation, 21-31 TASK 803.

(b) If the BITE test shows a different maintenance message, then do the appropriate task as indicated in Table 201 of this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(c) If no fault codes are displayed in EXISTING FAULTS or FAULT HISTORY, then the system and the pressure control module are performing correctly. No additional maintenance is required.

(d) If fault isolation of the displayed faults does not resolve the fault in the cabin pressure control module, then proceed to Fault Isolation Procedure - Abnormal Conditions.

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(4) If the BITE test shows occurrences of Fault Code 06 or a combination of Fault Codes 06 and 101, do these checks:

(a) Do a check that the power to both cabin pressure controllers M1653 and M1654 is satisfactory.

(b) Perform a SYSTEM TEST or SYSTEM TEST and CLEAR to do a check of the system health status.

(c) If these checks are satisfactory, there is no requirement to replace any digital cabin pressurization control components.

(d) If the Fault Codes still show in the EXISTING FAULTS menu and cannot be reset, replace pressure controller M1654 as follows:

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

F. Fault Isolation Procedure - Abnormal Display Conditions

(1) Cabin pressure control module display faults may take these forms:

Cabin Pressure Control Module Display Faults - Conditions

NO.	FAULT CONDITION	FAULT ISOLATION PROCEDURE
1	LCD (LED) Display is blank or too dim to read	LCD (LED) Display Is Blank or Too Dim To Read
2	LCD (LED) display is “88888”	LCD (LED) Display Shows “88888”
3	LCD (LED) display is showing “-----” (dashes)	LCD (LED) Display Shows “-----” (all dashes)
4	LCD display is scrambled or has one or more segments missing or improperly illuminated	LCD Display Is Scrambled or One or More Segments Are Missing or Display Is Improperly Illuminated
5	LCD (LED) display is frozen	LCD (LED) Display is Frozen
6	LCD (LED) display cannot be adjusted above or below certain values	LCD (LED) Display Cannot Be Adjusted Above or Below Certain Values
7	LCD display backlighting is off or dim	LCD Display Backlighting Is Off or Dim
8	Light panel backlighting is off or dim	Light Panel Backlighting Is Off or Dim
9	Valve position indicator needle is sticking	Valve Position Indicator Needle Is Sticking
10	Valve position indicator needle does not move when outflow valve movement is commanded	Valve Position Indicator Needle Does Not Move When Outflow Valve Movement Is Commanded

(2) Do the fault isolation procedure listed in the table for the specific fault condition.

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G. Fault Isolation Procedure - LCD (LED) Display Is Blank or Too Dim To Read

(1) Possible causes of a blank or very dim LCD (LED) display are a fault in the backlighting, lack of power to the panel in the AUTO mode or internal control module failure.

NOTE: For LED display panels, the display will be very dim and may be appear to be blank during daylight hours with the Master Dim & Test switch in the Dim position. Also, the battery switch needs to be on for the valve position indicator to be displayed. These are normal operating characteristics for the LED displays.

(2) For cabin pressure control modules with LED display panels, if the FLT ALT, LAND ALT or Outflow Valve (OFV) position indicator displays are blank, do this check to attempt to restore the displays to operation.

(a) If displays are blank, open these circuit breakers and then close them again after three seconds as follows:

1) Open and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) If the displays now show valid values for FLT ALT, LAND ALT and OFV position indicator, then there was an intermittent fault and the system is serviceable.

(3) If both the FLT ALT and LAND ALT displays are blank, do this check to make sure that power is being supplied to the panel:

(a) Make sure that all circuit breakers are closed as follows:

1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) Do a check that power is available to the pressure control module backlighting and to the cabin pressure controllers as follows:

1) Do Fault Isolation Procedure - Panel Power Input Check.

(c) If the power check is satisfactory, the pressure control module has an internal failure. Remove and replace the pressure control module with a serviceable unit as follows: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

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(4) If only one display is blank and the other display operates properly, an internal failure in the pressure control module has occurred. Do these tasks to remove and install a serviceable pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(5) Do the Repair Confirmation at the end of this task.

H. Fault Isolation Procedure - LCD (LED) Displays Show “88888”

(1) There are some conditions that occur with normal power transfers that cause disturbances in the cabin pressure control module displays but are normal conditions that do not require maintenance action. After a power interruption the panel will perform an internal self-test. During the self-test, the FLT ALT and LAND ATL windows will display “88888”, the FLT ALT and LAND ALT adjustment knobs will not be able to adjust the display and the AUTO FAIL indication will be extinguished. The self-test should not last more than one second unless failures are detected. When the self-test is successfully completed, the FLT ALT and LAND ALT displays should show the last selected values. If either of the FLT ALT or LAND ALT displays currently shows “88888”, proceed with the steps that follow:

(a) If both displays show “88888” (all eights), open these circuit breakers and then close them again after three seconds as follows:

1) Open and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) If both displays continue to show “88888” (all eights), do these steps to replace the pressure control module:

1) Do this task to remove the pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801.

2) Do this task to install a serviceable pressure control module: Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(c) If only one display shows “88888” (all eights) and the other display operates correctly, do these steps to replace the pressure control module:

1) Do this task to remove the pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801.

2) Do this task to install a serviceable pressure control module: Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801

(2) Do the Repair Confirmation at the end of this task.

I. Fault Isolation Procedure - LCD (LED) Display Shows “-----” (all dashes)

(1) If both displays show “-----” (all dashes) and there is no AUTO FAIL indication present or reported, do these steps:

(a) Make sure the mode selector switch is set to the AUTO position.

(b) Perform a power reset to the system as follows:

1) Open the circuit breakers that follow and close them again after three seconds:

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a) Open and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

2) Wait five seconds for the system to reset:

a) Make sure that engine, ground or APU power is present for the power reset.

(2) If the display now shows valid values for FLT ALT and LAND ALT, then there was an intermittent fault and the system is serviceable.

(3) If both displays continue to show "-----" (all dashes) 5 seconds after the reset and no AUTO FAIL indication is present, an internal failure in the pressure control module has occurred. Do these tasks to remove and install a serviceable pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(4) If both displays show "-----" with AUTO FAIL indication present, do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(a) If the BITE test shows that faults are present in either EXISTING FAULTS or FAULT HISTORY, then do the appropriate task as indicated in Table 201 of Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(5) If only one display shows "-----" (all dashes) and the other display operates normally, an internal failure in the pressure control module has occurred. Do these tasks to remove and install a serviceable pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(6) Do the Repair Confirmation at the end of this task.

J. Fault Isolation Procedure - LCD Display Is Scrambled or One or More Segments Are Missing or Improperly Illuminated

(1) If one or both displays appear scrambled or show one or more segments improperly illuminated or extinguished, do these steps to find if the pressure control module is serviceable:

(a) There are some pressure control module display failures caused by internal failures of the pressure control module that have no effect on the operation or performance of the pressurization control system.

1) Operators must determine if the FLT ALT and LAND ALT values can be accurately selected and then make a decision if the pressure control module is serviceable.

2) Operators may find that pressure control modules with the display failures listed below can be considered serviceable for dispatch:

a) Loss or degradation of LCD backlighting: the LCD displays are of the transflective type so that ambient light or an external light source may make a display readable despite degraded or failed backlighting.

b) Degradation of the light plate backlighting: ambient light or an external light source may compensate for failed or degraded light plate illumination.

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c) Illumination of non-digit portions of the displays may degrade display contrast but the display may still be readable.

d) Improper illumination of some display digit segments does not necessarily make the pressure control module unserviceable. For example, the two digits on the right end of the FLT ALT display are always zero “0” under normal conditions as is the most right digit of the LAND ALT display. A missing or improperly lit segment in these digits should not significantly affect the ability to read the display. Similarly, the most left digit of the LAND ALT display is always either a “1” or blank during normal operation so that improper operation of one of the unused segments should not significantly affect the ability to read the display.

(2) If the pressure control module is found not serviceable, do these tasks to replace the pressure control module with a serviceable unit: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(3) Do the Repair Confirmation at the end of this task.

K. Fault Isolation Procedure - LCD (LED) Display Is Frozen

(1) If both displays appear frozen, open all circuit breakers and close them again after 3 seconds to perform a power reset to the system:

(a) Open and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(2) If both displays still appear frozen or if a single display appears frozen, an internal failure in the cabin pressure control panel has occurred. Do these tasks to remove and install a serviceable pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(3) Do the Repair Confirmation at the end of this task.

L. Fault Isolation Procedure - LCD (LED) Display Cannot Be Adjusted Above or Below Certain Values

(1) If one or both displays do not adjust across the full range (FLT ALT: -1000 to 42000; LAND ALT: -1000 to 14000), an internal failure in the pressure control module has occurred. Do these tasks to replace the cabin pressure control module with a serviceable unit: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(2) Do the Repair Confirmation at the end of this task.

M. Fault Isolation Procedure - LCD Display Backlighting is Off or Dim

(1) If the backlighting for both the FLT ALT and LAND ALT displays is off or dim, make sure that the PANEL light control knob on the upper center section of the P5 forward overhead panel is set to maximum brightness.

(2) If the backlighting is still off or dim, do this check for the availability of power as follows:

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(a) Do Fault Isolation Procedure - Panel Power Input Check.

(3) If the power check is satisfactory, the pressure control module has an internal failure. Remove and replace the pressure control module with a serviceable module as follows:Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(4) If only one display backlighting is off or dim, do these steps to find if the pressure control module is serviceable:

(a) There are some pressure control module display failures caused by internal failures of the pressure control module that have no effect on the operation or performance of the pressurization control system.

1) Operators must determine if the FLT ALT and LAND ALT values can be accurately selected and then make a decision if the pressure control module is serviceable.

2) Operators may find that pressure control modules with the display failures listed below can be considered serviceable for dispatch:

a) Loss or degradation of LCD backlighting: the LCD displays are of the transflective type so that ambient light or an external light source may make a display readable despite degraded or failed backlighting.

b) Degradation of the light plate backlighting: ambient light or an external light source may compensate for failed or degraded light plate illumination.

c) Illumination of non-digit portions of the displays may degrade display contrast but the display may still be readable.

d) Improper illumination of some display digit segments does not necessarily make the pressure control module unserviceable. For example, the two digits on the right end of the FLT ALT display are always zero “0” under normal conditions as is the most right digit of the LAND ALT display. A missing or improperly lit segment in these digits should not significantly affect the ability to read the display. Similarly, the most left digit of the LAND ALT display is always either a “1” or blank during normal operation so that improper operation of one of the unused segments should not significantly affect the ability to read the display.

(5) If the pressure control module is found not serviceable, do these tasks to replace the pressure control module with a serviceable unit: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(6) Do the Repair Confirmation at the end of this task.

N. Fault Isolation Procedure - Light Panel Backlighting Is Off or Dim

(1) If the pressure control module light plate indications are dim or appear to be off, make sure the PANEL light control knob on the upper center section of the P5 forward overhead panel is set to maximum brightness.

(2) If the backlighting is still off or dim, do this check for the availability of power to the light panel as follows:

(a) Make sure that all circuit breakers are closed as follows:

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1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) Do Fault Isolation Procedure - Panel Power Input Check.

(3) If the power check is satisfactory, do these steps to find if the pressure control module is serviceable:

(a) There are some pressure control module display failures caused by internal failures of the pressure control module that have no effect on the operation or performance of the pressurization control system.

1) Operators must determine if the FLT ALT and LAND ALT values can be accurately selected and then make a decision if the pressure control module is serviceable.

2) Operators may find that pressure control modules with the display failures listed below can be considered serviceable for dispatch:

a) Loss or degradation of LCD backlighting: the LCD displays are of the transflective type so that ambient light or an external light source may make a display readable despite degraded or failed backlighting.

b) Degradation of the light plate backlighting: ambient light or an external light source may compensate for failed or degraded light plate illumination.

c) Illumination of non-digit portions of the displays may degrade display contrast but the display may still be readable.

d) Improper illumination of some display digit segments does not necessarily make the pressure control module unserviceable. For example, the two digits on the right end of the FLT ALT display are always zero “0” under normal conditions as is the most right digit of the LAND ALT display. A missing or improperly lit segment in these digits should not significantly affect the ability to read the display. Similarly, the most left digit of the LAND ALT display is always either a “1” or blank during normal operation so that improper operation of one of the unused segments should not significantly affect the ability to read the display.

(4) If the pressure control module is found not serviceable, do these tasks to replace the pressure control module with a serviceable unit: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(5) Do the Repair Confirmation at the end of this task.

O. Fault Isolation Procedure - Valve Position Indicator Is Sticking

(1) If not already done in the Initial Evaluation, do these steps:

(a) Turn the mode selector switch on the pressure control module to MAN.

(b) Make sure that these switches are set to OFF:

1) L PACK

2) R PACK

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3) BLEED 1
4) BLEED 2
5) APU BLEED

(c) Make sure that an external cabin door is open.

(d) Push and hold the CLOSE/OPEN toggle switch on the pressure control panel to the CLOSE position until the outflow valve is fully closed.

1) Make sure that the valve position indicator needle movement is smooth and the needle does not stick.

2) Visually observe that the valve has fully closed.

(e) Push and hold the CLOSE/OPEN toggle switch on the pressure control panel to the OPEN position until the outflow valve is fully open.

1) Make sure that the valve position indicator needle movement is smooth and the needle does not stick.

2) Visually observe that the valve has fully opened.

(f) Set the mode selector switch to AUTO.

(2) If the valve position indicator needle moves satisfactorily, there was an intermittent fault and the system is serviceable.

(3) If the needle hesitates after passing the fifth hash mark from the left, this is a known unusual operation that is considered acceptable; the pressure control module is considered satisfactory for continued service.

(4) If the needle sticks, the pressure control module has an internal failure. Do these tasks to replace the pressure control module with a serviceable unit: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(5) Do the Repair Confirmation at the end of this task.

P. Fault Isolation Procedure - Valve Position Indicator Needle Does Not Move When Outflow Valve Movement Is Commanded

(1) Do a test of the pressurization system manual mode. To do the test, do this task: Pressurization System Manual Mode Test, AMM TASK 21-31-00-710-801.

(a) Make sure that an observer near the aft outflow valve at the rear of the aircraft sees that the outflow valve goes fully closed and then fully open.

(2) If the test was satisfactory, there was an intermittent fault and the cabin pressure control system is serviceable.

(3) If the outflow valve did not move when commanded, do this task: Manual Mode Control of Aft Outflow Valve Does Not Operate - Fault Isolation, 21-31 TASK 811.

(4) If the outflow valve moved but the valve position indicator needle did not move, do this check of the wiring between the cabin pressure control module and the aft outflow valve:

(a) Lower the forward overhead P5 panel.

1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) Disconnect connector D10724 from the back of the cabin pressure selector panel.

(c) Do this task to remove the aft outflow valve to get access to electrical connectors D10728 and D10730: Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801.

(d) Do a wiring check between these pins of connector D10724 of the P5-6 cabin pressure selector panel and connectors D10728 and D10730 of the cabin pressure outflow valve.

P5-6 Panel D10724	**OFV D10728**
pin 18	pin F
pin 30	pin H
pin 31	pin G

P5-6 D10724	**OFV D10730**
pin 25	pin A
pin 24	pin B

(f) Inspect all pins on all connectors to make sure they are not bent or pushed back.

(g) Repair any problems you find with the wiring or connectors.

(5) If you repaired the wiring or connectors, then do these steps:

(a) Reconnect the electrical connector D10724 to the cabin pressure control module.

(b) Raise the cabin pressure control module into position and secure it to the P5 forward overhead panel.

(c) Install the aft outflow valve as follows: Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(6) If no wiring faults are found and the valve position indicator needle does not move when outflow valve movement is observed, do this step:

(a) Remove the cabin pressure control module and install a serviceable unit as follows: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801 and Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(7) If there were no wiring faults and the replacement of the cabin pressure control module did not correct the fault, the outflow valve has an internal fault and must be replaced as follows: Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801 and Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(8) Do the Repair Confirmation at the end of this task.

Q. Fault Isolation Procedure - Panel Power Input Fault

(1) Do a check for 28V DC power to the P5-6 cabin pressure selector panel as follows:

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(a) Open these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(b) Get access to the electrical connectors on the back of the P5-6 cabin pressure control module as follows:

1) Loosen the 1/4-turn fasteners that hold the P5 forward overhead panel in position and hold the panel as it moves downward.

(c) Disconnect electrical connectors D10724 and D10726.

(d) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(e) Do these checks for power to the P5-6 pressure selector panel:

1) Do a check for a nominal 28V DC from pin 20 of connector D10726 to ground at pin 21 of connector D10726.

2) Do a check for a nominal 28V DC from pin 15 of connector D10724 to ground at pin 28 of connector D10724.

3) Do a check for a nominal 28V DC from pin 16 of connector D10724 to ground at pin 29 of connector D10724.

4) Make sure that the PANEL light control knob on the upper center section of the P5 forward overhead panel is set to maximum brightness.

5) Make sure that the master dim and test switch (TEST/BRT/DIM) on the P1-3 main instrument panel is set to BRT.

6) Do a check for a nominal 5V AC from pin 12 of connector D10726 to ground at pin 13 of connector D10726.

7) Do a check for a nominal 5V AC from pin 24 of connector D10726 to ground at pin 13 of connector D10726.

8) If power is not available, repair wiring or fault isolate the power distribution system to the 28V battery buses.

(f) Inspect the connectors as follows:

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1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

2) Examine the plug and receptacle of each connector to make sure that they are not damaged.

3) Inspect the pins to make sure they are not bent or pushed back.

4) Repair any problems that you find.

(g) If you made a repair, do the Repair Confirmation at the end of this procedure.

(h) If you did not find any problems, then return to the step that directed you to this Fault Isolation Procedure - Panel Power Input Fault and continue.

R. Repair Confirmation

(1) If the pressure control module or outflow valve has been removed and replaced or if any wiring or connectors have been repaired, do these steps to make sure that the repair is satisfactory:

(a) Do the Pressurization System Ground Test if not already done. To do the test, do this task: Pressurization System Ground Test, AMM TASK 21-31-00-700-802.

(b) Do a Pressurization System Manual Mode test if not already done. To do the test, do this task: Pressurization System Manual Mode Test, AMM TASK 21-31-00-710-801.

(c) Do steps E.(1) and E.(2) of the Initial Evaluation to make sure that the displays and functions of the cabin pressure control module operate properly.

(d) If any abnormal condition still continues, do the fault isolation procedure as directed in the specific checks listed in the Initial Evaluation.

——— END OF TASK ———

804. System Wiring Failure - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SYSTEM WIRING

B. Possible Causes

(1) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

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D. Related Data

(1) SSM 21-31-11

(2) SSM 21-31-22

(3) SSM 21-31-23

(4) SSM 21-31-24

(5) WDM 21-31-11

(6) WDM 21-31-22

(7) WDM 21-31-23

(8) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do these steps for the fault detail CPC-PNL WIRING on Cabin Pressure Controller 1:

(a) Do this check of the wiring between cabin pressure controller 1, M1653 in the electronic equipment bay and the cabin pressure control module, P5-6 in the control compartment:

1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Lower the overhead P5 panel.

3) Disconnect connector D10724 from the cabin pressure control module.

4) Do a wiring check between these pins of connector D10724 of the cabin pressure control module and connectors D10738B and D10738A of cabin pressure controller 1:

D10724	**D10738B**
pin 20	pin A7
pin 21	pin A8
pin 1	pin B3
pin 4	pin B7

D10724	**D10738A**
pin 9	pin A1
pin 22	pin A2
pin 26	pin D15

D10724	**Ground**
Pin 11	GD516-ST
Pin 12	GD516-ST

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10724 to the cabin pressure control module.

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c) Lift (close) the overhead P5 panel.

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

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(2) Do these steps for the fault detail CPC-PNL WIRING on Cabin Pressure Controller 2:

(a) Do this check of the wiring between cabin pressure controller 2, M1654 in the electronic equipment bay and the cabin pressure control module, P5-6 in the control compartment:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Lower the overhead P5 panel.

3) Disconnect connector D10724 from the cabin pressure control module.

4) Do a wiring check between: (1) pins B and J of connector D10734 and ground GD3740-DC and (2) these pins of connector D10726 of the cabin pressure control module and the connector D10740B and D10740A of cabin pressure controller 2:

D10726	D10740B
pin 28	pin A7
pin 29	pin A8
pin 8	pin B3
pin 9	pin B7

D10726	D10740A
pin 16	pin A1
pin 17	pin A2
pin 19	pin D15

D10726	Ground
pin 18	GD506-ST
pin 30	GD506-ST

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10726 to the cabin pressure control module.

c) Lift (close) the overhead P5 panel.

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

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g) Close this access panel:

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(3) Do these steps for the fault detail CPC/OFV WIRING on Cabin Pressure Controller 1:

(a) Do this check of the wiring between cabin pressure controller 1, M1653 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10732 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10738A of cabin pressure controller 1 and connector D10732 of the cabin pressure outflow valve:

D10738A	D10732
pin A7	pin R
pin A8	pin P
pin A9	pin N
pin A10	pin M

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10732 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

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(4) Do these steps for the fault detail CPC/OFV WIRING on Cabin Pressure Controller 2:

(a) Do this check of the wiring between cabin pressure controller 2, M1654 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10734 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10740A of cabin pressure controller 2 and connector D10734 of the cabin pressure outflow valve:

D10740A	D10734
pin A7	pin R
pin A8	pin P
pin A9	pin N
pin A10	pin M

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10734 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
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(5) Do these steps for the fault detail CPC-OFV on Cabin Pressure Controller 1:

(a) Do this check of the wiring between cabin pressure controller 1, M1653 in the electronic equipment bay and the cabin pressure outflow valve, V48:

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1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10732 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10738B of cabin pressure controller 1 and connector D10732 of the cabin pressure outflow valve:

D10738B		D10732
pin B5	. . . . .	pin C-

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10732 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(6) Do these steps for the fault detail CPC-OFV on Cabin Pressure Controller 2:

(a) Do this check of the wiring between cabin pressure controller 1, M1654 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10734 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10740B of cabin pressure controller 2 and connector D10734 of the cabin pressure outflow valve:

D10740B		D10734
pin B5	. . . . .	pin C-

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10734 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
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(7) Do these steps for the fault detail CONTRLR PROG PIN on Cabin Pressure Controller 1 or 2:

(a) Do this check of the wiring between cabin pressure controller 1, M1653, and cabin pressure controller 2, M1654, in the electronic equipment bay:

1) Remove cabin pressure controller 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Do a wiring check between these pins of connector D10738B and D10738A of cabin pressure controller 1 and connector D10740A and D10740B of cabin pressure controller 2:

D10738B		D10740A
pin B6	. . . . .	pin A15

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D10738A	D10740B
pin A15	pin B6

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install cabin pressure controller 1 and 2. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.
   c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.
   d) If the maintenance message does not show, then you corrected the fault.
   e) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(8) Do these steps for the fault detail CPC-CPC WIRING on Cabin Pressure Controller 1 or 2:
   (a) Do this check of the wiring between cabin pressure controller 1, M1653, and cabin pressure controller 2, M1654, in the electronic equipment bay:
      1) Remove cabin pressure controller 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.
      2) Do a wiring check between these pins of connector D10738B and D10738A of cabin pressure controller 1 and connector D10740A and D10740B of cabin pressure controller 2:

D10738B	D10740A
pin B2	pin D3

D10738A	D10740B
pin D3	pin B2

      3) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.
         b) Re-install cabin pressure controller 1 and 2. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.
         c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.
         d) If the maintenance message does not show, then you corrected the fault.
         e) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(9) Do these steps for the fault detail CPC-OFV WIRING on Cabin Pressure Controller 1:
   (a) Do this check of the wiring between cabin pressure controller 1, M1653 in the electronic equipment bay and the cabin pressure outflow valve, V48:

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1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10732 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10738A of cabin pressure controller 1 and connector D10732 of the cabin pressure outflow valve:

D10738B		D10732
pin B5	. . . . .	pin C-

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10732 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(10) Do these steps for the fault detail CPC-OFV WIRING on Cabin Pressure Controller 2:

(a) Do this check of the wiring between cabin pressure controller 2, M1654 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10734 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10740B of cabin pressure controller 2 and connector D10734 of the cabin pressure outflow valve:

D10740B		D10734
pin B5	. . . . .	pin C-

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10734 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(11) Do these steps for the fault detail PNL-OFV on Cabin Pressure Controller 1:

(a) Do this check of the wiring between the P5-6 cabin pressure control module and the cabin pressure outflow valve V48:

1) Lower the forward overhead P5 panel.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect electrical connector D10724 from the cabin pressure control module.

4) Disconnect electrical connector D10732 from the electronic actuator 1.

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5) Do a wiring check between pin 27 of connector D10724 of the cabin pressure control module and pin L of connector D10732 of the elact 1.

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D10724 to the cabin pressure control module.

c) Close the forward overhead panel P5.

d) Reconnect electrical connector D10732 to the electronic actuator 1.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

(12) Do these steps for the fault detail PNL-OFV on Cabin Pressure Controller 2:

(a) Do this check of the wiring between the P5-6 cabin pressure control module and the cabin pressure outflow valve V48:

1) Lower the forward overhead P5 panel.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect electrical connector D10726 from the cabin pressure control module.

4) Disconnect electrical connector D10732 from the electronic actuator 1.

5) Do a wiring check between pin 31of connector D10726 of the cabin pressure control module and pin L of connector D10734 of elact 2.

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D10726 to the cabin pressure control module.

c) Close the P5 forward overhead panel.

d) Reconnect electrical connector D10732 to the electronic actuator 2.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

(13) Do these steps for the fault detail MNL MODE PNL CTR:

(a) Do this check of the wiring between the P5-6 cabin pressure control module in the flight deck and the M1653 cabin pressure controller 1 in the electronic equipment bay:

1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Lower the forward overhead P5 panel.

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3) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

4) Disconnect electrical connector D10724 from the cabin pressure control module.

5) Do a wiring check between pin 1 of connector D10724 of the cabin pressure control module and pin B3 of connector D10738B.

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D10724 to the cabin pressure control module.

c) Close the P5 forward overhead panel.

d) Reinstall the cabin pressure controller 1. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

f) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

(b) Do this check of the wiring between the P5-6 cabin pressure control module in the flight deck and the M1654 cabin pressure controller 2 in the electronic equipment bay:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Lower the P5 forward overhead panel.

3) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

4) Disconnect electrical connector D10726 from the cabin pressure control module.

5) Do a wiring check between pin 8 of connector D10726 of the cabin pressure control module and pin B3 of connector D10740B.

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D10726 to the cabin pressure control module.

c) Close the P5 forward overhead panel.

d) Reinstall the cabin pressure controller 2. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

f) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

805. Cabin Pressure Outflow Valve or Wiring - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) OFV OR WIRING

B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-22

(2) SSM 21-31-23

(3) WDM 21-31-22

(4) WDM 21-31-23

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

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(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do these steps if the maintenance message shows on Cabin Pressure Controller 1:

(a) Do this check of the wiring between cabin pressure controller 1, M1653 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 1. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10732 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10738A of cabin pressure controller 1 and connector D10732 of the cabin pressure outflow valve:

D10738A	D10732
pin A7	pin R
pin A8	pin P
pin A9	pin N
pin A10	pin M

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10732 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

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(3) Do these steps if the maintenance message shows on Cabin Pressure Controller 2:

(a) Do this check of the wiring between cabin pressure controller 2, M1654 in the electronic equipment bay and the cabin pressure outflow valve, V48:

1) Remove cabin pressure controller 2. To remove the controller, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

3) Disconnect connector D10734 from the cabin pressure outflow valve.

NOTE: Reach through the open valve gates to get access to the connector.

4) Do a wiring check between these pins of connector D10740A of cabin pressure controller 2 and connector D10734 of the cabin pressure outflow valve:

D10740A	D10734
pin A7	pin R
pin A8	pin P
pin A9	pin N
pin A10	pin M

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect connector D10734 to the cabin pressure outflow valve.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL

d) Re-install the cabin pressure controller. To install the controller, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

f) If the maintenance message does not show, then you corrected the fault.

g) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

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806. Air Data Inertial Reference Unit 1 Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) DADC #1 INVALID

B. Possible Causes

(1) Air data inertial reference unit (ADIRU) 1, M1749

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test on air data inertial reference unit (ADIRU) 1, M1749. To do the BITE test, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If the BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

2) If the maintenance message does not show, then you corrected the fault.

(b) If the BITE test does not show any maintenance messages, then continue.

(2) Do this check of the wiring between the cabin pressure controllers and ADIRU 1:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(c) Remove ADIRU 1. To remove ADIRU 1, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

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(d) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3687A of ADIRU 1:

D10738B	D3687A
pin A3	pin A9
pin A4	pin B9

D10740B	D3687A
pin A3	pin A9
pin A4	pin B9

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install ADIRU 1. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
3) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.
4) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.
6) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

807. Air Data Inertial Reference Unit 2 Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) DADC #2 INVALID

B. Possible Causes

(1) Air data inertial reference unit (ADIRU) 2, M1752

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

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D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test on air data inertial reference unit (ADIRU) 2, M1752. To do the BITE test, do this task: ADIRS BITE Procedure, 34-21 TASK 801.

(a) If the BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

2) If the maintenance message does not show, then you corrected the fault.

(b) If the BITE test does not show any maintenance messages, then continue.

(2) Do this check of the wiring between the cabin pressure controllers and ADIRU 2:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(c) Remove ADIRU 2. To remove ADIRU 2, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

(d) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3693A of ADIRU 2:

D10738B	D3693A
pin A9	pin A9
pin A10	pin B9

D10740B	D3693A
pin A9	pin A9
pin A10	pin B9

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install ADIRU 2. To install it, do this task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

3) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

4) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

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5) If the maintenance message does not show, then you corrected the fault.

6) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

808. Stall Management Yaw Damper Computer 1 Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SMC #1 INVALID

B. Possible Causes

(1) Stall management yaw damper computer (SMYD) 1, M1747

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test for stall management yaw damper computer (SMYD) 1, M1747. To do the BITE test, do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

(a) If the BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

2) If the maintenance message does not show, then you corrected the fault.

(b) If the BITE test does not show any maintenance messages, then continue.

(2) Do this check of the wiring between the cabin pressure controllers and SMYD 1:

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(a) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(b) Remove SMYD 1. To remove SMYD 1, do this task: Stall Management Yaw Damper (SMYD) Removal, AMM TASK 27-32-42-000-801.

(c) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3683A of SMYD 1:

D10738B	D3683A
pin A5	pin 95
pin A6	pin 94

D10740B	D3683A
pin A5	pin 95
pin A6	pin 94

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-install SMYD 1. To install it, do this task: Stall Management Yaw Damper (SMYD) Installation, AMM TASK 27-32-42-400-801.
3) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.
4) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.
6) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

809. Stall Management Yaw Damper Computer 2 Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SMC #2 INVALID

B. Possible Causes

(1) Stall management yaw damper computer (SMYD) 2, M1748

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test for stall management yaw damper computer (SMYD) 2, M1748. To do the BITE test, do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

(a) If the BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

2) If the maintenance message does not show, then you corrected the fault.

(b) If the BITE test does not show any maintenance messages, then continue.

(2) Do this check of the wiring between the cabin pressure controllers and SMYD 2:

(a) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(b) Remove SMYD 2. To remove SMYD 2, do this task: Stall Management Yaw Damper (SMYD) Removal, AMM TASK 27-32-42-000-801.

(c) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3685A of SMYD 2:

D10738B	D3685A
pin A13	pin 95
pin A14	pin 94

D10740B	D3685A
pin A13	pin 95
pin A14	pin 94

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install SMYD 2. To install it, do this task: Stall Management Yaw Damper (SMYD) Installation, AMM TASK 27-32-42-400-801.

3) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

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4) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

6) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

810. Engine Speed Input Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) N1/N2 LOWRU FAIL

B. Possible Causes

(1) Stall management yaw damper computer (SMYD), M1747 (SMYD-1) or M1748 (SMYD-2)

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test on stall management yaw damper computers (SMYD) 1 and 2, M1747 and M1748. To do the BITE test, do this task: Stall Management Yaw Damper BITE Procedure, 27-32 TASK 801.

(a) If the BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

2) If the maintenance message does not show, then you corrected the fault.

(b) If the BITE test does not show any maintenance messages, then continue.

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(2) Do this check of the wiring between the cabin pressure controllers and SMYD 1 and 2:

(a) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(b) Remove SMYD 1 and 2. To remove SMYD 1 and 2, do this task: Stall Management Yaw Damper (SMYD) Removal, AMM TASK 27-32-42-000-801.

(c) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3683A of SMYD 1:

D10738B	**D3683A**
pin A5	pin 95
pin A6	pin 94

D10740B	**D3683A**
pin A5	pin 95
pin A6	pin 94

(d) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connector D3685A of SMYD 2:

D10738B	**D3685A**
pin A13	pin 95
pin A14	pin 94

D10740B	**D3685A**
pin A13	pin 95
pin A14	pin 94

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-install SMYD 1 and 2. To install them, do this task: Stall Management Yaw Damper (SMYD) Installation, AMM TASK 27-32-42-400-801.

3) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

4) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

6) Close this access panel:

Number	**Name/Location**
117A	Electronic Equipment Access Door

END OF TASK

811. Manual Mode Control of Aft Outflow Valve Does Not Operate - Fault Isolation

A. Description

(1) The aft outflow valve cannot be moved towards open or closed using the manual toggle switch and with the cabin pressure mode select switch in MAN.

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B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Cabin pressure control module, P5-6

(3) Wiring problem

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-11)

(2) (WDM 21-31-11)

E. Initial Evaluation

(1) Put the cabin pressure mode select switch on the pressure control module to MAN.

(2) Put a person near the outflow valve located at the lower surface of the airplane near the aft entry door.

WARNING: MAKE SURE PERSONNEL ARE CLEAR OF THE AFT OUTFLOW VALVE WHEN YOU MOVE IT. IF PERSONNEL ARE NOT CLEAR OF THE OUTFLOW VALVE WHEN IT MOVES INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(3) Push and hold the manual control toggle switch to CLOSE.

(4) Speak to the person near the outflow valve to make sure that the outflow valve moved to the closed position.

(5) If the outflow valve moved to the closed position, push and hold the manual control toggle switch to OPEN.

(6) Speak to the person near the outflow valve to make sure that the outflow valve moved to the open position.

(7) If the outflow valve moved towards the closed position and the open position, then there was an intermittent fault.

(a) Make sure the mode selector switch on the cabin pressurization control panel, P5-6, is returned to the AUTO position.

(8) If the outflow valve does not move towards the closed position or the open position, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	3	C01270	PRESSURIZATION CONTROL AUTO 1

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

(2) Do this check for 48 VDC power to the DC manual motor as follows:

(a) Disconnect electrical connector D10730P from the manual DC motor.

NOTE: The P in D10730P refers to the connector plug (male connector) on the ship's wiring.

(b) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

(c) Do a check for 48 V DC at connector D10730P as follows:

1) Connect the red lead of a multimeter to pin A of D10730P and the black lead of the multimeter to pin B of D10730P.

2) Push and hold the manual control toggle switch to OPEN.

3) Make sure the multimeter indicates +48 VDC.

4) Push and hold the manual control toggle switch to CLOSE.

5) Make sure the multimeter indicates -48 VDC.

6) If the voltages are satisfactory, then continue.

(3) If the voltage checks were satisfactory, then do these checks;

(a) Examine connector D10730P/D10730J for bent or pushed back pins/sockets.

(b) Repair any problems that you find.

(c) If you did any wiring repair, then do the Repair Confirmation at the end of this task.

1) If the repair confirmation was not satisfactory, then continue.

(4) If the checks of the voltages and connector D10730 were satisfactory, then remove the defective valve and install a serviceable outflow valve as follows:

(a) Do this task to remove the outflow valve: Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801.

(b) Do this task to install a serviceable outflow valve: Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(5) If 48V DC is not available at pin A or B of connector D10730P, do these checks of the wiring between the cabin pressure control module and the aft outflow valve:

(a) Lower the P5-6 cabin pressure control module to get access to the connectors on the back of the module.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

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(c) Disconnect the D10724P electrical connector from the P5-6 cabin pressure control module.

(d) Do these continuity checks of the wiring between connectors D10724P and D10730P:

P5-6 Panel D10724	Outflow Valve V48 D10730
Pin 25	Pin A
Pin 24	Pin B

(e) Do a continuity check from pin 28 of connector D10724P to a ground.

(f) If the continuity checks are not satisfactory, then do these steps:

1) Repair any problems that you find.

2) Do the Repair Confirmation at the end of this task.

3) If the Repair Confirmation is not satisfactory, then continue.

(g) If the continuity checks are satisfactory, then continue.

(6) Do this check for 28 V DC power to the cabin pressure selector panel:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

(b) Lower the P5-6 cabin pressure control module to get access to the connectors on the back of the module.

(c) Disconnect the D10724P electrical connector from the P5-6 cabin pressure control module.

(d) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	6	C01269	PRESSURIZATION CONTROL MANUAL

(e) Do a check for 28V DC at pin 15 of connector D10724P on the ship's wiring.

(f) If 28V DC is not available at pin 15 of connector D10724P, repair wiring or fault isolate the power distribution system to the 28V DC battery bus section 2.

(g) If there was 28V DC at pin 15 of connector D10724P, replace the cabin pressure control module as follows:

1) Do this task to remove the cabin pressure control module: Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801.

2) Do this task to install a serviceable cabin pressure control module: Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

G. Repair Confirmation

(1) If applicable, reconnect all disconnected electrical connectors and close all circuit breakers that were opened.

(2) Do a test of the manual mode. To test the manual mode, do this task

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: Pressurization System Manual Mode Test, AMM TASK 21-31-00-710-801.

(3) Do a cabin pressure control system ground test. To do the ground test, do this task: Pressurization System Ground Test, AMM TASK 21-31-00-700-802.

——— END OF TASK ———

815. Aircraft Rate Too High - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ACFT RATE HI

(2) This maintenance message does not indicate a fault with the digital cabin pressurization control system.

B. Possible Causes

(1) The aircraft rate of climb or descent was too high.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (WDM 21-31-22)

(3) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(4) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(a) If there are no maintenance messages then there was an intermittent fault.

(b) If there are any maintenance messages, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) The problem was due to the aircraft making a climb or descent at too high a rate and is not a fault of the cabin pressure control system.

(a) Do these steps to clear the fault:

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do the System Test and Clear in the BITE test.

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(2) If the Digital Cabin Pressure Controller shows a Fault Code 30 in the history when performing the BITE check or if pilots report cabin altitude is above pressurization schedule during cruise, cabin altitude climbs during cruise, or cabin altitude climbs during initial descent, do the following.

(a) Verify the performance of the engine bleed system (Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801).

(b) Check the air conditioning pack air flow and the fuselage leakage rate (Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801).

(c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

——— END OF TASK ———

816. Hi Cabin Differential Pressure - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) CAB DIFF PRESS HI

B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

(3) Cabin altitude and differential pressure indicator (located on P5-16 panel)

(4) Flight altitude exceeded FLT ALT window setting

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (SSM 21-31-23)

(3) (WDM 21-31-22)

(4) (WDM 21-31-23)

(5) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(6) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

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AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(3) If there are no maintenance messages, then there was an intermittent fault.

(4) If the maintenance message shows, and there is an additional maintenance message, then do the Fault Isolation Procedure for the other maintenance message.

(5) If the maintenance message shows, and it is the only maintenance message, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the cabin pressure controller that has the maintenance message.

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(3) Replace the cabin altitude and differential pressure indicator as follows:

(a) Do these tasks: Cabin Altitude and Differential Pressure Indicator Removal, AMM TASK 21-33-02-000-801Cabin Altitude and Differential Pressure Indicator Installation, AMM TASK 21-33-02-400-801.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

a) If the maintenance message does not show, then you corrected the fault.

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b) If the maintenance message shows, do this task: Alternate Static System Low-range Leak Test, AMM TASK 34-11-00-790-808.

<1> Correct any problems that you find.

(4) Do this check to make sure the airplane did not exceed the altitude set into the FLT ALT window on the pressurization control panel:

(a) Find the flight leg when this maintenance message occurred.

(b) Do this task: Digital Cabin Pressure Controller NVM Download Procedure - Maintenance Practices, AMM TASK 21-31-00-970-802.

(c) If the controller download procedure shows that the airplane altitude for the flight leg was more than the FLT ALT setting, no further action is required.

END OF TASK

817. Hi Cabin Altitude - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) HI CAB ALT

B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (SSM 21-31-23)

(3) (WDM 21-31-22)

(4) (WDM 21-31-23)

(5) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(6) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

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AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(3) If there are no maintenance messages, then there was an intermittent fault.

(4) If the Digital Cabin Pressure Controller shows a Fault Code 30 in the history when performing the BITE check or if pilots report cabin altitude is above pressurization schedule during cruise, cabin altitude climbs during cruise, or cabin altitude climbs during initial descent, do the following.

(a) Verify the performance of the engine bleed system (Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801).

(b) Check the air conditioning pack air flow and the fuselage leakage rate (Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801).

(c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(5) If the maintenance message shows, and there is an additional maintenance message, then do the Fault Isolation Procedure for the other maintenance message.

(6) If the maintenance message shows, and it is the only maintenance message, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the cabin pressure controller that has the maintenance message.

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

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1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

818. Hi Cabin Altitude Rate Change - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) CAB RATE HI

B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (SSM 21-31-23)

(3) (WDM 21-31-22)

(4) (WDM 21-31-23)

(5) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(6) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

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(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(3) If there are no maintenance messages, then there was an intermittent fault.

(4) If the Digital Cabin Pressure Controller shows a Fault Code 30 in the history when performing the BITE check or if pilots report cabin altitude is above pressurization schedule during cruise, cabin altitude climbs during cruise, or cabin altitude climbs during initial descent, do the following.

(a) Verify the performance of the engine bleed system (Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801).

(b) Check the air conditioning pack air flow and the fuselage leakage rate (Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801).

(c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(5) If the maintenance message shows, and there is an additional maintenance message, then do the Fault Isolation Procedure for the other maintenance message.

(6) If the maintenance message shows, and it is the only maintenance message, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the cabin pressure controller that has the maintenance message.

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

819. Drive Enable Signal Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) DRV ENBL ERROR

B. Possible Causes

(1) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (WDM 21-31-22)

E. Initial Evaluation

AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do the BITE test on both cabin pressure controllers.

(3) If the maintenance message does not show, then there was an intermittent fault.

(4) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure controller in the aft EE bay the shows a controller fault.

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do the BITE test on both controllers.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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820. Cabin Pressure Outflow Valve Altitude Switch Activity - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) CAB PRESS SW ACTIV

B. Possible Causes

(1) Cabin pressure outflow valve, V48

(2) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-22)

(2) (SSM 21-31-23)

(3) (WDM 21-31-22)

(4) (WDM 21-31-23)

(5) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(6) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(3) If there are no maintenance messages, then there was an intermittent fault.

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(4) If the Digital Cabin Pressure Controller shows a Fault Code 30 in the history when performing the BITE check or if pilots report cabin altitude is above pressurization schedule during cruise, cabin altitude climbs during cruise, or cabin altitude climbs during initial descent, do the following.

(a) Verify the performance of the engine bleed system (Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801).

(b) Check the air conditioning pack air flow and the fuselage leakage rate (Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801).

(c) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(5) If the maintenance message shows, and there is an additional maintenance message, then do the Fault Isolation Procedure for the other maintenance message.

(6) If the maintenance message shows, and it is the only maintenance message, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure outflow valve.

These are the tasks:

Aft Outflow Valve Assembly Removal, AMM TASK 21-31-03-000-801,

Aft Outflow Valve Assembly Installation, AMM TASK 21-31-03-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the cabin pressure controller that has the maintenance message.

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

821. Auto Manual Input to Controller Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) AUTO/MAN ERROR

B. Possible Causes

(1) Cabin pressure control module, P5-6

(2) Wiring problem

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-11)

(2) (WDM 21-31-11)

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure control module.

These are the tasks:

Cabin Pressure Control Module Removal, AMM TASK 21-31-02-000-801,

Cabin Pressure Control Module Installation, AMM TASK 21-31-02-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between cabin pressure controllers 1 and 2, M1653 and M1654, in the electronic equipment bay and the cabin pressure control module, P5-6 in the control compartment:

(a) Remove cabin pressure controller 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(b) Lower the overhead P5 panel.

(c) Disconnect connector D10724 and D10726 from the cabin pressure control module.

(d) Do a wiring check between these pins of connector D10724 of the cabin pressure control module and connectors D10738B and D10740B of cabin pressure controllers 1 and 2:

D10724	**D10738B**
pin 1	pin B3

D10726	**D10740B**
pin 8	pin B3

(e) Repair the problem that you find.

(f) Re-connect connector D10724 and D10726 to the cabin pressure control module.

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(g) Lift (close) the overhead P5 panel.

(h) Re-install cabin pressure controllers 1 and 2. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(i) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

822. Wheels On Ground Disagreement Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) LDG GEAR DISAGREE

B. Possible Causes

(1) Proximity switch electronics unit (PSEU), M2061

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-31-24)

(2) (WDM 21-31-24)

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test for the proximity switch electronics unit (PSEU), M2061. To do the BITE test, do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.

(a) If the PSEU BITE test shows any maintenance messages, then do the corrective action for the message.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

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2) If the maintenance message does not show, then you corrected the fault.

(b) If the PSEU BITE test does not show any maintenance messages, then continue.

(2) Do this check of the wiring between cabin pressure controllers 1 and 2 and the PSEU:

(a) Remove cabin pressure controllers 1 and 2. To remove the controllers, do this task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

(b) Open this access panel:

Number	Name/Location
112A	Forward Access Door

(c) Do a wiring check between these pins of connectors D10738B and D10740B of cabin pressure controllers 1 and 2 and connectors D11138 and D10988 of the PSEU:

D10738B	**D11138**
pin B1	pin 12
D10738B	**D10988**
pin B4	pin 12
D10740B	**D11138**
pin B1	pin 12
D10740B	**D10988**
pin B4	pin 12

(d) Repair the problem with the wiring that you find.

(e) Close this access panel:

Number	Name/Location
112A	Forward Access Door

(f) Re-install the cabin pressure controllers. To install the controllers, do this task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(g) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(h) If the maintenance message does not show, then you corrected the fault.

Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

823. Low Pack Air Inflow Or Airplane Cabin Leak Problem - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) LO INFL/HI LEAKG

(2) This maintenance message does not indicate a fault with the digital cabin pressurization control system.

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B. Possible Causes

(1) Low pneumatic pressure

(2) Pack flow control and shutoff valve, V18 (L) or V19 (R)

(3) Low limit temperature (35°F) sensor

(4) Air Cycle Machine

(5) Airplane cabin leak

(a) Cargo door seal failure at high differential pressure

NOTE: This may not be detected during a leak test procedure as the differential pressure is not high enough.

(6) Flexible duct

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) (SSM 21-51-11)

(2) (WDM 21-51-11)

(3) Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801

(4) Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801

E. Initial Evaluation

(1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the Digital Cabin Pressure Controller shows a Fault Code 30 in the history when performing the BITE check or if pilots report cabin altitude is above pressurization schedule during cruise, cabin altitude climbs during cruise, or cabin altitude climbs during initial descent, do the following:

(a) Do a check of the airplane's ability to maintain cabin pressure in flight. To do the check, do this task: Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801.

(b) If the check was not satisfactory, do this fault isolation procedure:Airplane Cannot Maintain Cabin Pressure On a Single Pack Within Specified Limits - Fault Isolation, 21-00 TASK 807.

(c) Verify the performance of the engine bleed system (Engine Bleed Air System Health Check, AMM TASK 36-11-00-700-801).

(d) Check the air conditioning pack air flow and the fuselage leakage rate (Airplane Dispatch with Single Pack Operation - Confidence Check, AMM TASK 21-00-05-780-801).

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1) If a pressurization problem occurs during flight (high cabin altitude), inspect the cargo door seals before the doors are opened after landing.

a) The seal may have deformed in flight. This may not be detected if the seal is inspected after the door is opened as the seal may return to its installed position when the door is opened.

2) This may not show during the check of AMM Task 21-00-05-780-801 as the differential pressure during the check may not be high enough.

(e) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(f) Inspect the condition of the flexible duct between the HPWS mix muff and the HPWS condenser:

1) Do the applicable step of this task to inspect the flexible duct: Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002.

2) Replace the flexible duct if the duct fails the inspection.

(4) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Check to see if there was a report of low pneumatic duct pressure.

(a) If there was a report of low duct pressure, do this task: Duct Pressure Low, the Engine is the Bleed Source - Fault Isolation, 36-10 TASK 804.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do this step to clear the fault.

(b) If there was not a report of low duct pressure, then continue.

(2) Do a check of the air conditioning packs for proper flow. To check the packs, do this task: Pack Flow Control Valve - Operational Test, AMM TASK 21-51-00-700-802 or Pack Flow Control Valve - Operational Test, AMM TASK 21-51-00-710-801.

(a) If a pack flow control and shutoff valve does not operate correctly, replace the valve.

These are the tasks:

Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-805-002 or Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-807-003,

Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-805-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-802-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-806-003 or Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003.

(b) Make sure that air flows from the ram air exhaust outlets when the packs are in operation.

1) If air does not flow from the ram air exhaust outlet for a pack, then replace the air cycle machine.

a) These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

2) If air flows from the ram air exhaust outlet, then continue.

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3) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do this step to clear the fault.

(c) If the pack flow control and shutoff valves operate correctly, then continue.

(3) Do this task: Cargo Door Adjustment, AMM TASK 52-31-00-820-801.

(4) Do a check of the airplane cabin for leaks. To check the airplane cabin, do this task: Cabin Pressure Leak Test, AMM TASK 05-51-91-790-801.

(a) Repair the source of the leak that you find.

1) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

NOTE: Do this step to clear the fault.

END OF TASK

824. Cabin Pressure Controller Fail - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) CONTRLR LRU FAIL

B. Possible Causes

(1) Cabin pressure controller, M1653 (No. 1) or M1654 (No. 2)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	6	C01269	PRESSURIZATION CONTROL MANUAL
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) SSM 21-31-24

(2) WDM 21-31-24

E. Initial Evaluation

AKS ALL; AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01AA/01AB/01AC/01BA

(1) Visually inspect the copper tape on the outside edges of the cabin pressure controller as follows:

(a) Make sure that the copper tape extends onto the front outer edges of the pressure controller 1.5 to 2.2 mm.

(b) Make sure that there are no cracks, holes or dents in the tape.

(c) Make sure that the tape is smoothly attached to the face of the controller.

(d) Make sure that there are no openings into the controller where the controller front cover connects with the controller sides.

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(e) Replace the controller with a serviceable controller if you find one or more of these defects.

AKS ALL

(2) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(3) If the maintenance message does not show, then there was an intermittent fault.

(4) If the BITE has shown occasional occurrences of fault code 42, perform the SYSTEM TEST on the ground:

(a) If the SYSTEM TEST status is satisfactory, the pressure controller does not need to be replaced.

(5) If the BITE has shown frequent occurrences of Fault Code 42 within a short time interval such as once per flight leg, replace the controller as follows:

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(6) For occurrences of Fault Code 42 on part number controllers 7121-19971-AA or 7121-19971-AB, it is recommended that the software be upgraded to “AC” as directed by Nord-Micro Service Bulletin SB 19971-21-006.

(7) If the BITE has shown occurrences of Fault Code 43 on the ground or during testing, perform the SYSTEM TEST or SYSTEM TEST and CLEAR to do a check of the system health status:

(a) If the SYSTEM TEST or SYSTEM TEST and CLEAR is satisfactory, the pressure controller does not need to be replaced.

(8) If the BITE has shown frequent occurrences of Fault Code 43, replace the pressure controller as follows:

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(9) If the BITE has shown occasional occurrences of Fault Code 57 on the ground or during testing, perform the SYSTEM TEST or SYSTEM TEST and CLEAR to do a check of the system health status:

(a) If the SYSTEM TEST or SYSTEM TEST and CLEAR is satisfactory, the pressure controller does not need to be replaced.

(10) If the BITE has shown frequent occurrences of Fault Code 57 within a short time interval such as once per flight leg, replace the pressure controller as follows:

These are the tasks:

Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(11) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the cabin pressure controller in the aft EE bay.

These are the tasks:

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Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801,

Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

(a) Do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

827. AUTO FAIL Light On - Fault Isolation

A. Description

(1) These are the indications that one channel is not serviceable when the system is in the automatic mode:

(a) The amber AUTO FAIL light comes on

(b) The MASTER CAUTION and AIR COND lights come on

(c) The green ALTN light comes on.

B. Possible Causes

(1) Pressure Controller Fault, M1653 and M1654

(2) Outflow Valve Fault, V48

(3) Cabin Pressure Selector Panel Fault, P5-6

(4) Wiring

(5) Aircraft Operation Beyond DCPC Limits Parameters

C. Circuit Breakers

(1) Circuit Breakers

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
F	1	C01273	PRESSURIZATION CONTROL LCD LTG
F	3	C01270	PRESSURIZATION CONTROL AUTO 1
F	5	C01271	PRESSURIZATION CONTROL AUTO 2
F	7	C01272	PRESSURIZATION CONTROL IND

D. Related Data

(1) WDM 21-31-22

(2) WDM 21-31-23

E. Initial Evaluation

(1) Examine the circuit breakers shown in the circuit breaker topic to make sure that no circuit breaker is open.

(2) If you find an open circuit breaker, reset the circuit breaker. To reset the circuit breaker, do this task: Circuit Breaker Reset, AMM TASK 20-60-01-860-801.

(a) The reset procedure does checks to find the cause of the tripped circuit breaker. You must not reset a circuit breaker until you know the cause it tripped.

(3) Examine the display window on each of the cabin pressure controllers.

(4) If FAULT shows in the display window, do the DCPC BITE. To do the BITE, do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

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(5) Make a record of BCM fault numbers shown in the cabin pressure controller BITE:

(a) All the fault numbers shown in the steps that follow in this subtask will cause an AUTO FAIL indication.

(b) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01XX:

Fault numbers 19, 24 and 25 together in IBIT, 032 through 052, 56, 57, 59 through 61, 91 and 108 through 110 show problems with the pressure controllers, M1653 and M1654.

1) Do the Fault Isolation Procedure - Maintenance Message CONTRLR LRU FAIL for these fault numbers.

(c) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 21933-01XX:

Fault numbers 19, 24 and 25 together in IBIT, 33 through 35, 37 through 45, 47 through 50, 52, 56, 57, 59 through 61, 108, 109 and 110 show problems with the pressure controllers, M1653 and M1654.

1) Do the Fault Isolation Procedure - Maintenance Message CONTRLR LRU FAIL for these fault numbers.

(d) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01XX:

Fault numbers 7, 9, 10, 11, 019, 064 through 069, 072 through 080, 083, 087, 088, 091 and 092 show problems with the aft outflow valve

1) Do the Fault Isolation Procedure - OFV LRU FAIL Maintenance Message for these fault numbers.

(e) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 21933-01XX:

Fault numbers 7, 9, 10, 11, 15, 19, 64, 65, 68, 69, 72-80, 80, 83, 87, 88 and 92 show problems with the aft outflow valve.

1) Do the Fault Isolation Procedure - OFV LRU FAIL Maintenance Message for these fault numbers.

(f) Fault number 107 shows problems with the pressure control panel.

1) Do the Fault Isolation Procedure - SEL PNL LRU FAIL Maintenance Message for these fault numbers.

(g) Fault numbers 15 and 74 show problems with the outflow valve or wires between the valve and the controller.

1) Do the Fault Isolation Procedure - OFV OR WIRING Maintenance Message for these fault numbers.

(h) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 7121-19971-01XX:

Fault numbers 1, 2, 6, 13, 14, 15 and 110 show problems with system wire runs.

1) Do the Fault Isolation Procedure - SYSTEM WIRING Maintenance Message for these fault numbers.

(i) AIRPLANES WITH CABIN PRESSURE CONTROLLERS P/N 21933-01XX:

Fault numbers 1, 2, 6, 13, 14, 15, 108 and 110 show problems with system wire runs.

1) Do the Fault Isolation Procedure - SYSTEM WIRING Maintenance Message for these fault numbers.

(j) Fault number 3 shows a problem with the cabin altitude.

1) Do the Fault Isolation Procedure - HI CAB ALT Maintenance Message.

(k) Fault number 4 shows a problem with the cabin differential pressure.

1) Do the Fault Isolation Procedure - CAB DIFF PRESS HI Maintenance Message.

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(l) Fault number 5 shows a problem with the controllers or the outflow valve.

1) Do the Fault Isolation Procedure - CAB RATE HI Maintenance Message.

(m) Fault number 109 shows a problem with the controllers.

1) Do the Fault Isolation Procedure - DRV ENBL ERROR Maintenance Message.

(n) Fault numbers 024 and 025 will cause an AUTO FAIL indication only if triggered together during IBIT. This fault number combination shows problems with the DADC #1 and DADC #2.

1) Do the Fault Isolation Procedure - DADC #1 INVALID Maintenance Message.

2) Do the Fault Isolation Procedure - DADC #2 INVALID Maintenance Message.

F. Fault Isolation Procedure - CONTRLR LRU FAIL Maintenance Message

(1) Do this task: Cabin Pressure Controller Fail - Fault Isolation, 21-31 TASK 824.

(2) Do the Repair Confirmation at the end of this procedure.

G. Fault Isolation Procedure - OFV LRU FAIL Maintenance Message

(1) Do this task: Cabin Pressure Outflow Valve Fail - Fault Isolation, 21-31 TASK 802.

(2) Do the Repair Confirmation at the end of this procedure.

H. Fault Isolation Procedure - SEL PNL LRU FAIL Maintenance Message

(1) Do this task: Cabin Pressure Control Module Display Faults - Fault Isolation, 21-31 TASK 803.

(2) Do the Repair Confirmation at the end of this procedure.

I. Fault Isolation Procedure - SYSTEM WIRING Maintenance Message

(1) Do this task: System Wiring Failure - Fault Isolation, 21-31 TASK 804.

(2) Do the Repair Confirmation at the end of this procedure.

J. Fault Isolation Procedure- HI CAB ALT Maintenance Message

(1) Do this task: Hi Cabin Altitude - Fault Isolation, 21-31 TASK 817.

(2) Do the Repair Confirmation at the end of this procedure.

K. Fault Isolation Procedure - CAB RATE HI Maintenance Message

(1) Do this task: Hi Cabin Altitude - Fault Isolation, 21-31 TASK 817.

(2) Do the Repair Confirmation at the end of this procedure.

L. Fault Isolation Procedure - CAB DIFF PRESS HI Maintenance Message

(1) Do this task: Hi Cabin Differential Pressure - Fault Isolation, 21-31 TASK 816.

(2) Do the Repair Confirmation at the end of this procedure.

M. Fault Isolation Procedure - DRV ENBL ERROR Maintenance Message

(1) Do this task: Drive Enable Signal Problem - Fault Isolation, 21-31 TASK 819.

(2) Do the Repair Confirmation at the end of this procedure.

N. Fault Isolation Procedure - CAB RATE HI Maintenance Message

(1) Do this task: Hi Cabin Altitude Rate Change - Fault Isolation, 21-31 TASK 818.

(2) Do the Repair Confirmation at the end of this procedure.

O. Fault Isolation Procedure - OFV OR WIRING Maintenance Message

(1) Do this task: Cabin Pressure Outflow Valve or Wiring - Fault Isolation, 21-31 TASK 805.

(2) Do the Repair Confirmation at the end of this procedure.

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P. Fault Isolation Procedure - DADC #1 INVALID Maintenance Message

(1) Do this task: Air Data Inertial Reference Unit 1 Input Problem - Fault Isolation, 21-31 TASK 806.

(2) Do the Repair Confirmation at the end of this procedure.

Q. Fault Isolation Procedure - DADC #2 INVALID Maintenance Message

(1) Do this task: Air Data Inertial Reference Unit 2 Input Problem - Fault Isolation, 21-31 TASK 807.

(2) Do the Repair Confirmation at the end of this procedure.

R. Repair Confirmation

(1) If not already done, do the DCPC BITE. To do the BITE, do this task: Digital Cabin Pressure Controller (DCPC) BITE Procedure, 21-31 TASK 801.

(a) If these conditions are present, then you corrected the fault:

1) No maintenance message or fault codes are present

2) AUTO FAIL light is off.

END OF TASK

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801. Cabin Altitude Warning System Does Not Operate - Fault Isolation

A. General

B. Description

(1) The aural warning does not operate as expected when the cabin altitude is more than 10,000 feet (3048 meters).

(2) The CABIN ALTITUDE indicators on the captains's instrument panel P1-3 and the first officers's instrument panel P3-1 do not come on when the cabin altitude is more than 10,000 feet (3048 meters).

(3) SDS 21–33–00

C. Possible Causes

(1) Cabin altitude warning switch, S128

(2) Cabin altitude warning switch, S1153

(3) Warning cutout relay, K1, on the P5-16 panel

(4) Altitude horn cutout switch, S1, on the P5-16 panel

(5) CABIN ALTITUDE indicator(s) located on panels P1-3 and P3-1

(6) Wiring.

D. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-3

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

E. Related Data

(1) (SSM 21-33-11)

(2) (WDM 21-33-11)

F. Initial Evaluation

(1) Do an operational test of the cabin altitude warning system. To do this, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

(a) If the operational test is not satisfactory, then do the Fault Isolation Procedure below.

(b) If the operational test is satisfactory, then there was an intermittent fault.

G. Aural Warning Fault Isolation Procedure

(1) Replace the cabin altitude warning switch, S128.

These are the tasks:

Cabin Altitude Warning Switch Removal, AMM TASK 21-33-04-000-801,

Cabin Altitude Warning Switch Installation, AMM TASK 21-33-04-400-801.

(a) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

(b) If the operational test is satisfactory, then you corrected the fault.

(c) If the operational test is not satisfactory, then continue.

(2) Replace the cabin altitude warning switch, S1153.

These are the tasks:

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Cabin Altitude Warning Switch Removal, AMM TASK 21-33-04-000-801,

Cabin Altitude Warning Switch Installation, AMM TASK 21-33-04-400-801.

(a) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

(b) If the operational test is satisfactory, then you corrected the fault.

(c) If the operational test is not satisfactory, then continue.

(3) Replace the warning cutout relay, K1.

(a) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

(b) If the operational test is satisfactory, then you corrected the fault.

(c) If the operational test is not satisfactory, then continue.

(4) Replace the altitude horn cutout switch, S1.

(a) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801, .

(b) If the operational test is satisfactory, then you corrected the fault.

(c) If the operational test is not satisfactory, then continue.

(5) Do these checks of the wiring for a fault with the aural warning:

(a) Lower the P5 overhead panel to get access to the electrical connector on the back of the P5-16 panel.

(b) Disconnect the electrical connector, D654, from the P5-16, cabin altitude and rate of climb module.

(c) Do a check for 28 VDC at connector D654 from pin 8 to structure ground.

(d) If there is not 28 VDC from pin 8 to structure ground on connector D654, then do these steps:

1) Repair the wiring from pin 8 on connector D654 to circuit breaker C129, LANDING GEAR LATCH & PRESS WARN.

2) Re-connect electrical connector D654 on the P5-16 panel.

3) Close the P5 overhead panel.

4) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

5) If the operational test is satisfactory, then you corrected the fault.

(e) If there is 28 VDC from pin 8 on connector D654 to structure ground, then continue.

(f) Do a check for 28 VDC at connector D654 from pin 6 to structure ground.

(g) If there is not 28 VDC from pin 6 to structure ground on connector D654, then do these steps:

1) Repair the wiring from pin 6 on connector D654 to the aural warning module, M315.

2) Re-connect electrical connector D654 on the P5-16 panel.

3) Close the P5 overhead panel.

4) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

5) If the operational test is satisfactory, then you corrected the fault.

(h) If there is 28 VDC from pin 6 on connector D654 to structure ground, then continue.

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(i) Disconnect connector D776 from the cabin altitude warning switch, S128.

(j) Disconnect connector D14284 from the cabin altitude warning switch, S1153.

(k) Do a continuity check between this pin of connector D654 at the P5-16 panel, and this pin of connector D776 at the cabin altitude warning switch, S128:

D654		**D776**
pin 7	. . . . .	pin A

(l) Do a continuity check between this pin of connector D654 at the P5-16 panel, and this pin of connector D14284 at the cabin altitude warning switch, S1153:

D654		**D14284**
7	. . . . .	A

(m) If there is not continuity from pin 7 on connector D654 to pin A on connector D776, then do these steps:

1) Repair the wiring.
2) Re-connect electrical connector D776 on the cabin altitude warning switch, S128.
3) Re-connect electrical connector D654 on the P5-16 panel.
4) Close the P5 Overhead Panel.
5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.
6) If the operational test is satisfactory, then you corrected the fault.

(n) If there is not continuity from pin 7 on connector D654 to pin A on connector D14284, then do these steps:

1) Repair the wiring.
2) Re-connect electrical connector D14284 on the cabin altitude warning switch, S1153.
3) Re-connect electrical connector D654 on the P5-16 panel.
4) Close the P5 Overhead Panel.
5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.
6) If the operational test is satisfactory, then you corrected the fault.

(o) If there is continuity from pin 7 on connector D654 to pin A on connector D776, then continue.

(p) If there is continuity from pin 7 on connector D654 to pin A on connector D14284, then continue.

(q) Do a continuity check between pin B of connector D776 at the cabin altitude warning switch, S128 and structure ground.

(r) Do a continuity check between pin B of connector D14284 at the cabin altitude warning switch S1153 and structure ground.

(s) If there is not continuity from pin B on connector D776 to structure ground on connector D776, then do these steps:

1) Repair the wiring.
2) Re-connect electrical connector D776 on the cabin altitude warning switch, S128.

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3) Re-connect electrical connector D654 on the P5-16 panel.

4) Close the P5 Overhead Panel.

5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

6) If the operational test is satisfactory, then you corrected the fault.

(t) If there is not continuity from pin B on connector D14284 to structure ground, then do these steps:

1) Repair the wiring.

2) Re-connect electrical connector D14284 on the cabin altitude warning switch, S1153.

3) Re-connect electrical connector D654 on the P5-16 panel.

4) Close the P5 Overhead Panel.

5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

6) If the operational test is satisfactory, then you corrected the fault.

(u) If there is continuity from pin B on connector D776 to structure ground on connector D776, then continue:

1) Replace the cabin altimeter and rate of climb module, P5-16.

2) Re-connect electrical connector D776 on the cabin altitude warning switch, S128.

3) Re-connect electrical connector D654 on the P5-16 panel.

4) Close the P5 Overhead Panel.

5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

6) If the operational test is satisfactory, then you corrected the fault.

(v) If there is continuity from pin B on connector D14284 to structure ground, then continue:

1) Replace the cabin altimeter and rate of climb module, P5-16.

2) Re-connect electrical connector D14284 on the cabin altitude switch, S1153.

3) Re-connect electrical connector D654 on the P5-16 panel.

4) Close the P5 Overhead Panel.

5) Do the operational test of the cabin altitude warning system. To do this test, do this task: Cabin Altitude Warning Switch Functional Test, AMM TASK 21-33-00-000-801.

6) If the operational test is satisfactory, then you corrected the fault.

(w) Re-connect electrical connector D14284 on the cabin altitude warning switch S1153.

(6) Do these checks of the wiring for a fault with the CABIN ALTITUDE indicators:

(a) Make sure these circuit breakers are closed:

Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT
E	12	C00314	INDICATOR MASTER DIM SECT 2

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(Continued)

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	12	C00318	INDICATOR MASTER DIM SECT 6

(b) Set the LIGHTS switch on the captain's instrument panel P1-3 to the TEST position.

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

(d) If a CABIN ALTITUDE indicator lamp does not come on, do the applicable portion of this fault isolation task:

1) Flight Compartment Lighting Problem - Fault Isolation, 33-10 TASK 801

NOTE: This fault isolation task does a check of the MASTER DIM & TEST system and makes sure that 28 VDC is at the indicator.

2) Do the Repair Confirmation at the end of this procedure.

(e) If the CABIN ALTITUDE indicators came on, then do these steps:

1) Get access to the back of the captain's instrument panel P1-3 or the back of the first officer's instrument panel P3-1, as applicable.

2) Disconnect electrical connector D3999 from the P3-1 panel or electrical connector D895 from the P1-3 panel, as applicable.

(f) Get access to the cabin pressure switch, S128, on the ceiling in the lower compartment forward of the nose landing gear.

(g) Disconnect electrical connector D776 from the cabin pressure switch.

(h) If the faulty indicator is on the P1-3 panel, do a check of the wiring between electrical connector D895, pin 13 and connector D776, pin A.

1) Repair any wiring problems that you find.

(i) If the faulty indicator is on the P3-1 panel, do a check of the wiring between connector D3999, pin 17 and connector D776, pin A .

1) Repair any wiring problems that you find.

(j) Connect all connectors that were disconnected.

(k) Do the Repair Confirmation at the end of this procedure.

END OF TASK

802. CABIN RATE OF CLIMB Indicator Problem - Fault Isolation

A. Description

(1) The cabin rate of climb indicator should respond to rate changes in cabin pressure altitude during ascent or descent in rate of change (feet per minute).

(a) The gauge does not indicate zero while on the ground with one of the entry doors open to make sure the cabin is not pressurized.

B. Possible Causes

(1) Cabin rate of climb indicator, N55

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C. Fault Isolation Procedure

(1) If the cabin rate of climb indicator needle is indicating a value other than zero (0) when the airplane is on the ground, then do this check:

(a) Make sure that one of the entry doors has been open for more than 5 minutes so that the cabin is not pressurized.

(b) Turn the zero adjustment screw on the lower left corner of the gauge and make sure that the pointer can be adjusted to a minimum of 400 ft/min on both sides of the zero graduation.

(c) Reset the pointer to zero.

(2) If the check of the cabin rate of climb indicator does not repair the fault, replace the cabin rate of climb indicator:

These are the tasks:

Cabin Rate of Climb Indicator Removal, AMM TASK 21-33-01-000-801,

Cabin Rate of Climb Indicator Installation, AMM TASK 21-33-01-400-801.

——— END OF TASK ———

803. Cabin Altitude and Differential Pressure Indicator Indicates High Cabin Pressure Differential and Low Cabin Altitude - Fault Isolation

A. Description

(1) The gauges do not indicate as normally expected. For example, see below:

(a) The cabin altitude gauge indicates 6000 feet while at cruise altitude of FL 370.

NOTE: Expected cabin altitude at cruise would be about 8000 feet.

(b) The cabin differential pressure gauge indicates in the amber arc and does not decrease as the cabin altitude decreases.

(c) Both gauges do not indicate as expected for the altitude.

B. Possible Causes

(1) Cabin Altitude and Differential Pressure Indicator

C. Initial Evaluation

(1) Open one the main entry doors to make sure the airplane is not pressurized.

(2) Do this check of the cabin altimeter gauge on the P5-16 cabin pressure control panel:

(a) Set the barometric pressure for the pilot's altimeter to 29.92 inches of Hg.

(b) Observe the altitude on the pilot's altimeter.

(c) Compare the altitude on the pilot's altimeter to the altitude on the cabin altimeter.

(d) If the cabin altitude is within 1000 feet of the pilot's altimeter, the cabin altimeter is satisfactory.

(e) If the cabin altitude is not within 1000 feet of the pilot's altimeter, go to the Fault Isolation procedure.

(3) Do this check of the cabin differential pressure gauge on the P5-16 cabin pressure control panel:

(a) Observe the differential pressure on the DIFF PRESS gauge.

(b) If the differential pressure is 0 (+/- 0.2) psid, the indicator is satisfactory.

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(c) If the differential pressure is greater than 0 (+/- 0.2) psid, go to the Fault Isolation procedure..

D. Fault Isolation Procedure

(1) If the cabin altitude is not within 1000 feet of the pilot's altimeter, replace the cabin altitude and differential pressure indicator. To replace the indicator, do these tasks: Cabin Altitude and Differential Pressure Indicator Removal, AMM TASK 21-33-02-000-801 and Cabin Altitude and Differential Pressure Indicator Installation, AMM TASK 21-33-02-400-801.

(2) If the differential pressure is greater than 0 (+/- 0.2) psid, replace the cabin altitude and differential pressure indicator. To replace the indicator, do these tasks: Cabin Altitude and Differential Pressure Indicator Removal, AMM TASK 21-33-02-000-801 and Cabin Altitude and Differential Pressure Indicator Installation, AMM TASK 21-33-02-400-801.

——— END OF TASK ———

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801. Door Area Heater Does Not Operate - Fault Isolation

A. Description

(1) One of the door area heaters does not operate as expected.

(2) (SDS SUBJECT 21-45-00)

B. Possible Causes

(1) Door area heater, M1708 (forward) or M1681 (aft)

(2) Door area heater power relay, R560

(3) Wiring

(4) Sys 1 air/gnd relay, R593

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	11	C01274	AIR CONDITIONING DOOR AREA HEAT CONT

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
D	7	C01279	DOOR AREA HTR-AFT
D	9	C01280	DOOR AREA HTR-FWD

D. Related Data

(1) (SSM 21-42-11)

(2) (WDM 21-42-11)

E. Initial Evaluation

(1) AIRPLANES WITH CAB/UTIL SWITCH ON THE P5-13 PANEL;

Make sure that the CAB/UTIL switch on the P5-13 panel is set to the ON position.

(2) Do an operational test of the two door area heaters. To do this, do this task: Door Area Heater Operational Test, AMM TASK 21-45-00-700-802.

(a) If the operational test is not satisfactory for one of the door area heaters, then do the Fault Isolation Procedure - One Door Area Heater Does Not Operate.

(b) If the operational test is not satisfactory for the two door area heaters, then do the Fault Isolation Procedure - Both Door Area Heaters Do Not Operate.

(c) If the operational test is satisfactory, then there was an intermittent fault.

F. Fault Isolation Procedure - One Door Area Heater Does Not Operate

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to one of these possible causes:

- forward or aft door area heater
- door area heater power relay
- wiring

(1) Replace the applicable door area heater, M1708 (forward) or M1681 (aft).

(a) Do the Repair Confirmation at the end of this task.

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(b) If the Repair Confirmation is not satisfactory, then continue.

(2) Replace the door area heater power relay, R560:

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Do these checks of the wiring:

(a) Make sure conditioned air is supplied through one of the packs. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Make sure the airplane is in air mode. To do this, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(c) FOR A FAULT WITH THE FORWARD DOOR AREA HEATER, M1708, do these steps:

1) Remove the door area heater power relay, R560.

2) Do a check for 200 VAC (phase-to-phase) on connector D10882 from pin A2 to pin B2.

3) Do a continuity check between these pins of connector D10882 in the P91 panel and these pins of connector D10884 on the forward door area heater:

D10882	D10884
pin A1	pin 1
pin B1	pin 3

(d) FOR A FAULT WITH THE AFT DOOR AREA HEATER, M1681, do these steps:

1) Remove the door area heater power relay, R560.

2) Do a check for 200 VAC (phase-to-phase) on connector D10882 from pin C2 to pin D2.

3) Do a continuity check between these pins of connector D10882 in the P91 panel and these pins of connector D10770 on the aft door area heater:

D10882	D10770
pin C1	pin 2
pin C1	pin 3
pin D1	pin 1

(e) Repair the wiring.

(f) Re-install the door area heater power relay, R560.

(g) Re-connect connector D10884 or D10770.

(h) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Both Door Area Heaters Do Not Operate

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to one of these possible causes:

- door area heater power relay
- wiring
- air/gnd relay

(1) Replace the door area heater power relay, R560.

(a) Do the Repair Confirmation at the end of this task.

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(b) If the Repair Confirmation is not satisfactory, then continue.

(2) Do these checks of the wiring and the air/gnd relay, R593:

(a) Make sure conditioned air is supplied through one of the packs. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Make sure the airplane is in air mode. To do this, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(c) Remove the door area heater power relay, R560.

(d) Do a check for 28 VDC on connector D10882 from pin X1 to structure ground.

(e) If there is not 28 VDC from pin X1 on connector D10882 to structure ground, then do these steps:

1) Repair the wiring from pin X1 on connector D10882 to circuit breaker C1274, AIR CONDITIONING DOOR AREA HEAT CONTROL.

2) Re-install the door area heater power relay, R560.

3) Do the Repair Confirmation at the end of this task.

(f) If there is 28 VDC from pin X1 on connector D10882 to structure ground, then continue.

(g) Do a continuity check from pin X2 on connector D10882 to structure ground.

(h) If there is not continuity from pin X2 on connector D10882 to structure ground, then do these steps:

1) Replace SYS 1 AIR/GND RELAY, R593.

2) Re-install the door area heater power relay, R560.

3) Do the Repair Confirmation at the end of this task.

4) If the Repair Confirmation is not satisfactory, then repair the wiring from pin X2 on connector D10882 to terminal block, TB22Y.

(i) Re-install the door area heater power relay, R560.

(j) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Do an operational test of the two door area heaters. To do this, do this task: Door Area Heater Operational Test, AMM TASK 21-45-00-700-802.

(a) If the operational test is satisfactory, then you corrected the fault.

——— END OF TASK ———

802. Emergency Exit Door Area Too Cold - Fault Isolation

A. Description

(1) The area around the emergency exit door (EED) is too cold when the airplane is in flight.

NOTE: The emergency exit door will be referred to as the EED during this procedure.

(2) (SDS SUBJECT 21-45-00)

B. Possible Causes

(1) Emergency exit door lining heater:

(a) Left forward EED, M2214 (fwd) or M2215 (aft)

(b) Left aft EED, M2217 (fwd) or M2218 (aft)

(c) Right forward EED, M2208 (fwd) or M2209 (aft)

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(d) Right aft EED, M2211 (fwd) or M2212 (aft)

(2) Emergency exit door closeout panel heater:

(a) M2183, left forward EED

(b) M2185, left aft EED

(c) M2179, right forward EED

(d) M2181, right aft EED

(3) Emergency exit door surround panel heater:

(a) Left forward EED, M2182 (fwd) or M2213 (aft)

(b) Left aft EED, M2184 (fwd) or M2216 (aft)

(c) Right forward EED, M2178 (fwd) or M2207 (aft)

(d) Right aft EED, M2180 (fwd) or M2210 (aft)

(4) Door area heater power relay, R560

(5) Wiring

(6) Sys 1 air/gnd relay, R593

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	11	C01274	AIR CONDITIONING DOOR AREA HEAT CONT

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
D	7	C01279	DOOR AREA HTR-AFT
D	9	C01280	DOOR AREA HTR-FWD

D. Related Data

(1) (SSM 21-42-11)

(2) (WDM 21-42-11)

E. Initial Evaluation

(1) Do this task: Door Area Heater Operational Test, AMM TASK 21-45-00-700-802.

(a) If the forward door area heater does not operate, then it must be repaired before you do this task, do this task: Door Area Heater Does Not Operate - Fault Isolation, 21-45 TASK 801.

NOTE: The emergency exit door heaters use the same source of power as the forward door area heater. If there is a problem with the wire bundle for the forward door area heater it can be the source of problems with the EED heaters.

(b) If the two door area heaters operate, then you must do a test of each EED heater and its wire bundle. There are five heaters installed for each door. To test the EED heaters do the Fault Isolation Procedure - Emergency Exit Door Area Heater Does Not Operate below. This procedure isolates the fault to one of these possible causes:

1) individual heaters of the emergency exit doors

2) wiring

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(c) If the two door area heaters do not operate, then do the Fault Isolation Procedure - All Emergency Exit Door Area Heaters Do Not Operate below. This procedure isolates the fault to one of these possible causes:

1) door area heater power relay, R560
2) wiring
3) air/gnd relay, R593

F. Fault Isolation Procedure - Emergency Exit Door Area Heater Does Not Operate

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

(1) To do a test for failure of an EED lining heater (M2208, M2209, M2211, M2212, M2214, M2215, M2217 and M2218), do these steps:

CAUTION: DO NOT APPLY TENSION TO THE WIRING BEHIND THE LINING. YOU MAY DAMAGE THE WIRING.

(a) Remove the lining for each door. To remove the lining, do this task: Emergency Exit Door Lining Removal, AMM TASK 52-22-51-000-801.

(b) Disconnect the two electrical connectors for each heater blanket.

(c) Do a resistance check between pins J1 and P1 of each heater blanket.

(d) If the resistance is not 650-830 ohms, then do these steps:

1) Replace the applicable EED lining heater.

These are the tasks:

Emergency Exit Door Heater Blanket Removal, AMM TASK 21-45-02-000-801,

Emergency Exit Door Heater Blanket Installation, AMM TASK 21-45-02-400-801.

(e) If the resistance is 650-830 ohms, then continue.

(2) To do a test for failure of an EED door surround panel heater (M2207, M2210, M2213, M2216, M2178, M2180, M2182 and M2184), do these steps:

CAUTION: DO NOT APPLY TENSION TO THE WIRING BEHIND THE LINING. YOU MAY DAMAGE THE WIRING.

(a) Remove the two door surround panels for each door. To remove the panels, do this task: Emergency Exit Doorway Lining Removal, AMM TASK 25-21-20-000-801.

(b) Disconnect the two electrical connectors from each heater blanket.

(c) Do a resistance check between pins J1 and P1 of each heater.

(d) If the resistance is not 650-830 ohms, then do these steps:

1) Replace the applicable EED door surround panel heater. To replace the heater,

These are the tasks:

Emergency Exit Doorway Lining Removal, AMM TASK 25-21-20-000-801,

Emergency Exit Doorway Lining Installation, AMM TASK 25-21-20-400-801.

(e) If the resistance is 650-830 ohms, then continue.

(3) To do a test for failure of an EED closeout panel heater (M2179, M2181, M2183 and M2185), do these steps:

(a) Open each emergency exit door.

(b) Push the prop on the support assembly to release the closeout panel.

(c) Hold the closeout panel in the vertical position.

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(d) Disconnect the electrical connectors from the heater.

(e) Use a ohmmeter, STD-1045 to do a resistance check between pins J1 and P1 of the heater.

(f) If the resistance is not 1050-1430 ohms, then do these steps:

1) Replace the applicable EED closeout panel heater. To replace the heater,

These are the tasks:

Emergency Exit Door Closeout Panel Heater Blanket Removal, AMM TASK 21-45-02-000-803,

Emergency Exit Door Closeout Panel Heater Blanket Installation, AMM TASK 21-45-02-400-803.

(g) If the resistance is 1050-1430 ohms, then continue.

(4) Do these checks of the wiring:

(a) Make sure you supply conditioned air through one of the packs. To supply it, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Put the airplane in air mode. To do this, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(c) Remove the door area heater power relay, R560.

(d) Do a check for 200 VAC (phase-to-phase) on connector D10882 from pin A2 to pin B2.

(e) Do these steps for the heater blankets on the left side of the airplane:

1) Do a continuity check between these pins of connector D10882 in the P91 panel and these connectors on the EED heaters:

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	HEATER	
	R560 RELAY CONNECTOR	**HEATER CONNECTOR**
L FWD DOOR - LINING FORWARD	**D10882**	**D12704**
	pin A1	pin 1
L FWD DOOR - LINING AFT	**D10882**	**D12708**
	pin A1	pin 1
L FWD DOOR - FORWARD DOOR SURROUND PANEL	**D10882**	**D12756**
	pin A1	pin 1
L FWD DOOR - AFT DOOR SURROUND PANEL	**D10882**	**D12700**
	pin A1	pin 1
L FWD DOOR - CLOSEOUT PANEL	**D10882**	**WHT/BLU**
	pin A1	pin 1

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	HEATER	
	R560 RELAY CONNECTOR	**HEATER CONNECTOR**
L AFT DOOR - LINING FORWARD	**D10882**	**D12716**
	pin A1	pin 1
L AFT DOOR - LINING AFT	**D10882**	**D12720**
	pin A1	pin 1
L AFT DOOR - FORWARD DOOR SURROUND PANEL	**D10882**	**D12584**
	pin A1	pin 1
L AFT DOOR - AFT DOOR SURROUND PANEL	**D10882**	**D12712**
	pin A1	pin 1
L AFT DOOR - CLOSEOUT PANEL	**D10882**	**WHT/BLU**
	pin A1	pin 1

(f) Do these steps for heater blankets on the right side of the airplane:

1) Do a continuity check between these pins of connector D10882 in the P91 panel and these connectors on the EED heaters:

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	HEATER	
	R560 RELAY CONNECTOR	**HEATER CONNECTOR**
R FWD DOOR - LINING FORWARD	**D10882**	**D12680**
	pin B1	pin 1
R FWD DOOR - LINING AFT	**D10882**	**D12684**
	pin B1	pin 1
R FWD DOOR - FORWARD DOOR SURROUND PANEL	**D10882**	**D12560**
	pin B1	pin 1
R FWD DOOR - AFT DOOR SURROUND PANEL	**D10882**	**D12676**
	pin B1	pin 1
R FWD DOOR - CLOSEOUT PANEL	**D10882**	**WHT/BLU**
	pin B1	pin 1

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	HEATER	
	R560 RELAY CONNECTOR	**HEATER CONNECTOR**
R AFT DOOR - LINING FORWARD	**D10882** pin B1	**D12692** pin 1
R AFT DOOR - LINING AFT	**D10882** pin B1	**D12696** pin 1
R AFT DOOR - FORWARD DOOR SURROUND PANEL	**D10882** pin B1	**D12568** pin 1
R AFT DOOR - AFT DOOR SURROUND PANEL	**D10882** pin B1	**D12688** pin 1
R AFT DOOR - CLOSEOUT PANEL	**D10882** pin B1	**WHT/BLU** pin 1

(g) Repair the wiring.

(h) Install the door area heater power relay, R560.

(i) Install the EED door surround panels, do this task: Emergency Exit Doorway Lining Installation, AMM TASK 25-21-20-400-801.

(j) Install the EED lining, do this task: Emergency Exit Door Lining Installation, AMM TASK 52-22-51-400-801.

(k) Close the emergency exit door.

G. Fault Isolation Procedure - All Emergency Exit Door Area Heaters Do Not Operate

NOTE: You must do the steps in the Initial Evaluation before you do these steps.

NOTE: This procedure isolates the fault to one of these possible causes:

- door area heater power relay
- wiring
- air/gnd relay

(1) Replace the door area heater power relay, R560. The door area heater power relay is located on the P91 panel in the electrical and electronics compartment.

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(a) Do an operational test of the door area heaters. To do a test, do this task: Emergency Exit Hatch Heaters Operational Test, AMM TASK 21-45-00-700-801.

1) If the operational test is satisfactory, then you corrected the fault.

2) If the operational test is not satisfactory, then continue.

(2) Do these checks of the wiring and the air/gnd relay, R593:

(a) Make sure you supply conditioned air through one of the packs. To supply it, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Make sure the airplane is in air mode. To do this, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(c) Remove the door area heater power relay, R560.

(d) Do a check for 28 VDC on connector D10882 from pin X1 to structure ground.

(e) If there is not 28 VDC from pin X1 on connector D10882 to structure ground, then do these steps:

1) Repair the wiring from pin X1 on connector D10882 to circuit breaker C1274, AIR CONDITIONING DOOR AREA HEAT CONTROL.

2) Re-install the door area heater power relay, R560.

3) Do an operational test of the door area heaters. To do a test, do this task: Emergency Exit Hatch Heaters Operational Test, AMM TASK 21-45-00-700-801.

a) If the operational test is satisfactory, then you corrected the fault.

(f) If there is 28 VDC from pin X1 on connector D10882 to structure ground, then continue.

(g) Do a continuity check from pin X2 on connector D10882 to structure ground.

(h) If there is not continuity from pin X2 on connector D10882 to structure ground, then do these steps:

1) Replace SYS 1 AIR/GND RELAY, R593.

2) Re-install the door area heater power relay, R560.

3) Do an operational test of the door area heaters. To do a test, do this task: Emergency Exit Hatch Heaters Operational Test, AMM TASK 21-45-00-700-801.

a) If the operational test is satisfactory, then you corrected the fault.

b) If the operational test is not satisfactory, then repair the wiring from pin X2 on connector D10882 to terminal block, TB22Y.

(i) Re-install the door area heater power relay, R560.

(j) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

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801. Fog, High Humidity or Ice in Cabin - Fault Isolation

A. Description

(1) There is fog, unusually high humidity, or ice in the passenger cabin or the flight compartment. Conditioned air for the flight compartment is usually supplied by the left pack. Conditioned air for the passenger cabin is usually supplied by the right pack.

B. Possible Causes

(1) Pack temperature control system

(2) Water separator

(3) Water spray nozzle

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT

D. Related Data

(1) (SSM 21-51-12)

(2) (SSM 21-51-22)

(3) (WDM 21-51-12)

(4) (WDM 21-51-22)

E. Fault Isolation Procedure

(1) Do the BITE test on the pack/zone temperature controller (M1442 left or M1443 right) for the applicable pack:

NOTE: Conditioned air for the flight compartment is supplied by the left pack. Conditioned air for the passenger cabin is supplied by the right pack.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the BITE test shows a fault, then do the Fault Isolation Procedure for the applicable maintenance message.

1) If the problem does not occur on the subsequent flight, then you corrected the fault.

(c) If the BITE test does not show a fault, then continue.

(2) Do this check of the water spray nozzle:

(a) Remove the applicable

Number	Name/Location
192BL	ECS Ram Air Inlet Mixing Duct Panel - Forward

or open this access panel:

Number	Name/Location
192BR	ECS Ram Air Inlet Mixing Duct Panel - Forward

to get access to the water spray nozzle.

(b) Remove the access panel on the ram air inlet duct (AMM TASK 21-51-03-000-801).

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(c) Operate the applicable air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(d) Make sure a spray of water flows from the water spray nozzle.

(e) If water does not flow from the water spray nozzle, do these steps:

1) Stop the air conditioning pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

2) Replace the water spray nozzle.

These are the tasks:

Water Spray Nozzle Removal, AMM TASK 21-51-16-000-801,

Water Spray Nozzle Installation, AMM TASK 21-51-16-400-801.

3) Operate the applicable air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

4) Make sure a spray of water flows from the water spray nozzle.

5) If the problem does not occur on the subsequent flight, then you corrected the fault.

(f) If water does flow from the water spray nozzle, then continue:

1) Stop the air conditioning pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

2) Remove the access panel on the ram air inlet duct.

3) Install the applicable access panel:

Number	Name/Location
192BL	ECS Ram Air Inlet Mixing Duct Panel - Forward

or close this access panel:

Number	Name/Location
192BR	ECS Ram Air Inlet Mixing Duct Panel - Forward

(3) Replace the water extractors on the applicable pack.

These are the tasks:

Water Extractor Removal, AMM TASK 21-51-14-000-801,

Water Extractor Installation, AMM TASK 21-51-14-400-801.

(a) If the problem does not occur on the subsequent flight, then you corrected the fault.

(b) If the problem occurs on the subsequent flight, then replace the applicable water separator.

These are the tasks:

High Pressure Water Separator Removal, AMM TASK 21-51-08-000-802,

High Pressure Water Separator Installation, AMM TASK 21-51-08-400-802.

END OF TASK

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802. Noise or Pounding Heard Through the Air Distribution System - Fault Isolation

A. Description

(1) An unusual noise is heard in the air distribution system. This can be caused by ice formation in the duct system. Ice formation is usually caused by a problem with the pack temperature control system. Noises in the air distribution system can also be caused by leakage in the air ducts, air ducts which are loose or completely disconnected, or by blockage in the air ducts.

B. Possible Causes

(1) Pack temperature control system

(2) Air distribution ducts

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT

D. Related Data

(1) (SSM 21-51-12)

(2) (SSM 21-51-22)

(3) (WDM 21-51-12)

(4) (WDM 21-51-22)

E. Fault Isolation Procedure

(1) Do the BITE test on the pack/zone temperature controller (M1442 left or M1443 right) for the applicable pack:

NOTE: Conditioned air for the flight compartment is supplied by the left pack. Conditioned air for the passenger cabin is supplied by the right pack.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the BITE test shows a fault, then do the Fault Isolation Procedure for the applicable maintenance message.

1) If the problem does not occur on the subsequent flight, then you corrected the fault.

(c) If the BITE test does not show a fault, then continue.

(2) Do this check for leakage or blockage in the air distribution ducts:

(a) Supply conditioned air from the left and the right pack. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Find the source of the noise in the problem report.

(c) Get access to the air distribution duct in that location.

(d) Look for indications of leakage or a loose connection in that location.

(e) If you find indications of leakage or a loose connection, then repair the air distribution duct.

(f) If you do not find indications of leakage or a loose connection, then disassemble the ducts in that location and look for indications of blockage or unwanted material inside the ducts.

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(g) If the problem does not occur on the subsequent flight, then you corrected the fault.

——— END OF TASK ———

803. RAM DOOR FULL OPEN Light Stays ON, Airplane in the Air - Fault Isolation

A. Description

(1) The RAM DOOR FULL OPEN Light on the P5-10 Air Conditioning Panel should go OFF when the airplane is in the air with the Trailing Edge Flaps fully retracted. This blue light is an Advisory Light.

(2) There are two RAM DOOR FULL OPEN Lights, one for the Left Ram Air Inlet Modulation Doors and one for the Right Ram Air Inlet Modulation Doors.

(3) Dirty Heat Exchangers or unwanted material such as paper that blocks the flow of air through the Heat Exchangers could prevent the Modulation Doors from closing and allowing the RAM DOOR FULL OPEN Light to go OFF.

(a) Dirty or blocked Heat Exchangers could result in a subsequent decrease in heat transfer from the Pack Air side to the Ram Air side of the Heat Exchangers and higher temperatures at the Ram Air Sensor and an open signal from the Pack/Zone Temperature Controller to the Ram Air Actuator.

(b) The blue RAM DOOR FULL OPEN Advisory Light indicates that the temperature at the Ram Air Control Temperature Sensor is higher than the desired 230 °F and the Pack/Zone Temperature Controller has signaled the actuator to open the Modulation Panels to provide more Ram Air cooling. It also indicates that the Ram Air System is not operating as efficiently as it was designed to operate if the light is ON continuously. Perform fault isolation at the earliest maintenance opportunity to avoid a PACK Light indication occuring that could possibly affect dispatch.

(4) Ram Air Exit Louvers that do not open and restrict the flow of air through the Heat Exchangers could prevent the Modulation Doors from closing and allowing the RAM DOOR FULL OPEN Light to go OFF.

(a) There are two Smart Ram Air Door Actuators (Inlet and Exit SRADAs) on both the Left and Right Ram Air Systems.

(b) Both the Inlet and Exit SRADAs incorporate four indication lights to provide a visual display of Ram Air System LRU faults.

(c) The continuous BIT detects and shows the fault status of the Ram Air Temperature Sensor, the Inlet SRADA and the Exit SRADA.

(d) The fault indication is provided when the SRADAs are powered and a valid Weight-on-Wheels (WOW) signal is present.

1) If there are no faults present, a NO LRU FAULT Light is illuminated Green and the three LRU lights are OFF.

2) If there is a fault present, the NO LRU FAULT light is OFF and the light associated with the failed LRU is illuminated Red.

B. Possible Causes

(1) Ram Air Actuators

(a) Left Forward Ram Air Actuator, M2795

(b) Right Forward Ram Air Actuator, M2797

(c) Left Aft Ram Air Actuator, M2796

(d) Right Aft Ram Air Actuator, M2798

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(2) Dirty heat exchangers or blocked airflow to heat exchangers

(3) Air conditioning accessory unit, M324 (left) or M1455 (right)

(4) Trailing edge flaps up switch, S1051 (left side)

(5) Flap/slat electronics unit, M1746 (right)

(6) Ram air sensor, T481 (left) or T482 (right)

(7) Pack/zone temperature controller, M1442 (No. 1) or M1443 (No. 2)

(8) Fan bypass check valve

(9) Wiring problem

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
E	11	C00313	INDICATOR MASTER DIM SECT 1

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R

D. Related Data

(1) (SSM 21-51-14)

(2) (WDM 21-51-14)

(3) (SSM 21-51-24)

(4) (WDM 21-51-24)

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) Make sure that the Left and Right Ram Air Systems do not show failures.

(2) Open these access panels to gain access to the ram air inlet actuator for the left pack:

Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

(3) Open these access panels to gain access to the ram air inlet actuator for the right pack:

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(a) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

(4) Make sure that there are no red fault indicator lights illuminated on the ram air inlet STRADAs.

(a) If any red fault lights are illuminated, replace the associated SRADA or ram air sensor.

(5) Make sure that the left and right blue RAM DOOR FULL OPEN lights are on.

(6) Make sure that the deflector doors for the left and right ram air inlets are extended.

(7) Extend the trailing edge flaps to FLAPS 1 position. To extend the trailing edge flaps, do this task: Extend the Trailing Edge Flaps, AMM TASK 27-51-00-860-803.

(8) Put the airplane in the air mode. To put the airplane in the air mode, do this task: Put the Airplane in the Air Mode, AMM TASK 32-09-00-860-801.

(9) Make sure that these results occur:

(a) Make sure that the ram air inlet deflector doors retract fully.

(b) Make sure that the ram air inlet modulation panels move toward the closed position.

(c) Make sure that the left and right blue RAM DOOR FULL OPEN lights stay on.

(d) Make sure that the ram air exit louvers move towards the closed position.

(e) If the above results occur, continue with the initial evaluation.

(f) If the above results do not occur, then do the Fault Isolation Procedure - Deflector Door Does Not Retract.

(10) Retract the trailing edge flaps to the full up position. To retract the trailing edge flaps, do this task: Retract the Trailing Edge Flaps, AMM TASK 27-51-00-860-804.

(11) Make sure that these results occur:

(a) Make sure that the ram air inlet modulation panels move toward the closed position.

(b) Make sure that the RAM DOOR FULL OPEN lights go off.

(c) Make sure that the ram air exit louvers move towards the closed position.

(d) If the above results do not occur, then do the Fault Isolation Procedure - Modulation Panels Do Not Move to Cruise Position Problem.

(e) If the RAM DOOR FULL OPEN light goes off, then there was an intermittent fault.

(12) If the RAM DOOR FULL OPEN light does not go off but the modulation panels moved toward closed, then do the Fault Isolation Procedure - Indication Circuit Problem.

(13) Do this check of the fan bypass check valve:

(a) To get access to the fan bypass check valve in the left pack primary plenum/diffuser, do this step:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

2) Remove the access panel on the bottom of the primary plenum/diffuser.

(b) To get access to the fan bypass check valve in the right pack primary plenum/diffuser, do this step:

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1) Open these access panels:

Number	Name/Location
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

2) Remove the access panel on the bottom of the primary plenum/diffuser.

(c) Do these checks:

1) Make sure that the fan bypass check valve door is installed.

2) Make sure that the fan bypass check valve door operates normally.

3) If the fan bypass check valve door is not installed or does not operate normally, then either replace the diffuser assembly with a serviceable unit or replace the check valve door off aircraft per the vendor instructions.

NOTE: Allied Signal Service Bulletin 2215240-21-2721 or 2215240-21-2722 provides instructions to install a replacement check valve door on the left or right diffuser assembly.

4) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser.

5) If the fan bypass check valve door is not installed on the bottom of the primary diffuser, do these tasks to replace the bypass door on the bottom of the diffuser:

a) Heat Exchanger and Plenum/Diffuser Assembly Removal, AMM TASK 21-51-03-000-805-002

b) Heat Exchanger and Plenum/Diffuser Installation, AMM TASK 21-51-03-400-804-002

(d) Close or install access panels or doors that were opened or removed.

(14) If no faults are found, then do these steps:

(a) Open the access panel to the heat exchangers.

(b) Remove the inspection panel in the inlet duct to the heat exchangers.

(c) Examine the ram air duct for unwanted material that may decrease the flow of air to the heat exchangers.

(d) If no unwanted material is found, then clean the heat exchangers. To clean the heat exchangers, do one of these tasks: .

1) Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801

2) Heat Exchangers Off-Wing Cleaning - Alternate Procedure, AMM TASK 21-51-03-160-801

3) Heat Exchangers Cleaning with Nitrogen Gas/Compressed Air - Supplemental Procedure, AMM TASK 21-51-03-160-802.

F. Fault Isolation Procedure - Deflector Door Does Not Retract Problem

(1) Do this check for 28 VDC at the ram air inlet actuator:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(b) For the left ram air inlet system, open this panel to get access to the actuator:

Open this access panel:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

(c) For the right ram air inlet system, open this panel to get access to the actuator:

Open this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

(d) Disconnect electrical connector D14386 from the left ram air inlet actuator M2795 or electrical connector D14394 from the right ram air inlet actuator.

(e) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(f) Do a check for 28 VDC from pin 4 to pin 16 of connector D14386 (left) or D14394 (right).

(g) If there is 28 VDC between pins 4 and 16, then do these steps:

1) Replace the ram air inlet actuator M2795 (left) or M2797 (right). Do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

2) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault. Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(h) If 28V DC is not present between pins 4 and 16 of connector D14386 (left) or D14394 (right), then continue.

(2) Do this check of the ground circuit wiring for the ram air inlet actuator:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(b) Do a check of the left actuator ground circuit wiring as follows:

1) Connect an ohmmeter between pins 16 and 24 of connector D14386.

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2) Make sure the resistance is between 0 and 40 ohms.

NOTE: This makes sure that the GD712-DC ground is satisfactory.

(c) Do a check of the right actuator ground circuit wiring as follows:

1) Connect an ohmmeter between pins 16 and 24 of connector D14394.

2) Make sure the resistance is between 0 and 40 ohms.

NOTE: This makes sure that the GD716-DC ground is satisfactory.

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Reconnect electrical connectors D14386 (left) or D14394 (right) to the ram air inlet actuator.

3) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

4) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault. Do this step to complete the task:

a) Put the airplane in the ground mode. Do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(e) If you do not find a problem with the wiring, then do these steps and continue:

1) Reconnect electrical connector D14386 (left) or D14394 (right) to the ram air inlet actuator.

2) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(3) Do this check of the air/ground logic circuit for the air conditioning accessory unit (ACAU), M324:

(a) Remove ACAU No.1 (left) or ACAU No.2 (right). To remove the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) For the left system, connect an ohmmeter between pin 35 of connector D458A and a structural ground.

(c) For the right system, connect an ohmmeter between pin 35 of connector D10002A to a structural ground.

(d) If there is continuity, then do these steps:

1) Do this task: Air/Ground Relay Fault - Fault Isolation, 32-09 TASK 804.

2) Do the corrective action for any fault found.

3) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

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4) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault. Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(e) If there is no continuity, then continue.

(4) Do this check of the wiring from ACAU No. 1 (left) or ACAU No. 2 (right) to the ram air inlet actuator, M2795 (left) or M2797 (right):

(a) Disconnect connector D14386 (left) or D14394 (right) from the ram air inlet actuator M2795.

(b) Do these checks for open circuits between ACAU No.1 M324 and left ram air inlet actuator M2795:

1) Install a jumper between pin 47 of connector D458A and a structural ground.

2) Connect an ohmmeter between pin 19 of connector D14386 and a structural ground.

3) Make sure the ohmmeter indicates between 0 and 40 ohms.

4) Install a jumper between pin 33 of connector D458B and a structural ground.

5) Connect an ohmmeter between pin 9 of connector D14386 and a structural ground.

6) Make sure the ohmmeter indicates between 0 and 40 ohms.

7) Put the airplane in the ground mode.

8) Connect an ohmmeter between pin 1 of connector D14386 and a structural ground.

9) Make sure the ohmmeter indicates between 0 and 40 ohms.

(c) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ACAU. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Re-connect connector D14386 to the ram air actuator.

4) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault. Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(d) Do these checks for open circuits between ACAU No.2 (M1455) and right ram air inlet actuator M2797:

1) Install a jumper between pin 47 of connector D10002A and a structural ground.

2) Connect an ohmmeter between pin 19 of connector D14394 and a structural ground.

3) Make sure the ohmmeter indicates between 0 and 40 ohms.

4) Install a jumper between pin 33 of connector D10002B and a structural ground.

5) Connect an ohmmeter between pin 9 of connector D14394 and a structural ground.

6) Make sure the ohmmeter indicates between 0 and 40 ohms.

7) Put the airplane in the ground mode.

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8) Connect an ohmmeter between pin 1 of connector D14394 and a structural ground.

9) Make sure the ohmmeter indicates between 0 and 40 ohms.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Re-install the ACAU. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Re-connect connector D14386 to the ram air actuator.

4) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault. Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(5) For a problem in the left ram air inlet system, do this check of the ground circuit from ACAU No. 1 to the trailing edge flaps up switch, S1051:

(a) Make sure that the trailing edge flaps are not fully retracted.

(b) Do a continuity test between pin 33 of connector D458B and structure ground.

NOTE: There should be continuity through a grounded trailing edge flaps up switch, S1051.

(c) If there is no continuity, then do these steps:

1) Disconnect connector D14360 from the trailing edge flaps up switch S1051 in the main wheel well.

2) Do a check for an open circuit between these pins of connector D458B and connector D14360:

D458B	D14360
pin 33	pin F

3) If there is an open circuit, then do these steps:

a) Repair the wiring.

b) Re-connect connector D14360.

c) Re-install ACAU No. 1. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault.

4) If there is continuity, then do these steps:

a) Replace the trailing edge flaps up switch, S1051.

These are the tasks:

Flap Limit Switch Removal, AMM TASK 27-51-63-000-801,

Flap Limit Switch Installation, AMM TASK 27-51-63-400-801.

b) Re-connect connector D14360.

c) Re-install ACAU No 1. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

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d) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault.

5) If you corrected the fault, then do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(d) If there is continuity, then continue.

(6) For a problem in the right ram air inlet system, do this check of the ground circuit from ACAU No. 2 to the flap/slat electronics unit, M1746:

(a) Do a continuity test from pin 33 of connector D10002B to structure ground.

NOTE: There should be continuity through a grounded flap/slat electronics unit, M1746.

(b) If there is no continuity, then do these steps:

1) Remove the flap slat electronic module, M1746. To remove the module, do this task: Flap/Slat Electronics Unit Removal, AMM TASK 27-51-01-000-801.

2) Do a check for an open circuit between these pins of connector D10002B and connector D728A:

M1455	**M1746**
D10002B	**D728A**
pin 33	pin C11

3) If there is an open circuit, then do these steps:

a) Repair the wiring.

b) Re-install the flap slat electronic unit, M1746. To install it, do this task: Flap/Slat Electronics Unit Installation, AMM TASK 27-51-01-400-801.

c) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault.

4) If there is continuity, then do these steps:

a) Replace the flap/ slat electronic unit, M1746.

These are the tasks:

Flap/Slat Electronics Unit Removal, AMM TASK 27-51-01-000-801,

Flap/Slat Electronics Unit Installation, AMM TASK 27-51-01-400-801.

b) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault.

5) If you corrected the fault, then do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(c) If there is continuity, then continue.

(7) Do this check for 28 VDC to the ACAU No. 1 (left) or ACAU No. 2 (right):

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(a) Remove ACAU No. 1 or ACAU No. 2. To remove the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for 28 VDC between pin 59 of connector D458A (left) or pin 59 of connector D10002A (right) and structure ground.

(c) If there is 28 VDC, then do these steps:

1) Install a new air conditioning accessory unit, M324 (No. 1) or M1455 (No. 2). To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

2) If the ram air inlet deflector door moves to the fully retracted position, then you corrected the fault.

3) Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(d) If there is not 28 VDC, then continue:

(8) Do this check for 28 VDC at the circuit breaker:

(a) Make sure that there is 28 VDC at the load side of the following circuit breakers;

1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

2) If there is 28 VDC, then do these steps:

a) Repair the wiring between the applicable circuit breaker and electrical connectors D14386 (left) and D14394 (right) ram air inlet actuators:

RAM AIR SYSTEM

CIRCUIT BREAKER C01950 Terminal 2		**M2795 Ram Air Actuator D14386**
Terminal 2	. . . . .	Pin 4

RAM AIR SYSTEM

CIRCUIT BREAKER C01951 Terminal 2		**M2797 D14394**
Terminal 2	. . . . .	Pin 4

b) If the ram air inlet deflector door moves to the fully retracted positon, then you corrected the fault.

3) If there is not 28 VDC, then do these steps:

a) Fault isolate the power distribution system as follows:

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<1> Do a check of the wiring from the main 28V DC BUS 1 to 28V DC BUS 1 SECT 2.

<2> Fix any problems that you find.

b) Re-connect electrical connector D14386 (left) or D14394 (right).

c) If the ram air inlet deflector door moves to the fully retracted positon, then you corrected the fault.

4) Do this step to complete the task:

a) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

G. Fault Isolation Procedure - Modulation Panels Do Not Move to Cruise Position

(1) Do this check of the ram air temperature sensor:

(a) Open these access panels:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

(b) Disconnect the connector D3916 (left) or D3918 (right) from the ram air temperature sensor, T481 (left) or T482 (right).

(c) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then do these steps:

1) Replace the ram air temperature sensor, T481 (left) or T482 (right). To replace it,

These are the tasks:

Ram Air Control Temperature Sensor Removal, AMM TASK 21-51-50-000-801,

Ram Air Control Temperature Sensor Installation, AMM TASK 21-51-50-400-801.

(d) Do the BITE test on the left pack/zone temperature controller M1442 if you replaced the sensor for the aft passenger compartment zone.

1) If the RAM DOOR FULL OPEN light stays off, then you corrected the fault. Do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

or close these access panels:

Number	Name/Location
192CR	ECS Access Door
192DR	ECS High Pressure Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

2) If the RAM DOOR FULL OPEN light does not stay off, then continue.

(e) If the RAM DOOR FULL OPEN light stays on and the inlet modulation doors close, then do these steps:

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1) Re-connect the connector D3916 (left) or D3918 (right) to the ram air temperature sensor, T481 (left) or T482 (right).

2) Replace the ram air inlet actuator, M2795 (left) or M2797 (right).

These are the tasks:

Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801,

Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

3) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault. Do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

or close this access panel:

Number	Name/Location
192CR	ECS Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

4) If the RAM DOOR FULL OPEN light does not go off and the modulation panels do not close, then continue.

(f) If the RAM DOOR FULL OPEN light stays on and the modulation panels do not close, then do this step and continue:

1) Re-connect the connector D3916 (left) or D3918 (right) to the ram air temperature sensor.

(2) Do this check for 28 VDC at the forward ram air actuator:

(a) Disconnect electrical connector D14386 (left) or D14394 (right) from the ram air actuator M2795 (left) or M2797 (right).

(b) Do a check for 28 VDC between pins 4 and 16 of connector D14386 (left) or connector D14394.

(c) If there is 28 VDC at pin 4, then do these steps:

1) These are the tasks:

Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801,

Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

2) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault. Do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

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Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

or close this access panel:

Number	Name/Location
192CR	ECS Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(d) If 28 VDC is not present, then do this step and continue:

1) Re-connect electrical connector D14386 (left) or D14394 (right).

(3) For a problem in the left ram air inlet system, do this check of the circuit from the ACAU No. 1 to the trailing edge flaps up switch, S1051:

(a) Do a continuity check of the wiring between pin 33 of connector D458B and a structural ground.

(b) If there is continuity, then do these steps:

1) Disconnect connector D14360 in the main wheel well.

2) Do a continuity check between pin F of connector D14360 and a structural ground.

3) If there is continuity, then do these steps:

a) Replace the trailing edge flaps up switch, S1051.

These are the tasks:

Flap Limit Switch Removal, AMM TASK 27-51-63-000-801,

Flap Limit Switch Installation, AMM TASK 27-51-63-400-801.

b) Re-connect connector D14360.

c) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault.

4) If there is no continuity, then do these steps:

a) Repair the wiring between pin 33 of connector D458B and connector D14360.

b) Re-connect connector D14360.

c) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault.

5) If you corrected the fault, then do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

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Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

or close this access panel:

Number	Name/Location
192CR	ECS Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(c) If there is no continuity, then continue.

(4) For a problem in the right ram air inlet system, do this check of the circuit from the ACAU No. 2 to the flap/slat electronics unit, M1746:

(a) Do a continuity check of the wiring between pin 33 of connector D10002B and a structural ground.

(b) If there is continuity, then do these steps:

1) Remove the flap/slat electronics unit, M1746. To remove the unit, do this task: Flap/Slat Electronics Unit Removal, AMM TASK 27-51-01-000-801.

2) Do a check of the wiring between pin 33 of connector D10002B and pin C11 of connector D728A.

3) If the wiring check indicates a short to ground, then do these steps:

a) Repair the wiring.

b) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

c) Re-install the flap/slat electronics unit, M1746. To install the unit, do this task: Flap/Slat Electronics Unit Installation, AMM TASK 27-51-01-400-801.

d) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault.

4) If the wiring check does not indicate a problem, then do these steps:

a) Replace the flat/slat electronics unit, M1746.

These are the tasks:

Flap/Slat Electronics Unit Removal, AMM TASK 27-51-01-000-801,

Flap/Slat Electronics Unit Installation, AMM TASK 27-51-01-400-801.

b) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault.

5) If you corrected the fault, then do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

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Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

or close this access panel:

Number	Name/Location
192CR	ECS Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

(c) If there is no continuity, then continue.

(5) Replace ACAU No. 1, M324, or ACAU No. 2, M1455. To replace the ACAU,

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) If the RAM DOOR FULL OPEN light goes off and the modulation panels close, then you corrected the fault.

1) Do these steps to complete the task:

a) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

or close this access panel:

Number	Name/Location
192CR	ECS Access Door

b) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: Return the Airplane to the Ground Mode, AMM TASK 32-09-00-860-802.

H. Fault Isolation Procedure - Indication Circuit Problem

(1) Do a check of the wiring between the RAM DOOR FULL OPEN light and the ram air actuator:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

(b) Open this panel to get access to the actuator for the left ram air inlet system:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

(c) Open this panel to get access to the actuator for the right ram air inlet system:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

(d) Lower the P5 forward overhead panel to get access to the electrical connector on the RAM DOOR FULL OPEN light, L12 (left) or L13 (right).

(e) Disconnect connector D646 (left) or D680 (right) from the RAM DOOR FULL OPEN light, L12 (left) or L13 (right).

(f) Do a check of the wiring between these pins:

RAM AIR SYSTEM

	RAM DOOR FULL OPEN LIGHT CONN		RAM AIR ACTUATOR CONNECTOR
LEFT	**D646**		**D966**
	pin28	. . . . .	pin 7

RAM AIR SYSTEM

	RAM DOOR FULL OPEN LIGHT CONN		RAM AIR ACTUATOR CONNECTOR
RIGHT	**D680**		**D968**
	pin 3	. . . . .	pin 7

1) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect connector D966 (left) or D968 (right) to the ram air actuator, M326 (left) or M327 (right).
   c) Re-connect connector D646 (left) or D680 (right) to the RAM DOOR FULL OPEN light, L12 (left) or the RAM DOOR FULL OPEN light, L13 on the back of the P5-10 Air Conditioning panel.
   d) Raise the P5 forward overhead panel into position and secure the fasteners.

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e) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R

f) If the RAM DOOR FULL OPEN light goes out, then you corrected the fault.

g) Close these access panels:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward
191GR	Ram Air Actuator Panel - Forward

2) If you do not find a problem with the wiring, then replace the ram air actuator.

These are the tasks:

Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801,

Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

a) Re-connect connector D646 (left) or D680 (right) to the RAM DOOR FULL OPEN light, L12 (left) or the RAM DOOR FULL OPEN light, L13 on the back of the P5-10 Air Conditioning panel.

b) Raise the P5 forward overhead panel into position and secure the fasteners.

c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R

d) If the RAM DOOR FULL OPEN light goes out, then you corrected the fault.

e) Do these steps to complete the task:

<1> Close these access panels:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward
191GR	Ram Air Actuator Panel - Forward

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(g) Do a check of the wiring between these pins:

RAM AIR SYSTEM

	P5-10 Panel D646	Left Ram Air Inlet Actuator D14386	
L12	pin 28	pin 11	Continuity

RAM AIR SYSTEM

	P5-10 Panel D680	Right Ram Air Inlet Actuator D14394	
RIGHT	Pin 3	Pin 11	Continuity

1) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect connector D14386 (left) or D14394 (right) to the ram air actuator, M2795 (left) or M2797 (right).
   c) Re-connect connector D646 (left) or D680 (right) to the RAM DOOR FULL OPEN light, L12 (left) or the RAM DOOR FULL OPEN light, L13 (right) on the back of the P5-10 Air Conditioning panel.
   d) Raise the P5 forward overhead panel into position and secure the fasteners.
   e) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

   f) If the RAM DOOR FULL OPEN light goes out, then you corrected the fault.
   g) Close these access panels:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward
191GR	Ram Air Actuator Panel - Forward

2) If you do not find a problem with the wiring, then replace the ram air inlet actuator.

   These are the tasks:

   Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801,

   Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

   a) Re-connect connector D646 (left) or D680 (right) to the RAM DOOR FULL OPEN light, L12 (left) or the RAM DOOR FULL OPEN light, L13 (right) on the back of the P5-10 Air Conditioning panel.
   b) Raise the P5 forward overhead panel into position and secure the fasteners.

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c) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

d) If the RAM DOOR FULL OPEN light goes out, then you corrected the fault.

e) Do these steps to complete the task:

<1> Close these access panels:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward
191GR	Ram Air Actuator Panel - Forward

(h) Put the airplane in the ground mode. To put the airplane in the ground mode, do this task: AMM TASK 32-09-00-860-802.

——— END OF TASK ———

804. RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation

A. Description

(1) The RAM DOOR FULL OPEN light on the P5-10 air conditioning panel should be on when the airplane is on the ground. In addition, the ram air inlet modulations panels should be fully open, the deflector doors should be fully extended and the ram air exit louvers should be fully open. This is the correct configuration for these components when the airplane is on the ground.

(2) The light normally will come on when the air/ground logic retracts the ram air actuator which closes a switch in the actuator to provide a ground for the light.

(3) If the master dim and test system does not provide 28 VDC to the light or if the light is burned out, the light will also fail to come on.

(4) There are two RAM DOOR FULL OPEN lights, one for the left ram air inlet modulation doors and one for the right ram air inlet modulation doors.

(5) There are two smart ram air door actuators (inlet and exit SRADAs) on both the left and right ram air systems. Both the inlet and exit SRADAs incorporate four indication lights to provide a visual display of LRU faults of the ram air system. The continuous BIT detects and displays the fault status of the ram air temperature sensor, the inlet SRADA and the exit SRADA. The fault indication is provided when the SRADAs are powered and a valid weight-on-wheels (WOW) signal is present. If there is no fault condition present, a NO LRU FAULT light is illuminated green and the three LRU lights are off. If there is a fault present, the NO LRU FAULT light is off and the light associated with the failed LRU is illuminated red.

B. Possible Causes

(1) RAM DOOR FULL OPEN light, L12 (left) or L13 (right)

(2) Ram Air Actuators

(a) Left Forward Ram Air Actuator, M2795

(b) Right Forward Ram Air Actuator, M2797

(3) Air conditioning accessory unit, M324 (left) or M1455 (right)

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(4) Proximity switch electronics unit (PSEU), M2061

(5) Wiring problem

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
E	11	C00313	INDICATOR MASTER DIM SECT 1

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R

D. Related Data

(1) (SSM 21-51-14)

(2) (WDM 21-51-14)

(3) (SSM 21-51-24)

(4) (WDM 21-51-14)

(5) (SSM 33-18-36)

(6) (WDM 33-18-36)

E. Initial Evaluation

(1) If the RAM DOOR FULL OPEN light is on, then there was an intermittent fault.

(2) If the RAM DOOR FULL OPEN light is not on, put the LIGHTS TEST/BRT/DIM switch on the P1-3 captain's instrument panel to TEST.

(a) If the RAM DOOR FULL OPEN light comes on, then do the Fault Isolation Procedure - Ram Air Actuator Circuit Problem below.

(b) If the RAM DOOR FULL OPEN light does not come on, then do the Fault Isolation Procedure - Indication Circuit Problem below.

F. Fault Isolation Procedure - Ram Air Actuator Circuit Problem

(1) Do this check for 28 VDC to the ram air inlet actuator:

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

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1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

(b) Open this access panel:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

(c) Open this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

(d) Disconnect the electrical connector D14386 (left) or D14394 (right) from the ram air inlet actuator.

(e) Close these circuit breakers:

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

(f) Do a check for 28 VDC between pin 4 of connector D14386 (left) or D14394 (right) and a structural ground.

(g) If there is 28 VDC between pin 4 and a structural ground, then do the Fault Isolation Procedure - Indication Circuit Problem.

(h) If there is not 28 VDC between pin 4 and a structural ground, then continue.

(2) Do this check of the ground circuit wiring of the ram air inlet actuator:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

(b) Do a check of the wiring between pin 16 of connector D14386 (left) or D14394 (right) and the ground GD712-DC (left) or GD716-DC (right).

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

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2) Re-connect connector D14386 (left) or D14394 (right) to the ram air inlet actuator.

3) Close these circuit breakers:

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

4) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

5) Close these access panels:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward
191GR	Ram Air Actuator Panel - Forward

(d) If you do not find a problem with the wiring, then continue.

(3) Do this check of the air/ground logic circuit for the air conditioning accessory unit (ACAU), M324 (left), or M1455 (right):

(a) For the left system, do a continuity check from pin 35 of connector D458A to a structural ground.

(b) For the right system, do a continuity check from pin 35 of connector D10002A to a structural ground.

(c) If there is no continuity, then do these steps:

1) Do this task: Air/Ground Relay Fault - Fault Isolation, 32-09 TASK 804.

2) Do the corrective action for any fault found.

3) Re-install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

4) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

(d) If there is continuity, then continue.

(4) Do a check of the air/ground logic circuit input signal to the ram air inlet actuator:

(a) Remove ACAU No.1 (M324) or No.2 (M1455), as applicable. Do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a continuity check between pin 1 of connector D14386 (left) or D14394 (right) to a structural ground.

(c) If there is no continuity, then do these steps:

1) Do this task: Air/Ground Relay Fault - Fault Isolation, 32-09 TASK 804.

2) Do the corrective action for any fault found.

3) Re-install the ACAU. Do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

4) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

(d) If there is continuity, then continue.

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(5) Do this check for 28 VDC to the air conditioning accessory unit (ACAU), M324 (left), or M1455 (right):

(a) Do a check for 28 VDC between pin 59 of connector D458A (left) or D10002A (right) and structure ground.

(b) If there is not 28 VDC at pin 59, then do these steps:

1) Make sure there is 28 VDC at the load side of circuit breaker C555 (left) or C1178 (right) on the P6-4 panel.

2) If there is 28 VDC, then do these steps:

a) Repair the wiring between the applicable circuit breaker and the connector for the ACAU, M324 (left) or M1455 (right):

	RAM AIR SYSTEM	
	CIRCUIT BREAKER	**ACAU CONNECTOR**
LEFT	**C00555**	**D458A**
	term L	pin 59

	RAM AIR SYSTEM	
	CIRCUIT BREAKER	**ACAU CONNECTOR**
RIGHT	**C01178**	**D10002A**
	term L	pin 59

b) Re-install the ACAU. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

3) If there is not 28 VDC, then do these steps:

a) Do this task: DIST/BUS FAULT For GCU 1 - Fault Isolation, 24-21 TASK 815.

b) Re-install the ACAU. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

(c) If there is 28 VDC at pin 59, then continue.

(6) Install a new ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

G. Fault Isolation Procedure - Indication Circuit Problem

(1) If both the left and right RAM DOOR FULL OPEN lights do not come on, then do this step:

(a) Replace the P5-10 air conditioning panel. To replace the P5-10 panel, do these tasks:

Air Conditioning Module Removal, AMM TASK 21-51-65-000-801,

Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

(b) If the RAM DOOR FULL OPEN lights come on, then you corrected the fault.

(c) If the RAM DOOR FULL OPEN lights do not come on, then continue.

(2) Do this check for 28 VDC to the RAM DOOR FULL OPEN light:

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(a) Release the fasteners that hold the P5-10 forward overhead panel in position and let the panel swing down.

(b) Disconnect connector D646 from the P5-10 air conditioning panel.

(c) Do a check for 28 VDC between pin 5 of connector D646 on the ship's wiring and structure ground.

(d) If there is 28 VDC between pin 5 of connector D646 and ground, then do these steps:

1) Replace the P5-10 air conditioning panel. To replace the P5-10 panel, do these tasks:

Air Conditioning Module Removal, AMM TASK 21-51-65-000-801,

Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

2) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

3) If the RAM DOOR FULL OPEN light does not come on, then continue.

(e) If there is not 28 VDC between pin 5 of connector D646 and ground, then continue.

(3) Do this check for 28 VDC at the circuit breaker that supplies power to the RAM DOOR FULL OPEN light:

(a) Make sure there is 28 VDC at the load side of circuit breaker C313 on the P6-3 panel.

(b) If there is 28 VDC, then do these steps:

1) Repair the wiring between the load side of circuit breaker C313 on the P6-3 panel and pin 5 of connector D646 on the P5-10 air conditioning panel.

2) Re-connect connector D646 to the P5-10 air conditioning panel.

3) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

4) If the RAM DOOR FULL OPEN light does not come on, then continue.

(c) If there is not 28 VDC, then do these steps:

1) Do this task: DIST/BUS FAULT For GCU 1 - Fault Isolation, 24-21 TASK 815.

2) Re-connect connector D646 to the P5-10 air conditioning panel.

3) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

(4) Do this check of the wiring between the RAM DOOR FULL OPEN light and the ram air actuator:

(a) Disconnect connector D646 (left) and connector D680 (right) from the P5-10 air conditioning panel.

(b) To get access to the left ram air actuator, do this step:

1) Open this access panel:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

(c) To get access to the right ram air actuator, do this step:

1) Open this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

(d) Remove connector D14386 (left) or D14394 (right) from the ram air inlet actuator.

(e) Do a check of the wiring between these pins:

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RAM AIR SYSTEM

P5 PANEL CONNECTOR D646	**RAM AIR ACTUATOR CONNECTOR D14386**
Pin 28	Pin 11

RAM AIR SYSTEM

P5-10 PANEL D680	**RAM AIR ACTUATOR D14394**
Pin 3	Pin 11

(f) If there is a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect connector D14386 (left) or D14394 (right) to the ram air inlet actuator.
3) Re-connect connector D646 (left) or D680 (right) to the P5-10 air conditioning panel
4) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.
5) Do these steps to complete the task:
   a) Close this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

   or open this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

   as applicable.

   b) Raise the P5 forward overhead panel into position and tighten the fasteners that hold it there.
6) Raise the P5 forward overhead panel into its normal position and secure the fasteners that hold it in place.
7) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

(g) If there is continuity, then do these steps and continue:

1) Re-connect connector D646 (left) or D680 (right).
2) Raise the P5 forward overhead panel into its normal position and secure the fasteners that hold it in place.

(5) Do this check of the actuator ground wiring for the RAM DOOR FULL OPEN light:

(a) Do a check of the wiring between pin 24 of connector D14386 (left) or D14394 (right) and the ground GD710-ST (left) or GD714-ST (right).

(b) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect connector D14386 (left) or D14394 (right).
3) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

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4) Close this access panel:

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

or open this access panel:

Number	Name/Location
191GR	Ram Air Actuator Panel - Forward

(c) If you do not find a problem with the wiring, then continue.

(6) Replace the ram air inlet actuator M2795 (left) or M2797 (right) as follows:

(a) Do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801, Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(b) If the RAM DOOR FULL OPEN light comes on, then you corrected the fault.

END OF TASK

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801. Left PACK Light Illuminated and Will Not Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module is on and will not reset.

B. Possible Causes

(1) Left compressor discharge overheat switch, S2

(2) Left turbine inlet overheat switch, S938

(3) Left pack discharge duct overheat switch, S934

(4) Wiring problem

(5) Air conditioning accessory unit No. 1, M324

(6) Leaking Pack Flow Control and Shutoff Valve, V18

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-15)

(2) (WDM 21-51-15)

E. Initial Evaluation

(1) Push the TRIP RESET switch on the air conditioning module on the P5 panel.

(2) If the PACK light goes off, then there was an intermittent fault.

(3) If the PACK light stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the left compressor discharge overheat switch, S2:

(a) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(b) Disconnect connector D532 from the left compressor discharge overheat switch.

(c) Push the TRIP RESET switch.

(d) If the PACK light goes out, then do these steps:

1) Replace the compressor discharge overheat switch, S2.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

2) Re-connect connector D532 to the left compressor discharge overheat switch, S2.

3) If the PACK TRIP OFF light is still off, then you corrected the fault. Do these steps to complete the task:

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Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(e) If the PACK light is still on, then continue.

1) Re-connect connector D532 to the left compressor discharge overheat switch, S2.

(2) Do this check of the left turbine inlet overheat switch, S938:

(a) Disconnect connector D10056 from the left turbine inlet overheat switch, S938.

(b) Push the TRIP RESET switch.

(c) If the PACK light goes out, then do these steps:

1) Replace the turbine inlet overheat switch, S938.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

2) Re-connect connector D10056 to the left turbine inlet overheat switch, S938.

3) If the PACK TRIP OFF light is still off, then you corrected the fault. Do these steps to complete the task:

Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(d) If the PACK light is still on, then continue.

1) Re-connect connector D10056 to the left turbine inlet overheat switch, S938.

(3) Do this check of the left pack discharge duct overheat switch, S934:

(a) Open the forward cargo door.

(b) Remove the aft center bulkhead liner in the forward cargo compartment. To remove the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

(c) Disconnect connector D3940 from the left pack discharge duct overheat switch.

(d) Push the TRIP RESET switch.

(e) If the PACK light goes out, then do these steps:

1) Replace the left pack discharge duct overheat switch.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

2) Re-connect connector D3940 to the left pack discharge duct overheat switch, S934.

3) If the PACK light is still off, then you corrected the fault. Do these steps to complete the task:

a) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

b) Close the forward cargo door.

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c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(f) If the PACK light stays on, then continue.

1) Re-connect connector D3940 to the left pack discharge duct overheat switch.

(4) Do this check of the wiring:

(a) Remove the air conditioning accessory unit No. 1, M324. To remove the accessory unit, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for a short from pin 35 at connector D458B on the E4-1 shelf to structure ground (WDM 21-51-15).

(c) If there is a short to ground, then do these steps:

1) Examine and repair the wiring between the air conditioning accessory unit No 1, M324, and the left pack overheat switches, S2, S934, and S938 (WDM 21-51-15).

2) Install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

3) Push the PACK RESET switch.

4) If the PACK light is off, then you corrected the fault. Do these steps to complete the task:

a) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

b) Close the forward cargo door.

c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

d) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(d) If there is not a short to ground, then continue.

(5) Do this check for a leaking pack flow control and shutoff valve, V18:

(a) Set the L PACK switch on the P5-10 panel to OFF.

(b) Supply pressure to the pneumatic system with the APU as follows:

1) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(c) Set the ISOLATION VALVE switch on the P5-10 air conditioning panel to CLOSE.

(d) Make sure that the DUCT PRESS gage on the P5-10 air conditioning panel indicates 12 to 26 psi on the left side and zero or near zero on the right side.

(e) Set the AIR TEMP selector switch on the P5-17 temperature control panel to L PACK.

(f) Monitor the TEMP gage on the P5-17 panel for ten to fifteen minutes to determine if the left pack outlet temperature is increasing.

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(g) If the left pack outlet temperature is increasing, replace the left pack flow control and shutoff valve as follows:

1) Do these tasks: Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-805-002 or Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-807-003

and Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-805-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-802-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-806-003 or Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003.

(h) If the PACK light no longer comes on when the L PACK switch is at OFF and APU air is supplied, then you corrected the fault.

(i) If the left pack outlet temperature did not increase, then continue fault isolation.

(6) Install a new ACAU No 1.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Push the TRIP RESET switch.

(b) If the PACK light is off, then you corrected the fault. Do these steps to complete the task:

1) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

2) Close the forward cargo door.

3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

——— END OF TASK ———

802. Right PACK Light Illuminated and Will Not Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module is on and will not reset.

B. Possible Causes

(1) Right compressor discharge overheat switch, S5

(2) Right turbine inlet overheat switch, S939

(3) Right pack discharge duct overheat switch, S935

(4) Wiring problem

(5) Air conditioning accessory unit No. 2, M1455

(6) Leaking Pack Flow Control and Shutoff Valve, V19

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-25)

(2) (WDM 21-51-25)

E. Initial Evaluation

(1) Push the TRIP RESET switch on the air conditioning module on the P5 panel.

(2) If the PACK light goes off, then there was an intermittent fault.

(3) If the PACK light stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the right compressor discharge overheat switch, S5:

(a) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(b) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Disconnect connector D538 from the right compressor discharge overheat switch.

(d) Push the TRIP RESET switch.

(e) If the PACK light goes out, then do these steps:

1) Replace the compressor discharge overheat switch, S5.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

2) Re-connect connector D538 to the right compressor discharge overheat switch, S5.

3) If the PACK light is still off, then you corrected the fault. Do these steps to complete the task:

Close this access panel:

Number	Name/Location
192CR	ECS Access Door

Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(f) If the PACK light is still on, then continue.

1) Re-connect connector D538 to the right compressor discharge overheat switch, S5.

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(2) Do this check of the right turbine inlet overheat switch, S939:

(a) Disconnect connector D10058 from the right turbine inlet overheat switch, S939.

(b) Push the TRIP RESET switch.

(c) If the PACK light goes out, then do these steps:

1) Replace the turbine inlet overheat switch, S939.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

2) Re-connect connector D10058 to the right turbine inlet overheat switch, S939.

3) If the PACK light is still off, then you corrected the fault. Do these steps to complete the task:

Close this access panel:

Number	Name/Location
192CR	ECS Access Door

Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(d) If the PACK light is still on, then continue.

1) Re-connect connector D10058 to the right turbine inlet overheat switch, S939.

(3) Do this check of the right pack discharge duct overheat switch, S935:

(a) Open the forward cargo door.

(b) Remove the aft center bulkhead liner in the forward cargo compartment. To remove the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

(c) Disconnect connector D3942 from the right pack discharge duct overheat switch.

(d) Push the TRIP RESET switch.

(e) If the PACK light goes out, then do these steps:

1) Replace the right pack discharge duct overheat switch.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

2) Re-connect connector D3942 to the right pack discharge duct overheat switch, S935.

3) If the PACK light is still off, then you corrected the fault. Do these steps to complete the task:

a) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

b) Close the forward cargo door.

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c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(f) If the PACK light stays on, then continue.

1) Re-connect connector D3942 to the right pack discharge duct overheat switch.

(4) Do this check of the wiring:

(a) Remove the air conditioning accessory unit No. 2, M1455. To remove the accessory unit, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for a short from pin 35 at connector D10002B on the E4-1 shelf to structure ground (WDM 21-51-25).

(c) If there is a short to ground, then do these steps:

1) Examine and repair the wiring between the air conditioning accessory unit No 2, M1455, and the right pack overheat switches, S5, S935, and S939 (WDM 21-51-25).

2) Install the ACAU. To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

3) Push the PACK RESET switch.

4) If the PACK light is off, then you corrected the fault. Do these steps to complete the task:

a) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

b) Close the forward cargo door.

c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

e) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(d) If there is not a short to ground, then continue.

(5) Do this check for a leaking pack flow control and shutoff valve, V19:

(a) Set the R PACK switch on the P5-10 panel to OFF.

(b) Supply pressure to the pneumatic system with the APU as follows:

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1) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(c) Set the AIR TEMP selector switch on the P5-17 temperature control panel to R PACK.

(d) Monitor the TEMP gage on the P5-17 panel for ten to fifteen minutes to determine if the right pack outlet temperature is increasing.

(e) If the right pack outlet temperature is increasing, replace the right pack flow control and shutoff valve as follows:

1) Do these tasks: Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-805-002 or Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-807-003

and Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-805-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-802-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-806-003 or Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003.

(f) If the right PACK light no longer comes on when the R PACK switch is at OFF and APU air is supplied, then you corrected the fault.

(g) If the right pack outlet temperature did not increase, then continue fault isolation.

(6) Install a new ACAU No 2.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Push the TRIP RESET switch.

(b) If the PACK light is off, then you corrected the fault. Do these steps to complete the task:

1) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

2) Close the forward cargo door.

3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

——— END OF TASK ———

803. Left PACK Light On During Ground Operation and Stays OFF After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during ground operation and stays off after reset.

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B. Possible Causes

(1) Fan bypass check valve door in the primary plenum/diffuser assembly - damaged or missing

(a) An indication of this condition would be little or no airflow from the ram air exhaust duct outlet.

(2) Dirty heat exchangers

(3) Left ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-15)

(2) (WDM 21-51-15)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do this check of the fan bypass check valve in the primary plenum/diffuser assembly:

(a) Remove conditioned air from the airplane as follows:

1) Do this task: AMM TASK 21-00-00-800-802.

(b) Get access to the fan bypass check valve in the primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(c) Open the access panel on the bottom of the primary plenum/diffuser assembly.

(d) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser and that the door hinge is not damaged.

(e) If the fan bypass check valve door is gone, damaged or not installed at the bottom of the primary diffuser, do these tasks to replace the primary plenum/diffuser assembly:

1) AMM TASK 21-51-03-000-805-002

2) AMM TASK 21-51-03-400-804-002.

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(f) Make sure that the access panel is installed on the bottom of the primary plenum/diffuser assembly.

(g) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

(h) If the PACK light does not come on, then you corrected the fault.

1) Remove conditioned air from the airplane as follows:

a) Do this task: AMM TASK 21-00-00-800-802.

(i) If the PACK light comes on, then continue.

(2) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, do the applicable corrective action.

2) Operate the left air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(3) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

804. Right PACK Light On During Ground Operation and Stays OFF After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during ground operation and stays off after reset.

B. Possible Causes

(1) Fan bypass check valve door in the primary plenum/diffuser assembly - damaged or missing

(2) Dirty heat exchangers

(3) Right ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

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D. Related Data

(1) (SSM 21-51-25)

(2) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do this check of the fan bypass check valve in the primary plenum/diffuser assembly:

(a) Remove conditioned air from the airplane as follows:

1) Do this task: AMM TASK 21-00-00-800-802.

(b) Get access to the fan bypass check valve in the primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Open the access panel on the bottom of the primary plenum/diffuser assembly.

(d) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser and that the door hinge is not damaged.

(e) If the fan bypass check valve door is gone, damaged or not installed at the bottom of the primary diffuser, do these tasks to replace the primary plenum/diffuser assembly:

1) AMM TASK 21-51-03-000-805-002

2) AMM TASK 21-51-03-400-804-002.

(f) Make sure that the access panel is installed on the bottom of the primary plenum/diffuser assembly.

(g) Operate the right air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

(h) If the PACK light does not come on, then you corrected the fault.

1) Remove conditioned air from the airplane as follows:

a) Do this task: AMM TASK 21-00-00-800-802.

(i) If the PACK light comes on, then continue.

(2) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, then do the applicable corrective action.

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2) Operate the right air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(3) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

805. Left PACK Light On During Climb and Stays OFF After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during climb and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Left ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-15)

(2) (WDM 21-51-15)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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F. Fault Isolation Procedure

(1) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, then do the applicable corrective action.

2) Operate the left air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(2) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

806. Right PACK Light On During Climb and Stays OFF After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during climb and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Right ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-25)

(2) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, then do the applicable corrective action.

2) Operate the right air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(2) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning Pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

807. Left PACK Light On During Approach and Stays OFF After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during approach and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Left ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-15)

(2) (WDM 21-51-15)

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E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, then do the applicable corrective action.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(2) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

808. Right PACK Light On During Approach and Stays OFF After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during approach and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Right ram air door not fully open.

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

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D. Related Data

(1) (SSM 21-51-25)

(2) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Look at the RAM DOOR FULL OPEN light on the P5-10 air conditioning panel.

(a) If the RAM DOOR FULL OPEN light is not on, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) If the task shows a problem with the ram air system, then do the applicable corrective action.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the RAM DOOR FULL OPEN light is on, then continue.

(2) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

809. Left PACK Light On During Cruise and Stays OFF After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during cruise and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-15)

(2) (WDM 21-51-15)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do this task, Pack/Zone Temperature Controller BITE Test, AMM TASK 21-61-00-700-806-002 or Pack Flow Temperature Controller BITE Test, AMM TASK 21-61-00-740-801-002.

(2) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

810. Right PACK Light On During Cruise and Stays OFF After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during cruise and stays off after reset.

B. Possible Causes

(1) Dirty heat exchangers

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

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D. Related Data

(1) (SSM 21-51-25)

(2) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack/Zone Temperature Controller BITE Test, AMM TASK 21-61-00-700-806-002 or Pack Flow Temperature Controller BITE Test, AMM TASK 21-61-00-740-801-002.

(2) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

811. Left PACK Light On On the Ground and Comes on Again After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during ground operation and comes on again after reset.

B. Possible Causes

(1) Fan bypass check valve door in the primary plenum/diffuser assembly - damaged or missing

(2) Closed FCSOV

(3) Air cycle machine, drag during start or seized.

(4) Dirty heat exchangers

(5) Blockage or unwanted material in the ram air ducting

(6) Ram air system failure

(7) Pack overheat switches:

(a) Left compressor discharge overheat switch, S2

(b) Left turbine inlet overheat switch, S938

(c) Left pack discharge duct overheat switch, S934

(8) Left temperature control valve, V139 stuck open.

(9) Bleed air too hot

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(10) Pack/zone temperature control system failure

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-14)

(4) (WDM 21-51-14)

(5) (SSM 21-51-15)

(6) (WDM 21-51-15)

E. Initial Evaluation

(1) Do these steps to make sure the operation of the air cycle machine is satisfactory:

NOTE: With the APU as the pneumatic source this check will make sure the ACM starts with the highest duct pressure available.

(a) Set the BLEED 1 and BLEED 2 switches on the P5-10 air conditioning panel to OFF.

(b) Set the TRIM AIR switch on the P5-17 temperature control panel to OFF.

(c) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(d) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(e) Do a check of the airflow at the exhaust duct outlet for the left ram air system.

1) If there is little or no airflow at the exhaust duct outlet, then do these steps:

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

b) Go to the Fault Isolation Procedure.

2) If the airflow at the exhaust duct outlet is satisfactory, then continue.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

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(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do this check of the fan bypass check valve in the primary plenum/diffuser assembly:

(a) Remove conditioned air from the airplane as follows:

1) Do this task: AMM TASK 21-00-00-800-802.

(b) Get access to the fan bypass check valve in the primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(c) Open the access panel on the bottom of the primary plenum/diffuser assembly.

(d) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser and that the door hinge is not damaged.

(e) If the fan bypass check valve door is gone, damaged or not installed at the bottom of the primary diffuser, do these tasks to replace the primary plenum/diffuser assembly:

1) AMM TASK 21-51-03-000-805-002

2) AMM TASK 21-51-03-400-804-002.

(f) Make sure that the access panel is installed on the bottom of the primary plenum/diffuser assembly.

(g) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

(h) If the PACK light does not come on, then you corrected the fault.

1) Remove conditioned air from the airplane as follows:

a) Do this task: AMM TASK 21-00-00-800-802.

(i) If the PACK light comes on, then continue.

(2) Do a check of the Left PACK valve position.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Check the valve position on the FMC Maintenance Discrete page (AMM TASK 21-00-05-780-801).

NOTE: Make sure the valve position indicator on the valve is the same as the FMC Discrete.

1) If the PACK valve is closed, replace the Left FCSOV. These are the tasks:

a) Left Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-802-002 or Left Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-806-003

b) Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-805-002 or Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003

2) If the PACK valve is open, then continue.

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3) Stop the operation of the pack. To stop the pack operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If there was little or no airflow at the exhaust duct outlet for the left ram air system when you performed the Initial Evaluation, then replace the left pack air cycle machine as follows:

(a) Remove the air cycle machine. To remove the air cycle machine, do this task: Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002.

(b) Examine the upstream duct to the air cycle machine for any evidence of oil contamination:

(c) If you find oil contamination present, do these steps:

1) Isolate the cause of the oil contamination and repair the problem.

2) Remove the oil contamination from the air conditioning and pneumatic systems. To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(d) Install a serviceable air cycle machine. To install an ACM, do this task: Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(e) Operate the left air conditioning pack. To operate the pack, do this this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

1) If the PACK light does not come on, then you corrected the fault.

2) If the PACK light comes on, then continue.

3) Stop the operation of the pack. To stop the pack operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(4) Examine the left pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(5) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(6) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

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(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(7) Do this check of the ram air modulation system:

(a) Look at the left pack ram air doors.

(b) If the ram air doors are not in the full open position, then, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(8) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(9) Replace the left pack compressor discharge overheat switch, S2.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(10) Replace the left pack turbine inlet overheat switch, S938.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

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(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(11) Replace the left pack discharge duct overheat switch, S934.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

812. Right PACK Light On On the Ground and Comes on Again After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during ground operation and comes on again after reset.

B. Possible Causes

(1) Fan bypass check valve door in the primary plenum/diffuser assembly - damaged or missing

(2) Closed FCSOV

(3) Air cycle machine

(4) Dirty heat exchangers

(5) Blockage or unwanted material in the ram air ducting

(6) Ram air system failure

(7) Pack overheat switches:

(a) Right compressor discharge overheat switch, S5

(b) Right turbine inlet overheat switch, S939

(c) Right pack discharge duct overheat switch, S935

(8) Right temperature control valve, V141

(9) Bleed air too hot

(10) Pack/zone temperature control system failure

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT

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AKS 001 (Continued)

(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS ALL			
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-24)

(4) (WDM 21-51-24)

(5) (SSM 21-51-25)

(6) (WDM 21-51-25)

E. Initial Evaluation

(1) Do these steps to make sure the operation of the right air cycle machine is satisfactory:

(a) Set the BLEED 1 and BLEED 2 switches on the P5-10 air conditioning panel to OFF.

(b) Set the TRIM AIR switch on the P5-17 temperature control panel to OFF.

(c) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(d) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(e) Do a check of the airflow at the exhaust duct outlet for the right ram air system:

1) If there is little or no airflow at the exhaust duct outlet, then do these steps:

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

b) Go to the Fault Isolation Procedure.

2) If the airflow at the exhaust duct outlet is satisfactory, then continue.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do this check of the fan bypass check valve in the primary plenum/diffuser assembly:

(a) Remove conditioned air from the airplane as follows:

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1) Do this task: AMM TASK 21-00-00-800-802.

(b) Get access to the fan bypass check valve in the primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Open the access panel on the bottom of the primary plenum/diffuser assembly.

(d) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser and that the door hinge is not damaged.

(e) If the fan bypass check valve door is gone, damaged or not installed at the bottom of the primary diffuser, do these tasks to replace the primary plenum/diffuser assembly:

1) AMM TASK 21-51-03-000-805-002

2) AMM TASK 21-51-03-400-804-002.

(f) Make sure that the access panel is installed on the bottom of the primary plenum/diffuser assembly.

(g) Operate the right air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

(h) If the PACK light does not come on, then you corrected the fault.

1) Remove conditioned air from the airplane as follows:

a) Do this task: AMM TASK 21-00-00-800-802.

(i) If the PACK light comes on, then continue.

(2) Do a check of the Right PACK valve position.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) Check the valve position on the FMC Maintenance Discrete page (AMM TASK 21-00-05-780-801).

NOTE: Make sure the valve position indicator on the valve is the same as the FMC Discrete.

1) If the PACK valve is closed, replace the Right FCSOV. These are the tasks:

a) Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-805-002 or Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-807-003

b) Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-805-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-802-002 or Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-806-003 or Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003

2) If the PACK valve is open, then continue.

3) Stop the operation of the pack. To stop the pack operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If there was little or no airflow at the exhaust duct outlet for the right ram air system when you performed the Initial Evaluation, then replace the right pack air cycle machine as follows:

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(a) Remove the air cycle machine. To remove the air cycle machine, do this task: Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002.

(b) Examine the upstream duct to the air cycle machine for any evidence of oil contamination.

(c) If you find oil contamination present, do these steps:

1) Isolate the cause of the oil contamination and repair the problem.

2) Remove the oil contamination from the air conditioning and pneumatic systems. To remove the oil contamination, do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

(d) Install a serviceable air cycle machine. To install an ACM, do this task: Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002

(e) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

1) If the PACK light does not come on, then you corrected the fault.

2) If the PACK light comes on, then continue.

3) Stop the operation of the pack. To stop the pack operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804..

(4) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(5) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(6) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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(c) If the PACK light comes on, then continue.

(7) Do this check of the ram air modulation system:

(a) Look at the right pack ram air doors.

(b) If the ram air doors are not in the full open position, then, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(8) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(9) Replace the right pack compressor discharge overheat switch, S5.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(10) Replace the right pack turbine inlet overheat switch, S939.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(11) Replace the right pack discharge duct overheat switch, S935.

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These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

813. Left PACK Light ON at Cruise and Comes ON Again After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes ON during cruise and comes ON again after reset.

B. Possible Causes

(1) Blockage or unwanted material in the ram air ducting

(2) Left ram air inlet deflector door not retracted

(3) Pack/zone temperature control system failure

(4) Left temperature control valve, V139

(5) Dirty heat exchangers

(6) Bleed air too hot

(7) Pack overheat switches:

(a) Left compressor discharge overheat switch, S2

(b) Left turbine inlet overheat switch, S938

(c) Left pack discharge duct overheat switch, S934

(8) Left air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-15)

(4) (WDM 21-51-15)

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E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes ON, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come ON, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Examine the left pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Examine the left ram air inlet deflector door for not retracted.

(a) If the left ram air inlet deflector door was not retracted and the bearing support assembly was stuck, then do these steps:

1) Remove the left Ram Air Inlet Deflector Door Shaft Assembly. To remove the left Ram Air Inlet Deflector Door Shaft Assembly, do the Ram Air Inlet Deflector Door Shaft Assembly Removal, AMM TASK 21-51-22-000-802.

2) Remove and replace the bearing support assembly.

3) Install the left Ram Air Inlet Deflector Door Shaft Assembly. To install left Ram Air Inlet Deflector Door Shaft Assembly, do the Ram Air Inlet Deflector Door Shaft Assembly Installation, AMM TASK 21-51-22-400-802.

4) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

5) If the PACK light does not come ON, then you corrected the fault.

6) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the left ram air inlet deflector door was retracted then continue.

(3) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

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4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(4) Clean the left pack heat exchangers. To clean the heat exchangers, do the Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(5) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do the BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Replace the left pack compressor discharge overheat switch, S2.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(7) Replace the left pack turbine inlet overheat switch, S938.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(8) Replace the left pack discharge duct overheat switch, S934.

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These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(9) Replace the left pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(a) Operate the left air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

(c) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

814. Right PACK Light ON at Cruise and Comes ON Again After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes ON during cruise and comes ON again after reset.

B. Possible Causes

(1) Blockage or unwanted material in the ram air ducting

(2) Right ram air inlet deflector door not retracted

(3) Pack/zone temperature control system failure

(4) Right temperature control valve, V141

(5) Dirty heat exchangers

(6) Bleed air too hot

(7) Pack overheat switches:

(a) Right compressor discharge overheat switch, S5

(b) Right turbine inlet overheat switch, S939

(c) Right pack discharge duct overheat switch, S935

(8) Right air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-25)

(4) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes ON, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come ON, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Examine the right ram air inlet deflector door for not retracted.

(a) If the right ram air inlet deflector door was not retracted and the bearing support assembly was stuck, then do these steps:

1) Remove the right Ram Air Inlet Deflector Door Shaft Assembly. To remove the right Ram Air Inlet Deflector Door Shaft Assembly, do the Ram Air Inlet Deflector Door Shaft Assembly Removal, AMM TASK 21-51-22-000-802.

2) Remove and replace the bearing support assembly.

3) Install the right Ram Air Inlet Deflector Door Shaft Assembly. To install right Ram Air Inlet Deflector Door Shaft Assembly, do the Ram Air Inlet Deflector Door Shaft Assembly Installation, AMM TASK 21-51-22-400-802.

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4) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

5) If the PACK light does not come ON, then you corrected the fault.

6) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the right ram air inlet deflector door was retracted then continue.

(4) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(5) Clean the right pack heat exchangers. To clean the heat exchangers, do the Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(6) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do the BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come ON, then you corrected the fault.

4) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(7) Replace the right pack compressor discharge overheat switch, S5.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

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1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(8) Replace the right pack turbine inlet overheat switch, S939.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(9) Replace the right pack discharge duct overheat switch, S935.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

1) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes ON, then continue.

(10) If there was low or no airflow from the right pack ram air exhaust duct outlet, then replace the right pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(a) Operate the right air conditioning pack. To operate the pack, do the Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come ON, then you corrected the fault.

(c) Stop the pack. To stop the pack, do the Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

815. Left PACK Light On During Approach and Comes on Again After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during approach and comes on again after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Blockage or unwanted material in the ram air ducting

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(3) Ram air system failure

(4) Pack overheat switches:

(a) Left compressor discharge overheat switch, S2

(b) Left turbine inlet overheat switch, S938

(c) Left pack discharge duct overheat switch, S934

(5) Left temperature control valve, V139

(6) Bleed air too hot

(7) Pack/zone temperature control system failure

(8) Air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-14)

(4) (WDM 21-51-14)

(5) (SSM 21-51-15)

(6) (WDM 21-51-15)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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F. Fault Isolation Procedure

(1) Examine the left pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(4) Do this check of the ram air modulation system:

(a) Look at the left pack ram air doors.

(b) If the ram air doors are not in the full open position, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(5) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

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2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Replace the left pack compressor discharge overheat switch, S2.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(7) Replace the left pack turbine inlet overheat switch, S938.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(8) Replace the left pack discharge duct overheat switch, S934.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(9) Replace the left pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

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(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

(c) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

816. Right PACK Light On During Approach and Comes on Again After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during approach and comes on again after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Blockage or unwanted material in the ram air ducting

(3) Ram air system failure

(4) Pack overheat switches:

(a) Right compressor discharge overheat switch, S5

(b) Right turbine inlet overheat switch, S939

(c) Right pack discharge duct overheat switch, S935

(5) Right temperature control valve, V141

(6) Bleed air too hot

(7) Pack/zone temperature control system failure

(8) Air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-24)

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(4) (WDM 21-51-24)

(5) (SSM 21-51-25)

(6) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(4) Do this check of the ram air modulation system:

(a) Look at the right pack ram air doors.

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(b) If the ram air doors are not in the full open position, then, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(5) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Replace the right pack compressor discharge overheat switch, S5.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(7) Replace the right pack turbine inlet overheat switch, S939.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(8) Replace the right pack discharge duct overheat switch, S935.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

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(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(9) Replace the right pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

(c) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

817. Left PACK Light On During Climb and Comes on Again After Reset - Fault Isolation

A. Description

(1) The left PACK light on the P5-10 air conditioning module comes on during climb and comes on again after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Blockage or unwanted material in the ram air ducting

(3) Ram air system failure

(4) Pack overheat switches:

(a) Left compressor discharge overheat switch, S2

(b) Left turbine inlet overheat switch, S938

(c) Left pack discharge duct overheat switch, S934

(5) Left temperature control valve, V139

(6) Bleed air too hot

(7) Pack/zone temperature control system failure

(8) Air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT

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AKS 001 (Continued)

(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
AKS ALL			
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-14)

(4) (WDM 21-51-14)

(5) (SSM 21-51-15)

(6) (WDM 21-51-15)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Examine the left pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

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2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(4) Do this check of the ram air modulation system:

(a) Look at the left pack ram air doors.

(b) If the ram air doors are not in the full open position, then, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(5) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Replace the left pack compressor discharge overheat switch, S2.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

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1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(7) Replace the left pack turbine inlet overheat switch, S938.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(8) Replace the left pack discharge duct overheat switch, S934.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(9) Replace the left pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

(c) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

818. Right PACK Light On During Climb and Comes on Again After Reset - Fault Isolation

A. Description

(1) The right PACK light on the P5-10 air conditioning module comes on during climb and comes on again after reset.

B. Possible Causes

(1) Dirty heat exchangers

(2) Blockage or unwanted material in the ram air ducting

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(3) Ram air system failure

(4) Pack overheat switches:

(a) Right compressor discharge overheat switch, S5

(b) Right turbine inlet overheat switch, S939

(c) Right pack discharge duct overheat switch, S935

(5) Right temperature control valve, V141

(6) Bleed air too hot

(7) Pack/zone temperature control system failure

(8) Air cycle machine

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-24)

(4) (WDM 21-51-24)

(5) (SSM 21-51-25)

(6) (WDM 21-51-25)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) If the PACK light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the PACK light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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F. Fault Isolation Procedure

(1) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(2) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message shown.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(4) Do this check of the ram air modulation system:

(a) Look at the right pack ram air doors.

(b) If the ram air doors are not in the full open position, then, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the PACK light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ram air doors are in the full open position, then continue.

(5) Look for a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

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2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the PACK light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Replace the right pack compressor discharge overheat switch, S5.

These are the tasks:

Compressor Discharge Overheat Switch Removal, AMM TASK 21-51-40-000-801,

Compressor Discharge Overheat Switch Installation, AMM TASK 21-51-40-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(7) Replace the right pack turbine inlet overheat switch, S939.

These are the tasks:

Turbine Inlet Overheat Switch Removal, AMM TASK 21-51-41-000-801,

Turbine Inlet Overheat Switch Installation, AMM TASK 21-51-41-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(8) Replace the right pack discharge duct overheat switch, S935.

These are the tasks:

Pack Discharge Overheat Switch Removal, AMM TASK 21-51-42-000-803-002,

Pack Discharge Overheat Switch Installation, AMM TASK 21-51-42-400-803-002.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the PACK light comes on, then continue.

(9) Replace the right pack air cycle machine.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

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(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the PACK light does not come on, then you corrected the fault.

(c) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

819. Divergent Pack Outlet Temperatures Noted Between Left and Right Packs

A. Description

(1) The flight deck or forward/aft passenger cabin is consistently 5°F or more warmer than the other temperature zones with the temperature selector switches all set to the same temperature.

(2) You can observe the divergent temperatures by selecting the AIR TEMP selector to SUPPLY DUCT CONT CAB, SUPPLY DUCT FWD or SUPPLY DUCT AFT.

B. Possible Causes

(1) Mix manifold temperature sensor, T472 or T475 (drifted)

(2) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) SSM 21-51-12

(2) SSM 21-51-22

(3) WDM 21-51-12

(4) WDM 21-51-22

E. Initial Evaluation

(1) Operate the left and right air conditioning packs. To operate the packs, do this task:Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure that the ISOLATION VALVE switch on the P5-10 air conditioning panel is set to OPEN.

(3) Set the TRIM AIR switch on the P5-17 temperature control panel to ON.

(4) Set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 panel to the full C position.

(5) Allow the temperatures to stabilize.

(6) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT CONT CAB and record the temperature indicated on the gage.

(7) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT FWD and record the temperature indicated on the gage.

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(8) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT AFT and record the temperature indicated on the gage.

(9) If there is not a variation (divergence) in the supply duct temperature indications, then there was an intermittent fault.

(a) Stop the operation of the packs. To stop the packs operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(10) If there is a wide variation (divergence) between any of the supply duct temperatures, then do the Fault Isolation procedure below.

F. Fault Isolation Procedure

(1) Remove conditioned air from the airplane. To remove conditioned air, do this task: Remove Conditioned Air from the Airplane, AMM TASK 21-00-00-800-802.

(2) If the temperature indication of the SUPPLY DUCT CONT CAB was much greater than the temperature of the SUPPLY DUCT FWD or SUPPLY DUCT AFT, then replace the left mix manifold temperature sensor, T472. To replace sensor, T472, do these tasks: Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803 and Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(3) If the temperature indication of the SUPPLY DUCT FWD OR SUPPLY DUCT AFT was much greater than the temperature indication of the SUPPLY DUCT CONT CAB, then replace the right mix manifold temperature sensor, T475. To replace sensor, T475, do these tasks: Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803 and Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(4) Do the Repair Confirmation at the end of this procedure.

(a) If the Repair Confirmation was satisfactory, then you corrected the fault.

(b) If the Repair Confirmation was not satisfactory, then continue.

(5) Do these wiring checks:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

(b) Open the forward cargo door.

(c) Remove the center bulkhead liner on the aft bulkhead of the forward cargo compartment. Do this task to remove the center bulkhead liner, Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

(d) Disconnect electrical connector D3868 from the left mix manifold temperature sensor, T472, and electrical connector D6878 from the right mix manifold temperature sensor, T475.

(e) Get access to the electronic equipment racks in the E/E bay.

(f) Remove the left and right pack/zone temperature controllers. To remove the controllers, do this task:Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801 or Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(g) Do a continuity check between these connections on wire bundle W5104:

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D3858A	D3868
Pin B7	Pin 1
Pin A7	Pin 2

1) Repair any problems that you find.

(h) Do a continuity check between these connections on wire bundle W6230:

D3860A	D3878
Pin B7	Pin 1
Pin A7	Pin 2

1) Repair any problems that you find.

(i) Reconnect connectors D3868 and D3878 to temperature sensors T472 and T475, respectively.

(j) Install the left and right zone/temperature controllers M1442 and M1443, respectively. To install the controllers, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(k) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

(l) Do the Repair Confirmation at the end of this procedure.

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

(6) Do a Pack/Zone Temperature Controller BITE test as follows: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(7) Close all access panels and doors opened for access.

G. Repair Confirmation

(1) Operate the left and right air conditioning packs. To operate the packs, do this task:Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure that the ISOLATION VALVE switch on the P5-10 air conditioning panel is set to OPEN.

(3) Set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 panel to the full C position.

(4) Allow the temperatures to stabilize.

(5) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT CONT CAB and record the temperature indicated on the gage.

(6) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT FWD and record the temperature indicated on the gage.

(7) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT AFT and record the temperature indicated on the gage.

(8) If the supply duct temperatures are almost the same, then you have corrected the fault.

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(9) Stop the operation of the packs. To stop the packs operation, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

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801. Cabin Temperature Controller BITE Procedure

A. General

(1) This task is for the Cabin Temperature Controller (CTC) BITE Procedure.

B. BITE Procedure

(1) There is no CTC BITE Procedure for the 737-800 or 737-900 airplanes.

——— END OF TASK ———

854. Left Pack Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The indicated L PACK Air Temperature on the P5-17 Cabin Temperature Panel is not correct.

B. Possible Causes

(1) Air Temperature Indicator, N11

(2) Left Pack Temperature Bulb, T488

(3) Air Temperature Selector, S1

(4) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (WDM 21-61-51)

(2) (SSM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the Left Cooling Pack. This is the task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 Cabin Temperature Panel, put the CONT CAB, FWD CAB and AFT CAB Temperature Selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let the Output Temperature become stable.

(4) Use a thermometer, STD-1122 to determine the Ambient Air Temperature in the control cabin.

(5) On the P5-17 Cabin Temperature Panel, put the Air Temperature Selector to the L PACK position.

NOTE: The temperature shown on the indicator should be approximately the same as the Ambient Air Temperature.

(6) On the P5-17 Cabin Temperature Panel, move the Air Temperature Selector to the CONT CAB SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the Ambient Air Temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

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(8) If the temperature on the indicator is correct for the CONT CAB SUPPLY DUCT and the L PACK positions, then there was an intermittant problem.

(9) If the temperature on the indicator is correct for the CONT CAB SUPPLY DUCT position, but not correct for the L PACK position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- Cabin Temperature Indicator, N11
- Air Temperature Selector, S1
- Wiring

(1) Do this check for 28 VDC at the Cabin Temperature Indicator:

(a) Lower the P5 Overhead Panel to get access to electrical connector D90 for the Cabin Temperature Indicator N11.

(b) Do a check for 28 VDC between pin 2 of connector D90 and structure ground.

1) If you do not find 28 VDC at pin 2 of connector D90, then do these steps:

a) Repair the wiring between pin 2 of D90 and the this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

b) Close the P5 Overhead Panel.

c) Do the Repair Confirmation at the end of this task.

2) If you find 28 VDC at pin 2 of electrical connector D90, then continue.

(2) Do a Resistance check between the bonding jumper at the upper left corner of the P5 FWD Overhead Panel and the airplane structure:

(a) Make sure that the Resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the Resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 FWD Overhead Panel.

(c) Do the Repair Confirmation at the end of this task.

(3) Replace the Cabin Temperature Iindicator N11. These are the tasks:

- Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801
- Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801

(a) Do the Repair Confirmation at the end of this task.

(4) Replace the Air Temperature Selector S1.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct for One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- left pack temperature bulb, T488
- air temperature selector, S1

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- wiring

(1) Do this check of the wiring for the P5-17 Cabin Temperature Panel and the Temperature Bulb for the Left Pack:

(a) Lower the P5 Overhead Panel to get access to electrical connector D3998 for the Air Temperature Selector Switch S1.

(b) Disconnect electrical connector D3930 from the Left Pack Temperature Bulb T488 (AMM TASK 21-51-60-000-801).

(c) Do a check for an open circuit between these pins:

D3998	D3930
pin 24	pin B

(d) Make sure pin A of connector D3930 goes to ground.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Close the P5 Overhead Panel.

3) Do the Repair Confirmation at the end of this task.

(f) If there is continuity, then continue.

(2) Replace the Left Pack Temperature Bulb T488. These are the tasks:

- Pack Temperature Bulb Removal, AMM TASK 21-51-60-000-801
- Pack Temperature Bulb Installation, AMM TASK 21-51-60-400-801

(a) Do the Repair Confirmation at the end of this task.

(3) Replace the Air Temperature Selector S1.

(a) Close the P5 Overhead Panel.

(b) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Supply conditioned air with the Left Cooling Pack. This is the task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 Cabin Temperature Panel, put the CONT CAB, FWD CAB and AFT CAB Temperature Selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let the Output Temperature become stable.

(4) On the P5-17 Cabin Temperature Panel, put the Air Temperature Selector to the L PACK position.

(5) On the P5-17 Cabin Temperature Panel, move the Air Temperature Selector to the CONT CAB SUPPLY DUCT position.

(a) If the temperature shown on the Cabin Temperature Indicator is correct for the L PACK, then you corrected the problem.

(b) If the temperature shown on the Cabin Temperature Indicator is not correct for the L PACK, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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855. Right Pack Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The R PACK air temperature shown on the indicator of the P5-17 cabin temperature panel is not correct.

B. Possible Causes

(1) Air temperature indicator, N11

(2) Right pack temperature bulb, T489

(3) Air temperature selector, S1

(4) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the control cabin.

(5) Put the air temperature selector on the P5-17 cabin temperature panel to the R PACK position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Move the air temperature selector on the P5-17 cabin temperature panel to the AFT PASS CAB position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the AFT PASS CAB position, but not correct for the R PACK position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the AFT PASS CAB and the R PACK positions, then there was an intermittent fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11

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- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC between pin 2 of connector D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of connector D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and circuit breaker C00076:

This is the circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of electrical connector D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the cabin temperature indicator, N11.

These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector, S1.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct for One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- right pack temperature bulb, T489
- air temperature selector, S1
- wiring

(1) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the right pack:

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(a) Lower the P5 overhead panel to get access to electrical connector D3996 for the air temperature selector switch S1.

(b) Disconnect electrical connector D3982 from the right pack temperature bulb T489. (AMM TASK 21-51-60-000-801)

(c) Do check for an open circuit between these pins:

D3996	D3982
pin 24	pin B

(d) Make sure pin A of connector D3982 goes to ground.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(f) If there is continuity, then continue.

(2) Replace the right pack temperature bulb T489.

These are the tasks:

Pack Temperature Bulb Removal, AMM TASK 21-51-60-000-801,

Pack Temperature Bulb Installation, AMM TASK 21-51-60-400-801.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the R PACK position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the R PACK position.

(a) If the temperature shown on the cabin temperature indicator is correct for the R PACK, then you corrected the fault.

END OF TASK

856. Forward Passenger Cabin Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The FWD PASS CAB air temperature shown on the indicator of the P5-17 cabin temperature panel is incorrect.

B. Possible Causes

(1) Forward passenger cabin temperature sensor fan

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(2) Forward passenger cabin temperature bulb

(3) Air temperature indicator, N11

(4) Air temperature selector, S1

(5) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the forward and aft zones of the passenger cabin.

(5) Put the air temperature selector on the P5-17 cabin temperature panel to the FWD PASS CAB position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Move the air temperature selector on the P5-17 cabin temperature panel to the AFT PASS CAB position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the AFT PASS CAB position, but not correct for the FWD PASS CAB position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the AFT PASS CAB and the FWD PASS CAB positions, then there was an intermittant fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11
- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

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(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC at between pin 2 of connector D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of connector D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and the following circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of connector D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the cabin temperature indicator N11.

These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- forward passenger cabin temperature sensor fan
- forward passenger cabin temperature bulb
- air temperature selector, S1
- wiring

(1) Do this test of the fan in the temperature sensor assembly for the forward passenger cabin:

(a) Hold a 3 inch by 4 inch sheet of lightweight paper over the air inlet grille of the temperature sensor assembly.

(b) Make sure that the fan holds the paper in its position.

(c) If the vacuum from the fan will not hold the paper in its position, then do these steps:

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1) Do this task: Cabin Temperature Sensor Assembly Filter Removal, AMM TASK 21-61-06-000-801.
2) Examine the temperature sensor assembly filter for blockage.
3) If blockage is found, then do these steps:
   a) Do this task: Cabin Temperature Sensor Assembly Filter Cleaning, AMM TASK 21-61-06-100-801.
   b) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.
   c) Do the Repair Confirmation at the end of this task.
4) If no blockage is found, then continue.
5) Inspect the duct from the filter to the temperature sensor for blockage.
6) If blockage is found, then do these steps:
   a) Clean the duct
   b) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.
   c) Do the Repair Confirmation at the end of this task.
7) If no blockage is found, then do these steps:
   a) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.
   b) These are the tasks:

      Cabin Temperature Sensor Fan Removal, AMM TASK 21-61-11-000-801,

      Cabin Temperature Sensor Fan Installation, AMM TASK 21-61-11-400-801.
   c) Do the Repair Confirmation at the end of this task.

(d) If the vacuum from the fan will hold the paper, then remove the paper and continue.

(2) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the forward passenger cabin zone:

(a) Lower the P5 overhead panel to get access to electrical connector D3998 for the air temperature selector switch S1.

(b) Do the steps to remove the bullnose cover in, do this task: Cabin Temperature Bulb Removal, AMM TASK 21-61-31-000-801

to get access to the temperature bulb.

(c) Disconnect electrical connector D3920 from the forward passenger cabin temperature bulb.

(d) Do a check for an open circuit between these pins on connector D3998 and connector D3920:

D3998		D3920
pin 3	. . . . .	pin B

(e) Make sure pin A of connector D3920 goes to ground.

(f) If there is an open circuit, then do these steps:
1) Repair the wiring.
2) Close the P5 overhead panel.

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3) Do the Repair Confirmation at the end of this task.

(g) If there is continuity, then continue.

(3) Replace the forward passenger cabin temperature bulb.

These are the tasks:

Cabin Temperature Bulb Removal, AMM TASK 21-61-31-000-801,

Cabin Temperature Bulb Installation, AMM TASK 21-61-31-400-801.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CABIN temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the FWD PASS CAB position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the FWD PASS CAB position.

(a) If the temperature shown on the cabin temperature indicator is correct for the FWD PASS CAB, then you corrected the fault.

——— END OF TASK ———

857. Aft Passenger Cabin Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The AFT PASS CAB air temperature shown on the indicator of the P5-17 cabin temperature panel is not correct.

B. Possible Causes

(1) Aft passenger cabin temperature sensor fan

(2) Aft passenger cabin temperature bulb

(3) Air temperature indicator, N11

(4) Air temperature selector, S1

(5) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

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D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the forward and aft zones of the passenger cabin.

(5) Put the air temperature selector on the P5-17 cabin temperature panel to the AFT PASS CAB position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Move the air temperature selector on the P5-17 cabin temperature panel to the FWD PASS CAB position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the FWD PASS CAB position, but not correct for the AFT PASS CAB position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the AFT PASS CAB and the FWD PASS CAB positions, then there was an intermittant fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11
- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC between pin 2 of connector D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and circuit breaker C00076:

This is the circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

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3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the cabin temperature indicator N11.

These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Incorrect One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- aft passenger cabin temperature sensor fan
- aft passenger cabin temperature bulb
- air temperature selector, S1
- wiring

(1) Do this test of the fan in the temperature sensor assembly for the aft passenger cabin:

(a) Hold a 3 inch by 4 inch sheet of lightweight paper over the air inlet grille of the temperature sensor assembly.

(b) Make sure that the fan holds the paper in its position.

(c) If the vacuum from the fan will not hold the paper in its position, then do these steps:

1) Do this task: Cabin Temperature Sensor Assembly Filter Removal, AMM TASK 21-61-06-000-801.

2) Examine the temperature sensor assembly filter for blockage.

3) If blockage is found, then do these steps:

a) Do this task: Cabin Temperature Sensor Assembly Filter Cleaning, AMM TASK 21-61-06-100-801.

b) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.

c) Do the Repair Confirmation at the end of this task.

4) If no blockage is found, then continue.

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5) Inspect the duct from the filter to the temperature sensor for blockage.

6) If blockage is found, then do these steps:

a) Clean the duct

b) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.

c) Do the Repair Confirmation at the end of this task.

7) If no blockage is found, then do these steps:

a) Do this task: Cabin Temperature Sensor Assembly Filter Installation, AMM TASK 21-61-06-400-801.

b) These are the tasks:

Cabin Temperature Sensor Fan Removal, AMM TASK 21-61-11-000-801,

Cabin Temperature Sensor Fan Installation, AMM TASK 21-61-11-400-801.

c) Do the Repair Confirmation at the end of this task.

(d) If the vacuum from the fan will hold the paper, then remove the paper and continue.

(2) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the aft passenger cabin zone:

(a) Lower the P5 overhead panel to get access to electrical connector D3996 for the air temperature selector switch S1.

(b) Do the steps to remove the bullnose cover in, do this task: Cabin Temperature Bulb Removal, AMM TASK 21-61-31-000-801

to get access to the temperature bulb.

(c) Disconnect electrical connector D3922 from the aft passenger cabin temperature bulb.

(d) Do a check for an open circuit between these pins on connector D3996 and connector D3922:

D3996	**D3922**
pin 13	pin B

(e) Make sure pin A of connector D3922 goes to ground.

(f) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(g) If there is continuity, then continue.

(3) Replace the aft passenger cabin temperature bulb.

These are the tasks:

Cabin Temperature Bulb Removal, AMM TASK 21-61-31-000-801,

Cabin Temperature Bulb Installation, AMM TASK 21-61-31-400-801.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

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(b) Do the Repair Confirmation at the end of this task.

H. Repair Confirmation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CABIN temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the AFT PASS CAB position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the AFT PASS CAB position.

(a) If the temperature shown on the cabin temperature indicator is correct for the AFT PASS CAB, then you corrected the fault.

——— END OF TASK ———

858. Control Cabin Supply Duct Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The CONT CAB SUPPLY DUCT air temperature shown on the indicator of the P5-17 cabin temperature panel is not correct.

B. Possible Causes

(1) Air temperature indicator, N11

(2) Control cabin supply duct temperature bulb, T485

(3) Air temperature selector, S1

(4) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the left cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the control cabin.

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(5) Move the air temperature selector on the P5-17 cabin temperature panel to the CONT CAB SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Put the air temperature selector on the P5-17 cabin temperature panel to the L PACK position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the L PACK position, but not correct for the CONT CAB SUPPLY DUCT position, the do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the CONT CAB SUPPLY DUCT and the L PACK positions, then there was an intermittant fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11
- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC between pin 2 of D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and circuit breaker C00076:

This is the circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the cabin temperature indicator N11.

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These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct for One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- control cabin supply duct temperature bulb, T485
- air temperature selector, S1
- wiring

(1) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the control cabin supply duct:

(a) Lower the P5 overhead panel to get access to electrical connector D3998 for the air temperature selector switch S1.

(b) Disconnect electrical connector D3924 from the control cabin suuply duct temperature bulb T485. (AMM TASK 21-61-30-000-803-002)

(c) Do check for an open circuit between these pins on connector D3998 and connector D3924:

D3998	D3924
pin 19	pin B

(d) Make sure pin A of connector D3924 goes to ground.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Raise the P5 overhead panel to the closed position.

3) Do the Repair Confirmation at the end of this task.

(f) If there is continuity, then continue.

(2) Replace the control cabin supply duct temperature bulb T485.

These are the tasks:

Duct Temperature Bulb Removal, AMM TASK 21-61-30-000-803-002,

Duct Temperature Bulb Installation, AMM TASK 21-61-30-400-803-002.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the air temperature selector S1.

(a) Raise the P5 overhead panel to the closed position.

(b) Do the Repair Confirmation at the end of this task.

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H. Repair Confirmation

(1) Supply conditioned air with the left cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the CONT CAB SUPPLY DUCT position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the CONT CAB SUPPLY DUCT position.

(a) If the temperature shown on the cabin temperature indicator is correct for the CONT CAB SUPPLY DUCT, then you corrected the fault.

END OF TASK

859. Forward Passenger Cabin Supply Duct Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The FWD SUPPLY DUCT air temperature shown on the indicator of the P5-17 cabin temperature panel is not correct.

B. Possible Causes

(1) Air temperature indicator, N11

(2) Forward cabin supply duct temperature bulb, T534

(3) Air temperature selector, S1

(4) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the forward passenger cabin zone.

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(5) Move the air temperature selector on the P5-17 cabin temperature panel to the FWD SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Put the air temperature selector on the P5-17 cabin temperature panel to the AFT SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the AFT SUPPLY DUCT position, but not correct for the FWD SUPPLY DUCT position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the FWD SUPPLY DUCT and the AFT SUPPLY DUCT positions, then there was an intermittant fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11
- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC between pin 2 of D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and circuit breaker C00076:

This is the circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

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(3) Replace the cabin temperature indicator N11.

These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct for One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- forward cabin supply duct temperature bulb, T534
- air temperature selector, S1
- wiring

(1) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the forward passenger cabin supply duct:

(a) Lower the P5 overhead panel to get access to electrical connector D3998 for the air temperature selector switch S1.

(b) Disconnect electrical connector D11832 from the temperature bulb T534 for the forward passenger cabin supply duct. (AMM TASK 21-61-30-000-803-002)

(c) Do a check for an open circuit between these pins on connector D3998 and connector D11832:

D3998	**D11832**
pin 18	pin B

(d) Make sure pin A of connector D11832 goes to ground.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(f) If there is continuity, then continue.

(2) Replace the temperature bulb T534 for forward passenger cabin supply duct.

These are the tasks:

Duct Temperature Bulb Removal, AMM TASK 21-61-30-000-803-002,

Duct Temperature Bulb Installation, AMM TASK 21-61-30-400-803-002.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

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H. Repair Confirmation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the FWD SUPPLY DUCT position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the FWD SUPPLY DUCT position.

(a) If the temperature shown on the cabin temperature indicator is correct for the FWD SUPPLY DUCT, then you corrected the fault.

END OF TASK

860. Aft Passenger Cabin Supply Duct Temperature Indication Not Correct - Fault Isolation

A. Description

(1) The AFT SUPPLY DUCT air temperature shown on the indicator of the P5-17 cabin temperature panel is not correct.

B. Possible Causes

(1) Air temperature indicator, N11

(2) Aft cabin supply duct temperature bulb, T535

(3) Air temperature selector, S1

(4) Wiring

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

D. Related Data

(1) (SSM 21-61-51)

(2) (WDM 21-61-51)

E. Initial Evaluation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Use a thermometer, STD-1122 to determine the ambient air temperature in the forward passenger cabin zone.

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(5) Move the air temperature selector on the P5-17 cabin temperature panel to the AFT SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(6) Put the air temperature selector on the P5-17 cabin temperature panel to the FWD SUPPLY DUCT position.

NOTE: The temperature shown on the indicator should be approximately the same as the ambient air temperature.

(7) If the temperature on the indicator is not correct for the two positions, then do the Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position.

(8) If the temperature on the indicator is correct for the FWD SUPPLY DUCT position, but not correct for the AFT SUPPLY DUCT position, then do the Fault Isolation Procedure - Temperature Indication Not Correct for One Position.

(9) If the temperature on the indicator is correct for the FWD SUPPLY DUCT and the AFT SUPPLY DUCT positions, then there was an intermittant fault.

F. Fault Isolation Procedure - Temperature Indication Not Correct for More Than One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- cabin temperature indicator, N11
- air temperature selector, S1
- wiring

(1) Do this check for 28 VDC at the cabin temperature indicator:

(a) Lower the P5 overhead panel to get access to electrical connector D90 for cabin temperature indicator N11.

(b) Do a check for 28 VDC between pin 2 of connector D90 and structure ground.

(c) If there is not 28 VDC at pin 2 of D90, then do these steps:

1) Repair the wiring between pin 2 of D90 and circuit breaker C00076:

This is the circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	8	C00076	AIR CONDITIONING TEMP IND

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(d) If there is 28 VDC at pin 2 of D90, then continue.

(2) Do a resistance check between the bonding jumper at the upper left corner of the P5 forward overhead panel and the airplane structure:

(a) Make sure that the resistance is not more than the value specified in Standard Wiring Practices Manual 20-20-10, 5.D., Table 40.

1) If the resistance is greater than allowed, repair the installation of the bonding jumper with the SWPM 20-20-10 instructions.

(b) Close the P5 forward overhead panel.

(c) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

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(3) Replace the cabin temperature indicator N11.

These are the tasks:

Cabin Temperature Indicator Removal, AMM TASK 21-61-32-000-801,

Cabin Temperature Indicator Installation, AMM TASK 21-61-32-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is not satisfactory, then continue.

(4) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Temperature Indication Not Correct for One Position

NOTE: This procedure isolates the fault to one of these possible causes:

- aft cabin supply duct temperature bulb, T535
- air temperature selector, S1
- wiring

(1) Do this check of the wiring for P5-17 cabin temperature panel and the temperature bulb for the aft passenger cabin supply duct:

(a) Lower the P5 overhead panel to get access to electrical connector D3998 for the air temperature selector switch S1.

(b) Disconnect electrical connector D11838 from the left pack temperature bulb T535. (AMM TASK 21-61-30-000-803-002)

(c) Do a check for an open circuit between these pins on connector D3998 and connector D11838:

D3998	**D11838**
pin 17	pin B

(d) Make sure pin A of connector D11838 goes to ground.

(e) If there is an open circuit, then do these steps:

1) Repair the wiring.

2) Close the P5 overhead panel.

3) Do the Repair Confirmation at the end of this task.

(f) If there is continuity, then continue.

(2) Replace the temperature bulb T535 for the aft passenger cabin supply duct.

These are the tasks:

Duct Temperature Bulb Removal, AMM TASK 21-61-30-000-803-002,

Duct Temperature Bulb Installation, AMM TASK 21-61-30-400-803-002.

(a) Do the Repair Confirmation at the end of this task.

(b) If the Repair Confirmation is not satisfactory, then continue.

(3) Replace the air temperature selector S1.

(a) Close the P5 overhead panel.

(b) Do the Repair Confirmation at the end of this task.

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H. Repair Confirmation

(1) Supply conditioned air with the right cooling pack. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(3) Operate the pack for two minutes to let output temperature to become stable.

(4) Put the air temperature selector on the P5-17 cabin temperature panel to the AFT SUPPLY DUCT position.

(5) Make sure the temperature shown on the cabin temperature indicator is correct for the AFT SUPPLY DUCT position.

(a) If the temperature shown on the cabin temperature indicator is correct for the AFT SUPPLY DUCT, then you corrected the fault.

END OF TASK

861. Control Cabin AUTO Temperature Control Does Not Operate - Fault Isolation

A. Description

(1) The control cabin automatic temperature control does not operate.

B. Possible Causes

(1) Pack/zone temperature control system failure

(2) Trim air PRSOV, V146

(3) Trim air modulating valve, V143

(4) Control cabin zone temperature sensor fan, M1718

(5) Control cabin zone temperature sensor filter

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	3	C01163	A/C ZONE TEMP VALVE/FAN CONT FLT DECK
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

E. Initial Evaluation

(1) Supply conditioned air to the control cabin with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure the CONT CAB temperature selector on the P5-17 panel is in the AUTO position.

(3) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

(4) Put the CONT CAB temperature selector on the P5-17 panel to the AUTO W position.

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(5) If the temperature in the control cabin does not increase, then do the Fault Isolation Procedure below.

(6) If the temperature in the control cabin increases, then there was an intermittent fault.

(a) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

F. Fault Isolation Procedure

(1) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message that shows.

2) Supply conditioned air to the control cabin with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) Make sure the CONT CAB temperature selector on the P5-17 panel is in the AUTO position.

4) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

5) Put the CONT CAB temperature selector on the P5-17 panel to the AUTO W position.

6) If the temperature in the control cabin increases, then you corrected the fault.

7) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(b) If the BITE test did not find a fault, then continue.

(2) Replace the trim air pressure regulating and shutoff valve (PRSOV) as follows:

(a) Do these tasks: Trim Air Pressure Regulating and Shutoff Valve Removal, AMM TASK 21-62-01-000-801 and Trim Air Pressure Regulating and Shutoff Valve Installation, AMM TASK 21-62-01-400-801.

(3) Do this test of the pressure regulating and shutoff valve (PRSOV):

(a) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

(b) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(c) Do these steps on the P5-10 air conditioning panel:

1) Set the L PACK and R PACK switches to AUTO.

2) Set the BLEED 1 and BLEED 2 switches to ON.

3) Set the APU BLEED switch to ON.

(d) Do these steps on the P5-17 temperature control panel:

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1) Set the FWD CAB temperature selector to midway between C and AUTO.
2) Set the AFT CAB temperature selector to midway between C and AUTO.
3) Set the CONT CAB temperature selector to midway between C and AUTO.
4) Set the TRIM AIR switch to ON.
5) Set the AIR TEMP selector switch on the P5-17 temperature control panel to the CONT CAB position for SUPPLY DUCT temperature indications.

(e) Operate the packs until the temperature indication for the control cabin supply duct does not change.

(f) Set the AIR TEMP selector switch on the P5-17 temperature control panel to each of the three SUPPLY DUCT positions (CONT CAB, FWD and AFT).

(g) Make a record of the temperatures shown on the indicator for each of the three positions.

(h) Set the CONT CAB temperature selector switch to W (full warm).

(i) Make sure that the supply duct temperature for the control cabin zone is higher than the supply duct temperatures for the forward and aft zones.

(j) If the supply duct temperature for the control cabin zone is higher than the supply duct temperatures for the forward and aft zone, then you corrected the fault.

NOTE: The supply duct temperature for the control cabin zone should be at least 10 °F warmer than the supply duct temperatures for the forward and aft zones.

(k) If the supply duct temperature for the control cabin zone is not higher than the supply duct temperatures for the forward and aft zones, then continue.

(4) Do this check of the control cabin zone temperature sensor filter and fan:

(a) Hold a 3 inch (7.6 cm) by 4 inch (10 cm) sheet of lightweight paper over the air inlet grille of the temperature sensor assembly for the control cabin.

(b) If the fan does not hold the paper in its position, then do these steps:

1) Remove the control cabin zone temperature sensor filter. To remove the filter, do this task: Cabin Temperature Sensor Assembly Filter Removal, AMM TASK 21-61-06-000-801.
2) Examine the filter for dirt or other blockage.
3) If the filter is dirty, then do these steps:

a) Clean the filter. To clean the filter, do this task: Cabin Temperature Sensor Assembly Filter Cleaning, AMM TASK 21-61-06-100-801.

b) Supply conditioned air to the control cabin with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the CONT CAB temperature selector on the P5-17 panel is in the AUTO position.

d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the CONT CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the control cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

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4) If the filter is not dirty, then do these steps:

a) Replace the zone temperature sensor fan for the control cabin zone.

These are the tasks:

Cabin Temperature Sensor Fan Removal, AMM TASK 21-61-11-000-801,

Cabin Temperature Sensor Fan Installation, AMM TASK 21-61-11-400-801.

b) Supply conditioned air to the control cabin with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the CONT CAB temperature selector on the P5-17 panel is in the AUTO position.

d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the CONT CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the control cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

END OF TASK

863. Aft Cabin AUTO Temperature Control Does Not Operate - Fault Isolation

A. Description

(1) The aft cabin automatic temperature control does not operate.

B. Possible Causes

(1) Pack/zone temperature control system failure

(2) Trim air PRSOV, V146

(3) Trim air modulating valve, V145

(4) Aft cabin zone temperature sensor fan, M1446

(5) Aft cabin zone temperature sensor filter

(6) Separation of sidewall riser ducts from transition duct

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	3	C01170	A/C ZONE TEMP VALVE/FAN CONT AFT PASS
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-61-14)

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(4) (WDM 21-61-14)

E. Initial Evaluation

(1) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure the AFT CAB temperature selector on the P5-17 panel is in the AUTO position.

(3) Examine the portion of the passenger cabin sidewall panels on both sides of the aircraft near the floor that are adjacent to the forward wing-to-body fairing as follows:

(a) Make sure that the sidewall panels do not appear to be expanded inboard in the area just above the floor level and that the panels appear to have the same contour as the adjacent panels.

(b) Make sure that there are no whistling noises that could indicate the presence of leaking ducts.

(c) If either of the two conditions above are present, then do the Fault Isolation Procedure below.

(4) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

(5) Put the AFT CAB temperature selector on the P5-17 panel to the AUTO W position.

(6) If the temperature in the aft cabin does not increase, then do the Fault Isolation Procedure below.

(7) If the temperature in the aft cabin increases, then there was an intermittent fault.

(a) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

F. Fault Isolation Procedure

(1) Do the BITE test of the left pack/zone temperature controller, M1442. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message that shows.

2) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) Make sure the AFT CAB temperature selector on the P5-17 panel is in the AUTO position.

4) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

5) Put the AFT CAB temperature selector on the P5-17 panel to the AUTO W position.

6) If the temperature in the aft cabin increases, then you corrected the fault.

7) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(b) If the BITE test did not find a fault, then continue.

(2) Replace the trim air pressure regulating and shutoff valve (PRSOV) as follows:

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(a) Do these tasks: Trim Air Pressure Regulating and Shutoff Valve Removal, AMM TASK 21-62-01-000-801 and Trim Air Pressure Regulating and Shutoff Valve Installation, AMM TASK 21-62-01-400-801.

(3) Do this test of the pressure regulating and shutoff valve (PRSOV), V146:

(a) Close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

(b) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(c) Do these steps on the P5-10 air conditioning panel:

1) Set the L PACK and R PACK switches to AUTO.
2) Set the BLEED 1 and BLEED 2 switches to ON.
3) Set the APU BLEED switch to ON.

(d) Do these steps on the P5-17 temperature control panel:

1) Set the FWD CAB temperature selector to midway between C and AUTO.
2) Set the AFT CAB temperature selector to midway between C and AUTO.
3) Set the FWD CAB temperature selector to midway between C and AUTO.
4) Set the TRIM AIR switch to ON.
5) Set the AIR TEMP selector switch to the AFT CAB position for SUPPLY DUCT temperature indications.

(e) Operate the packs until the temperature indication for the aft cabin supply duct does not change.

(f) Set the AIR TEMP selector switch on the P5-17 temperature control panel to each of the three SUPPLY DUCT positions (CONT CAB, FWD and AFT).

(g) Make a record of the temperatures shown on the indicator for each of the three positions.

(h) Set the AFT CAB temperature selector switch to W (full warm).

(i) Make sure that the supply duct temperature for the aft passenger cabin zone is higher than the supply duct temperatures for the forward passenger and control cabin zones.

(j) If the supply duct temperature for the aft passenger cabin zone is higher than the supply duct temperatures for the forward passenger cabin and control cabin zones, then you corrected the fault.

NOTE: The supply duct temperature for the aft passenger cabin zone should be at least 10 °F warmer than the supply duct temperatures for the control cabin and forward passenger cabin zones.

(k) If the supply duct temperature for the aft passenger cabin zone is not higher than the supply duct temperatures for the forward passenger cabin and control cabin zones, then continue.

(4) Do this check of the aft cabin zone temperature sensor filter and fan:

(a) Hold a 3 inch (7.6 cm) by 4 inch (10 cm) sheet of lightweight paper over the air inlet grille of the temperature sensor assembly for the aft cabin.

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(b) If the fan does not hold the paper in its position, then do these steps:

1) Remove the aft cabin zone temperature sensor filter. To remove the filter, do this task: Cabin Temperature Sensor Assembly Filter Removal, AMM TASK 21-61-06-000-801.

2) Examine the filter for dirt or other blockage.

3) If the filter is dirty, then do these steps:

a) Clean the filter. To clean the filter, do this task: Cabin Temperature Sensor Assembly Filter Cleaning, AMM TASK 21-61-06-100-801.

b) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the AFT CAB temperature selector on the P5-17 panel is in the AUTO position.

d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the AFT CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the aft cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

4) If the filter is not dirty, then do these steps:

a) Replace the zone temperature sensor fan for the aft cabin zone.

These are the tasks:

Cabin Temperature Sensor Fan Removal, AMM TASK 21-61-11-000-801,

Cabin Temperature Sensor Fan Installation, AMM TASK 21-61-11-400-801.

b) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the AFT CAB temperature selector on the P5-17 panel is in the AUTO position.

d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the AFT CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the aft cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(c) If the fan holds the paper in its position, then continue.

1) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

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(5) If the Initial Evaluation indicated damage to the portion of the passenger cabin sidewall panels near the floor in the station location near the forward wing-to-body fairing, then do the steps that follow:

(a) Remove the applicable sidewall panel(s) as follows: Do this task: AMM TASK 25-21-46-000-801.

(b) Inspect the sidewall risers and repair, if required, as follows: Do these tasks: AMM TASK 21-23-02-212-801and AMM TASK 21-23-02-360-801.

——— END OF TASK ———

864. Forward Cabin AUTO Temperature Control Does Not Operate - Fault Isolation

A. Description

(1) The forward cabin automatic temperature control does not operate.

B. Possible Causes

(1) Pack/zone temperature control system failure

(2) Trim air PRSOV, V146

(3) Trim air modulating valve, V144

(4) Forward cabin zone temperature sensor fan, M1445

(5) Forward cabin zone temperature sensor filter

(6) Separation of sidewall riser ducts from transition duct

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	2	C01167	A/C ZONE TEMP VALVE/FAN CONT FWD PASS
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-61-24)

(4) (WDM 21-61-24)

E. Initial Evaluation

(1) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Make sure the FWD CAB temperature selector on the P5-17 panel is in the AUTO position.

(3) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

(4) Examine the portion of the passenger cabin sidewall panels on both sides of the aircraft near the floor that are adjacent to the forward wing-to-body fairing as follows:

(a) Make sure that the sidewall panels do not appear to be expanded inboard in the area just above the floor level and that the panels appear to have the same contour as the adjacent panels.

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(b) Make sure that there are no whistling noises that could indicate the presence of leaking ducts.

(c) If either of the two conditions above are present, then do the Fault Isolation procedure below.

(5) Put the FWD CAB temperature selector on the P5-17 panel to the AUTO W position.

(6) If the temperature in the forward cabin does not increase, then do the Fault Isolation Procedure below.

(7) If the temperature in the forward cabin increases, then there was an intermittent fault.

(a) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

F. Fault Isolation Procedure

(1) Do the BITE test of the right pack/zone temperature controller, M1443. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message that shows.

2) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) Make sure the FWD CAB temperature selector on the P5-17 panel is in the AUTO position.

4) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

5) Put the FWD CAB temperature selector on the P5-17 panel to the AUTO W position.

6) If the temperature in the forward cabin increases, then you corrected the fault.

7) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(b) If the BITE test did not find a fault, then continue.

(2) Replace the pressure regulating and shutoff valve (PRSOV) as follows:

(a) Do these tasks: Trim Air Pressure Regulating and Shutoff Valve Removal, AMM TASK 21-62-01-000-801 and Trim Air Pressure Regulating and Shutoff Valve Installation, AMM TASK 21-62-01-400-801.

(3) Do this test of the pressure regulating and shutoff valve (PRSOV):

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

(b) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(c) Do these steps on the P5-10 air conditioning panel:

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1) Set the L PACK and R PACK switches to AUTO.
2) Set the BLEED 1 and BLEED 2 switches to ON.
3) Set the APU BLEED switch to ON.

(d) Do these steps on the P5-17 air conditioning panel:

1) Set the CONT CAB temperature selector to a position midway between C and AUTO.
2) Set the FWD CAB temperature selector to a position midway between C and AUTO.
3) Set the AFT CAB temperature selector to a position midway between C and AUTO.
4) Set the TRIM AIR switch to ON.
5) Set the AIR TEMP selector switch to the FWD position for SUPPLY DUCT temperature indications.
6) Set the AIR TEMP selector switch to each of the three SUPPLY DUCT positions (CONT CAB, FWD CAB and AFT CAB).
7) Make a record of the temperatures shown on the indicator for each of the three positions.
8) Set the FWD CAB temperature selector switch to W (full warm).
9) Make sure that the supply duct temperature for the forward cabin zone is higher than the supply duct temperatures for the control cabin and aft cabin zones.
10) If the supply duct temperature for the forward passenger cabin zone is higher than the supply duct temperatures for the control cabin and aft passenger cabin zones, then you corrected the fault.

NOTE: The supply duct temperature for the forward passenger cabin zone should be at least 10 °F warmer than the supply duct temperatures for the control cabin and aft passenger cabin zones.

11) If the supply duct temperature for the forward passenger cabin zone is not higher than the supply duct temperatures for the control cabin and aft passenger cabin zones, then continue.

(4) Do this check of the forward cabin zone temperature sensor filter and fan:

(a) Hold a 3 inch (7.6 cm) by 4 inch (10 cm) sheet of lightweight paper over the air inlet grille of the temperature sensor assembly for the forward cabin.

(b) If the fan does not hold the paper in its position, then do these steps:

1) Remove the forward cabin zone temperature sensor filter. To remove the filter, do this task: Cabin Temperature Sensor Assembly Filter Removal, AMM TASK 21-61-06-000-801.
2) Examine the filter for dirt or other blockage.
3) If the filter is dirty, then do these steps:

a) Clean the filter. To clean the filter, do this task: Cabin Temperature Sensor Assembly Filter Cleaning, AMM TASK 21-61-06-100-801.

b) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the FWD CAB temperature selector on the P5-17 panel is in the AUTO position.

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d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the FWD CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the forward cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

4) If the filter is not dirty, then do these steps:

a) Replace the zone temperature sensor fan for the forward cabin zone.

These are the tasks:

Cabin Temperature Sensor Fan Removal, AMM TASK 21-61-11-000-801,

Cabin Temperature Sensor Fan Installation, AMM TASK 21-61-11-400-801.

b) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

c) Make sure the FWD CAB temperature selector on the P5-17 panel is in the AUTO position.

d) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

e) Put the FWD CAB temperature selector on the P5-17 panel to the AUTO W position.

f) If the temperature in the forward cabin increases, then you corrected the fault.

g) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(c) If the fan holds the paper in its position, then continue.

1) Remove conditioned air from the airplane. To remove the conditioned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804

(5) If the Initial Evaluation indicated damage to the portion of the passenger cabin sidewall panels near the floor in the station location near the forward wing-to-body fairing, then do the steps that follow:

(a) Remove the applicable sidewall panel(s) as follows: Do this task: AMM TASK 25-21-46-000-801.

(b) Inspect the sidewall risers and repair, if required, as follows: Do these tasks: AMM TASK 21-23-02-212-801 and AMM TASK 21-23-02-360-801.

END OF TASK

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801. Pack Temperature Control - BITE Procedure

A. General

AKS 001-021

(1) This task does a BITE Test of the Left (Right) Pack/Zone Temperature Controller (PZTC), M1442 (M1443).

(Figure 301 or Figure 302)

(a) The BITE Test does the checks that follow:

1) PZTC Self Test
2) Zone Temperature Selector Test
3) Cabin Temperature Sensor Test
4) Duct Temperature Limit Sensor Test
5) Zone Trim Air Modulating Valve Test
6) Ram Air Control Temperature Sensor Test
7) Ram Air Inlet Actuator Test
8) SRADA (Smart Ram Air Door Actuator) Inlet and Exit Actuators Test
9) Pack Temperature Sensor Test
10) Temperature Control Valve Test
11) Standby Temperature Control Valve Test
12) Mix Manifold Temperature Sensor Test

AKS 022-999

(2) This task does a BITE Test of the Left (Right) Pack Flow Temperature Controller (PFTC), M2951 (M2952).

(Figure 303 or Figure 304)

(a) The BITE Test does a check on these components:

1) PFTC
2) Flight Deck Temperature Sensor
3) Flight Deck Temperature Sensor Backup
4) Zone Temperature Sensor
5) Standby Zone Sensor
6) Flight Deck Duct Sensor
7) Flight Deck Duct Sensor Backup
8) Pack Temperature Sensor
9) Standby Pack Temperature Sensor
10) Mix Manifold Temperature Sensor
11) Flight Deck Selector
12) Zone Selector
13) Standby Selector
14) Pack Inlet Pressure Sensor
15) Pack Flow Sensor

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AKS 022-999 (Continued)

16) Flow Control Valve
17) Temperature Control Valve
18) Flight Deck Trim Valve
19) Zone Trim Valve
20) Standby Temperature Control Valve
21) SRADA Inlet Actuator
22) SRADA Exit Actuator
23) SRADA Ram Air Sensor

(b) There are two identical Pack Flow Temperature Controllers (PFTC)s, located on the E3-3 Rack.

(c) If the PFTC shows FAULT on the Front Panel Display, the controller is detecting a fault.

1) There may also be faults recorded in the FAULT HISTORY Mode of the PFTC.

(d) The BITE Procedure must be done on both PFTCs.

(e) The steps that follow provide a summary of the function of the buttons on the front of the PFTC:

1) ON/OFF button: activates or de-activates the BITE functions on the PFTC.
2) MENU button: shows the BITE Menus.
   a) If you push the MENU button, you will go up to the previously displayed MENU.
3) YES button: used to respond YES to questions on the Display Screen.
4) NO button: used to respond NO to questions on the Display Screen.
5) UP Arrow button: Used to scroll up through the menu or the results of a BITE Test.
6) DOWN Arrow button: Used to scroll down through the menu or the results of a BITE Test.

(f) The PFTC BITE has five modes of operation as shown below:

1) Manual ON/OFF
2) EXISTING FAULTS
3) FAULT HISTORY
4) GROUND TESTS
5) OTHER FUNCTIONS

(g) The steps that follow provide a summary of the MAIN MENU selections:

1) Manual ON/OFF
   a) The ON/OFF button powers the Front Panel Displays.
2) EXISTING FAULTS
   a) The EXISTING FAULTS Main Menu selection provides a list of faults that are currently detected by the PFTC.
   b) Maintenance action is necessary to correct the maintenance messages that show in EXISTING FAULTS.
3) FAULT HISTORY

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AKS 022-999 (Continued)

a) The FAULT HISTORY state is activated by pushing the DOWN Arrow button or NO button when the Front Panel Display is showing EXISTING FAULTS or scrolling UP/DOWN from the Front Panel Display MENU button.

b) Fault Memory is read and FLIGHT LEG Fault records are displayed in reverse chronological order. The last fault on the last flight leg is displayed first and the first fault on the first flight leg is displayed last.

<1> The last fault on the last flight leg is displayed first and the first fault on the first flight leg is displayed last.

4) GROUND TESTS

a) GROUND TESTS is activated by pushing the DOWN Arrow button or the NO button when the Front Panel Display is showing FAULT HISTORY or by scrolling UP/DOWN from the Front Panel Display MENU button.

b) The GROUND TESTS menus provide the option to run a Ground Test with or without the FLOW DRIFT CHECK. There is also a Ground Test for the DISPLAY.

c) During the GROUND TESTS state, the BITE operator responds to the instructions on the display by pressing the Front Panel buttons.

5) OTHER FUNCTIONS

a) a) You can activate the OTHER FUNCTIONS option from the MAIN MENU.

b) The OTHER FUNCTIONS option has two modes of operation as shown below:

<1> SYSTEM CONFIG

<2> I/O MONITOR

<a> c) You can use these menus to monitor various PFTC Input and Output states/values

NOTE: The I/O MONITOR menus do not update in real-time. For example, if you change the CONT CAB switch on the Cabin Temperature Panel, P5-17, from AUTO to OFF, while you monitor the I/O MONITOR, DISCRETE INPUT menu, the state of the switch will not change automatically in the menu. To see the changed switch state, go back to the Main Menu and then return to the I/O MONITOR, DISCRETE INPUT menu.

AKS ALL

B. BITE Procedure

(Figure 301 or Figure 302 or Figure 303 or Figure 304)

AKS 001-021

(1) Do the BITE Procedure for the Pack/Zone Temperature Controller as follows:

(a) Put these switches on the P5-10 Air Conditioning Panel to the positions that follow:

1) Put the BLEED 1, BLEED 2, and BLEED APU switches to the OFF position.

2) Make sure that the L (R) Duct Pressure indications on the DUCT PRESS Indication Gauge on the P5-10 Panel are zero.

3) Put the L PACK and R PACK Switches to the AUTO position.

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AKS 001-021 (Continued)

4) Put the L RECIRC FAN and R RECIRC FAN Switches to the AUTO position.
5) Put the ISOLATION VALVE Switch to the OPEN position.

(b) Put these switches on the P5-17 Cabin Temperature Panel to the positions that follow:
1) Put the TRIM AIR Switch to the ON position.
2) Put the CONT CAB, FWD CAB, and AFT CAB Temperature Selectors to the AUTO position.

(c) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(d) Get access to the Zone Temperature Controllers located on the bottom shelf (E3-3) of the E3 Rack in the Electronics Equipment Compartment.

(e) Make sure these Lights are OFF for the Left and Right Pack/Zone Temperature Controllers:
1) CONTROLLER FAULT - PACK/ZONE
2) CONTROLLER FAULT - STANDBY PACK

(f) Do the steps that follow on the Left and Right Pack/Zone Temperature Controllers:
1) Push and hold the PRESS/TEST Switch on the controller.
a) Make sure that all the lights on the controller come ON and then go OFF.
2) Push the BIT Switch on the controller.
NOTE: The BIT Switch will show if failures occurred during the last flight.
a) The light above the BIT Switch will come ON when the switch is fully pushed.
b) Wait for the Green GO Light to come ON.
c) If a Red light comes ON for a component, the component does not operate correctly.
<1> Make a record of that component.
3) Push the PREV FLT Switch on the controller. The light above the PREV FLT Switch will come ON when the switch is fully pushed.
NOTE: The PREV FLT switch will show all the failures occurred during the last nine flights.
a) Wait for the Green GO Light to come ON.
b) If a Red Light comes ON for a component, the component did not operate correctly on a previous flight.
<1> Make a record of that component.

WARNING: MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE RAM AIR INLET DOOR. WHEN YOU PUSH THE VERIFY SWITCH, THE RAM AIR COMPONENTS WILL MOVE AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

4) Push the VERIFY Switch on the controller.

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AKS 001-021 (Continued)

a) The light above the VERIFY Switch will come ON when the switch is fully pushed.

NOTE: The VERIFY Switch will initiate a real time test of the Pack and Zone Temperature Control Components.

b) Wait for the Green GO Light to come ON.

c) If a Red light comes ON for a component, the component does not operate correctly.

<1> Make a record of that component.

(g) If a Red light comes ON, then refer to the BITE Message Index Table at the end of this task to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show.

(h) After you correct the problem(s), do the BITE Test again.

1) Do this step to erase the maintenance messages in EXISTING FAULTS and FAULT HISTORY:

a) Push the RESET Switch while the VERIFY and GO Lights are ON.

(i) After the BITE Procedure is complete put the switches on the P5-10 Air Conditioning Panel and P5-17 Cabin Temperature Panel to the positions that follow:

1) Put the L PACK and R PACK Switches to the OFF position.

2) Put all other switches back to their original configuration.

AKS 022-999

(2) Do the BITE Procedure for the Pack/Flow Temperature Controller (PFTC) as follows:

(a) Make sure that the CAB/UTIL Switch on the P5-13 ELEC METER, BATTERY AND GALLEY POWER Module is in the ON position.

(b) Put these switches on the P5-10 Air Conditioning Panel to the positions shown below:

1) BLEED 1, BLEED 2 and BLEED APU Switches to OFF

2) Make sure that the L (R) Duct Pressure indications on the DUCT PRESS Indication Gauge on the P5-10 Panel are zero.

3) L PACK and R PACK to AUTO

4) ISOLATION VALVE to CLOSE

5) L RECIRC FAN and R RECIRC FAN Switches to OFF

(c) Put these switches on the P5-17 Temperature Control Panel to the positions shown below:

1) CONT CAB, FWD CAB and AFT CAB Switches to AUTO

2) TRIM AIR Switch to ON

(d) Get access to the Pack Flow Temperature Controllers in the E/E Equipment Bay:

1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

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AKS 022-999 (Continued)

C. BITE Procedure - EXISTING FAULTS

(1) Make sure that the PFTC Front Panel Display shows EXISTING FAULTS.

(2) Push the YES button on the front panel.

(3) The PFTC Front Panel Display shows the first maintenance message.

NOTE: The text of the fault will be the same as one of the maintenance messages shown in the Table at the end of this task. These existing faults are referred to as maintenance messages.

(4) Find and record the maintenance messages in EXISTING FAULTS as follows:

(a) Make a record of the first maintenance message.

(b) Push the YES button on the PFTC Front Panel to see the maintenance message details.

1) Make a record of the maintenance message details too.

(c) Push the DOWN Arrow button on the PFTC Front Panel to look for the next maintenance message details.

(d) Do the above steps again until the PFTC Front Panel Display shows BOTTOM OF LIST for two seconds, then shows the maintenance message again.

(e) Push the MENU button on the PFTC Front Panel to go back to see the maintenance message in the EXISTING FAULTS list.

(f) Push the DOWN Arrow button on the PFTC Front Panel to see the next maintenance message in the EXISTING FAULTS list.

NOTE: If there are no more faults, the display will show BOTTOM OF LIST for two seconds, then the previous maintenance message will show.

(g) Do the steps above until the PFTC Front Panel Display shows BOTTOM OF LIST for two seconds so that all maintenance messages and associated details have been recorded.

(5) Push the MENU button on the PFTC Front Panel.

(6) Refer to the Table at the end of this task or the 21-MAINT MSG INDEX at the beginning of this Chapter to find the applicable FIM Tasks for the maintenance messages that show.

(7) Push the DOWN Arrow button on the PFTC Front Panel until FAULT HISTORY shows and do the BITE Procedure for FAULT HISTORY below.

D. BITE Procedure - FAULT HISTORY

(1) Make sure that the PFTC Front Panel Display shows FAULT HISTORY.

(2) Push the YES button on the PFTC Front Panel.

(a) The PFTC Front Panel Display shows FLIGHT LEG XX.

(3) If there are no FLIGHT LEGS shown on the PFTC Front Panel, this indicates that there are no faults recorded in FAULT HISTORY.

(4) Push the YES button on the PFTC Front Panel.

(5) The PFTC Front Panel Display shows the first maintenance message in the FLIGHT LEG XX list.

NOTE: The text of the fault will be the same as one of the maintenance messages listed in the Table at the end of this task. These faults are referred to as maintenance messages.

(6) Find and record the maintenance messages in the FLIGHT LEG XX list as follows:

(a) Make a record of the first maintenance message.

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(b) Push the YES button on the PFTC Front Panel to see the maintenance message details.

1) Make a record of the maintenance message details too.

(c) Push the DOWN Arrow button on the PFTC Front Panel to look for the next maintenance message details.

(d) Do the above steps again until the PFTC Front Panel Display shows BOTTOM OF LIST for two seconds, then shows the maintenance message again FLIGHT LEG XX list.

(e) Do the steps above until all fault entries in the FLIGHT LEG XX list have been examined and recorded for the flight leg.

(7) Push the MENU button on the PFTC Front Panel until the display shows FLIGHT LEG XX.

(8) Push the DOWN Arrow button on the PFTC Front Panel to look for the next flight leg that recorded faults in FAULT HISTORY.

(9) Do the above steps until all flight legs with maintenance messages in FAULT HISTORY have been examined and recorded.

(10) Refer to the Table at the end of this task or the 21-MAINT MSG INDEX at the beginning of this Chapter to find the applicable FIM Tasks for the maintenance messages that show.

(11) If the PFTC Front Panel Display is not at a BITE MAIN MENU selection, push the MENU button until you are in the MAIN MENU.

E. BITE Procedure - GROUND TESTS

(1) Make sure that the Front Panel Display on the Left (Right) PFTC, M2951 (M2952) shows GROUND TESTS.

(2) Push the YES button on the PFTC Front Panel.

(a) Make sure that the display shows BITE INSTRUCTION.

(3) Push the DOWN Arrow button.

(a) Make sure that the display shows 1: SET FOLLOWING AT FLIGHT DECK.

(4) Push the DOWN Arrow button.

(a) Make sure that the display shows ALL BLEED SWITCH OFF.

(b) If not already done, set the BLEED 1, BLEED 2 and APU BLEED Switches on the P5-10 Air conditioning Panel to OFF.

(5) Push the DOWN Arrow button.

(a) Make sure that the display shows ALL ZONE TMP SEL AUTO.

(b) If not already done, set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to AUTO.

(6) Push the DOWN Arrow button.

(a) Make sure that the display shows LH RH PACK SWITCH AUTO.

(b) If not already done, set the L PACK and R PACK Switches on the P5-10 Air Conditioning Panel to AUTO.

(7) Push the DOWN Arrow button.

(a) Make sure that the display shows TRIM AIR SWITCH ON.

(b) If not already done, set the TRIM AIR Switch on the P5-17 Temperature Control Panel to ON.

(8) Push the DOWN Arrow button.

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AKS 022-999 (Continued)

(a) Make sure that the display shows 2: WHEN PROMTED SEL YES TO TEST.

(9) Push the DOWN Arrow button.

(a) Make sure that the display shows 3: FOR RESULTS FOLLOW PROMPT.

(10) Push the DOWN Arrow button.

(a) Make sure that the display shows 4: AFTER TST SET PACK SWITCHES OFF.

(11) Push the DOWN Arrow button.

(a) Make sure that the display shows FLOW DRIFT CK?

WARNING: MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE RAM AIR INLET DOOR. WHEN YOU PUSH THE YES BUTTON, THE RAM AIR COMPONENTS WILL MOVE AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(12) Push the YES button.

(a) Make sure that the display shows GND TEST IN PROG FOR UP TO 270SEC.

(13) After time has elapsed, make sure that the PFTC Front Panel Display shows GND TST COMPLETE PASS.

(14) After 5 seconds, the display shows GROUND TEST RESULTS?.

(15) Make sure that the display shows NO FAULTS.

(16) Push the ON/OFF button on the PFTC Front Panel.

AKS ALL

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PACK/ZN CON - L	BKUP ZONE CABIN SENSOR	21-62 TASK 815
PACK/ZN CON - L	BKUP ZONE SELECTOR	21-62 TASK 809
PACK/ZN CON - L	CONTROLLER FAULT - PACK/ZONE	21-62 TASK 802
PACK/ZN CON - L	CONTROLLER FAULT - RAM AIR	21-62 TASK 802
PACK/ZN CON - L	CONTROLLER FAULT - STANDBY	21-62 TASK 802
PACK/ZN CON - L	FLT DECK CABIN SENSOR	21-62 TASK 811
PACK/ZN CON - L	FLT DECK DUCT SENSOR	21-62 TASK 813
PACK/ZN CON - L	FLT DECK SELECTOR	21-62 TASK 805
PACK/ZN CON - L	FLT DECK TRIM VALVE	21-62 TASK 833
PACK/ZN CON - L	RAM AIR SNSR	21-62 TASK 821
PACK/ZN CON - L	SRADA EXIT	21-62 TASK 853
PACK/ZN CON - L	SRADA INLET	21-62 TASK 851
PACK/ZN CON - L	STBY OTHER PACK - PACK SNSR	21-62 TASK 824
PACK/ZN CON - L	STBY OTHER PACK - TCV	21-62 TASK 829
PACK/ZN CON - L	THIS PACK - MIX MANF SENSOR	21-62 TASK 827
PACK/ZN CON - L	THIS PACK - PACK SNSR	21-62 TASK 825
PACK/ZN CON - L	THIS PACK - TCV	21-62 TASK 830
PACK/ZN CON - L	ZONE CABIN SENSOR	21-62 TASK 817

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PACK/ZN CON - L	ZONE DUCT SENSOR	21-62 TASK 819
PACK/ZN CON - L	ZONE SELECTOR	21-62 TASK 808
PACK/ZN CON - L	ZONE TRIM VALVE	21-62 TASK 835
PACK/ZN CON - R	BKUP ZONE CABIN SENSOR	21-62 TASK 816
PACK/ZN CON - R	BKUP ZONE SELECTOR	21-62 TASK 807
PACK/ZN CON - R	CONTROLLER FAULT - PACK/ZONE	21-62 TASK 803
PACK/ZN CON - R	CONTROLLER FAULT - RAM AIR	21-62 TASK 803
PACK/ZN CON - R	CONTROLLER FAULT - STANDBY	21-62 TASK 803
PACK/ZN CON - R	FLT DECK CABIN SENSOR	21-62 TASK 810
PACK/ZN CON - R	FLT DECK DUCT SENSOR	21-62 TASK 812
PACK/ZN CON - R	FLT DECK SELECTOR	21-62 TASK 804
PACK/ZN CON - R	FLT DECK TRIM VALVE	21-62 TASK 832
PACK/ZN CON - R	RAM AIR SNSR	21-62 TASK 820
PACK/ZN CON - R	SRADA EXIT	21-62 TASK 854
PACK/ZN CON - R	SRADA INLET	21-62 TASK 852
PACK/ZN CON - R	STBY OTHER PACK - PACK SNSR	21-62 TASK 823
PACK/ZN CON - R	STBY OTHER PACK - TCV	21-62 TASK 828
PACK/ZN CON - R	THIS PACK - MIX MANF SENSOR	21-62 TASK 826
PACK/ZN CON - R	THIS PACK - PACK SNSR	21-62 TASK 822
PACK/ZN CON - R	THIS PACK - TCV	21-62 TASK 831
PACK/ZN CON - R	ZONE CABIN SENSOR	21-62 TASK 814
PACK/ZN CON - R	ZONE DUCT SENSOR	21-62 TASK 818
PACK/ZN CON - R	ZONE SELECTOR	21-62 TASK 806
PACK/ZN CON - R	ZONE TRIM VALVE	21-62 TASK 834
PFTC	21-51001 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51002 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51003 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51004 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51005 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51006 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51007 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51008 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51009 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51010 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51017 PFTC CNTRL INOP	21-62 TASK 858

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51018 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51019 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51030 DISPLAY	21-62 TASK 858
PFTC	21-51034 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51035 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51036 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51037 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51038 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51041 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51042 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51043 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51044 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51045 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51046 STBY 28V PWR OFF	21-62 TASK 858
PFTC	21-51053 PFTC CNTRL INOP	21-62 TASK 862
PFTC	21-51056 PFTC CNTRL INOP	21-62 TASK 863
PFTC	21-51061 PFTC CNTRL INOP	21-62 TASK 859
PFTC	21-51066 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51067 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51068 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51069 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51070 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51073 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51074 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51075 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51078 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51079 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51080 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51083 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51084 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51085 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51086 PFTC STBY CNTRL	21-62 TASK 875
PFTC	21-51087 PFTC STBY CNTRL	21-62 TASK 875
PFTC	21-51090 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51091 PFTC STBY CNTRL	21-62 TASK 858

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51092 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51093 PFTC STBY CNTRL	21-62 TASK 858
PFTC	21-51097 PFTC STBY CNTRL	21-62 TASK 864
PFTC	21-51100 PFTC STBY CNTRL	21-62 TASK 868
PFTC	21-51101 PFTC STBY CNTRL	21-62 TASK 868
PFTC	21-51110 PFTC CNTRL INOP	21-62 TASK 887
PFTC	21-51111 PFTC CNTRL INOP	21-62 TASK 887
PFTC	21-51112 PFTC CNTRL INOP	21-62 TASK 888
PFTC	21-51113 PFTC CNTRL INOP	21-62 TASK 888
PFTC	21-51114 PFTC CNTRL INOP	21-62 TASK 889
PFTC	21-51115 PFTC CNTRL INOP	21-62 TASK 889
PFTC	21-51116 PFTC CNTRL INOP	21-62 TASK 890
PFTC	21-51117 PFTC CNTRL INOP	21-62 TASK 890
PFTC	21-51118 PFTC CNTRL INOP	21-62 TASK 891
PFTC	21-51119 PFTC CNTRL INOP	21-62 TASK 891
PFTC	21-51120 PFTC CNTRL INOP	21-62 TASK 892
PFTC	21-51121 PFTC CNTRL INOP	21-62 TASK 892
PFTC	21-51122 PFTC CNTRL INOP	21-62 TASK 893
PFTC	21-51123 PFTC CNTRL INOP	21-62 TASK 893
PFTC	21-51124 PFTC CNTRL INOP	21-62 TASK 894
PFTC	21-51125 PFTC CNTRL INOP	21-62 TASK 894
PFTC	21-51126 PFTC CNTRL INOP	21-62 TASK 895
PFTC	21-51127 PFTC CNTRL INOP	21-62 TASK 895
PFTC	21-51128 PFTC CNTRL INOP	21-62 TASK 896
PFTC	21-51129 PFTC CNTRL INOP	21-62 TASK 896
PFTC	21-51131 ARINC 429 INVLD	21-62 TASK 883
PFTC	21-51132 ARINC 429 INVLD	21-62 TASK 884
PFTC	21-51133 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51134 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51135 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51136 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51143 ARINC 429 INVLD	21-62 TASK 883
PFTC	21-51144 ARINC 429 INVLD	21-62 TASK 883
PFTC	21-51145 ARINC 429 INVLD	21-62 TASK 884
PFTC	21-51146 ARINC 429 INVLD	21-62 TASK 884

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51147 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51148 ARINC 429 INVLD	21-62 TASK 881
PFTC	21-51149 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51150 ARINC 429 INVLD	21-62 TASK 882
PFTC	21-51151 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51152 ARINC 429 INVLD	21-62 TASK 885
PFTC	21-51153 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51154 ARINC 429 INVLD	21-62 TASK 886
PFTC	21-51190 F/D TEMP SENSOR	21-62 TASK 865
PFTC	21-51191 F/D TEMP SENSOR	21-62 TASK 865
PFTC	21-51193 ZONE TEMP SENSOR	21-62 TASK 867
PFTC	21-51194 ZONE TEMP SENSOR	21-62 TASK 867
PFTC	21-51196 STBY ZONE SENSOR	21-62 TASK 868
PFTC	21-51197 STBY ZONE SENSOR	21-62 TASK 868
PFTC	21-51199 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51200 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51202 ZONE DUCT SENSOR	21-62 TASK 869
PFTC	21-51203 ZONE DUCT SENSOR	21-62 TASK 869
PFTC	21-51205 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51206 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51208 STBY PACK TEMP	21-62 TASK 872
PFTC	21-51209 STBY PACK TEMP	21-62 TASK 872
PFTC	21-51211 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51212 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51217 F/D SELECTOR	21-62 TASK 862
PFTC	21-51218 F/D SELECTOR	21-62 TASK 862
PFTC	21-51220 ZONE SELECTOR	21-62 TASK 863
PFTC	21-51221 ZONE SELECTOR	21-62 TASK 863
PFTC	21-51224 STBY SELECTOR	21-62 TASK 864
PFTC	21-51225 STBY SELECTOR	21-62 TASK 864
PFTC	21-51230 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51231 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51232 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51233 PACK IN PRESSURE	21-62 TASK 859
PFTC	21-51239 PACK FLOW SENSOR	21-62 TASK 860

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51240 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51246 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51247 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51248 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51249 PACK FLOW SENSOR	21-62 TASK 860
PFTC	21-51250 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51251 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51252 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51253 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51254 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51255 FLOW CTRL VALVE	21-62 TASK 857
PFTC	21-51260 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51261 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51263 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51264 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51265 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51266 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51267 TEMP CTRL VALVE	21-62 TASK 874
PFTC	21-51268 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51269 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51271 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51272 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51273 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51274 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51275 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51276 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51277 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51279 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51280 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51281 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51282 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51283 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51300 STBY TCV VALVE	21-62 TASK 875
PFTC	21-51301 STBY TCV VALVE	21-62 TASK 875
PFTC	21-51310 F/D TEMP SENSOR	21-62 TASK 865

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
PFTC	21-51311 F/D SELECTOR	21-62 TASK 862
PFTC	21-51312 F/D DUCT SENSOR	21-62 TASK 866
PFTC	21-51313 PACK TEMP SENSOR	21-62 TASK 871
PFTC	21-51314 MIXMAN TEMP SNSR	21-62 TASK 873
PFTC	21-51331 DISPLAY	21-62 TASK 858
PFTC	21-51332 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51333 PFTC CNTRL INOP	21-62 TASK 858
PFTC	21-51400 SRADA CNTRL	21-62 TASK 878
PFTC	21-51401 SRADA INLET	21-62 TASK 878
PFTC	21-51402 SRADA EXIT	21-62 TASK 879
PFTC	21-51403 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51405 SRADA INLET	21-62 TASK 878
PFTC	21-51406 SRADA EXIT	21-62 TASK 879
PFTC	21-51407 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51408 SRADA CNTRL	21-62 TASK 880
PFTC	21-51409 SRADA INLET	21-62 TASK 878
PFTC	21-51410 SRADA EXIT	21-62 TASK 879
PFTC	21-51411 SRADA RAM SNSR	21-62 TASK 870
PFTC	21-51500 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51501 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51502 PFTC CNTRL INOP	21-62 TASK 860
PFTC	21-51503 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51504 PFTC CNTRL INOP	21-62 TASK 857
PFTC	21-51505 PFTC CNTRL INOP	21-62 TASK 876
PFTC	21-51506 PFTC CNTRL INOP	21-62 TASK 877
PFTC	21-51507 PFTC CNTRL INOP	21-62 TASK 874
PFTC	21-51508 F/D TRIM VALVE	21-62 TASK 876
PFTC	21-51509 ZONE TRIM VALVE	21-62 TASK 877
PFTC	21-51510 TEMP CTRL VALVE	21-62 TASK 874

END OF TASK

AKS 001-021

802. Left Pack/Zone Temperature Controller Fault - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) CONTROLLER FAULT - PACK/ZONE

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(b) CONTROLLER FAULT - STANDBY PACK

B. Possible Causes

(1) Cabin temperature controller, M1442 (No. 1)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left pack/zone temperature controller, M1442.

These are the tasks:

Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801,

Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

803. Right Pack/Zone Temperature Controller Fault - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) CONTROLLER FAULT - PACK/ZONE

(b) CONTROLLER FAULT - STANDBY PACK

B. Possible Causes

(1) Cabin temperature controller, M1443 (No. 2)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

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D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right pack/zone temperature controller, M1443.

These are the tasks:

Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801,

Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

804. Control Cabin Temperature Selector (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK SELECTOR

(2) This fault is for the right pack/zone temperature controller.

B. Possible Causes

(1) Control cabin temperature selector, S2

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

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F. Fault Isolation Procedure

(1) Replace the control cabin temperature selector, S2.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the control cabin temperature selector and the right pack/zone temperature controller, M1443:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector from the control cabin temperature selector.

(c) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(d) Do a wiring check between these pins of the electrical connector for the control cabin temperature selector and connector D3860A of the pack/zone temperature controller:

SELECTOR	D3860A
pin 1	pin C2
pin 2	pin B2
pin 3	pin A2

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect connector D3996 to the control cabin temperature selector.

3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature selector.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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AKS 001-021 (Continued)

805. Control Cabin Temperature Selector (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK SELECTOR

(2) This fault is for the left pack/zone temperature controller.

B. Possible Causes

(1) Control cabin temperature selector, S2

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the control cabin temperature selector, S2.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the control cabin temperature selector and the left pack/zone temperature controller, M1442:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector D3996 from the control cabin temperature selector.

(c) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

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(d) Do a wiring check between these pins of the electrical connector for the control cabin temperature selector and connector D3858A of the pack/zone temperature controller:

SELECTOR	D3858A
pin 4	pin C2
pin 5	pin B2
pin 6	pin A2

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect connector D3996 to the control cabin temperature selector.
3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.

(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature selector.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

806. Forward Cabin Temperature Selector (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE SELECTOR

(2) This fault is for the right pack/zone temperature controller.

B. Possible Causes

(1) Forward cabin temperature selector, S3

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

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D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the forward cabin temperature selector, S3.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the forward cabin temperature selector and the right pack/zone temperature controller, M1443:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector from the forward cabin temperature selector.

(c) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(d) Do a wiring check between these pins of the electrical connector for the forward cabin temperature selector and connector D3860A of the pack/zone temperature controller:

SELECTOR	D3860A
pin 1	pin C3
pin 2	pin B3
pin 3	pin A3

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the forward cabin temperature selector.

3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the forward cabin temperature selector.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801

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- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

807. Aft Cabin Temperature Selector (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) BKUP ZONE SELECTOR

(2) This fault is for the right pack/zone temperature controller.

B. Possible Causes

(1) Aft cabin temperature selector, S4

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the aft cabin temperature selector, S4.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the aft cabin temperature selector and the right pack/zone temperature controller, M1443:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector from the aft cabin temperature selector.

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(c) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(d) Do a wiring check between these pins of the electrical connector for the aft cabin temperature selector and connector D3860A of the pack/zone temperature controller:

SELECTOR	D3860A
pin 1	pin C11
pin 2	pin B11
pin 3	pin B12

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the aft cabin temperature selector.

3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the aft cabin temperature selector.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

808. Aft Cabin Temperature Selector (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE SELECTOR

(2) This fault is for the left pack/zone temperature controller.

B. Possible Causes

(1) Aft cabin temperature selector, S4

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the aft cabin temperature selector, S4.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the aft cabin temperature selector and the left pack/zone temperature controller, M1442:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector from the aft cabin temperature selector.

(c) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(d) Do a wiring check between these pins of the electrical connector for the aft cabin temperature selector and connector D3858A of the pack/zone temperature controller:

SELECTOR	D3858A
pin 4	pin C3
pin 5	pin B3
pin 6	pin A3

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the aft cabin temperature selector.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

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(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the aft cabin temperature selector.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

809. Forward Cabin Temperature Selector (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) BKUP ZONE SELECTOR

(2) This fault is for the left pack/zone temperature controller.

B. Possible Causes

(1) Forward cabin temperature selector, S3

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-31)

(2) (WDM 21-51-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the forward cabin temperature selector, S3.

These are the tasks:

Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,

Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

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2) If the maintenance message shows, then continue.

(2) Do this check of the wiring between the forward cabin temperature selector and the left pack/zone temperature controller, M1442:

(a) Lower the overhead P5 panel.

(b) Disconnect the electrical connector from the forward cabin temperature selector.

(c) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(d) Do a wiring check between these pins of the electrical connector for the forward cabin temperature selector and connector D3858A of the pack/zone temperature controller:

SELECTOR	D3858A
pin 4	pin C11
pin 5	pin B11
pin 6	pin B12

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the forward cabin temperature selector.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(f) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the forward cabin temperature selector.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

810. Flight Deck Cabin Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK CABIN SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the control cabin temperature sensor.

B. Possible Causes

(1) Flight deck cabin temperature sensor, M1718

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the control cabin temperature sensor, M1718:

(a) Lower the access panel for the control cabin temperature sensor that is aft of the overhead P5 panel.

(b) Disconnect electrical connector D10958 from the control cabin temperature sensor.

(c) Do a check for an open circuit or a short between pins 1 and 2 of the control cabin temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the control cabin temperature sensor, M1718.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the control cabin temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D10958 of the control cabin temperature sensor and connector D3860A of the pack/zone temperature controller:

D10958		D3860A
pin 1	. . . . .	pin C4
pin 2	. . . . .	pin C5

(c) If you find a problem with the wiring, then do these steps:

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1) Repair the wiring.
2) Re-connect the electrical connector to the control cabin temperature sensor.
3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature sensor.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

811. Flight Deck Cabin Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK CABIN SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the control cabin temperature sensor.

B. Possible Causes

(1) Flight deck cabin temperature sensor, M1718

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-12)

(2) (WDM 21-61-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

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AKS 001-021 (Continued)

F. Fault Isolation Procedure

(1) Do this check of the control cabin temperature sensor, M1718:

(a) Lower the access panel for the control cabin temperature sensor that is aft of the overhead P5 panel.

(b) Disconnect electrical connector D10958 from the control cabin temperature sensor.

(c) Do a check for an open circuit or a short between pins 3 and 4 of the control cabin temperature sensor.

(d) If there is a short or an open circuit between pins 3 and 4, then do these steps:

1) Replace the control cabin temperature sensor, M1718.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 3 and 4, then continue.

(2) Do this check of the wiring between the control cabin temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D10958 of the control cabin temperature sensor and connector D3858A of the pack/zone temperature controller:

D10958	D3858A
pin 3	pin C4
pin 4	pin C5

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the control cabin temperature sensor.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature sensor.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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812. Flight Deck Duct Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK DUCT SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the control cabin duct temperature sensor.

B. Possible Causes

(1) Control cabin duct temperature sensor, T478

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the control cabin duct temperature sensor, T478:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect electrical connector D3884 from the control cabin duct temperature sensor.

(c) Do a check for an open circuit or a short between pins 1 and 2 of the control cabin duct temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the control cabin duct temperature sensor (Primary), T478.

These are the tasks:

Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002,

Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the control cabin temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3884 of the control cabin duct temperature sensor and connector D3860A of the pack/zone temperature controller:

D3884	D3860A
pin 1	pin B5
pin 2	pin A5

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the control cabin temperature sensor.

3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature sensor.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

813. Flight Deck Duct Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK DUCT SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the control cabin duct temperature sensor.

B. Possible Causes

(1) Control cabin duct temperature sensor, T477

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-61-12)

(2) (WDM 21-61-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the control cabin duct temperature sensor, T477:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect electrical connector D3882 from the control cabin duct temperature sensor.

(c) Do a check for an open circuit or a short between pins 1 and 2 of the control cabin duct temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the control cabin duct temperature sensor (Backup), T477.

These are the tasks:

Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002,

Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the control cabin temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3882 of the control cabin duct temperature sensor and connector D3858A of the pack/zone temperature controller:

D3882		D3858A
pin 1	. . . . .	pin B5
pin 2	. . . . .	pin A5

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(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the control cabin temperature sensor.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the control cabin temperature sensor.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

814. Forward Cabin Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE CABIN SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the forward cabin temperature sensor.

B. Possible Causes

(1) forward cabin temperature sensor, M1445

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

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(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the forward cabin temperature sensor, M1445:

(a) Lower the PSU that is adjacent to the forward cabin zone temperature sensor.

(b) Remove the trim panel that is adjacent to the PSU and beneath the electrical connector for the zone temperature sensor.

(c) Disconnect electrical connector D3908 from the forward cabin temperature sensor.

(d) Do a check for an open circuit or a short between pins 1 and 2 of the forward cabin temperature sensor.

(e) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the forward cabin temperature sensor, M1445.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the forward cabin temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3908 of the forward cabin temperature sensor and connector D3860A of the pack/zone temperature controller:

D3908	D3860A
pin 1	pin B4
pin 2	pin A4

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the forward cabin temperature sensor.

3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the forward cabin temperature sensor.

2) Install the trim panel adjacent to the PSU.

3) Close (lift) the PSU.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801

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- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

815. Forward Cabin Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) BKUP ZONE CABIN SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the forward cabin temperature sensor.

B. Possible Causes

(1) Forward cabin temperature sensor, M1445

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the forward cabin temperature sensor, M1445:

(a) Lower the PSU that is adjacent to the forward cabin zone temperature sensor.

(b) Remove the trim panel that is adjacent to the PSU and beneath the electrical connector for the zone temperature sensor.

(c) Disconnect electrical connector D3908 from the forward cabin temperature sensor.

(d) Do a check for an open circuit or a short between pins 3 and 4 of the forward cabin temperature sensor.

(e) If there is a short or an open circuit between pins 3 and 4, then do these steps:

1) Replace the forward cabin temperature sensor, M1445.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

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Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 3 and 4, then continue.

(2) Do this check of the wiring between the forward cabin temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3908 of the forward cabin temperature sensor and connector D3858A of the pack/zone temperature controller:

D3908	**D3858A**
pin 3	pin D14
pin 4	pin D13

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the forward cabin temperature sensor.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the forward cabin temperature sensor.

2) Install the trim panel adjacent to the PSU.

3) Close (lift) the PSU.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

816. Aft Cabin Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) BKUP ZONE CABIN SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the aft cabin temperature sensor.

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B. Possible Causes

(1) Aft cabin temperature sensor, M1446

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the aft cabin temperature sensor, M1446:

(a) Lower the PSU that is adjacent to the aft cabin zone temperature sensor.

(b) Remove the trim panel that is adjacent to the PSU and beneath the electrical connector for the zone temperature sensor.

(c) Disconnect electrical connector D3910 from the aft cabin temperature sensor.

(d) Do a check for an open circuit or a short between pins 3 and 4 of the aft cabin temperature sensor.

(e) If there is a short or an open circuit between pins 3 and 4, then do these steps:

1) Replace the aft cabin temperature sensor, M1446.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 3 and 4, then continue.

(2) Do this check of the wiring between the aft cabin temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3910 of the aft cabin temperature sensor and connector D3860A of the pack/zone temperature controller:

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D3910	D3860A
pin 3	pin D14
pin 4	pin D13

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect the electrical connector to the aft cabin temperature sensor.
3) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the aft cabin temperature sensor.
2) Install the trim panel adjacent to the PSU.
3) Close (lift) the PSU.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

817. Aft Cabin Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE CABIN SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the aft cabin temperature sensor.

B. Possible Causes

(1) Aft cabin temperature sensor, M1446

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

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D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the aft cabin temperature sensor, M1446:

(a) Lower the PSU that is adjacent to the aft cabin zone temperature sensor.

(b) Remove the trim panel that is adjacent to the PSU and beneath the electrical connector for the zone temperature sensor.

(c) Disconnect electrical connector D3910 from the aft cabin temperature sensor.

(d) Do a check for an open circuit or a short between pins 1 and 2 of the aft cabin temperature sensor.

(e) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the aft cabin temperature sensor, M1446.

These are the tasks:

Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802,

Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the aft cabin temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3910 of the aft cabin temperature sensor and connector D3858A of the pack/zone temperature controller:

D3910		D3858A
pin 1	. . . . .	pin A4
pin 2	. . . . .	pin B4

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the aft cabin temperature sensor.

3) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

5) If the maintenance message does not show, then you corrected the fault.

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(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the aft cabin temperature sensor.

2) Install the trim panel adjacent to the PSU.

3) Close (lift) the PSU.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

818. Forward Cabin Duct Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE DUCT SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the forward cabin duct temperature sensor.

B. Possible Causes

(1) Forward cabin duct temperature sensor, T533

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

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F. Fault Isolation Procedure

(1) Do this check of the forward cabin duct temperature sensor, T533:

(a) Remove the left ceiling panel that is just forward of the overwing escape hatches. To remove the panel, do this task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

(b) Disconnect electrical connector D11830 from the forward cabin duct temperature sensor.

(c) Do a check for an open circuit or a short between pins 1 and 2 of the forward cabin duct temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the forward cabin duct temperature sensor, T533.

These are the tasks:

Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002,

Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the forward cabin duct temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D11830 of the forward cabin duct temperature sensor and connector D3860A of the pack/zone temperature controller:

D11830	D3860A
pin 1	pin C6
pin 2	pin C7

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Connect the electrical connector to the forward cabin duct temperature sensor.

3) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

4) Install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

5) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

6) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Connect the electrical connector to the forward cabin duct temperature sensor.

2) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

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- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

819. Aft Cabin Duct Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE DUCT SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the aft cabin duct temperature sensor.

B. Possible Causes

(1) Aft cabin duct temperature sensor, T536

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the aft cabin duct temperature sensor, T536:

(a) Remove the right ceiling panel that is adjacent to the overwing escape hatches. To remove the panel, do this task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

(b) Disconnect electrical connector D11840 from the aft cabin duct temperature sensor.

(c) Do a check for an open circuit or a short between pins 1 and 2 of the forward cabin duct temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the aft cabin duct temperature sensor, T536.

These are the tasks:

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Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002,
Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the aft cabin duct temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D11840 of the aft cabin duct temperature sensor and connector D3858A of the pack/zone temperature controller:

D11840	D3858A
pin 1	pin C6
pin 2	pin C7

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Connect the electrical connector to the aft cabin duct temperature sensor.

3) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

4) Install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

5) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

6) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Connect the electrical connector to the aft cabin duct temperature sensor.

2) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

820. Right Ram Air Control Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) RAM AIR SNSR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the right ram air control temperature sensor.

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B. Possible Causes

(1) Right ram air control temperature sensor, T482

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

(4) Right ram air inlet actuator, M2797

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

E. Related Data

(1) (SSM 21-51-24)

(2) (WDM 21-51-24)

F. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

G. Fault Isolation Procedure

(1) Do this check of the wiring between the right ram air control temperature sensor and the right ram air inlet actuator, M2797:

(a) Get access to the right ram air inlet actuator, M2797, as follows:

1) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

(b) Disconnect electrical connector D14394 from the right ram air inlet actuator, M2797.

(c) Do a wiring check between these pins of electrical connector D3918 of the right ram air control temperature sensor and electrical connector D14394 of the right ram air inlet actuator, M2797:

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M2797	**T482**
D14394	**D3918**
Pin 17	Pin 1
Pin 18	Pin 2

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Reconnect electrical connector D3918 to the right ram air sensor, T482.
3) Reconnect electrical connector D14394 to the right ram air inlet actuator, M2797.
4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.
6) Close these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

7) If the maintenance message still shows, then continue.

(e) If you do not find a problem with the wiring, then continue.

(2) Replace the right pack/zone temperature controller, M1443.

These are the tasks:

Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801,

Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

(3) Replace the right ram air inlet actuator, M2797, as follows:

(a) Do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(b) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(c) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

821. Left Ram Air Control Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) RAM AIR SNSR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the left ram air control temperature sensor.

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B. Possible Causes

(1) Left ram air control temperature sensor, T481

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

(4) Left ram air inlet actuator, M2795

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

E. Related Data

(1) (SSM 21-51-14)

(2) (WDM 21-51-14)

F. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

G. Fault Isolation Procedure

(1) Replace the left pack/zone temperature controller, M1442.

These are the tasks:

Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801,

Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

(2) Do this check of the wiring between the left ram air control temperature sensor and the left ram air inlet actuator, M2795:

(a) Get access to the left ram air inlet actuator, M2795, as follows:

1) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet

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(Continued)

Number	Name/Location
191GL	Ram Air Actuator Panel - Forward

(b) Disconnect electrical connector D14386 from the left ram air inlet actuator, M2795.

(c) Do a wiring check between these pins of electrical connector D3916 of the left ram air control temperature sensor and electrical connector D14386 of the left ram air inlet actuator, M2795:

M2795	**T481**
D14386	**D3916**
Pin 17	Pin 1
Pin 18	Pin 2

(d) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Reconnect electrical connector D3916 to the left ram air sensor, T481.
3) Reconnect electrical connector D14386 to the left ram air inlet actuator, M2795.
4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
5) If the maintenance message does not show, then you corrected the fault.
6) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

7) If the maintenance message still shows, then continue.

(3) Replace the left ram air inlet actuator, M2795, as follows:

(a) Do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(b) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(c) If the maintenance message does not show, then you corrected the fault.

——— **END OF TASK** ———

822. Right Pack Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - PACK SNSR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the right pack temperature sensor.

B. Possible Causes

(1) Right pack temperature sensor, T474

(2) Wiring

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(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-23)

(4) (WDM 21-51-23)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the right pack temperature sensor, T474:

(a) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(b) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Disconnect electrical connector D3876 from the right pack temperature sensor.

(d) Do a check for an open circuit or a short between pins 1 and 2 of the right pack temperature sensor.

(e) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the right pack temperature sensor, T474.

These are the tasks:

Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801,

Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the right pack temperature sensor and the right pack/zone temperature controller, M1443:

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(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3876 of the right pack temperature sensor and connector D3860A of the pack/zone temperature controller:

D3876	D3860A
pin 1	pin A6
pin 2	pin B6

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect the electrical connector to the right pack temperature sensor.
3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

5) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
7) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the right pack temperature sensor.
2) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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823. Left Pack Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) STBY OTHER PACK - PACK SNSR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the left pack temperature sensor.

B. Possible Causes

(1) Left pack temperature sensor, T471

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-13)

(4) (WDM 21-51-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the left pack temperature sensor, T471:

(a) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(b) Disconnect electrical connector D3866 from the left pack temperature sensor.

(c) Do a check for an open circuit or a short between pins 3 and 4 of the left pack temperature sensor.

(d) If there is a short or an open circuit between pins 3 and 4, then do these steps:

1) Replace the left pack temperature sensor, T471.

These are the tasks:

Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801,

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Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 3 and 4, then continue.

(2) Do this check of the wiring between the left pack temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3866 of the left pack temperature sensor and connector D3860A of the pack/zone temperature controller:

D3866	**D3860A**
pin 3	pin D11
pin 4	pin D12

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the left pack temperature sensor.

3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

4) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

5) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

6) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the left pack temperature sensor.

2) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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824. Right Pack Temperature Sensor (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) STBY OTHER PACK - PACK SNSR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the right pack temperature sensor.

B. Possible Causes

(1) Right pack temperature sensor, T474

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

(3) (SSM 21-51-23)

(4) (WDM 21-51-23)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the right pack temperature sensor, T474:

(a) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(b) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Disconnect electrical connector D3876 from the right pack temperature sensor.

(d) Do a check for an open circuit or a short between pins 3 and 4 of the right pack temperature sensor.

(e) If there is a short or an open circuit between pins 3 and 4, then do these steps:

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1) Replace the right pack temperature sensor, T474.

   These are the tasks:

   Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801,

   Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 3 and 4, then continue.

(2) Do this check of the wiring between the right pack temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3876 of the right pack temperature sensor and connector D3858A of the pack/zone temperature controller:

D3876	D3858A
pin 3	pin D11
pin 4	pin D12

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the right pack temperature sensor.

3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

5) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

7) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the right pack temperature sensor.

2) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

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(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:
- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

825. Left Pack Temperature Sensor (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - PACK SNSR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the left pack temperature sensor.

B. Possible Causes

(1) Left pack temperature sensor, T471

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

(3) (SSM 21-51-13)

(4) (WDM 21-51-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the left pack temperature sensor, T471:

(a) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(b) Disconnect electrical connector D3866 from the left pack temperature sensor.

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(c) Do a check for an open circuit or a short between pins 1 and 2 of the left pack temperature sensor.

(d) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the left pack temperature sensor, T471.

These are the tasks:

Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801,

Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(e) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the left pack temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3866 of the left pack temperature sensor and connector D3858A of the pack/zone temperature controller:

D3866	D3858A
pin 1	pin A6
pin 2	pin B6

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the left pack temperature sensor.

3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

4) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

5) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

6) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the left pack temperature sensor.

2) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

826. Right Mix Manifold Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - MIX MANF SENSOR

(2) The right pack/zone temperature controller has detected a short or an open circuit from the right mix manifold temperature sensor.

B. Possible Causes

(1) Right mix manifold temperature sensor, T475

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the right mix manifold temperature sensor, T475:

(a) Open the forward cargo door.

(b) Remove the aft center bulkhead liner in the forward cargo compartment. To remove the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

(c) Disconnect electrical connector D3878 from the right mix manifold temperature sensor.

(d) Do a check for an open circuit or a short between pins 1 and 2 of the right mix manifold temperature sensor.

(e) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the right mix manifold temperature sensor, T475.

These are the tasks:

Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803,

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Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the right mix manifold temperature sensor and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3878 of the right mix manifold temperature sensor and connector D3860A of the pack/zone temperature controller:

D3878	**D3860A**
pin 1	pin B7
pin 2	pin A7

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the right mix manifold temperature sensor.

3) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

4) Close the forward cargo door.

5) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

7) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the right mix manifold temperature sensor.

2) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

3) Close the forward cargo door.

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

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827. Left Mix Manifold Temperature Sensor - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - MIX MANF SENSOR

(2) The left pack/zone temperature controller has detected a short or an open circuit from the left mix manifold temperature sensor.

B. Possible Causes

(1) Left mix manifold temperature sensor, T472

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the left mix manifold temperature sensor, T472:

(a) Open the forward cargo door.

(b) Remove the aft center bulkhead liner in the forward cargo compartment. To remove the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

(c) Disconnect electrical connector D3868 from the left mix manifold temperature sensor.

(d) Do a check for an open circuit or a short between pins 1 and 2 of the left mix manifold temperature sensor.

(e) If there is a short or an open circuit between pins 1 and 2, then do these steps:

1) Replace the left mix manifold temperature sensor, T472.

These are the tasks:

Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803,

Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

2) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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3) If the maintenance message does not show, then you corrected the fault.

(f) If there is not a short or an open circuit between pins 1 and 2, then continue.

(2) Do this check of the wiring between the left mix manifold temperature sensor and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3868 of the left mix manifold temperature sensor and connector D3858A of the pack/zone temperature controller:

D3868	D3858A
pin 1	pin B7
pin 2	pin A7

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the left mix manifold temperature sensor.

3) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

4) Close the forward cargo door.

5) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

7) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the left mix manifold temperature sensor.

2) Install the aft center bulkhead liner in the forward cargo compartment. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

3) Close the forward cargo door.

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

828. Left Standby Temperature Control Valve - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) STANDBY OTHER PACK - TCV

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(2) The right pack/zone temperature controller has detected a fault from the left standby temperature control valve.

B. Possible Causes

(1) Left standby temperature control valve, V140

(2) Wiring

(3) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-13)

(2) (WDM 21-51-13)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left standby temperature control valve, V140.

These are the tasks:

Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801,

Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Do this check of the wiring between the left standby temperature control valve and the right pack/zone temperature controller, M1443:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3864 of the left standby temperature control valve and connector D3860A of the pack/zone temperature controller:

D3864		D3860A
pin 3	. . . . .	pin A15
pin 1	. . . . .	pin B15

(c) If you find a problem with the wiring, then do these steps:

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1) Repair the wiring.
2) Re-connect the electrical connector to the left standby temperature control valve.
3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

4) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
5) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
6) If the maintenance message does not show, then you corrected the fault.

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the left standby temperature control valve.
2) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

(3) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

829. Right Standby Temperature Control Valve - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) STANDBY OTHER PACK - TCV

(2) The left pack/zone temperature controller has detected a fault from the right standby temperature control valve.

B. Possible Causes

(1) Right standby temperature control valve, V142

(2) Wiring

(3) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

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D. Related Data

(1) (SSM 21-51-23)

(2) (WDM 21-51-23)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right standby temperature control valve, V142.

These are the tasks:

Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801,

Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Do this check of the wiring between the right standby temperature control valve and the left pack/zone temperature controller, M1442:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Do a wiring check between these pins of electrical connector D3874 of the right standby temperature control valve and connector D3858A of the pack/zone temperature controller:

D3874	D3858A
pin 3	pin A15
pin 1	pin B15

(c) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the right standby temperature control valve.

3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

5) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

7) If the maintenance message does not show, then you corrected the fault.

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AKS 001-021 (Continued)

(d) If you do not find a problem with the wiring, then continue.

1) Re-connect the electrical connector to the right standby temperature control valve.

2) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

(3) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

830. Left Temperature Control Valve - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - TCV

(2) The left pack/zone temperature controller has detected a fault from the left temperature control valve.

B. Possible Causes

(1) Left temperature control valve, V139

(2) Air conditioning relays No. 1, M324

(3) Wiring

(4) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-51-12)

(2) (WDM 21-51-12)

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E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the left temperature control valve, V139.

These are the tasks:

Temperature Control Valve Removal, AMM TASK 21-51-10-000-801,

Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message shows, then continue.

(2) Replace the air conditioning relays No. 1, M324.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message shows, then continue.

(3) Do these checks of the wiring between the left temperature control valve, the left pack/zone temperature controller, M1442, and the air conditioning relays No. 1, M324:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 1, M324. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Do a wiring check between these pins of electrical connector D3862 of the left temperature control valve and connector D3858B of the pack/zone temperature controller:

D3862	D3858B
pin 4	pin D10
pin 12	pin D9

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the left temperature control valve.

c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

d) Re-install the left pack/zone temperature controller. To install the controller, do

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this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

e) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

f) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

2) If you do not find a problem with the wiring, then continue.

(d) Do a wiring check between these pins of electrical connector D3862 of the left temperature control valve and connector D458A of the air conditioning relays No 1:

D3862	D458A
pin 1	pin 64
pin 2	pin 63

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the left temperature control valve.

c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

d) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

e) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

f) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

2) If you do not find a problem with the wiring, then continue.

(e) Do a wiring check between these pins of electrical connector D458A of the air conditioning relays No. 1 and connector D3858B of the pack/zone temperature controller:

D3858B	D458A
pin D12	pin 66
pin D13	pin 65
pin C2	pin 58

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the left temperature control valve.

c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

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d) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

e) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

f) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

2) If you do not find a problem with the wiring, then continue.

(f) Make sure pins 3 and 5 of connector D3862 for the temperature control valve go to ground.

1) If pin 3 or 5 of D3862 does not go to ground, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the left temperature control valve.

c) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

d) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

e) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

f) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

g) If the maintenance message does not show, then you corrected the fault.

2) If pins 3 and 5 of D3862 go to ground, then do these steps and continue:

a) Re-connect the electrical connector to the left temperature control valve.

b) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

c) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(4) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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831. Right Temperature Control Valve - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) THIS PACK - TCV

(2) The right pack/zone temperature controller has detected a fault from the right temperature control valve.

B. Possible Causes

(1) Right temperature control valve, V141

(2) Air conditioning relays No. 2, M1455

(3) Wiring

(4) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-51-22)

(2) (WDM 21-51-22)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the right temperature control valve, V141.

These are the tasks:

Temperature Control Valve Removal, AMM TASK 21-51-10-000-801,

Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Replace the air conditioning relays No. 2, M1455.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(3) Do these checks of the wiring between the right temperature control valve, the right pack/zone temperature controller, M1443, and the air conditioning relays No. 2, M1455:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 2, M1455. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Do a wiring check between these pins of electrical connector D3872 of the right temperature control valve and connector D3860B of the pack/zone temperature controller:

D3872	D3860B
pin 4	pin D10
pin 12	pin D9

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the right temperature control valve.

c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

e) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

f) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

g) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

h) If the maintenance message does not show, then you corrected the fault.

2) If you do not find a problem with the wiring, then continue.

(d) Do a wiring check between these pins of electrical connector D3872 of the right temperature control valve and connector D10002A of the air conditioning relays No 2:

D3872	D10002A
pin 1	pin 64
pin 2	pin 63

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

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b) Re-connect the electrical connector to the right temperature control valve.

c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

e) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

f) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

g) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

h) If the maintenance message does not show, then you corrected the fault.

2) If you do not find a problem with the wiring, then continue.

(e) Do a wiring check between these pins of electrical connector D10002A of the air conditioning relays No. 2 and connector D3860B of the pack/zone temperature controller:

D3860B		D10002A
pin D12	. . . . .	pin 66
pin D13	. . . . .	pin 65
pin C2	. . . . .	pin 58

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the right temperature control valve.

c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

e) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

f) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

g) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

h) If the maintenance message does not show, then you corrected the fault.

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2) If you do not find a problem with the wiring, then continue.

(f) Make sure pins 3 and 5 of connector D3872 for the temperature control valve go to ground.

1) If pin 3 or 5 of D3872 does not go to ground, then do these steps:

a) Repair the wiring.

b) Re-connect the electrical connector to the right temperature control valve.

c) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

d) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

e) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

f) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

g) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

h) If the maintenance message does not show, then you corrected the fault.

2) If pins 3 and 5 of D3872 go to ground, then do these steps and continue:

a) Re-connect the electrical connector to the right temperature control valve.

b) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

c) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

d) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(4) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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832. Control Cabin Trim Air Valve (Primary) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK TRIM VALVE

(2) The right pack/zone temperature controller has detected a fault from the control cabin trim air valve.

B. Possible Causes

(1) Control cabin trim air valve, V143

(2) Air conditioning relays No. 1, M324

(3) Wiring

(4) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the control cabin trim air valve, V143.

These are the tasks:

Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801,

Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Replace the air conditioning relays No. 1, M324.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(3) Do these checks of the wiring between the control cabin trim air valve, the right pack/zone temperature controller, M1443, and the air conditioning relays No. 1, M324:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 1, M324. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Do a wiring check between these pins of electrical connector D3886 of the control cabin trim air valve and connector D3860B of the pack/zone temperature controller:

D3886	D3860B
pin 4	pin B10
pin 12	pin B9

(d) Do a wiring check between these pins of electrical connector D3860B of the pack/zone temperature controller and connector D458A of the air conditioning relays No 1:

D458A	D3860B
pin 25	pin B13
pin 37	pin B12
pin 16	pin D2

(e) Do a wiring check between these pins of electrical connector D3886 of the control cabin trim air valve and connector D458A of the air conditioning relays No 1:

D458A	D3886
pin 41	pin 1
pin 42	pin 2
pin 28	pin 10

(f) Make sure pins 3, 5, and 13 of connector D3886 for the control cabin trim air valve go to ground.

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the control cabin trim air valve.

3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

4) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

5) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

6) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

7) If the maintenance message does not show, then you corrected the fault.

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(h) If you do not find a problem with the wiring, then do these steps and continue:

1) Re-connect the electrical connector to the control cabin trim air valve.

2) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

3) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(4) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

——— END OF TASK ———

833. Control Cabin Trim Air Valve (Backup) - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) FLT DECK TRIM VALVE

(2) The left pack/zone temperature controller has detected a fault from the control cabin trim air valve.

B. Possible Causes

(1) Control cabin trim air valve, V143

(2) Air conditioning relays No. 1, M324

(3) Air conditioning relays No. 2, M1455

(4) Wiring

(5) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

(3) (SSM 21-61-12)

(4) (WDM 21-61-12)

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E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the control cabin trim air valve, V143.

These are the tasks:

Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801,

Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Replace the air conditioning relays No. 1, M324.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(3) Replace the air conditioning relays No. 2, M1455.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(4) Do these checks of the wiring between the control cabin trim air valve, the left pack/zone temperature controller, M1442, and the air conditioning relays No. 1, M324, and No. 2, M1455:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 1, M324. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Remove the air conditioning relays No. 2, M1455. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(d) Do a wiring check between these pins of electrical connector D3886 of the control cabin trim air valve and connector D3858B of the left pack/zone temperature controller, M1442:

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D3886	D3858B
pin 4	pin B10
pin 12	pin B9

(e) Do a wiring check between these pins of electrical connector D3858B of the left pack/zone temperature controller and connector D10002A of the air conditioning relays No 2, M1455:

D10002A	D3858B
pin 25	pin B13
pin 37	pin B12
pin 16	pin D2

(f) Do a wiring check between these pins of electrical connector D3886 of the control cabin trim air valve and connector D458A of the air conditioning relays No 1, M324:

D458A	D3886
pin 41	pin 1
pin 42	pin 2
pin 28	pin 10

(g) Do a wiring check between these pins of electrical connectors D458A and D458B of the air conditioning relays No. 1, M325, and connectors D10002A and D10002B of the air conditioning relays No. 2, M1455:

D458A	D10002B
pin 28	pin 41

D458B	D10002A
pin 41	pin 27
pin 42	pin 26

(h) Make sure pins 3, 5, and 13 of connector D3886 for the control cabin trim air valve go to ground.

(i) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Re-connect the electrical connector to the control cabin trim air valve.
3) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

4) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.
5) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
6) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

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7) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
8) If the maintenance message does not show, then you corrected the fault.

(j) If you do not find a problem with the wiring, then do these steps and continue:
1) Re-connect the electrical connector to the control cabin trim air valve.
2) Close this access panel:

Number	Name/Location
192CL	ECS Access Door

3) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(5) Replace the left pack/zone temperature controller, M1442. These are the tasks:
- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

834. Forward Cabin Trim Air Valve - Fault Isolation

A. Description
(1) This task is for this maintenance message:
(a) ZONE TRIM VALVE
(2) The right pack/zone temperature controller has detected a fault from the forward cabin trim air valve.

B. Possible Causes
(1) Forward cabin trim air valve, V144
(2) Air conditioning relays No. 2, M1455
(3) Wiring
(4) Cabin temperature controller, M1443 (No. 2).

C. Circuit Breakers
(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data
(1) (SSM 21-61-13)
(2) (WDM 21-61-13)

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E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the forward cabin trim air valve, V144.

These are the tasks:

Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801,

Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(2) Replace the air conditioning relays No. 2, M1455.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenace message still shows, then continue.

(3) Do these checks of the wiring between the forward cabin trim air valve, the right pack/zone temperature controller, M1443, and the air conditioning relays No. 2, M1455:

(a) Remove the right pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 2, M1455. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Do a wiring check between these pins of electrical connector D3888 of the forward cabin trim air valve and connector D3860B of the pack/zone temperature controller:

D3888	D3860B
pin 4	pin C10
pin 12	pin C9

(d) Do a wiring check between these pins of electrical connector D3860B of the pack/zone temperature controller and connector D10002A of the air conditioning relays No 2:

D10002A	D3860B
pin 53	pin C12
pin 54	pin C13
pin 11	pin B2

(e) Do a wiring check between these pins of electrical connector D3888 of the forward cabin trim air valve and connector D10002A of the air conditioning relays No 2:

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D10002A	D3888
pin 52	pin 1
pin 51	pin 2
pin 67	pin 10

(f) Make sure pins 3, 5, and 13 of connector D3888 for the forward cabin trim air valve go to ground.

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the forward cabin trim air valve.

3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

5) Re-install the right pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

6) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

7) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

8) If the maintenance message does not show, then you corrected the fault.

(h) If you do not find a problem with the wiring, then do these steps and continue:

1) Re-connect the electrical connector to the forward cabin trim air valve.

2) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

4) Re-install the air conditioning relays No. 2. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(4) Replace the right pack/zone temperature controller, M1443. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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835. Aft Cabin Trim Air Valve - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) ZONE TRIM VALVE

(2) The left pack/zone temperature controller has detected a fault from the aft cabin trim air valve.

B. Possible Causes

(1) Aft cabin trim air valve, V145

(2) Air conditioning relays No. 1, M324

(3) Wiring

(4) Cabin temperature controller, M1442 (No. 1).

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the aft cabin trim air valve, V145.

These are the tasks:

Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801,

Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenance message still shows, then continue.

(2) Replace the air conditioning relays No. 1, M324.

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

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(c) If the maintenance message still shows, then continue.

(3) Do these checks of the wiring between the aft cabin trim air valve, the left pack/zone temperature controller, M1442, and the air conditioning relays No. 1, M324:

(a) Remove the left pack/zone temperature controller. To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801.

(b) Remove the air conditioning relays No. 1, M324. To remove the relays, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(c) Do a wiring check between these pins of electrical connector D3890 of the aft cabin trim air valve and connector D3860B of the pack/zone temperature controller:

D3890	D3858B
pin 4	pin C10
pin 12	pin C9

(d) Do a wiring check between these pins of electrical connector D3858B of the pack/zone temperature controller and connector D458A of the air conditioning relays No 1:

D458A	D3858B
pin 53	pin C12
pin 54	pin C13
pin 11	pin B2

(e) Do a wiring check between these pins of electrical connector D3890 of the aft cabin trim air valve and connector D458A of the air conditioning relays No 1:

D458A	D3890
pin 52	pin 1
pin 51	pin 2
pin 67	pin 10

(f) Make sure pins 3, 5, and 13 of connector D3890 for the aft cabin trim air valve go to ground.

(g) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector to the aft cabin trim air valve.

3) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

4) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

5) Re-install the left pack/zone temperature controller. To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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6) Re-install the air conditioning relays No. 1. To install the relays, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801.

7) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

8) If the maintenance message does not show, then you corrected the fault.

(h) If you do not find a problem with the wiring, then do these steps and continue:

1) Re-connect the electrical connector to the aft cabin trim air valve.

2) Close this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

4) Re-install the air conditioning relays No. 1. To install the relays, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(4) Replace the left pack/zone temperature controller, M1442. These are the tasks:

- Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801
- Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

1) If the maintenance message does not show, then you corrected the fault.

AKS ALL

END OF TASK

838. Trim Air Valve Does Not Operate - Fault Isolation

A. Description

(1) The trim air pressure regulating and shutoff valve does not operate.

(2) The trim air pressure regulating and shutoff valve (PRSOV) opens to let hot bleed air to the three zone trim air modulating valves. When there is no individual temperature control for all three cabin zones, the trim air PRSOV is the usual cause.

B. Possible Causes

(1) Trim air pressure regulating and shutoff valve, V146

(2) Trim air switch, S5

(3) Wiring problem

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

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D. Related Data

(1) (SSM 21-61-15)

(2) (WDM 21-61-15)

E. Initial Evaluation

(1) Put the TRIM AIR switch to OFF.

(2) Supply pneumatic power. To supply pnuematic power, do this task: Supply Pressure to the Pneumatic System (Selection), AMM TASK 36-00-00-860-801

(3) Operate the air conditioning packs. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(4) To get access to the trim air PRSOV, open these panels in this sequence:

Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(5) Put the TRIM AIR switch to ON.

(6) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB switches to AUTO (12:00) position.

(7) Make sure the visual position indicator on the trim air PRSOV moves in the direction of the open position.

(8) On the P5-17 cabin temperature panel, put the FWD CAB switch to the fully warm (W) position.

(9) Make sure the visual position indicator on the trim air PRSOV moves closer to the fully open position.

(10) If the trim air PRSOV operates correctly, then there was an intermittent fault.

(11) If the trim air PRSOV does not operate correctly, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the ground circuit for the trim air PRSOV:

(a) Make sure the TRIM AIR switch is in the ON position.

(b) Disconnect connector D3914 from the trim air PRSOV.

(c) Make sure pin 3 of connector D3914 goes to ground.

(d) If pin 3 of connector D3914 does not go to ground, then do these steps:

1) Repair the wiring.

2) Re-install connector D3914 on the trim air PRSOV.

3) Do the Repair Confirmation at the end of this task.

(e) If pin 3 of connector D3914 goes to ground, then continue.

(2) Do this check for 28 VDC at the trim air PRSOV:

(a) Do a check for 28 VDC between pin 1 and pin 3 (ground) of connector D3914.

(b) If there is 28 VDC at pin 1 of connector D3914, then do these steps:

1) Replace the trim air PRSOV. To replace the trim air PRSOV,

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These are the tasks:

Trim Air Pressure Regulating and Shutoff Valve Removal, AMM TASK 21-62-01-000-801,

Trim Air Pressure Regulating and Shutoff Valve Installation, AMM TASK 21-62-01-400-801.

2) Do the Repair Confirmation at the end of this task.

(c) If there is not 28 VDC at pin 1 of connector D3914, then re-connect connector D3914 and continue.

(3) Do this check of the wiring and switch for the trim air PRSOV:

(a) Lower the P5 forward overhead panel to get access to the electrical connections on the trim switch, S5.

(b) Do a continuity check between terminals 5 and 6 of the trim air switch S5.

(c) Put the trim air switch to the OFF position.

(d) Do a continuity check between terminals 1 and 2 of the trim air switch S5.

1) If there is not continuity between terminals 5 and 6 or between terminals 1 and 2, then do these steps:

a) Replace the trim air switch S5.

NOTE: Put the switch in the ON position.

b) Do the Repair Confirmation at the end of this task.

2) If there is continuity between terminals 5 and 6 and between terminals 1 and 2, then do these steps:

a) Repair the wiring between these connectors:

C1172		**D3998**
term L	. . . . .	pin 13

D3998		**D3914**
pin 16	. . . . .	pin 1

b) Close the P5 overhead panel.

c) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Supply pneumatic power. To supply pnuematic power, do this task: Supply Pressure to the Pneumatic System (Selection), AMM TASK 36-00-00-860-801

(2) Operate the air conditioning packs. To do this, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(3) To get access to the trim air PRSOV, open these panels in this sequence:

Open this access panel:

Number	**Name/Location**
192DR	ECS High Pressure Access Door

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Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(4) Put the TRIM AIR switch to ON.

(5) On the P5-17 cabin temperature panel, put the CONT CAB and AFT CAB selectors to the AUTO (12:00) position.

(6) On the P5-17 cabin temperature panel, put the FWD CAB selector to the fully warm (W) position.

(7) Make sure the visual position indicator on the trim air PRSOV moves in the direction of the open position.

(a) If the visual position indicator on the trim air PRSOV moves in the direction of the open position, then you corrected the fault.

(8) Do these steps to return the airplane to its usual condition:

(a) On the P5-17 cabin temperature panel, put the CONT CAB, FWD CAB and AFT CAB temperature selectors to the AUTO (12:00) position.

(b) Shutdown the air conditioning packs. To shutdown the packs, do this task: Remove Conditioned Air from the Airplane, AMM TASK 21-00-00-800-802.

(c) Remove pnuematic power if it is not necessary. To remove pneumatic power, do this task: Remove Pressure from the Pneumatic System, AMM TASK 36-00-00-860-806

(d) Close these panels in the specified sequence:

Close this access panel:

Number	Name/Location
192CR	ECS Access Door

Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

——— END OF TASK ———

839. ZONE TEMP Light On, Cannot Reset, CONT CABIN - Fault Isolation

A. Description

(1) The ZONE TEMP light for the control cabin on the P5-17 cabin temperature control module is on and will not reset.

B. Possible Causes

(1) Control cabin duct overheat switch, S931

(2) Pack/zone temperature control system failure

(3) Air conditioning accessory unit, M324

(4) Wiring problem

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C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	4	C01164	A/C ZONE TEMP DUCT OVHT FLT DECK

D. Related Data

(1) (SSM 21-61-11)

(2) (SSM 21-61-12)

(3) (WDM 21-61-11)

(4) (WDM 21-61-12)

E. Initial Evaluation

(1) Push the TRIP RESET switch on the air conditioning module on the forward overhead panel, P5.

(2) If the control cabin ZONE TEMP light goes off, then there was an intermittent fault.

AKS 022-999

(3) If the control cabin ZONE TEMP light stays on, then do these steps to clear the fault:

(a) On the P5-17 Cabin Temperature Panel, make sure all three temperature selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

1) If any of the selectors are set to OFF, move them away from the OFF position.

(b) Clear the Existing Faults on the Front Panel Display of the applicable Pack Flow Temperature Controller, M2951 or M2952 (Figure 303 or Figure 304

(c) On the glareshield panel, P7, push the Master Caution light to reset it.

(d) Wait for thirty (30) seconds.

(e) Make sure the LH PACK, RH PACK, and ZONE TEMP lights stay off.

(f) Look at the existing faults again.

(g) If the no fault messages show, then there was an intermittent fault.

AKS ALL

(4) If the control cabin ZONE TEMP light stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the control cabin duct overheat switch, S931:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) Disconnect connector D3892 from the passenger cabin duct overheat switch, S931.

(c) Push the TRIP RESET switch.

(d) If the ZONE TEMP light goes out, then do these steps:

1) Replace the control cabin duct overheat switch, S931.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

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Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

2) Re-connect connector D3892 to the passenger cabin duct overheat switch, S931.

3) If the ZONE TEMP light is still off, then you corrected the fault.

4) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(e) If the ZONE TEMP light stays on, then continue.

(2) Do the BITE test on the left (M1442) and the right (M1443) pack/zone temperature controllers. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the control cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Do this check of the wiring between the ACAU and the control cabin duct temperature sensor:

(a) Remove the ACAU, M324. To remove the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for a short from pin 61 at connector D458B on the E4-1 shelf to structure ground, (WDM 21-61-11).

(c) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M324, and control cabin duct overheat switch, S931, (WDM 21-61-11).

2) Re-install the ACAU, M324. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the ZONE TEMP light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(d) If there is not a short to ground, then continue.

(4) Replace the air conditioning accessory unit, M324. To replace it,

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Push the TRIP RESET switch.

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(b) If the ZONE TEMP light goes out, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(c) If the ZONE TEMP light is still on, then continue.

(5) Do this check of the wiring between the ACAU and the forward overhead panel, P5:

(a) Do a check for a short from pin 62 at connector D458B on the E4-1 shelf to structure ground, (WDM 21-61-11).

(b) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M324, and pin 7 of connector D3996 on the forward overhead panel, P5 (WDM 21-61-11).

2) Install the ACAU, M324. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the DUCT OVERHEAT light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

840. ZONE TEMP Light On, Cannot Reset, FWD CABIN - Fault Isolation

A. Description

(1) The ZONE TEMP light for the forward passenger cabin on the P5-17 cabin temperature control module is on and will not reset.

B. Possible Causes

(1) Forward cabin duct overheat switch, S1076

(2) Pack/zone temperature control system failure

(3) Air conditioning accessory unit, M1455

(4) Wiring problem

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	3	C01166	A/C ZONE TEMP DUCT OVHT FWD PASS

D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

E. Initial Evaluation

(1) Push the TRIP RESET switch on the air conditioning module on the forward overhead panel, P5.

(2) If the forward cabin ZONE TEMP light goes off, then there was an intermittent fault.

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AKS 022-999

(3) If the forward cabin ZONE TEMP light stays on, then do these steps to clear the fault:

(a) On the P5-17 Cabin Temperature Panel, make sure all three temperature selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

1) If any of the selectors are set to OFF, move them away from the OFF position.

(b) Clear the Existing Faults on the Front Panel Display of the applicable Pack Flow Temperature Controller, M2951 or M2952 (Figure 303 or Figure 304

(c) On the glareshield panel, P7, push the Master Caution light to reset it.

(d) Wait for thirty (30) seconds.

(e) Make sure the LH PACK, RH PACK, and ZONE TEMP lights stay off.

(f) Look at the existing faults again.

(g) If no maintenance messages show, then there was an intermittent fault.

AKS ALL

(4) If the forward cabin ZONE TEMP light stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the forward cabin duct overheat switch, S1076:

(a) Remove the applicable ceiling panel to get access to the forward cabin overheat switch. To remove the panel, do this task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

(b) Disconnect connector D11834 from the forward cabin duct overheat switch, S1076.

(c) Push the TRIP RESET switch.

(d) If the ZONE TEMP light goes out, then do these steps:

1) Replace the forward cabin duct overheat switch, S1076.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

2) Connect connector D11834 to the forward cabin duct overheat switch, S1076.

3) If the ZONE TEMP light is still off, then you corrected the fault.

4) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

(e) If the ZONE TEMP light stays on, then continue.

(2) Do the BITE test on the left (M1442) and the right (M1443) pack/zone temperature controllers. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the forward cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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(b) If the BITE test does not show a fault, then continue.

(3) Do this check of the wiring between the ACAU and the forward cabin duct temperature sensor:

(a) Remove the ACAU, M1455. To remove the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for a short from pin 48 at connector D10002B on the E4-1 shelf to structure ground, (WDM 21-61-13).

(c) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M1455, and forward cabin duct overheat switch, S1076, (WDM 21-61-13).

2) Install the ACAU, M1455. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the ZONE TEMP light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(d) If there is not a short to ground, then continue.

(4) Replace the air conditioning accessory unit, M1455. To replace it,

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Push the TRIP RESET switch.

(b) If the ZONE TEMP light goes out, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(c) If the ZONE TEMP light is still on, then continue.

(5) Do this check of the wiring between the ACAU and the forward overhead panel, P5:

(a) Do a check for a short from pin 49 at connector D10002B on the E4-1 shelf to structure ground, (WDM 21-61-13).

(b) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M1455, and pin 7 of connector D3998 on the forward overhead panel, P5 (WDM 21-61-13).

2) Install the ACAU, M1455. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the DUCT OVERHEAT light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

a) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

END OF TASK

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841. ZONE TEMP Light On, Cannot Reset, AFT CABIN - Fault Isolation

A. Description

(1) The ZONE TEMP light for the aft passenger cabin on the P5-17 cabin temperature control module is on and will not reset.

B. Possible Causes

(1) Aft cabin duct overheat switch, S1077

(2) Pack/zone temperature control system failure

(3) Air conditioning accessory unit, M324

(4) Wiring problem

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	2	C01169	A/C ZONE TEMP DUCT OVHT AFT PASS

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

E. Initial Evaluation

(1) Push the TRIP RESET switch on the air conditioning module on the forward overhead panel, P5.

(2) If the aft cabin ZONE TEMP light goes off, then there was an intermittent fault.

AKS 022-999

(3) If the aft cabin ZONE TEMP light stays on, then do these steps to clear the fault:

(a) On the P5-17 Cabin Temperature Panel, make sure all three temperature selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

1) If any of the selectors are set to OFF, move them away from the OFF position.

(b) Clear the Existing Faults on the Front Panel Display of the applicable Pack Flow Temperature Controller, M2951 or M2952 (Figure 303 or Figure 304

(c) On the glareshield panel, P7, push the Master Caution light to reset it.

(d) Wait for thirty (30) seconds.

(e) Make sure the LH PACK, RH PACK, and ZONE TEMP lights stay off.

(f) Look at the existing faults again.

(g) If no maintenance messages show, then there was an intermittent fault.

AKS ALL

(4) If the aft cabin ZONE TEMP light stays on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this check of the aft cabin duct overheat switch, S1077:

(a) Remove the applicable ceiling panel to get access to the forward cabin overheat switch. To remove the panel, do this task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

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(b) Disconnect connector D11836 from the aft cabin duct overheat switch, S1077.

(c) Push the TRIP RESET switch.

(d) If the ZONE TEMP light goes out, then do these steps:

1) Replace the aft cabin duct overheat switch, S1077.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

2) Re-connect connector D11836 to the aft cabin duct overheat switch, S1077.

3) If the ZONE TEMP light is still off, then you corrected the fault.

4) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

(e) If the ZONE TEMP light stays on, then continue.

(2) Do the BITE test on the left (M1442) and the right (M1443) pack/zone temperature controllers. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the aft cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(3) Do this check of the wiring between the ACAU and the aft cabin duct temperature sensor:

(a) Remove the ACAU, M324. To remove the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(b) Do a check for a short from pin 48 at connector D458B on the E4-1 shelf to structure ground, (WDM 21-61-14).

(c) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M324, and aft cabin duct overheat switch, S1077, (WDM 21-61-14).

2) Install the ACAU, M324. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the ZONE TEMP light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(d) If there is not a short to ground, then continue.

(4) Replace the air conditioning accessory unit, M324. To replace it,

These are the tasks:

Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801,

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Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Push the TRIP RESET switch.

(b) If the ZONE TEMP light goes out, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

(c) If the ZONE TEMP light is still on, then continue.

(5) Do this check of the wiring between the ACAU and the forward overhead panel, P5:

(a) Do a check for a short from pin 49 at connector D458B on the E4-1 shelf to structure ground, (WDM 21-61-14).

(b) If there is a short to ground, then do these steps:

1) Repair the wiring between the air conditioning accessory unit, M458B, and pin 20 of connector D3996 on the forward overhead panel, P5 (WDM 21-61-14).

2) Install the ACAU, M324. To install it, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

3) Push the TRIP RESET switch.

4) If the DUCT OVERHEAT light is off, then you corrected the fault. Close the

Number	Name/Location
117A	Electronic Equipment Access Door

a) Install the ceiling panel. To install the panel, do this task: Main Ceiling Panel - Installation, AMM TASK 25-21-45-400-803-001.

——— END OF TASK ———

842. Control Cabin ZONE TEMP Light On and Stays OFF After Reset - Fault Isolation

A. Description

(1) The control cabin ZONE TEMP light on the P5-17 air conditioning module comes on and stays off after reset.

B. Possible Causes

(1) Control cabin duct overheat switch, S931

(2) Pack/zone temperature control system failure

(3) Flight compartment trim air modulating valve, V143

(4) Control cabin duct temperature sensor, T478

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	4	C01164	A/C ZONE TEMP DUCT OVHT FLT DECK

D. Related Data

(1) (SSM 21-61-11)

(2) (SSM 21-61-12)

(3) (WDM 21-61-11)

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(4) (WDM 21-61-12)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(a) Make sure the TRIM AIR switch on the P5-17 temperature control panel is set to the ON position.

(2) If the ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the Pack/Zone Temperature Controller BITE Procedure on the right (M1443) and the left (M1442) pack zone temperature controllers. To do the BITE procedure, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

2) If the control cabin ZONE TEMP light does not come on, then you corrected the fault.

a) Stop the pack. To stop the pack, do this task: AMM TASK 21-00-00-800-804.

3) If the control cabin ZONE TEMP light comes on, then continue.

(2) Do an operational test of the duct overheat switch (S931) for the control cabin. For the check of the overheat switch, do this task: AMM TASK 21-61-00-700-811-002.

(a) If the control cabin ZONE TEMP light did not come on between 180°F and 200°F (82°C and 93°C), then replace the control cabin duct overheat switch. To replace the S931 switch, do these tasks: AMM TASK 21-61-05-000-801 and AMM TASK 21-61-05-400-801.

(b) If the control cabin ZONE TEMP light came on between 180°F and 200°F (82°C and 93°C), then continue.

(3) Do a check of the resistance of the duct temperature limit sensor. To do the resistance check, do this task: AMM TASK 21-61-04-000-805-002.

(a) If you replaced the duct temperature limit sensor, do these steps:

1) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

2) Allow the pack to operate until the temperatures stabilize.

3) If the control cabin ZONE TEMP light does not come on, you corrected the fault.

4) If the control cabin ZONE TEMP light comes on, then continue.

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(4) Replace the right pack/zone temperature controller (M1443). To replace the controller, do these tasks: AMM TASK 21-61-20-000-801 or AMM TASK 21-61-17-020-801 and AMM TASK 21-61-20-400-801 or AMM TASK 21-61-17-400-801.

——— END OF TASK ———

843. Forward Cabin ZONE TEMP Light On and Stays OFF After Reset - Fault Isolation

A. Description

(1) The forward passenger cabin ZONE TEMP light on the P5-17 air conditioning module comes on and stays off after reset.

B. Possible Causes

(1) Forward cabin zone duct overheat switch, S1076

(2) Pack/zone temperature control system failure

(3) Forward passenger zone trim air modulating valve, V144

(4) Forward cabin duct temperature sensor, T533

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	3	C01166	A/C ZONE TEMP DUCT OVHT FWD PASS

D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

NOTE: Make sure the TRIM AIR switch on the P5-17 panel is in the ON position.

(2) If the ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the Pack/Zone Temperature Controller BITE Procedure on the right (M1443) pack/zone temperature controller. To do the BITE procedure, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803

2) If the forward cabin ZONE TEMP light does not come on, then you corrected the fault.

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a) Stop the pack operation. To stop the pack, do this task: AMM TASK 21-00-00-800-804.

3) If the forward cabin ZONE TEMP light comes on, then continue.

(2) Do an operational test of the duct overheat switch, S1076, for the forward cabin. For the check of the overheat switch, do this task: AMM TASK 21-61-00-700-811-002.

(a) If the forward cabin ZONE TEMP light did not come on between 180°F and 200°F (82°C and 93°C), then replace the forward cabin duct overheat switch. To replace the S1076 overheat switch, do these tasks: AMM TASK 21-61-05-000-801and AMM TASK 21-61-05-400-801.

(b) If the forward cabin ZONE TEMP light came on between 180°F and 200°F (82°C and 93°C), then continue.

(3) Do a check of the resistance of the duct temperature limit sensor, T533. To do the resistance check, do this task: AMM TASK 21-61-04-000-805-002.

(a) If you replaced the duct temperature limit sensor, T533, do these steps:

1) Operate the left air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

2) Allow the pack to operate until the temperatures stabilize.

3) If the forward cabin ZONE TEMP light does not come on, you corrected the fault.

4) If the forward cabin ZONE TEMP light comes on, then continue.

(4) Replace the right pack/zone temperature controller (M1443). To replace the controller, do these tasks: AMM TASK 21-61-20-000-801 or AMM TASK 21-61-17-020-801and AMM TASK 21-61-20-400-801 or AMM TASK 21-61-17-400-801.

——— END OF TASK ———

844. Aft Cabin ZONE TEMP Light On and Stays OFF After Reset - Fault Isolation

A. Description

(1) The aft passenger cabin ZONE TEMP light on the P5-17 air conditioning module comes on and stays off after reset.

B. Possible Causes

(1) Aft cabin duct overheat switch, S1077

(2) Pack/zone temperature control system failure

(3) Aft cabin trim air modulating valve, V145

(4) Aft cabin duct temperature sensor, T536

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	2	C01169	A/C ZONE TEMP DUCT OVHT AFT PASS

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

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E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(a) Make sure the TRIM AIR switch on the P5-17 temperature control panel is set to ON.

(2) If the ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the Pack/Zone Temperature Controller BITE Procedure on the left (M1442) pack/zone temperature controller. To do the BITE procedure, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the right air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

2) If the aft cabin ZONE TEMP light does not come on, then you corrected the fault.

a) Stop the operation of the pack. To stop the pack, do this task: AMM TASK 21-00-00-800-804.

3) If the aft cabin ZONE TEMP light comes on, then continue.

(2) Do an operational test of the aft cabin duct overheat switch, S1077. For the check of the overheat switch, do this task: AMM TASK 21-61-00-700-811-002.

(a) If the aft cabin ZONE TEMP light did not come on between 180°F and 200°F (82°C and 93°C), then replace the aft cabin duct overheat switch, S1077. To replace the overheat switch, S1077, do this tasks: AMM TASK 21-61-05-000-801 and AMM TASK 21-61-05-400-801.

(b) If the aft cabin ZONE TEMP LIGHT came on between 180°F and 200°F (82°C and 93°C), then continue.

(3) Do a check of the resistance of the aft cabin duct temperature limit sensor, T536. To do the resistance check, do this task: AMM TASK 21-61-04-000-805-002.

(a) If you replaced the aft cabin duct temperature limit sensor, do these steps:

1) Operate the right air conditioning pack. To operate the pack, do this task: AMM TASK 21-00-00-800-803.

2) Allow the pack to operate until the temperatures stabilize.

3) If the aft cabin ZONE TEMP light does not come on, then you corrected the fault.

4) If the aft cabin ZONE TEMP comes on, then continue.

(4) Replace the left pack/zone temperature controller, M1442. To replace the controller, do these tasks: AMM TASK 21-61-20-000-801 or AMM TASK 21-61-17-020-801and AMM TASK 21-61-20-400-801 or AMM TASK 21-61-17-400-801.

END OF TASK

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845. Control Cabin ZONE TEMP Light Is On and Comes On Again After Reset - Fault Isolation

A. Description

(1) The control cabin ZONE TEMP light on the P5-17 air conditioning module is on and comes on again after reset.

B. Possible Causes

(1) Pack/zone temperature control system failure

(2) Control cabin duct overheat switch, S931

(3) Dirty heat exchangers

(4) Blockage or unwanted material in the ram air ducting

(5) Ram air control system failure

(6) Bleed air too hot

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	4	C01164	A/C ZONE TEMP DUCT OVHT FLT DECK
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) (SSM 21-61-11)

(2) (WDM 21-61-11)

(3) (SSM 21-61-12)

(4) (WDM 21-61-12)

(5) (SSM 21-51-12)

(6) (WDM 21-51-12)

(7) (SSM 21-51-22)

(8) (WDM 21-51-22)

E. Initial Evaluation

(1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

NOTE: Make sure the TRIM AIR switch on the P5-17 panel is in the ON position.

(2) If the control cabin ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the control cabin ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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F. Fault Isolation Procedure

(1) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the control cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(2) Replace the control cabin duct overheat switch, S931.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the CONT CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ZONE TEMP light for the CONT CAB light comes on, then continue.

(3) Examine the left pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the ZONE TEMP light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(4) Clean the left pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the CONT CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the control cabin ZONE TEMP light comes on, then continue.

(5) See if there was a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

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1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.
2) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
3) If the ZONE TEMP light does not come on, then you corrected the fault.
4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Do this check of the ram air modulation system:

(a) Look at the left pack ram air doors.

(b) If the ram air doors are not in the full open position, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the left air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
2) If the ZONE TEMP light for the control cabin does not come on, then you corrected the fault.
3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

846. Forward Cabin ZONE TEMP Light Is On and Comes On Again After Reset - Fault Isolation

A. Description

(1) The forward passenger cabin ZONE TEMP on the P5-17 air conditioning module is on and comes on again after reset.

B. Possible Causes

(1) Pack/zone temperature control system failure
(2) Forward cabin duct overheat switch, S1076
(3) Dirty heat exchangers
(4) Blockage or unwanted material in the ram air ducting
(5) Ram air control system failure
(6) Bleed air too hot

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	3	C01166	A/C ZONE TEMP DUCT OVHT FWD PASS
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

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D. Related Data

(1) (SSM 21-61-13)

(2) (WDM 21-61-13)

(3) (SSM 21-51-12)

(4) (WDM 21-51-12)

(5) (SSM 21-51-22)

(6) (WDM 21-51-22)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

NOTE: Make sure the TRIM AIR switch on the P5-17 panel is in the ON position.

(2) If the forward cabin ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the forward cabin ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the forward cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the BITE test does not show a fault, then continue.

(2) Replace the forward cabin duct overheat switch, S1076.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the FWD CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ZONE TEMP light for the FWD CAB light comes on, then continue.

(3) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

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2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the ZONE TEMP light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(4) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the FWD CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the forward cabin ZONE TEMP light comes on, then continue.

(5) See if there was a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the ZONE TEMP light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Do this check of the ram air modulation system:

(a) Look at the right pack ram air doors.

(b) If the ram air doors are not in the full open position, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the ZONE TEMP light for the forward cabin does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

END OF TASK

847. Aft Cabin ZONE TEMP Light Is On and Comes On Again After Reset - Fault Isolation

A. Description

(1) The aft passenger cabin ZONE TEMP on the P5-17 air conditioning module is on and comes on again after reset.

B. Possible Causes

(1) Pack/zone temperature control system failure

(2) Aft cabin duct overheat switch, S1077

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(3) Dirty heat exchangers

(4) Blockage or unwanted material in the ram air ducting

(5) Ram air control system failure

(6) Bleed air too hot

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	2	C01169	A/C ZONE TEMP DUCT OVHT AFT PASS
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) (SSM 21-61-14)

(2) (WDM 21-61-14)

(3) (SSM 21-51-12)

(4) (WDM 21-51-12)

(5) (SSM 21-51-22)

(6) (WDM 21-51-22)

E. Initial Evaluation

(1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

NOTE: Make sure the TRIM AIR switch on the P5-17 panel is in the ON position.

(2) If the aft cabin ZONE TEMP light comes on, then do the Fault Isolation Procedure below.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(3) If the aft cabin ZONE TEMP light does not come on, then there was an intermittent fault.

(a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

F. Fault Isolation Procedure

(1) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

2) If the aft cabin ZONE TEMP light does not come on, then you corrected the fault.

3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

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(b) If the BITE test does not show a fault, then continue.

(2) Replace the aft cabin duct overheat switch, S1077.

These are the tasks:

Duct Overheat Switch Removal, AMM TASK 21-61-05-000-801,

Duct Overheat Switch Installation, AMM TASK 21-61-05-400-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the AFT CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the ZONE TEMP light for the AFT CAB light comes on, then continue.

(3) Examine the right pack ram air ducts for blockage or unwanted materials.

(a) If the ducts have blockage or unwanted materials, then do these steps:

1) Remove the blockage or unwanted materials.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the ZONE TEMP light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If the ducts do not have blockage or unwanted materials, then continue.

(4) Clean the right pack heat exchangers. To clean the heat exchangers, do this task: Heat Exchanger and Plenum/Diffuser Assembly Cleaning, AMM TASK 21-51-03-000-801.

(a) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(b) If the ZONE TEMP light for the AFT CAB does not come on, then you corrected the fault.

1) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(c) If the forward cabin ZONE TEMP light comes on, then continue.

(5) See if there was a report for bleed air that is too hot (a bleed trip off).

(a) If there was a bleed trip off, then do these steps:

1) Do the fault isolation procedure for a bleed trip off. To do the procedure, do this task: BLEED TRIP OFF Light On - Fault Isolation, 36-10 TASK 801.

2) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) If the ZONE TEMP light does not come on, then you corrected the fault.

4) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If there was not a bleed trip off, then continue.

(6) Do this check of the ram air modulation system:

(a) Look at the right pack ram air doors.

(b) If the ram air doors are not in the full open position, do this task: RAM DOOR FULL OPEN Light is Not On, Airplane is On the Ground - Fault Isolation, 21-51 TASK 804.

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1) Operate the right air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
2) If the ZONE TEMP light for the aft cabin does not come on, then you corrected the fault.
3) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

——— END OF TASK ———

848. PACK or ZONE TEMP lights come on during MASTER CAUTION recall - Fault Isolation

A. Description

(1) One, two or all three ZONE TEMP lights on the P5-17 temperature control panel or the PACK lights on the P5-10 air conditioning panel come on intermittently during MASTER CAUTION recall.

(2) Trim air valve faults may be found during a BITE test of pack/zone temperature controllers when you fault isolate for this condition.

(3) The MASTER CAUTION recall is required during airplane departure and landing approach.

B. Possible Causes

(1) Fault in pack/zone temperature controller M1442 or M1443

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
A	3	C01170	A/C ZONE TEMP VALVE/FAN CONT AFT PASS
AKS 001			
A	4	C00399	AIR CONDITIONING RAM AIR MOD LEFT
AKS ALL			
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
B	2	C01167	A/C ZONE TEMP VALVE/FAN CONT FWD PASS
B	3	C01163	A/C ZONE TEMP VALVE/FAN CONT FLT DECK
AKS 001			
B	4	C00400	AIR CONDITIONING RAM AIR MOD RIGHT
AKS ALL			
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	2	C01169	A/C ZONE TEMP DUCT OVHT AFT PASS
C	4	C01164	A/C ZONE TEMP DUCT OVHT FLT DECK
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L
C	7	C01177	A/C PACK/ENGINE BLEED AIR OVHT RIGHT
C	8	C01176	A/C PACK/ENGINE BLEED AIR OVHT LEFT

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(2) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	15	C01355	LANDING GEAR AIR/GND SYS 2
C	16	C01356	LANDING GEAR AIR/GND SYS 1
D	1	C01399	PSEU PRI
D	2	C01400	PSEU ALTN
D	12	C00310	INDICATOR MASTER DIM BAT
D	13	C00311	INDICATOR MASTER DIM BUS 1
D	14	C00312	INDICATOR MASTER DIM BUS 2
D	15	C01401	LANDING GEAR AIR/GND RELAY
E	11	C00313	INDICATOR MASTER DIM SECT 1
E	12	C00314	INDICATOR MASTER DIM SECT 2
E	13	C00315	INDICATOR MASTER DIM SECT 3
E	14	C00316	INDICATOR MASTER DIM SECT 4
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	12	C00318	INDICATOR MASTER DIM SECT 6

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	5	C00259	AIR CONDITIONING BLEED AIR VALVE ISLN
A	7	C00796	AIR CONDITIONING BLEED AIR VALVES L
B	7	C00797	AIR CONDITIONING BLEED AIR VALVES R
D	8	C00076	AIR CONDITIONING TEMP IND
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

(3) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
D	3	C01613	AIR COND PACK CONT VALVES L ALT
D	4	C01614	AIR COND PACK CONT VALVES R ALT

D. Related Data

(1) SSM 31-52-51

E. Initial Evaluation

AKS 022-999

(1) Do these steps to clear the fault:

(a) On the P5-17 Cabin Temperature Panel, make sure all three temperature selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

1) If any of the selectors are set to OFF, move them away from the OFF position.

(b) Clear the Existing Faults on the Front Panel Display of the applicable Pack Flow Temperature Controller, M2951 or M2952 (Figure 303 or Figure 304

(c) On the glareshield panel, P7, push the Master Caution light to reset it.

(d) Wait for thirty (30) seconds.

(e) Make sure the LH PACK, RH PACK, and ZONE TEMP lights stay off.

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AKS 022-999 (Continued)

(f) Look at the existing faults again.

(g) If the maintenance message does not show, then there was an intermittent fault.

(h) If a maintenance message shows or if the LH PACK, RH PACK, or ZONE TEMP light stays on, then continue.

AKS ALL

(2) Push and release either the left annunciator or the right annunciator on the P7 glareshield panel.

(3) Make a record if any of the ZONE TEMP lights on the temperature control panel and the PACK lights on the air conditioning panel come on intermittently, then do the Fault Isolation procedure below.

F. Fault Isolation Procedure

(1) Do the BITE test on both pack/zone temperature controllers. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the BITE test shows a fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.

(3) Do the BITE test again to make sure the fault is corrected.

(4) Push and release either the left annunciator or the right annunciator on the P7 glareshield panel.

(5) Make sure that none of the ZONE TEMP lights on the temperature control panel or the PACK lights on the air conditioning panel come on.

END OF TASK

849. Cannot Cool Cabins with All Temperature Selectors in Full Cold - Fault Isolation

A. Description

(1) The flight deck and or forward and aft compartments cannot be adequately cooled on the ground and or in-flight with the CONT CAB, FWD CAB, and AFT CAB temperature selectors all positioned to the full cold (C) position. This fault can also be shown by putting the TRIM AIR switch to ON, no faults on the controllers and one pack outlet temperature being much higher than the other packs outlet temperature. You can observe this on the ground by selecting the AIR TEMP selector switch on the cabin temperature control panel, P5-17 for each L or R pack.

(2) Uncontrolled hot cabins that occurs in-flight can be caused by the following conditions:

(a) If the sense lines from the conditioned air check valve or condenser low pressure side to the standby temperature control valve are cracked or leaking (sensing ambient pressure). When these lines are leaking or cracked they can cause the standby temperature control valve to open in flight.

(b) If the sense lines from the ACM turbine outlet and high pressure sense line from the condenser are plugged. When these lines are plugged they can cause the standby temperature control valve to open in flight.

(3) Uncontrolled hot cabins that occurs on the ground and in-flight can be caused by the following conditions:

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(a) The ACM turbine outlet sense line has higher pressure than normal because the ACM turbine scroll is cracked. This will cause the standby temperature control valve to be open uncommanded.

NOTE: This condition can be seen by visually inspecting the standby temperature control valve position on the ground. Normally the valve should be closed. An open valve on the ground could be an indication that a problem exists with the ACM or standby temperature control valve.

(b) Sense lines are cross connected at the standby temperature control valve.

1) Condenser high pressure tube cross connected with the ACM turbine sense line.

NOTE: The connection ports are located next to each other on the valve. The connections are identified as CONDITIONED AIR CHECK VALVE (COND AIR CV) and HEAT EXCHANGER OUTLET (HEAT EX OUT).

(c) Mix Manifold temperature sensors drifting.

(d) Pack Temperature Sensor drifting

(4) A condition where the flight deck and passenger cabins cannot be cooled on the ground can be caused by a missing fan bypass check valve door in a primary plenum/diffuser assembly. This condition would result in an insufficient amount of cooling air drawn through the heat exchangers for adequate cooling.

B. Possible Causes

(1) Air Cycle Machine, V18 or V19, a cracked ACM turbine scroll will cause the standby temperature control valve to open, causing high temperatures in the cabin.

(2) The standby temperature control valve (butterfly plate is failed open).

NOTE: These conditions can happen on the ground or in-flight.

(3) The standby temperature control valve sense lines leaking, cross connected, or plugged.

NOTE: These delta pressure sense lines being cracked or plugged will indicate a hot cabin in flight only. If these lines are clogged or leaking this will cause the standby temperature control valve to open thus causing high cabin temperatures.

NOTE: If operating the pack on the ground, with high cabin temperatures and the standby temperature control valve is open, this may be an indication that the sense lines are leaking, cross connected or there is a crack in the turbine scroll of the ACM. These conditions can happen on the ground or in-flight.

NOTE: There are sense lines from the ACM turbine housing to the standby temperature control valve and from the conditioned air check valve to the standby temperature control valve. If these lines are clogged or leaking this will cause the standby temperature control valve to open thus causing high cabin temperatures.

(4) The mix manifold sensor, T472 or T475 (drifted).

NOTE: The mix manifold temperature sensors drifting or is contaminated can cause the temperature control valve to be open. This can cause high cabin or flight deck temperatures. These failures can be seen on the ground or in-flight.

(5) The pack temperature sensor, T471 or T474 (drifted).

NOTE: The pack out temperature sensors drifting or is contaminated can cause the temperature control valve to be open. This can cause high cabin or flight deck temperatures. These failures can be seen on the ground or in-flight.

(6) The heat exchanger and plenum/diffuser assembly.

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C. Initial Evaluation

(1) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

NOTE: Do this BITE before you begin each check. After you complete a check, fix or clear the BITE faults. Do this for each check.

(2) If the BITE test did indicate faults, then correct all faults found.

(a) Do the repair confirmation at the end of this task.

(3) If the BITE test did not indicate any faults, then continue.

(4) Do these steps if the ACM was slow to start on the ground and to make sure the operation of the air cycle machine is satisfactory:

NOTE: With the APU as the pneumatic source this check will make sure the ACM starts with the highest duct pressure available.

(a) Set the BLEED 1 and BLEED 2 switches on the P5-10 air conditioning panel to OFF.

(b) Set the TRIM AIR switch on the P5-17 temperature control panel to OFF.

(c) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(d) Operate the applicable air conditioning pack. To operate the pack, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(e) Put the selectors to FULL COLD.

(f) Do a check of the airflow at the exhaust duct outlet for the applicable pack ram air system.

1) If there is little or no airflow at the exhaust duct outlet, then do these steps:

a) Stop the pack. To stop the pack, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

b) Remove the mix muff down stream of the ACM.

c) Make sure that you can turn the ACM rotating components in the direction of normal rotation as follows:

CAUTION: TURN THE ROTATING COMPONENTS OF THE ACM ONLY IN THE DIRECTION THAT THEY TURN WHEN IN OPERATION. IF YOU TURN THE ACM ROTATING COMPONENTS IN THE INCORRECT DIRECTION, YOU CAN CAUSE DAMAGE TO THE FOIL AIR BEARINGS.

<1> If you turn the ACM rotating components at the turbine wheel, apply a maximum of 20 inch-pounds of torque to the nut on the turbine wheel and turn the rotating components in the clockwise direction .

<2> If you turn the ACM rotating components at the axial impeller, apply a maximum of 20 inch-pounds of torque to the nut on the axial impeller and turn the rotating components in the counterclockwise direction.

NOTE: This would require the removal of the secondary plenum/diffuser assembly which requires more effort than removal of the HPWS mix muff.

d) If the ACM does not rotate with 20 inch-pounds of torque, then replace the air cycle machine.

These are the tasks:

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Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

e) Do the applicable steps of the Repair Confirmation at the end of this task.

f) If the ACM does rotate with 20 inch-pounds of torque or less, then do the steps that follow:

g) Install the mix muff.

h) Do the applicable steps of the Repair Confirmation at the end of this task, if the problem continues then continue with the Fault Isolation procedure.

2) If the airflow at the exhaust duct outlet is satisfactory, and you can control the temperature in the cabin then there was an intermittent fault.

NOTE: If the high uncontrollable temperatures occurred in-flight only then you may want to do a check of the standby temperature control valve and the associated sense lines for blockage or leakage.

3) If the airflow at the exhaust duct outlet is satisfactory, and you cannot control the temperature in the cabin then continue.

(5) Do these steps if the uncontrollable high cabin temperatures occurred in-flight only:

NOTE: This condition can be caused by leaking or cracked sense lines from the condenser outlet (low pressure sense line) or conditioned air check valve sense line to the standby temperature control valve. Plugged or blocked sense lines from the ACM turbine outlet or from the condenser inlet pressure sense line (high pressure sense line) to the standby temperature control valve can also cause this condition.

(a) Check the conditioned air check valve sense line and condenser low pressure sense lines from the conditioned air check valve and condenser to the standby temperature control valve for leakage or cracks.

(b) Check the ACM turbine outlet and condenser high pressure sense lines from the ACM/condenser to standby temperature control valve for blockage.

(c) If you find problems with the sense lines repair the sense lines.

(d) Do the Repair Confirmation at the end of this task.

(e) If you do not find any problems with the sense lines then continue with the Fault Isolation Procedure - Standby Temperature Control Valve Check.

(6) If the uncontrolled hot cabin occurred in flight and on the ground then do the Fault Isolation Procedure - Standby Temperature Control Valve Check below.

NOTE: This condition can be caused by the standby temperature control valve being open, which can be caused by cross connected sense lines, cracked ACM turbine scroll. The Standby Temperature Control Valve Check procedure will isolate an ACM problem from the temperature sensor drift or standby temperature control valve problem.

(7) Do the Fault Isolation Procedure - Standby Temperature Control Valve Check.

D. Fault Isolation Procedure - Standby Temperature Control Valve Check

(1) Do this check of the standby temperature control valve operation:

NOTE: This check will make sure the standby temperature control valve operates and the associated sense lines are not leaking, or blocked. This check will also isolate a cracked ACM turbine scroll from a standby temperature control valve problem.

(a) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

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(b) If the BITE test did indicate faults, then correct all faults found and continue.

(c) Open these doors to get access to the air conditioning bays:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

(d) Use the APU to supply pneumatic power to the airplane. To supply pneumatic power, do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(e) Set the L and R PACK switches on the P5-10 air conditioning panel to AUTO.

(f) Set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to the fully cold position (C).

(g) Put the TRIM AIR to ON.

(h) Allow the packs to operate until the temperatures stabilize.

(i) Check to see if the standby temperature control valve is in the closed position.

WARNING: THE DUCTING CAN BE HOT. YOU MUST USE CAUTION WHEN YOU CHECK THE TEMPERATURE OF THE DUCT. INJURY TO PERSONS CAN OCCUR.

1) If the valves are in the fully closed position, feel near the ducting downstream of the valve for false indication of the butterfly position.

NOTE: The position indicator on the valve will show if the valve is in the open or closed position. If the butterfly on the valve is broken or disconnected from the shaft the indicator may show the valve is closed yet it may be open.

a) If the ducting downstream of the valve is hot, then replace the valve.

These are the tasks:

Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801,

Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801.

b) Do the repair confirmation at the end of this task.

(j) If one or both of the standby temperature control valves are in the open position, then do the steps that follow:

NOTE: If the standby temperature control valve is open on the ground, this may be caused by a crack in the ACM turbine scroll.

(k) Do the BITE test of the pack/zone temperature control system. To do the BITE test, do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(l) If the BITE test did indicate faults, then correct all faults found and continue.

1) If no faults show on the pack/zone temperature controllers, make sure the sense lines connected to the standby temperature control valve are not cross connected.

2) Set the L and R PACK switches on the P5-10 air conditioning panel to OFF.

3) Remove the sense line at the Air Cycle Machine (ACM) turbine outlet to the standby temperature control valve.

NOTE: This check determines if the standby temperature control valve is serviceable or the ACM turbine scroll is cracked which will cause the standby temperature control valve to open.

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4) Set the applicable L and R PACK switches on the P5-10 air conditioning panel to AUTO.

5) Check the standby temperature control valve position, if the standby temperature control valve remains closed, replace the ACM.

These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

6) If the standby temperature control valve is open, then disconnect the remaining sense lines at the standby temperature control valve.

7) If the standby temperature control valve does not close, then replace the valve.

These are the tasks:

Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801,

Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801.

8) Do the repair confirmation at the end of this task.

9) Reconnect the sense lines to the standby temperature control valve.

10) If the standby temperature control valve closes, then re-connect the sense lines and continue.

(2) Do this check of the temperature control valve:

NOTE: This check will determine if the butterfly is serviceable.

(a) Set the L and R PACK switches on the P5-10 air conditioning panel to OFF.

(b) Do a check of the position indicator on the temperature control valve to make sure it is in the fully closed position.

(c) If the valve is not in the fully closed position then replace the valve.

These are the tasks:

Temperature Control Valve Removal, AMM TASK 21-51-10-000-801,

Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

(d) If the valve is in the fully closed position then disconnect the electrical connector on the valve.

NOTE: To clear any faults due to disconnecting the electrical connectors you must do the BITE procedure for the pack/zone temperature controller.

(e) Set the L and R PACK switches on the P5-10 air conditioning panel to AUTO.

WARNING: THE DUCTING CAN BE HOT. YOU MUST USE CAUTION WHEN YOU CHECK THE TEMPERATURE OF THE DUCT. INJURY TO PERSONS CAN OCCUR.

(f) Feel near the ducting downstream of the temperature control valve. If the ducting is hot then replace the temperature control valve.

These are the tasks:

Temperature Control Valve Removal, AMM TASK 21-51-10-000-801,

Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

1) Do the repair confirmation at the end of the task.

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(g) If the ducting is not hot then reconnect the electrical connector and continue.

NOTE: To clear any faults due to disconnecting the electrical connectors you must do the BITE procedure for the pack/zone temperature controller.

(h) Set the L and R PACK switches on the P5-10 air conditioning panel to OFF.

(i) Do the Fault Isolation Procedure - Air Cycle Machine Cooling Check

E. Fault Isolation - Air Cycle Machine Cooling Check

NOTE: This check has three tests; test of the ACM, test of the temperature control valve and a test of the temperature sensors. You can do these tests in any order.

(1) Do this check of the air cycle machines:

NOTE: This check will make sure that the ACMs are capable of cooling the cabins:

(a) Open these doors to get access to the air conditioning bays:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

(b) Disconnect these electrical connectors from the temperature control valves and standby temperature control valves:

1) Electrical connector D3862 from the left temperature control valve, V139
2) Electrical connector D3864 from the left standby temperature control valve, V140
3) Electrical connector D3872 from the right temperature control valve, V141
4) Electrical connector D3874 from the right standby temperature control valve, V142.

(c) Supply pneumatic power to the airplane. To supply pneumatic power, do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(d) Set the L and R PACK switches on the P5-10 air conditioning panel to HIGH.

(e) Put the TRIM AIR switch to ON.

CAUTION: DO NOT CONTINUE TO OPERATE THE PACKS AFTER THE TEMPERATURES STABILIZE. ICE FORMATION IN THE CONDENSER MAY OCCUR. ICING IN THE CONDENSER COULD RESULT IN EQUIPMENT DAMAGE.

(f) Allow the packs to operate until the temperatures stabilize.

NOTE: The standby temperature control valve may open due to icing of the High Pressure Water Separator condenser.

(g) Allow the packs to operate until the temperatures stabilize.

(h) Set the AIR TEMP selector on the P5-17 temperature control panel to PACK R.

1) Make a record of the indication from temperature indicator gage on the P5-17 panel.

(i) Set the AIR TEMP selector on the P5-17 temperature control panel to PACK L.

1) Make a record of the indication from temperature indicator gage on the P5-17 panel.

(j) The pack outlet temperature for the left and right pack should be approximately 5 degrees Celsius of each other.

NOTE: If the temperature is not approximately 5 degrees Celsius, the problem can be a dirty heat exchanger, poorly performing Air Cycle Machine, or a sensor.

1) These are the tasks:

Air Cycle Machine (ACM) Removal, AMM TASK 21-51-04-000-802-002,

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Air Cycle Machine Installation, AMM TASK 21-51-04-400-802-002.

(k) If the pack outlet temperatures are approximately 5 degrees Celsius of each other, then continue.

(l) Re-connect these electrical connectors to the temperature control valves and the standby temperature control valves:

NOTE: To clear any faults due to disconnecting the electrical connectors you must do the BITE procedure for the pack/zone temperature controller.

1) Electrical connector D3862 to the left temperature control valve, V139
2) Electrical connector D3864 to the left standby temperature control valve, V140
3) Electrical connector D3872 to the right temperature control valve, V141
4) Electrical connector D3874 to the right standby temperature control valve, V142.

(2) Do this test of the resistance of each mix manifold sensor to make sure the resistance has not drifted:

(a) Do these steps to prepare for a test of the resistance of each mix manifold sensor:

1) Remove the mix manifold sensors. Do this task: Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803.
2) Examine the sensors to determine if they are dirty or contaminated.
3) If the sensors are dirty or contaminated, do this task to remove all traces of dirt or contamination:
   a) Do this task: Mix Manifold Temperature Sensor Cleaning, AMM TASK 21-51-51-110-801.
4) Install the mix manifold sensors. Do this task: Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(b) Do this task: Mix Manifold Temperature Sensor Test, AMM TASK 21-51-51-000-802.

(c) Do a check of the wiring between the zone/temp controller and the mix manifold temperature sensor.

1) Repair any problems that you find.

(d) Replace the mix manifold sensor if it is out of tolerance as follows:

1) These are the tasks:

Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803,

Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(e) Do the Repair Confirmation at the end of this task.

(3) Do this test of the resistance of each pack temperature sensor to make sure the resistance has not drifted:

(a) Do a check of the resistances of the pack temperature sensors (T471 and T474) as follows:

1) Do this task: Pack Temperature Sensor Test, AMM TASK 21-51-52-720-801.

(b) Do a check of the wiring between the zone/temp controller and the pack temperature sensor.

1) Repair any problems that you find.

(c) Replace the pack temperature sensor if it is out of tolerance as follows:

1) These are the tasks:

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Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801,

Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801.

(d) Do the Repair Confirmation at the end of this task.

F. Fault Isolation - Heat Exchangers/Plenum Diffuser Assembly Check

NOTE: This check would be applicable to the condition when the pack would not cool the airplane on the ground.

(1) Do this check of the fan bypass check valve in the primary plenum/diffuser assembly:

(a) Get access to the fan bypass check valve in the left pack primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

(b) Get access to the fan bypass check valve in the right pack primary plenum/diffuser assembly as follows:

1) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

(c) Open the access panel on the bottom of the primary plenum/diffuser assembly.

(d) Make sure that the fan bypass check valve door is installed on the bottom of the primary diffuser and that the door hinge is not damaged.

(e) If the fan bypass check valve door is gone, damaged or not installed at the bottom of the primary diffuser, do these tasks to replace the primary plenum/diffuser assembly:

1) AMM TASK 21-51-03-000-805-002

2) AMM TASK 21-51-03-400-804-002.

3) Make sure that the access panel is installed on the bottom of the applicable primary plenum/diffuser assembly.

(2) Do the Repair Confirmation at the end of this task.

(a) If the Repair Confirmation is not satisfactory, then continue.

(3) Clean the heat exchangers. Do this task to clean the heat exchangers: AMM TASK 21-51-03-000-801.

(4) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Re-connect these electrical connectors to the temperature control valves and the standby temperature control valves:

NOTE: To clear any faults due to disconnecting the electrical connectors you must do the BITE procedure for the pack/zone temperature controller.

(a) Electrical connector D3862 to the left temperature control valve, V139

(b) Electrical connector D3864 to the left standby temperature control valve, V140

(c) Electrical connector D3872 to the right temperature control valve, V141

(d) Electrical connector D3874 to the right standby temperature control valve, V142.

(2) Supply pressure to the pneumatic system as follows:

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(a) Do this task: Supply Pressure to the Pneumatic System with the APU, AMM TASK 36-00-00-860-803.

(3) Put the TRIM AIR switch to ON.

(4) Set the L and R PACK switches on the P5-10 air conditioning panel to AUTO.

(5) Set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to near the cold position (C).

NOTE: This check will be to compare the right and left pack temperatures. If you put the temperature control to full cold position, you may not be able to compare the right and left temperature indications.

(6) Allow the left and right packs to operate until the temperatures stabilize.

(7) Make sure the temperature in the control cabin, the forward passenger cabin and the aft passenger cabin is approximately 70°F (21°C).

NOTE: The left and right pack temperatures are approximately 5 degrees Celsius of each other.

(8) Close the applicable access panels:

Number	Name/Location
192CL	ECS Access Door
192CR	ECS Access Door

——— END OF TASK ———

850. Divergent Pack Out Duct Temperatures - Fault Isolation

A. Description

(1) The flight deck or forward/aft passenger cabin is consistently warmer than the other temperature zones with the packs in AUTO, the TRIM AIR switch at ON and the temperature control switches (CONT CAB, FWD CAB and AFT CAB) all set to the same setting.

(2) You can observe the divergent temperatures by selecting the AIR TEMP selector switch on the P5-17 temperature control panel for left and right pack duct temperature indications.

B. Possible Causes

(1) The mix manifold sensor, T472 or T475 (drifted)

(2) The pack temperature sensor, T471 or T474 (drifted)

C. Initial Evaluation

(1) Supply pressure to the pneumatic system (AMM TASK 36-00-00-860-801).

(2) Set the L and R PACK switches on the P5-10 air conditioning panel to the AUTO position.

(3) Set the TRIM AIR switch on the P5-17 temperature control panel to the ON position.

(4) Set the CONT CAB, FWD CAB and AFT CAB temperature selection switches on the P5-17 temperature control panel to the AUTO position.

(5) Allow the packs to operate until the temperatures stabilize.

(6) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT CONT CAB and note the temperature on the temperature indicator.

(7) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT FWD and note the temperature on the temperature indicator.

(8) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT AFT and note the temperature on the temperature indicator.

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(9) If the supply duct temperatures are almost the same, then there was an intermittent fault.

(10) If there is a large difference between any of the supply duct temperatures, then do the Fault Isolation Procedure - Divergent Pack Out Duct Temperatures.

D. Fault Isolation Procedure

(1) Remove conditioned air from the airplane. To remove conditioned air, do this task: AMM TASK 21-00-00-800-802.

(2) If the high temperature was noted in the duct for the flight deck, do these steps:

(a) Do a test of the mix manifold temperature sensor, T475. To test the mix manifold temperature sensor, T475, do this task: AMM TASK 21-51-51-000-802.

(b) If you replaced the mix manifold temperature sensor, do the Repair Confirmation at the end of this task.

(c) If the Repair Confirmation was satisfactory, then you corrected the fault.

(d) If the Repair Confirmation was not satisfactory or you did not find any fault with the mix manifold sensor, T475, then continue.

(3) If the high temperature was noted in the duct for the aft passenger compartment, do these steps:

(a) Do a test of the mix manifold temperature sensor, T472. To test the mix manifold temperature sensor, T472, do this task: AMM TASK 21-51-51-000-802.

(b) If you replaced the mix manifold temperature sensor, do the Repair Confirmation at the end of this task.

(c) If the Repair Confirmation was satisfactory, then you corrected the fault.

(d) If the Repair Confirmation was not satisfactory or you did not find any fault with the mix manifold sensor, T472, then continue.

(4) If the test of the mix manifold temperature sensor was satisfactory, then continue.

E. Repair Confirmation

(1) Supply conditioned air to the airplane. To supply the conditioned air, do this task:AMM TASK 21-00-00-800-803.

(2) Set the L and R PACK switches to AUTO.

(3) Make sure the TRIM AIR switch is set to ON.

(4) Set the CONT CAB, FWD CAB AND AFT CAB temperature selector switches on the P5-17 temperature control panel to AUTO.

(5) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT CONT CAB and note the temperature on the temperature indicator.

(6) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT FWD and note the temperature on the temperature indicator.

(7) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT AFT and note the temperature on the temperature indicator.

(8) Make sure that the supply duct temperatures are within a few degrees of each other.

(9) If the supply duct temperatures are not within a few degrees of each other, then continue the fault isolation procedure from the last step accomplished.

END OF TASK

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AKS 001-021

851. Left Ram Air Inlet Actuator - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SRADA INLET

(2) The left pack/zone temperature controller has detected a fault from the left ram air inlet actuator, M2795.

(3) The red INLET ACTUATOR FAULT light on the left ram air inlet actuator, M2795, should be on.

B. Possible Causes

(1) Left ram air inlet actuator

(2) Air Conditioning Relays No.1, M324

(3) Wiring

(4) Left pack/zone temperature controller, M1442

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) SSM 21-51-14

(2) WDM 21-51-14

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation procedure that follows.

F. Fault Isolation Procedure

(1) Do these steps to get access to the ram air inlet actuator, M2795:

(a) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

(2) Do a check for 28V DC power to ram air inlet actuator, M2795, as follows:

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AKS 001-021 (Continued)

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

(b) Disconnect electrical connector D14386 from the ram air inlet actuator, M2795.

(c) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

(d) Do a check for 28V dc power on the ship's wiring side of connector D14386 between pins 4 and 16 (ground).

(e) If 28V DC power is not present, do these steps:

1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

2) Do these wiring checks:

P6-4 panel	**M2795 actuator**
C/B C01950	**D14386**
Load side	Pin 4

3) Repair any problems that you find.

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is successful, then you corrected the fault.

b) If the Repair Confirmation is not successful, then continue.

(f) If 28V DC power is present at pin 4 of connector D14386, then continue.

(3) If 28 V DC power is present between pins 4 and 16 of connector D14386, then do the following:(Figure 302 (Sheet 1))

(a) Push and release either the left MASTER CAUTION annunciator or the right MASTER CAUTION annunciator on the P7 glareshield panel.

(b) If the AIR COND light on the MASTER CAUTION panel and the P5 PANEL PACK light are not illuminated then you corrected the fault.

(c) If the AIR COND light on the MASTER CAUTION panel or the P5 PANEL PACK light are illuminated then do the following steps on the left pack/zone temperature controller:

1) Push the BIT switch on the controller.

NOTE: The BIT switch will show if failures occurred during the last flight.

a) The light above the BIT switch will come ON when the switch is fully pushed.

b) Wait for the green GO light to come ON.

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AKS 001-021 (Continued)

c) If a red light comes ON for a component, the component is not operating correctly.

<1> Make a record of that component.

2) Push the PREV FLT switch on the controller.

NOTE: The PREV FLT switch will show all the failures that occurred during the last nine flights.

a) The light above the PREV FLT switch will come ON when the switch is fully pushed.

b) Wait for the green GO light to come ON.

c) If a red light comes ON for a component, the component did not operate correctly during a previous flight.

<1> Make a record of that component.

WARNING: MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE RAM AIR INLET DOOR. WHEN YOU PUSH THE VERIFY SWITCH, THE RAM AIR COMPONENTS WILL MOVE AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

3) Push the VERIFY switch on the controller to commence initiated BIT test.

NOTE: The VERIFY switch will initiate a real time test of the pack/zone temperature controller components.

a) The light above the VERIFY switch will come ON when the switch is fully pushed.

b) Wait for the green GO light to come ON.

c) If a red light comes ON for a component, the component is not operating correctly.

<1> Make a record of that component.

4) If no red light on the left pack/zone temperature controller comes ON then do the following:

a) Push the RESET switch on the controller.

b) Push the PRESS/TEST switch on the controller.

c) c) You corrected the fault.

5) If a red light on the left pack/zone temperature controller comes ON, but the SRADA red lights are not ON then refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show, then continue.

6) If a red light on the left pack/zone temperature controller comes ON, and the SRADA red lights are ON, and if this is not the 1st troubleshooting attempt then refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show, then continue.

7) If a red light on the left pack/zone temperature controller comes ON, and the SRADA red lights are ON and this is the 1st troubleshooting then do the following:

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AKS 001-021 (Continued)

a) Compare the red lights on the left pack/zone temperature controller and the red lights on the Exit SRADA. If lights are not matched then do the following:

<1> Investigate for a wiring issue by doing the following steps, then continue:

<a> Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

<b> Disconnect electrical connector D14386 from the ram air inlet actuator, M2795.

<c> Examine the face of the connectors for evidence of bent sockets.

<d> Remove the connector backshell to examine the connector grommets and inserted wires, and slightly pull on each wire to determine if each socket is properly seated and locked.

<e> Repair any problems that you find (reference SWPM 20-61-11), then re-install electrical connector D14386 to the ram air inlet actuator, M2795.

<f> Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

b) Compare the red lights on the left pack/zone temperature controller and the red lights on the Exit SRADA. If lights are matched then do the following:

<1> Refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show.

<2> Cycle 28VDC for the SRADA by the following steps:

<a> Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

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AKS 001-021 (Continued)

(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

<b> Wait for a minimum of 10 seconds and then close the following circuit breakers.

NOTE: Opening the above circuit breakers for 10 seconds minimum and then closing will clear the SRADA internal fault memory and allow actuator movement during subsequent steps.

<c> Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

<3> Do a 2nd troubleshooting attempt, starting from step F.(3)(c)1) above.

(4) If 28 V DC power is present between pins 4 and 16 of connector D14386, then replace the ram air inlet actuator (M2795) as follows:

(a) To replace the actuator, do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(b) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(5) Make sure that the trailing edge flaps are extended.

(6) Do these wiring checks to make sure that the signals from the M2061 Proximity Switch Electronics Unit and the S1051 Trailing Edge Flaps Up Switch to the actuator are satisfactory:

(a) Connect a multimeter between pin 1 of electrical connector D14386 and a structural ground.

1) Make sure that there is continuity.

(b) Connect a multimeter between pin 9 of electrical connector D14386 and a structural ground.

1) Make sure that there is continuity.

(c) Repair any problems that you find.

(d) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

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AKS 001-021 (Continued)

2) If the Repair Confirmation is not successful, then continue.

(7) Replace the air conditioning accessory unit (ACAU) No.1, M324. Do these tasks: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801 and Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenance message still shows, then continue.

(8) Do these checks of the wiring between the left ram air inlet actuator (M2795), the left pack/zone temperature controller (M1442) and the ACAU No.1 (M324):

(a) Get access to the ram air inlet actuator.

(b) Remove the left pack/zone temperature controller (M1442). To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801 or Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(c) Remove the air conditioning accessory unit (ACAU) No.1, M324. Do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(d) Do a wiring check between these pins of electrical connector C3858B of the left pack/zone temperature controller and connector D458A of the ACAU No.1:

M324	**M1442**
D458A	**D3858B**
Pin 61	Pin D8
Pin 47	Pin D6

1) Repair any problems that you find.

2) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation was successful, then you corrected the fault.

b) If the Repair Confirmation was not successful, then continue.

(e) Do a wiring check between these pins of electrical connector D3858B of the left pack/zone temperature controller and connector D14386 of the left ram air inlet actuator:

M1442	**M2795**
D3858B	**D14386**
Pin D6	Pin 19
Pin A13	Pin 10

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Install the left pack/zone temperature controller (M1442). To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

3) Install the left ACAU, No.1 (M324). To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

4) Do the Repair Confirmation at the end of this task:

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a) If the Repair confirmation was successful, then you corrected the fault.

b) If the Repair confirmation was not successful, then continue.

(g) If you do not find a problem with the wiring, then do these steps and continue.

1) Re-connect the electrical connector D14386 to the ram air inlet actuator, M2795.

2) Install the left ACAU, No.1 (M324). To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801..

(9) Install a new left pack/zone temperature controller (M1442). To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(10) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(5) If the Repair Confirmation is not satisfactory, return to the step in the Fault Isolation procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation procedure.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the applicable steps that follow to return the system to a serviceable condition:

(a) Make sure that the green NO LRU FAULT light is on.

(b) Make sure that the red INLET ACTUATOR FAULT, EXIT ACTUATOR FAULT and RAM AIR SENSOR FAULT lights are off.

(c) Re-install all access panels that were removed.

——— END OF TASK ———

852. Right Ram Air Inlet Actuator - Fault Isolation

A. Description

(1) This task is for this maintenance message.

(a) SRADA INLET

(2) The right pack/zone temperature controller has detected a fault from the right ram air inlet actuator, M2797.

B. Possible Causes

(1) Right ram air inlet actuator

(2) Air Conditioning Relays No.2, M1455

(3) Wiring

(4) Right pack/zone temperature controller, M1443

C. Circuit Breakers

(1) These are the primary circuit breakers related with the fault:

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These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R

D. Related Data

(1) SSM 21-51-24

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation procedure that follows.

F. Fault Isolation Procedure

(1) Do these steps to get access to the ram air actuator, M2797:

(a) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

(2) Do a check for 28V DC power to ram air inlet actuator, M2797, as follows:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(b) Disconnect electrical connector D14394 from the ram air inlet actuator, M2797.

(c) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(d) Do a check for 28V dc power on the ship's wiring side of connector D14394 between pins 4 and 16 (ground).

(e) If 28V DC power is not present, do these steps:

1) Open this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

2) Do these wiring checks:

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P6-4 panel	**M2797 actuator**
C/B 01951	**D14394**
Load side	Pin 4

3) Repair any problems that you find.

4) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation is successful, then you corrected the fault.

b) If the Repair Confirmation is not successful, then continue.

(f) If 28V DC is present at pin 4 of connector D14394, then continue.

(3) If 28 V DC power is present between pins 4 and 16 of connector D14394, then do the following:(Figure 302 (Sheet 1))

(a) Push and release either the left MASTER CAUTION annunciator or the right MASTER CAUTION annunciator on the P7 glareshield panel.

(b) If the AIR COND light on the MASTER CAUTION panel and the P5 PANEL PACK light are not illuminated then you corrected the fault.

(c) If the AIR COND light on the MASTER CAUTION panel or the P5 PANEL PACK light are illuminated then do the following steps on the right pack/zone temperature controller:

1) Push the BIT switch on the controller.

NOTE: The BIT switch will show if failures occurred during the last flight.

a) The light above the BIT switch will come ON when the switch is fully pushed.

b) Wait for the green GO Light to come ON.

c) If a red light comes ON for a component, the component is not operating correctly.

<1> Make a record of that component.

2) Push the PREV FLT switch on the controller.

NOTE: The PREV FLT switch will show all the failures that occurred during the last nine flights.

a) The light above the PREV FLT switch will come ON when the switch is fully pushed.

b) Wait for the green GO light to come ON.

c) If a red light comes ON for a component, the component did not operate correctly during a previous flight.

<1> Make a record of that component.

WARNING: MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE RAM AIR INLET DOOR. WHEN YOU PUSH THE VERIFY SWITCH, THE RAM AIR COMPONENTS WILL MOVE AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

3) Push the VERIFY switch on the controller to commence initiated BIT test.

NOTE: The VERIFY switch will initiate a real time test of the pack/zone temperature controller components.

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a) The light above the VERIFY switch will come ON when the switch is fully pushed.

b) Wait for the green GO light to come ON.

c) If a red light comes ON for a component, the component is not operating correctly.

<1> Make a record of that component.

4) If no red light on the right pack/zone temperature controller comes ON then do the following:

a) Push the RESET switch on the controller.

b) Push the PRESS/TEST switch on the controller.

c) c) You corrected the fault.

5) If a red light on the right pack/zone temperature controller comes ON, but the SRADA red lights are not ON then refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show, then continue.

6) If a red light on the right pack/zone temperature controller comes ON, and the SRADA red lights are ON, and if this is not the 1st troubleshooting attempt then refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show, then continue.

7) If a red light on the right pack/zone temperature controller comes ON, and the SRADA red lights are ON and this is the 1st troubleshooting then do the following:

a) Compare the red lights on the right pack/zone temperature controller and the red lights on the Exit SRADA. If lights are not matched then do the following:

<1> Investigate for a wiring issue by doing the following steps, then continue:

<a> Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

<b> Disconnect electrical connector D14394 from the ram air inlet actuator, M2797.

<c> Examine the face of the connectors for evidence of bent sockets.

<d> Remove the connector backshell to examine the connector grommets and inserted wires, and slightly pull on each wire to determine if each socket is properly seated and locked.

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AKS 001-021 (Continued)

<e> Repair any problems that you find (reference SWPM 20-61-11), then re-install electrical connector D14394 to the ram air inlet actuator, M2797.

<f> Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

b) Compare the red lights on the right pack/zone temperature controller and the red lights on the Exit SRADA. If lights are matched then do the following:

<1> Refer to the BITE Message Index Table at the end of FIM 21-62 TASK 801 to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show.

<2> Cycle 28VDC for the SRADA by the following steps:

<a> Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

<b> Wait for a minimum of 10 seconds and then close the following circuit breakers.

NOTE: Opening the above circuit breakers for 10 seconds minimum and then closing will clear the SRADA internal fault memory and allow actuator movement during subsequent steps.

<c> Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

<3> Do a 2nd troubleshooting attempt, starting from step F.(3)(c)1) above.

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(4) If 28 V DC power is present between pins 4 and 16 of connector D14394, then replace the ram air inlet actuator (M2797) as follows:

(a) To replace the actuator, do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(b) Do the Repair Confirmation at the end of this task.

1) If the maintenance message does not show, then you corrected the fault.

2) If the maintenance message still shows, then continue.

(5) Make sure that the trailing edge flaps are extended.

(6) Do these wiring checks to make sure that the signals from the M2061 Proximity Switch Electronics Unit and the M1746 Flap/Slat Electronics Unit to the actuator are satisfactory:

(a) Connect a multimeter between pin 1 of electrical connector D14394 and a structural ground.

1) Make sure that there is continuity.

(b) Connect a multimeter between pin 9 of electrical connector D14394 and a structural ground.

1) Make sure that there is continuity.

(c) Repair any problems that you find.

(d) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(7) Do a wiring check to make sure that the signals from the M2061 Proximity Switch Electronics Unit (PSEU) and the M1455 A/C Relay No. 2 are satisfactory.

(a) Disconnect connector DM2061 from the PSEU.

(b) Disconnect connector D10002A from the A/C Relay No.2.

(c) Do these wiring checks:

M2061		**M1455**
D10988		**D10002A**
Pin 27	. . . . .	Pin 35

(d) Repair any problems that you find.

(e) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(8) Replace the air conditioning accessory unit (ACAU) No.2, M1455. Do these tasks: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801 and Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(a) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(b) If the maintenance message does not show, then you corrected the fault.

(c) If the maintenance message still shows, then continue.

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(9) Do these checks of the wiring between the right ram air inlet actuator (M2797), the right pack/zone temperature controller (M1443) and ACAU No.2 (M1455):

(a) Get access to the right ram air inlet actuator.

(b) Remove the right pack/zone temperature controller (M1443). To remove the controller, do this task: Pack/Zone Temperature Controller Removal, AMM TASK 21-61-20-000-801 or Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(c) Remove the air conditioning accessory unit No.2 (M1455). Do this task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

(d) Do a wiring check between these pins of electrical connector D3860B of the right pack/zone temperature controller and connector D10002A of ACAU No.2:

M1455	**M1443**
D10002A	**D3860B**
Pin 61	Pin D8
Pin 47	Pin D6

1) Repair any problems that you find.

2) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation was successful, then you corrected the fault.

b) If the Repair Confirmation was not successful, then continue.

(e) Do a wiring check between these pins of electrical connector D3860B of the right pack/zone temperature controller and connector D14394 of the right ram air inlet actuator M2797.

M1443	**M2797**
D3860B	**D14394**
Pin D6	Pin 19
Pin A13	Pin 10

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.

2) Re-connect the electrical connector D14394 to the right ram air inlet actuator, M2797.

3) Install the right pack/zone temperature controller (M1443). To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

4) Install the right ACAU No.2 (M1455). To install the ACAU, do this task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

5) Do the Repair Confirmation at the end of this task:

a) If the Repair Confirmation was successful, then you corrected the fault.

b) If the Repair Confirmation was not successful, then continue.

(g) If you do not find a problem with the wiring, then do these steps and continue:

1) Re-connect the electrical connector D14394 to the ram air inlet actuator M2797.

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AKS 001-021 (Continued)

2) Install the right ACAU No.2 (M1455). To install the ACAU, do this task Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

(10) Install a new pack/zone temperature controller (M1443). To install the controller, do this task: Pack/Zone Temperature Controller Installation, AMM TASK 21-61-20-400-801 or Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(11) Do this task: Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801..

(a) If the maintenance message does not show, then you corrected the fault.

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(5) If the Repair Confirmation is not satisfactory, return to the step in the Fault Isolation procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation procedure.

(a) Make sure that the green NO LRU FAULT light is on.

(b) Make sure that the red INLET ACTUATOR FAULT, EXIT ACTUATOR FAULT and RAM AIR SENSOR FAULT lights are off.

(c) Re-install all access panels that were removed.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the applicable steps that follow to return the system to a serviceable condition:

(a) Re-install all access panels that were removed.

(b) Make sure that the green NO LRU FAULT light is on.

(c) Make sure that the red INLET ACTUATOR FAULT, EXIT ACTUATOR FAULT and RAM AIR SENSOR FAULT lights are off.

(d) Re-install all access panels that were removed.

END OF TASK

853. Left Ram Air Exit Actuator - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SRADA EXIT

(2) The left pack/zone temperature controller has detected a fault from the left ram air exit actuator, M2796.

(3) The red EXIT ACTUATOR FAULT light on the left ram air exit actuator, M2796, should be on.

B. Possible Causes

(1) Left ram air exit actuator, M2796

(2) Left ram air inlet actuator, M2795

(3) Wiring

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C. Circuit Breakers

(1) These are the circuit breakers related to the fault:

These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) SSM 21-51-14

(2) WDM 21-51-14

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation procedure that follows:.

F. Fault Isolation Procedure

(1) Get access to the ram air exit actuator, M2796, as follows:

(a) Open these access panels:

Number	Name/Location
192CL	ECS Access Door
192JL	Air Conditioning Panel - Aft

(2) Do this check for 28V DC power to the ram air exit actuator, M2796, as follows:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

(b) Disconnect electrical connector D14390 from the actuator.

(c) Close this circuit breaker:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

(d) Do a check for 28V DC between pins 4 and 16 of connector D14390.

(e) If 28V DC is not present between pins 4 and 16 of connector D14390, do these steps:

1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

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2) Do these wiring checks:

P6-4 panel Circuit breaker C01950	**M2796 Connector D14390**
Load side	Pin 4

M2796 D14390	**Structure ground Ground**
Pin 16	GD656-DC

(f) Repair any problems that you find.

(g) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(3) If 28V DC is present, replace the left ram air exit actuator. Do these tasks: Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801 and Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801:

(a) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(4) Get access to the ram air inlet actuator, M2795, as follows:

(a) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT

(5) Disconnect electrical connector D14388 from the ram air inlet actuator, M2795, and electrical connector D14393 from the ram air exit actuator.

(6) Do these wiring checks:

M2795 D14388	**M2796 D14393**
Pin 1	Pin 1
Pin 2	Pin 2
Pin 3	Pin 3

(7) Repair any problems you find.

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(8) Do the Repair Confirmation at the end of this task:

(a) If the Repair Confirmation is successful, then you corrected the fault.

(b) If the Repair Confirmation is not successful, then continue.

(9) Replace the ram air inlet actuator, M2795, as follows:

(a) To replace the actuator, do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(10) Do the Repair Confirmation at the end of this task:

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(5) If the Repair Confirmation is not satisfactory, return to the step in the Fault Isolation procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation procedure.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the applicable steps that follow to return the system to a serviceable condition:

(a) Make sure that the green NO LRU FAULT light is on.

(b) Make sure that the red INLET ACTUATOR FAULT, EXIT ACTUATOR FAULT and RAM AIR SENSOR FAULT lights are off.

(c) Re-install all access panels that were removed.

——— END OF TASK ———

854. Right Ram Air Exit Actuator - Fault Isolation

A. Description

(1) This task is for this maintenance message:

(a) SRADA EXIT

(2) The right pack/zone temperature controller has detected a fault from the right ram air exit actuator, M2798.

(3) The red EXIT ACTUATOR FAULT light on the right ram air exit a ctuator, M2798, should be on.

B. Possible Causes

(1) Right ram air exit actuator, M2798

(2) Right ram air inlet actuator, M2797

(3) Wiring

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

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AKS 001-021 (Continued)

(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R

D. Related Data

(1) SSM 21-51-24

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(2) If the maintenance message does not show, then there was an intermittent fault.

(3) If the maintenance message shows, then do the Fault Isolation procedure that follows:

F. Fault Isolation Procedure

(1) Get access to the ram air exit actuator, M2798, as follows:

(a) Open these access panels:

Number	Name/Location
192CR	ECS Access Door
192JR	Air Conditioning Panel - Aft

(2) Do this check for 28V DC power to the ram air exit actuator, M2798, as follows:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(b) Disconnect electrical connector D14398 from the actuator.

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(d) Do a check for 28V DC between pins 4 and 16 of connector D14398.

(e) If 28V DC is not present between pins 4 and 16 of connector D14398, do these steps:

1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

2) Do these wiring checks:

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P6-4 panel	**M2798**
Circuit breaker	**Connector**
C01951	**D14398**
Load side	Pin 4

M2798	**Structure ground**
D14398	**Ground**
Pin 16	GD716-DC

(f) Repair any problems that you find.

(g) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(3) If 28V DC is present, replace the right ram air exit actuator, M2798. Do these tasks: Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801 and Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801.

(a) Do the Repair Confirmation at the end of this task.

1) If the Repair Confirmation is successful, then you corrected the fault.

2) If the Repair Confirmation is not successful, then continue.

(4) Get access to the ram air inlet actuator, M2797, as follows:

(a) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT

(5) Disconnect electrical connector D14396 from the ram air inlet actuator, M2797, and electrical connector D14400 from the ram air exit actuator.

(6) Do these wiring checks:

M2797	**M2798**
D14396	**D14400**
Pin 1	Pin 1
Pin 2	Pin 2
Pin 3	Pin 3

(7) Repair any problems that you find.

(8) Do the Repair Confirmation at the end of this task:

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AKS 001-021 (Continued)

(a) If the Repair Confirmation is successful, then you corrected the fault.

(b) If the Repair Confirmation is not successful, then continue.

(9) Replace the ram air inlet actuator, M2797, as follows:

(a) To replace the actuator, do these tasks: Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801 and Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801.

(10) Do the Repair Confirmation at the end of this task:

G. Repair Confirmation

(1) Reconnect all electrical connectors that were disconnected.

(2) Re-install all components that were removed.

(3) Close all circuit breakers that were opened.

(4) Do this task: Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(5) If the Repair Confirmation is not satisfactory, return to the step in the Fault Isolation procedure that you were at prior to performing the Repair Confirmation and continue the Fault Isolation procedure.

(6) If the Repair Confirmation is satisfactory, make sure that you do all the applicable steps that follow to return the system to a serviceable condition:

(a) Make sure that the green NO LRU FAULT light is on.

(b) Make sure that the red INLET ACTUATOR FAULT, EXIT ACTUATOR FAULT and RAM AIR SENSOR FAULT lights are off.

(c) Re-install all access panels that were removed.

AKS ALL

END OF TASK

855. Passenger Cabin Too Cold, No Temperature Control in AUTO - Fault Isolation

A. Description

(1) The temperature in the forward and aft passenger cabins is too cold with the FWD CAB and AFT CAB temperature selectors in the AUTO position.

(2) It is not known if both or just one of the passenger cabin zones is too cold.

(3) You can observe the temperatures in the passenger cabin by setting the AIR TEMP selector on the P5-17 temperature control panel to PASS CAB FWD and PASS CAB AFT.

B. Possible Causes

(1) Pack/Zone Temperature Controller, M1442/M1443

(2) Separation of the Sidewall Riser Ducts/Transition Duct

(3) Temperature control selector, S3 (forward) or S4 (aft)

(4) Trim air pressure and regulating valve (PRSOV), V146

(5) Trim air modulating valves, V144 or V145

(6) Temperature control valve, V139 or V141

(7) Zone duct temperature sensors, T533 (forward) or T536 (aft)

(8) Zone temperature sensor, M1445 (forward) or M1446 (aft), (Drifted)

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(9) Mix manifold temperature sensors, T472 or T475 (Drifted)

(10) Pack temperature sensors, T471 (left) or T474 (right)

(11) Wiring problems

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

(a) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	3	C01170	A/C ZONE TEMP VALVE/FAN CONT AFT PASS
B	2	C01167	A/C ZONE TEMP VALVE/FAN CONT FWD PASS
D	9	C01172	AIR CONDITIONING TRIM AIR PRESS

D. Related Data

(1) SSM 21-61-13

(2) SSM 21-61-14

(3) SSM 21-61-15

(4) WDM 21-61-13

(5) WDM 21-61-14

(6) WDM 21-61-15

E. Initial Evaluation

(1) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Put the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to the AUTO (12 o'clock) position.

(3) Set the TRIM AIR switch on the P5-17 panel to ON.

(4) Operate the pack until the pack output temperatures stabilize:

(a) Set the AIR TEMP selector switch on the P5-17 panel to PASS CAB FWD then PASS CAB AFT to show the temperatures of the passenger cabin forward and aft zones.

1) The forward passenger cabin temperature and the aft passenger cabin temperatures should be about the same (approximately 75 °F).

(5) Examine the area of the passenger cabin sidewall panels on both sides of the aircraft near the floor that are adjacent to the forward wing-to-body fairing as follows:

(a) Make sure that the sidewall panels do not appear to be expanded inboard in the area just above the floor level and that the panels appear to have the same contour as the adjacent panels.

(b) Make sure that there are no whistling noises that could indicate the presence of leaking ducts.

(6) If either of the two conditions listed in the previous step are present, inspect the sidewall riser ducts/transition duct interface as follows:

(a) Do this task: Sidewall Riser Ducts/Transition Duct Inspection, AMM TASK 21-23-02-212-801.

(b) If the sidewall riser ducts/transition duct interface has separated, do this repair: Sidewall Riser Ducts/Transition Duct Repair, AMM TASK 21-23-02-360-801.

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(c) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, continue.

(7) Set the FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to the W (fully warm) position.

(a) Make sure that the forward cabin and the aft cabin temperatures increase and are approximately the same (85 °F).

(8) Set the FWD CAB and AFT CAB temperature selectors on the P5-17 panel to the C position.

(a) Allow the packs to operate until the cabin temperatures stabilize.

(b) Make sure that the forward cabin temperature and the aft cabin temperatures are about the same (65 °F).

(9) If the forward and aft cabin temperatures became warmer when the temperature selectors were in the W (fully warm) position, became colder when the temperature selectors were in the C (fully cold) position and were about the same in both positions (W and C), then there was an intermittent fault.

(10) If either one or both temperatures did not become warmer when the temperature selector was in the W (fully warm) position, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Do this task on both controllers, M1442 and M1443: Pack Temperature Control - BITE Procedure, 21-62 TASK 801:

(a) If the BITE test shows a fault, then do these steps:

1) Do the corrective action for the maintenance message that shows.

2) Supply conditioned air to the passenger compartment with both packs. To supply conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

3) Let the air conditioning packs operate for a few minutes to allow the temperature of the air from the packs to stabilize.

4) Put the FWD CAB and AFT CAB temperature selectors on the P5-17 panel to the W (fully warm) position.

5) If the temperature in the previously cold zone now increases, then you corrected the fault.

6) Remove conditioned air from the airplane. To remove the conditoned air, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.

(b) If no faults are found, continue.

(2) If neither the forward nor aft cabin temperature indications got warmer with the temperature selectors in the W (fully warm) position, then do these steps:

(a) Replace the trim air pressure regulating and shutoff valve, V146. Do these tasks:Trim Air Pressure Regulating and Shutoff Valve Removal, AMM TASK 21-62-01-000-801, Trim Air Pressure Regulating and Shutoff Valve Installation, AMM TASK 21-62-01-400-801.

(b) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue with the fault isolation after the step that directed you to the Repair Confirmation.

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(3) If the forward cabin temperature indication got warmer and the aft cabin temperature indication did not, then do this task: Aft Cabin AUTO Temperature Control Does Not Operate - Fault Isolation, 21-61 TASK 863.

(a) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(4) If the aft cabin temperature indication got warmer and the forward cabin temperature indication did not, then do this task: Forward Cabin AUTO Temperature Control Does Not Operate - Fault Isolation, 21-61 TASK 864.

(a) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(5) Do a check of the cabin temperature sensors resistance. Do this task: Cabin Temperature Sensor Resistance Check, AMM TASK 21-61-10-200-802.

(a) If the results are out of tolerance, replace the cabin temperature sensors as follows:Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802, Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802.

(b) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

(6) Do a test of the mix manifold temperature sensors to make sure the resistance has not drifted:

(a) Do these steps to prepare for a test of the resistance of each mix manifold sensor:

1) Remove the mix manifold sensors. Do this task: Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803.

2) Examine the sensors to determine if they are dirty or contaminated.

3) If the sensors are dirty or contaminated, do this task to remove all traces of dirt or contamination:

a) Do this task: Mix Manifold Temperature Sensor Cleaning, AMM TASK 21-51-51-110-801.

4) Install the mix manifold sensors. Do this task: Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(b) Do this task: Mix Manifold Temperature Sensor Test, AMM TASK 21-51-51-000-802.

(c) If the results are out of tolerance, replace the mix manifold sensor(s) as follows: Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803, Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802.

(d) Do the Repair Confirmation at the end of this task:

1) If the Repair Confirmation is satisfactory, then you corrected the fault.

2) If the Repair Confirmation is not satisfactory, then continue.

G. Repair Confirmation

(1) Supply conditioned air to the airplane. To supply the conditioned air, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

(2) Set the L and R PACK switches to AUTO.

(3) Set the TRIM AIR switch to ON.

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(4) Set the CONT CAB, FWD CAB and AFT CAB temperature selectors on the P5-17 temperature control panel to AUTO.

(5) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT FWD and note the temperature on the temperature indicator.

(6) Set the AIR TEMP selector on the P5-17 temperature control panel to SUPPLY DUCT AFT and note the temperature on the temperature indicator.

(7) Make sure that the supply duct temperatures are within a few degrees of each other.

(8) If the supply duct temperatures are not within a few degrees of each other, then continue the fault isolation procedure from the last step accomplished.

——— END OF TASK ———

AKS 022-999

857. Flow Control Valve - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51069 PFTC CNTRL INOP

1) Flow Control Valve (FCV) Driver High Fault

(b) 21-51070 PFTC CNTRL INOP

1) FCV Driver Low Fault

(c) 21-51250 FLOW CTRL VALVE

1) Flow Control Valve Torque Motor Open Fault

(d) 21-51251 FLOW CTRL VALVE

1) Flow Control Valve Torque Motor Low Fault

(e) 21-51252 FLOW CTRL VALVE

1) Flow Control Valve Torque Motor Short Fault

(f) 21-51255 FLOW CTRL VALVE

1) Flow Control Valve Overpressure

(g) 21-51501 PFTC CNTRL INOP

1) FCV Shutoff Drive Fault

(h) 21-51503 PFTC CNTRL INOP

1) FCV Hardware Drive Tolerance Fault

(i) 21-51504 PFTC CNTRL INOP

1) Standby Hardware Drive Tolerance Fault

(2) This task is also for these Non-Latched Maintenance Messages:

(a) 21-51253 FLOW CTRL VALVE

1) Flow Control Valve Fail Open Position

(b) 21-51254 FLOW CTRL VALVE

1) Flow Control Valve Fail Close Position

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AKS 022-999 (Continued)

(3) There is a problem with the Left (Right) Flow Control and Shutoff Valve.

B. Possible Causes

(1) Left Flow Control and Shutoff Valve, V184

(2) Right Flow Control and Shutoff Valve, V185

(3) Wiring

(4) Left Pack Flow Temperature Controller (PFTC), M2951

(5) Right Pack Flow Temperature Controller (PFTC), M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-51-11

(2) WDM 21-51-21

(3) SSM 21-51-11

(4) SSM 21-51-21

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure - Left Flow Control and Shutoff Valve, V184

(1) Do this check for power to the Left Flow Control and Shutoff Valve, V184 (WDM 21-51-11):

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

(b) Disconnect electrical connector D15830 from the Left Flow Control and Shutoff Valve, V184.

(c) Do a check for 28V DC from pin 1 of electrical connector D15830 to ground GD5524-DC.

1) If 28V DC is present, replace the Left Flow Control and Shutoff Valve. These are the tasks:

- Left Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-806-003
- Left Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-807-003

a) Do the Repair Confirmation at the end of this task.

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2) If 28V DC is not present, do a continuity check of the wiring between electrical connector D15830, pin 1 and the load side of the AIR CONDITIONING PACK CONT VALVES L circuit breaker, C00262 (WDM 21-51-11).
   a) If you find a wiring problem, repair the wiring.
   b) Do the Repair Confirmation at the end of this task.

(2) Replace the L PFTC, M2951. These are the tasks:
- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Fault Isolation Procedure - Right Flow Control and Shutoff Valve, V185

(1) Do this check for power to the Right Flow Control and Shutoff Valve, V185 (WDM 21-51-21):

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R

(b) Disconnect electrical connector D15834 from the Right Flow Control and Shutoff Valve, V185.

(c) Do a check for 28V DC from pin 1 of electrical connector D15830 to ground GD5524-DC.

1) If 28V DC is present, replace the Right Flow Control and Shutoff Valve. These are the tasks:
- Right Flow Control and Shutoff Valve Removal, AMM TASK 21-51-01-000-807-003
- Right Flow Control and Shutoff Valve Installation, AMM TASK 21-51-01-400-806-003

2) If 28V DC is not present, do a continuity check of the wiring between electrical connector D15834, pin 1 and the load side of the AIR CONDITIONING PACK CONT VALVES R circuit breaker, C00263 (WDM 21-51-11).
   a) If you find a wiring problem, repair the wiring.
   b) Do the Repair Confirmation at the end of this task.

(2) Replace the R PFTC, M2952. These are the tasks:
- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

H. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

(b) If the maintenance message still shows, continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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858. PFTC Internal Fault - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51001, 21-51002, 21-51003, 21-51004, 21-51005, 21-51006, 21-51007, 21-51008, 21-51009, 21-51010, 21-51017, 21-51018, 21-51019, 21-51034, 21-51035, 21-51037, 21-51041, 21-51042, and 21-51044

(2) This task is also for these Non-Latched Maintenance Messages:

(a) 21-51030, 21-51036, 21-51038, 21-51043, 21-51045, 21-51046, 21-51090, 21-51091, 21-51092, 21-51093, 21-51331, 21-51332, 21-51333

(3) There is an internal problem in the Left (Right) PFTC.

B. Possible Causes

(1) Left PFTC, M2951

(2) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

E. Fault Isolation Procedure

(1) Replace the applicable Left (Right) Pack Flow Temperature Controller (PFTC), M2951 (M2952). These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

END OF TASK

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859. Pack Inlet Pressure - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51061 PFTC CNTRL INOP

1) Pack Inlet Pressure Sensor Interface Fault

(b) 21-51230 PACK IN PRESSURE

1) Pack Inlet Pressure Sensor High Fault

(c) 21-51231 PACK IN PRESSURE

1) Pack Inlet Pressure Sensor Low Fault

(d) 21-51232 PACK IN PRESSURE

1) Pack Inlet Pressure Sensor Drift Fault

(e) 21-51233 PACK IN PRESSURE

1) Pack Inlet Pressure Sensor Shorted Load Fault

2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) There is a problem with the Left (Right) Pack Inlet Pressure Sensor

B. Possible Causes

(1) Left Pack Inlet Pressure Sensor, M2955

(2) Right Pack Inlet Pressure Sensor, M2956

(3) Wiring

(4) L (R) PFTC, M2951 (M2952)

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

(3) SSM 21-51-12

(4) SSM 21-51-22

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E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable Left (Right) Pack Inlet Pressure Sensor, M2955 (M2956). These are the tasks:

- Pack Inlet Pressure Sensor Removal, AMM TASK 21-51-45-000-801
- Pack Inlet Pressure Sensor Installation, AMM TASK 21-51-45-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message is for the Left Pack Inlet Pressure Sensor, do this wiring check (WDM 21-51-12):

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

(b) Remove the Left Pack Flow Temperature Controller. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(c) Disconnect electrical connector D15826 from the Left Pack Inlet Pressure Sensor.

(d) Do a wiring check as follows:

L PFTC D15814B	L PACK PRESSURE SENSOR D15826
pin A8	pin 1
pin A9	pin 3
ground	pin 5

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D15826 to the Left Pack Inlet Pressure Sensor.

c) Re-install the L PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

2) If you do not find a problem with the wiring, then do these steps:

a) Reconnect electrical connector D15826 to the Left Pack Inlet Pressure Sensor.

b) Replace the L PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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(3) If the maintenance message is for the Right Pack Inlet Pressure Sensor, do this wiring check (WDM 21-51-22):

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

(b) Remove the Right Pack Flow Temperature Controller. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(c) Disconnect electrical connector D15828 from the Right Pack Inlet Pressure Sensor.

(d) Do a wiring check as follows:

R PFTC D15816B	R PACK PRESSURE SENSOR D15828
pin A8	pin 1
pin A9	pin 3
ground	pin 5

1) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D15828 to the Right Pack Inlet Pressure Sensor.

c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

2) If you do not find a problem with the wiring, then do these steps:

a) Reconnect electrical connector D15828 to the Right Pack Inlet Pressure Sensor.

b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

(b) If the maintenance message still shows, continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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860. PACK FLOW SENSOR - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51066 PFTC CNTRL INOP

1) Pack Flow Sensor Heater Driver High Interface Fault

(b) 21-51067 PFTC CNTRL INOP

1) Pack Flow Sensor Heater Driver Low Interface Fault

(c) 21-51068 PFTC CNTRL INOP

1) Pack Flow Sensor Heater Driver Drift Interface Fault

(d) 21-51239 PACK FLOW SENSOR

1) Pack Flow Sensor Drift Fault

(e) 21-51246 PACK FLOW SENSOR

1) Pack Flow Sensor Heater Open Fault

(f) 21-51247 PACK FLOW SENSOR

1) Pack Flow Sensor Heater Low Fault

(g) 21-51248 PACK FLOW SENSOR

1) Pack Flow Sensor Heater Short Fault

(h) 21-51249 PACK FLOW SENSOR

1) Pack Flow Sensor High Fault

(i) 21-51500 PFTC CNTRL INOP

1) Pack Flow Sensor Shutoff Drive Fault

(j) 21-51502 PFTC CNTRL INOP

1) Pack Flow Sensor Hardware Drive Tolerance Fault

(2) This task is also for this Non-Latched Maintenance Message:

(a) 21-51240 PACK FLOW SENSOR

1) Pack Flow Sensor Element-Calibration Resistor Open Fault

(3) There is a problem with the Left (Right) Pack Flow Sensor.

B. Possible Causes

(1) Left Pack Flow Sensor, M2953

(2) Right Pack Flow Sensor, M2954

(3) Wiring

(4) L (R) PFTC, M2951 (M2952)

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C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) SSM 21-51-12

(2) SSM 21-51-22

(3) WDM 21-51-12

(4) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the applicable Left (Right) Pack Flow Sensor, M2953 (M2954). These are the tasks:

- Pack Flow Sensor Removal, AMM TASK 21-51-43-000-801
- _Pack Flow Sensor Installation, AMM TASK 21-51-43-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) For a fault on the Left Pack, do these steps:

(a) Remove the Left Pack Flow Temperature Controller. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(b) Disconnect electrical connector D15822 from the Left Pack Flow Sensor.

(c) Do a wiring check between the Left PFTC and the Left Pack Flow Sensor as follows (WDM 21-51-12):

L PFTC D15814B	L Pack Flow Sensor D15822
pin A11	pin 7
pin B10	pin 5
pin A12	pin 9
pin B11	pin 11
pin B12	pin 8
pin D1	pin 2
pin D2	pin 4
ground	pin 12

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1) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Reconnect electrical connector D15822 to the Left Pack Flow Sensor.
   c) Re-install the L PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
2) If you do not find a problem with the wiring, then do these steps:
   a) Reconnect electrical connector D15822 to the Left Pack Flow Sensor.
   b) Replace the L PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(3) For a fault on the Right Pack Flow Sensor, do these steps:

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

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

(b) Remove the Right Pack Flow Temperature Controller. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

(c) Disconnect electrical connector D15824 from the Right Pack Flow Sensor.

(d) Do this a wiring check between the Right PFTC and the Right Pack Flow Sensor as follows (WDM 21-51-22):

R PFTC D15816B	**R Pack Flow Sensor D15824**
pin A11	pin 7
pin B10	pin 5
pin A12	pin 9
pin B11	pin 11
pin B12	pin 8
pin D1	pin 2
pin D2	pin 4
ground	pin 12

1) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Reconnect electrical connector D15824 to the Right Pack Flow Sensor.
   c) Re-install the R PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
2) If you do not find a problem with the wiring, then do these steps:
   a) Reconnect electrical connector D15824 to the Right Pack Flow Sensor.

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AKS 022-999 (Continued)

b) Replace the R PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the fault.

(b) If the maintenance message still shows, continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

862. F/D SELECTOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51053 PFTC CNTRL INOP

1) Flight Deck Selector Temperature Interface Fault

(b) 21-51217 F/D SELECTOR

1) Flight Deck Selector Open Fault

(c) 21-51218 F/D SELECTOR

1) Flight Deck Selector Short Fault

(d) 21-51311 F/D SELECTOR

1) Flight Deck Selector Non Recoverable Fault

2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) Control Cabin Temperature Selector Switch, S2

(2) Wiring

(3) L (R) PFTC, M2951 (M2952)

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

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D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do these steps to clear the fault:

1) On the P5-17 Cabin Temperature Panel, make sure that all three Temperature Selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

a) If a Selector is set to OFF, move it away from the OFF position.

2) Erase the EXISTING FAULTS on the Front Panel Display of the applicable PFTC, M2951 (M2952) (Figure 303 or Figure 304).

3) On the Glareshield Panel, P7, push the MASTER CAUTION Light to reset it.

4) Wait for thirty (30) seconds.

5) Make sure that the LH PACK, RH PACK, and ZONE TEMP Lights stay OFF.

6) Look at the EXISTING FAULTS again.

a) If the maintenance message does not show, then there was an intermittent problem.

b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Control Cabin Temperature Selector Switch, S2. These are the tasks:

- Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002
- Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Control Cabin Temperature Panel, P5-17, and the Left PFTC, M2951 (WDM 21-61-12):

1) Lower the P5 Overhead Panel.

2) Disconnect connector D3996 from the Cabin Temperature Panel, P5-17.

3) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

4) Do a wiring check as follows:

CONT CAB	**L PFTC**
D3996	**D15814B**
pin 4	pin D10
pin 5	pin D12
pin 6	pin D11

a) If you find a problem with the wiring, then do these steps:

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<1> Repair the wiring.

<2> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<3> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<4> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<2> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(3) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Control Cabin Temperature Panel, P5-17, and the Right PFTC, M2952 (WDM 21-61-11):

1) Lower the P5 Overhead Panel.

2) Disconnect connector D3996 from the Cabin Temperature Panel, P5-17.

3) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

4) Do a wiring check as follows:

CONT CAB D3996	**R PFTC D15816B**
pin 9	pin D10
pin 10	pin D12
pin 11	pin D11

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<3> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<4> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<2> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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AKS 022-999 (Continued)

863. ZONE SELECTOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51056 PFTC CNTRL INOP

1) Zone Selector Interface Fault

(b) 21-51220 ZONE SELECTOR

1) Zone Selector Open Fault

(c) 21-51221 Zone SELECTOR

1) Zone Selector Short Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Control Cabin Temperature Selector Switch, S4

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Control Cabin Temperature Selector Switch, S3

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do these steps to clear the fault:

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1) On the P5-17 Cabin Temperature Panel, make sure that all three Temperature Selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.
   a) If a Selector is set to OFF, move it away from the OFF position.
2) Erase the EXISTING FAULTS on the Front Panel Display of the applicable PFTC, M2951 (M2952) (Figure 303 or Figure 304).
3) On the Glareshield Panel, P7, push the MASTER CAUTION Light to reset it.
4) Wait for thirty (30) seconds.
5) Make sure that the LH PACK, RH PACK, and ZONE TEMP Lights stay OFF.
6) Look at the EXISTING FAULTS again.
   a) If the maintenance message does not show, then there was an intermittent problem.
   b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Replace the AFT Cabin Temperature Selector Switch, S4. These are the tasks:
- Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002,
- Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002.

1) Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Cabin Temperature Panel, P5-17, and the Left PFTC, M2951 (WDM 21-61-14):
1) Lower the P5 Overhead Panel.
2) Disconnect connector D3996 from the Cabin Temperature Panel, P5-17.
3) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
4) Do a wiring check as follows:

AFT CAB D3996	L PFTC D15814B
pin 14	pin C10
pin 15	pin C12
pin 16	pin C11

a) If you find a problem with the wiring, then do these steps:
<1> Repair the wiring.
<2> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.
<3> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
<4> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:
<1> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

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<2> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Replace the FWD Cabin Temperature Selector Switch, S3. These are the tasks:

- Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002
- Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002

1) Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Cabin Temperature Panel, P5-17, and the Right PFTC, M2952 (WDM 21-61-13):

1) Lower the P5 Overhead Panel.

2) Disconnect connector D3998 from the Cabin Temperature Panel, P5-17.

3) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

4) Do a wiring check as follows:

FWD CAB	**R PFTC**
D3998	**D15816B**
pin 9	pin C10
pin 10	pin C12
pin 11	pin C11

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3998 to the Cabin Temperature Panel, P5-17.

<3> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<4> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3998 to the Cabin Temperature Panel, P5-17.

<2> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

864. STBY SELECTOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51097 PFTC STBY CNTRL

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1) Backup Zone Selector Interface Fault

(b) 21-51224 STBY SELECTOR

1) Backup Zone Selector Open Fault

(c) 21-51225 STBY SELECTOR

1) Backup Zone Selector Short Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Control Cabin Temperature Selector Switch, S3

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Control Cabin Temperature Selector Switch, S4

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do these steps to clear the fault:

1) On the P5-17 Cabin Temperature Panel, make sure that all three Temperature Selectors (CONT CAB, FWD CAB, AFT CAB) are not set to OFF.

a) If a Selector is set to OFF, move it away from the OFF position.

2) Erase the EXISTING FAULTS on the Front Panel Display of the applicable PFTC, M2951 (M2952) (Figure 303 or Figure 304).

3) On the Glareshield Panel, P7, push the MASTER CAUTION Light to reset it.

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4) Wait for thirty (30) seconds.
5) Make sure that the LH PACK, RH PACK, and ZONE TEMP Lights stay OFF.
6) Look at the EXISTING FAULTS again.
   a) If the maintenance message does not show, then there was an intermittent problem.
   b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:
   (a) Replace the FWD Cabin Temperature Selector Switch, S3. These are the tasks:
      - Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002
      - Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002
      1) Do the Repair Confirmation at the end of this task.
   (b) Do this check of the wiring between the Cabin Temperature Panel, P5-17, and the Left PFTC, M2951 (WDM 21-61-13):
      1) Lower the P5 Overhead Panel.
      2) Disconnect connector D3998 from the Cabin Temperature Panel, P5-17.
      3) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
      4) Do a wiring check as follows:

FWD CAB D3998	L PFTC D15814C
pin 4	pin 23
pin 5	pin 18
pin 6	pin 17

         a) If you find a problem with the wiring, then do these steps:
            <1> Repair the wiring.
            <2> Re-connect connector D3998 to the Cabin Temperature Panel, P5-17.
            <3> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
            <4> Do the Repair Confirmation at the end of this task.
         b) If you do not find a problem with the wiring, then do these steps:
            <1> Re-connect connector D3998 to the Cabin Temperature Panel, P5-17.
            <2> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
(2) If the maintenance message shows on the Right PFTC, then do these steps:
   (a) Replace the AFT Cabin Temperature Selector Switch, S4. These are the tasks:
      - Cabin Temperature Selector Removal, AMM TASK 21-61-07-000-803-002
      - Cabin Temperature Selector Installation, AMM TASK 21-61-07-400-803-002

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1) Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Cabin Temperature Panel, P5-17, and the Right PFTC, M2952 (WDM 21-61-14):

1) Lower the P5 Overhead Panel.

2) Disconnect connector D3996 from the Cabin Temperature Panel, P5-17.

3) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

4) Do a wiring check as follows:

AFT CAB	**R PFTC**
D3996	**D15816C**
pin 21	pin 23
pin 22	pin 18
pin 23	pin 17

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<3> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<4> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3996 to the Cabin Temperature Panel, P5-17.

<2> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

865. F/D TEMP SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51190 F/D TEMP SENSOR

1) Flight Deck Temperature Sensor Open Fault

(b) 21-51191 F/D TEMP SENSOR

1) Flight Deck Temperature Sensor Short Fault

(c) 21-51310 F/D TEMP SENSOR

1) Flight Deck Temperature Sensor Non Recoverable Fault

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2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) Control Cabin Temperature Sensor

(2) Wiring

(3) L (R) PFTC, M2951 (M2952)

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the Control Cabin Temperature Sensor Module, M1718:

1) Lower the access panel for the Control Cabin Temperature Sensor that is aft of the Overhead P5 Panel.

2) Disconnect electrical connector D10958 from the Control Cabin Temperature Sensor (WDM 21-61-12) .

3) Do a check for an open circuit or a short between pins 3 and 4 of the Control Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 3 and 4, then do these steps:

a) Replace the Control Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802
- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

<1> Do the Repair Confirmation at the end of this task.

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5) If there is not a short or an open circuit between pins 3 and 4, then continue.

(b) Do this check of the wiring between the Control Cabin Temperature Sensor and the Left PFTC, M2951 (WDM 21-61-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

TEMP SENSOR D10958	L PFTC D15814B
pin 3	pin E11
pin 4	pin E12

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the connector D10958 to the Control Cabin Temperature Sensor.

c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Re-connect the connector D10958 to Control Cabin Temperature Sensor.

b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the Control Cabin Temperature Sensor Module, M1718:

1) Lower the access panel for the Control Cabin Temperature Sensor that is aft of the Overhead P5 Panel.

2) Disconnect electrical connector D10958 from the Control Cabin Temperature Sensor WDM 21-61-11).

3) Do a check for an open circuit or a short between pins 1 and 2 of the Control Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Control Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802
- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Control Cabin Temperature Sensor Module, M1718, and the Right PFTC, M2952 (WDM 21-61-11):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

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TEMP SENSOR D10958	R PFTC D15816B
pin 1	pin E11
pin 2	pin E12

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect the connector D10958 to Control Cabin Temperature Sensor.
   c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
4) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect the connector D10958 to the Control Cabin Temperature Sensor.
   b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

866. F/D DUCT SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51199 F/D DUCT SENSOR
      1) Flight Deck Duct Temperature Sensor Open Fault
   (b) 21-51200 F/D DUCT SENSOR
      1) Flight Deck Duct Temperature Sensor Short Fault
   (c) 21-51312 F/D DUCT SENSOR
      1) Flight Deck Duct Temperature Sensor Non Recoverable Fault
      2) This is a latched message.

         NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:
   (a) Control Cabin Duct Temperature Sensor Backup, T477

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(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Control Cabin Duct Temperature Sensor, T478

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the Control Cabin Duct Temperature Sensor Backup, T477:

1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

2) Disconnect electrical connector D3882 from the Control Cabin Duct Temperature Sensor Backup.

3) Do a check for an open circuit or a short between pins 1 and 2 of the Control Cabin Temperature Sensor Backup.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Control Cabin Duct Temperature Sensor Backup, T477. These are the tasks:

- Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002
- Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002

<1> Do the Repair Confirmation at the end of this task.

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5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Control Cabin Duct Temperature Sensor Backup, T477, and the Left PFTC, M2951 (WDM 21-61-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814B	DUCT TEMP SENSOR D3882
pin E9	pin 1
pin E10	pin 2

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the connector D3882 to the Control Cabin Duct Temperature Sensor, T477.

c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Re-connect the connector D3882 to the Control Cabin Duct Temperature Sensor, T477.

b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the Control Cabin Duct Temperature Sensor, T478:

1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

2) Disconnect electrical connector D3884 from the Control Cabin Duct Temperature Sensor.

3) Do a check for an open circuit or a short between pins 1 and 2 of the Control Cabin Duct Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Control Cabin Duct Temperature Sensor, T478. These are the tasks:

- Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002
- Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

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(b) Do this check of the wiring between the Control Cabin Duct Temperature Sensor, T478, and the Right PFTC, M2952 (WDM 21-61-11):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816B	DUCT TEMP SENSOR D3884
pin E9	pin 1
pin E10	pin 2

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the connector D3884 to the Control Cabin Duct Temperature Sensor, T478.

c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Re-connect the connector D3884 to the Control Cabin Duct Temperature Sensor, T478.

b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

867. ZONE TEMP SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51193 ZONE TEMP SENSOR

1) Zone Temperature Sensor Open Fault

(b) 21-51194 ZONE TEMP SENSOR

1) Zone Temperature Sensor Short Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) AFT Cabin Temperature Sensor

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Forward Cabin Temperature Sensor

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	3	C01170	A/C ZONE TEMP VALVE/FAN CONT AFT PASS
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	2	C01167	A/C ZONE TEMP VALVE/FAN CONT FWD PASS
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

NOTE: The AFT Cabin Temperature Sensor is located behind the bullnose covers below the overhead stowage bins. The Sensor Assembly is on the right side of the airplane.

(a) Do this check of the AFT Cabin Temperature Sensor:

1) Lower the access panel for the AFT Cabin Temperature Sensor Assembly.

2) Disconnect electrical connector D15506 from the AFT Cabin Temperature Sensor.

3) Do a check for an open circuit or a short between pins 1 and 2 of the AFT Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the AFT Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802
- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

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AKS 022-999 (Continued)

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the AFT Cabin Temperature Sensor (WDM 21-61-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814B	AFT TEMP SENSOR D15506
pin C8	pin 1
pin C9	pin 2

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the connector D15506 to the AFT Cabin Temperature Sensor.

c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Re-connect the connector D15506 to AFT Cabin Temperature Sensor.

b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the Forward Cabin Temperature Sensor:

NOTE: The Forward Cabin Temperature Sensor is located behind the bullnose covers below the Overhead Stowage Bins. The Sensor Assembly is on the right side of the airplane.

1) Lower the panel for the Forward Cabin Temperature Sensor Assembly.

2) Disconnect electrical connector D15016 from the Forward Cabin Temperature Sensor (WDM 21-61-13).

3) Do a check for an open circuit or a short between pins 1 and 2 of the Forward Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Forward Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802
- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Right PFTC, M2952 and the Forward Cabin Temperature Sensor (WDM 21-61-13):

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1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Do a wiring check as follows:

R PFTC D15816B	FWD Temp Sensor D15016
pin C9	pin 1
pin C8	pin 2

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect the connector D15016 to Forward Cabin Temperature Sensor.
   c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
4) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect the connector D15016 to the Forward Cabin Temperature Sensor.
   b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

868. STBY ZONE SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51100 PFTC STBY CNTRL
      1) Backup Zone Temp Error Output Fault
   (b) 21-51101 PFTC STBY CNTRL
      1) Backup Zone Temp Error Input Fault
   (c) 21-51196 STBY ZONE SENSOR
      1) Backup Zone Temperature Sensor Open Fault
   (d) 21-51197 STBY ZONE SENSOR
      1) Backup Zone Temperature Sensor Short Fault
(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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AKS 022-999 (Continued)

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Forward Cabin Temperature Sensor

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) AFT Cabin Temperature Sensor

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	3	C01170	A/C ZONE TEMP VALVE/FAN CONT AFT PASS
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	2	C01167	A/C ZONE TEMP VALVE/FAN CONT FWD PASS
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

NOTE: The Forward Cabin Temperature Sensor is located behind the bullnose covers below the Overhead Stowage Bins. The Sensor Assembly is on the right side of the airplane.

(a) Do this check of the Forward Cabin Temperature Sensor:

1) Lower the access panel for the Forward Cabin Temperature Sensor Assembly.

2) Disconnect electrical connector D15016 from the Forward Cabin Temperature Sensor (WDM 21-61-13).

3) Do a check for an open circuit or a short between pins 3 and 4 of the Forward Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 3 and 4, then do these steps:

a) Replace the Forward Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802

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- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 3 and 4, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the Forward Cabin Temperature Sensor (WDM 21-61-13):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814C	FWD TEMP SENSOR D15016
pin 4	pin 3
pin 10	pin 4

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-connect the connector D15016 to the Forward Cabin Temperature Sensor.

c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Re-connect the connector D15016 to Forward Cabin Temperature Sensor.

b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the AFT Cabin Temperature Sensor:

NOTE: The AFT Cabin Temperature Sensor is located behind the bullnose covers below the overhead stowage bins. The Sensor Assembly is on the right side of the airplane.

1) Lower the panel for the AFT Cabin Temperature Sensor Assembly.

2) Disconnect electrical connector D15506 from the AFT Cabin Temperature Sensor (WDM 21-61-14).

3) Do a check for an open circuit or a short between pins 3 and 4 of the AFT Cabin Temperature Sensor.

4) If there is a short or an open circuit between pins 3 and 4, then do these steps:

a) Replace the AFT Cabin Temperature Sensor. These are the tasks:

- Cabin Temperature Sensor Removal, AMM TASK 21-61-10-000-802
- Cabin Temperature Sensor Installation, AMM TASK 21-61-10-400-802

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 3 and 4, then continue.

(b) Do this check of the wiring between the Right PFTC, M2952, and the AFT Cabin Temperature Sensor (WDM 21-61-14):

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1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816C	AFT Temp Sensor D15506
pin 4	pin 3
pin 10	pin 4

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect the connector D15506 to AFT Cabin Temperature Sensor.
   c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect the connector D15506 to the AFT Cabin Temperature Sensor.
   b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

869. ZONE DUCT SENSOR -Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51202 ZONE DUCT SENSOR
      1) Zone Duct Temperature Sensor Open Fault
   (b) 21-51203 ZONE DUCT SENSOR
      1) Zone Duct Temperature Sensor Short Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:
   (a) AFT Cabin Duct Temperature Sensor Backup, T536
   (b) Wiring
   (c) Left PFTC, M2951

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AKS 022-999 (Continued)

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Forward Cabin Duct Temperature Sensor, T533

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the AFT Cabin Duct Temperature Sensor, T536:

1) Remove the Right Ceiling Panel that is adjacent to the Overwing Escape Hatches. This is the task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.

2) Disconnect electrical connector D11840 from the AFT Cabin Duct Temperature Sensor (WDM 21-61-14).

3) Do a check for an open circuit or a short between pins 1 and 2 of the AFT Cabin Duct Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the AFT Cabin Duct Temperature Sensor, T536. These are the tasks:

- Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002
- Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002

<1> Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the AFT Cabin Duct Temperature Sensor, T536 (WDM 21-61-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

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2) Do a wiring check as follows:

L PFTC D15814B	AFT DUCT TEMP SENSOR D11840
pin B8	pin 1
pin B9	pin 2

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect the connector D11840 to the AFT Cabin Duct Temperature Sensor, T536.
   c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
4) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect the connector D11840 to the AFT Cabin Duct Temperature Sensor, T536.
   b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:
   (a) Do this check of the Forward Cabin Duct Temperature Sensor, T533:
      1) Remove the Left Ceiling Panel that is just forward of the Overwing Escape Hatches. This is the task: Main Ceiling Panel - Removal, AMM TASK 25-21-45-000-803-001.
      2) Disconnect electrical connector D11830 from the Forward Cabin Duct Temperature Sensor.
      3) Do a check for an open circuit or a short between pins 1 and 2 of the Forward Cabin Duct Temperature Sensor.
      4) If there is a short or an open circuit between pins 1 and 2, then do these steps:
         a) Replace the Forward Cabin Duct Temperature Sensor, T533. These are the tasks:
            - Duct Temperature Limit Sensor Removal, AMM TASK 21-61-04-000-803-002
            - Duct Temperature Limit Sensor Installation, AMM TASK 21-61-04-400-803-002

            <1> Do the Repair Confirmation at the end of this task.
      5) If there is not a short or an open circuit between pins 1 and 2, then continue.
   (b) Do this check of the wiring between the Forward Cabin Duct Temperature Sensor, T533, and the Right PFTC, M2952 (WDM 21-61-13):
      1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
      2) Do a wiring check as follows:

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R PFTC D15816B	FWD DUCT TEMP SENSOR D11830
pin B8	pin 1
pin B9	pin 2

3) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect the connector D11830 to the Forward Cabin Duct Temperature Sensor, T533.
   c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
4) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect the connector D11830 to the Forward Cabin Duct Temperature Sensor, T533.
   b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

870. SRADA RAM SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51403 SRADA RAM SENSOR
      1) SRADA Ram Sensor Interface Fault
   (b) 21-51407 SRADA RAM SENSOR
      1) SRADA Ram Sensor CBIT Fault
   (c) 21-51411 SRADA RAM SENSOR
      1) SRADA Ram Sensor IBIT Fault
      2) This is a latched message.

         NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left RAM Air Control Temperature Sensor, T481

(b) Wiring

(c) Left PFTC, M2951

(d) Left Forward (Inlet) Ram Air Actuator, M2795

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right RAM Air Control Temperature Sensor, T482

(b) Wiring

(c) Right PFTC, M2952

(d) Right Forward (Inlet) Ram Air Actuator, M2797

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-51-14

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the Left Ram Air Control Temperature Sensor, T481:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

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2) Disconnect electrical connector D3916 from the Left Ram Air Control Temperature Sensor, T481 ((WDM 21-51-14)).

3) Do a check for an open circuit or a short between pins 1 and 2 of the Left Ram Air Control Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

   a) Replace the Left Ram Air Control Temperature Sensor. These are the tasks:

      - Ram Air Control Temperature Sensor Removal, AMM TASK 21-51-50-000-801
      - Ram Air Control Temperature Sensor Installation, AMM TASK 21-51-50-400-801

   b) Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Left Ram Air Control Temperature Sensor, T481, and the Left Forward (Inlet) Ram Air Actuator, M2795 (WDM 21-51-14):

1) Get access to the Left Forward (Inlet) Ram Air Actuator, M2795, as follows:

   a) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

2) Disconnect electrical connector D14394 from the Left Forward (Inlet) Ram Air Actuator, M2795.

3) Do a wiring check as follows:

L RAM AIR SENSOR D3916		L FWD RAM ACTUATOR D14386
pin 1	. . . . .	pin 17
pin 2	. . . . .	pin 18

4) If you find a problem with the wiring, then do these steps:

   a) Repair the wiring.

   b) Reconnect electrical connector D3916 to the Left Ram Air Sensor, T481.

   c) Reconnect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator, M2795.

   d) Do the Repair Confirmation at the end of this task.

5) If you do not find a problem with the wiring, then replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:

   - Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
   - Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

   a) Do the Repair Confirmation at the end of this task.

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(c) Do this check of the wiring between the Left PFTC, M2951, and the Left Forward (Inlet) Ram Air Actuator, M2795:

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Disconnect electrical connector D14386 from the Left Forward (Inlet) Ram Air Actuator, M2795.

3) Do a wiring check as follows:

L PFTC D15814B		**L FWD RAM ACTUATOR D14386**
pin G7	. . . . .	pin 12

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Reconnect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator, M2795.

d) Do the Repair Confirmation at the end of this task.

5) If you do not find a problem with the wiring, then replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the Right Ram Air Control Temperature Sensor, T482:

1) Open this access panel:

Number	**Name/Location**
192DR	ECS High Pressure Access Door

2) Open this access panel:

Number	**Name/Location**
192CR	ECS Access Door

3) Disconnect electrical connector D3918 from the Right Ram Air Control Temperature Sensor, T482 (WDM 21-51-24).

4) Do a check for an open circuit or a short between pins 1 and 2 of the Right Ram Air Control Temperature Sensor.

5) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Right Ram Air Control Temperature Sensor. These are the tasks:

- Ram Air Control Temperature Sensor Removal, AMM TASK 21-51-50-000-801
- Ram Air Control Temperature Sensor Installation, AMM TASK 21-51-50-400-801

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b) Do the Repair Confirmation at the end of this task.

6) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Right Ram Air Control Temperature Sensor, T482, and the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24):

1) Get access to the Right Forward (Inlet) Ram Air Actuator, M2797, as follows:

a) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

2) Disconnect electrical connector D14394 from the Right Forward (Inlet) Ram Air Actuator, M2797.

3) Do a wiring check as follows:

R RAM AIR SENSOR D3918	R FWD RAM ACTUATOR D14394
pin 1	pin 17
pin 2	pin 18

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Reconnect electrical connector D3918 to the Right Ram Air Sensor, T482.

c) Reconnect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator, M2797.

d) Do the Repair Confirmation at the end of this task.

5) If you do not find a problem with the wiring, then replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

a) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the Right PFTC, M2952, and the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Disconnect electrical connector D14394 from the Right Forward (Inlet) Ram Air Actuator, M2797.

3) Do a wiring check as follows:

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R PFTC D15816B	R FWD RAM ACTUATOR D14394
pin G7	pin 12

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Reconnect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator, M2797.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

871. PACK TEMP SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51205 PACK TEMP SENSOR
      1) PACK Temperature Sensor Open Fault
   (b) 21-51206 PACK TEMP SENSOR
      1) PACK Temperature Sensor Short Fault
   (c) 21-51313 PACK TEMP SENSOR
      1) PACK Temperature Sensor Non Recoverable Fault
      2) This is a latched message.

         NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:
   (a) Left Pack Temperature Sensor, T471

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(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right Pack Temperature Sensor, T474

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, M2951, then do these steps:

(a) Do this check of the Left Pack Temperature Sensor, T471:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

2) Disconnect electrical connector D3866 from the Left Pack Temperature Sensor (WDM 21-51-12).

3) Do a check for an open circuit or a short between pins 1 and 2 of the Left Pack Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Left Pack Temperature Sensor, T471. These are the tasks:

- Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801
- Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801

b) Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

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(b) Do this check of the wiring between the Left PFTC, M2951, and the Left Pack Temperature Sensor, T471 (WDM 21-51-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814B	L PACK TEMP SENSOR D3866
pin J9	pin 1
pin J10	pin 2

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3866 to the Left Pack Temperature Sensor, T471.

<3> Close this access panel:

Number	Name/Location
192CL	ECS Access Door

<4> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3866 to the Left Pack Temperature Sensor, T471.

<2> Close this access panel:

Number	Name/Location
192CL	ECS Access Door

<3> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, M2952, then do these steps:

(a) Do this check of the Right Pack Temperature Sensor, T474:

1) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

2) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Disconnect electrical connector D3876 from the Right Pack Temperature Sensor (WDM 21-51-22).

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4) Do a check for an open circuit or a short between pins 1 and 2 of the Right Pack Temperature Sensor.

5) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Right Pack Temperature Sensor, T474. These are the tasks:

- Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801
- Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801

b) Do the Repair Confirmation at the end of this task.

6) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Right PFTC, M2952, and the Right Pack Temperature Sensor, T474 (WDM 21-51-22):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816B	R PACK TEMP SENSOR D3876
pin J9	pin 1
pin J10	pin 2

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3876 to the Right Pack Temperature Sensor, T474.

<3> Close this access panel:

Number	Name/Location
192CR	ECS Access Door

<4> Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

<5> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<6> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3876 to the Right Pack Temperature Sensor, T474.

<2> Close this access panel:

Number	Name/Location
192CR	ECS Access Door

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<3> Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

<4> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

872. STBY PACK TEMP SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51208 STBY PACK TEMP

1) Standby Pack Temperature Sensor Open Fault

(b) 21-51209 STBY PACK TEMP

1) Standby Pack Temperature Sensor Short Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Right Pack Temperature Sensor, T474

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Left Pack Temperature Sensor, T471

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

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D. Related Data

(1) WDM 21-51-13

(2) WDM 21-51-23

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, M2951, then do these steps:

(a) Do this check of the Right Pack Temperature Sensor, T474:

1) Open this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

2) Open this access panel:

Number	Name/Location
192CR	ECS Access Door

3) Disconnect electrical connector D3876 from the Right Pack Temperature Sensor (WDM 21-51-12).

4) Do a check for an open circuit or a short between pins 1 and 2 of the Right Pack Temperature Sensor.

5) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Right Pack Temperature Sensor, T474. These are the tasks:

- Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801
- Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801

b) Do the Repair Confirmation at the end of this task.

6) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the Right Pack Temperature Sensor, T474 (WDM 21-51-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814C	R PACK TEMP SENSOR D3876
pin 22	pin 3
pin 16	pin 4

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

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<2> Re-connect connector D3876 to the Right Pack Temperature Sensor, T474.

<3> Close this access panel:

Number	Name/Location
192CR	ECS Access Door

<4> Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

<5> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<6> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3876 to the Right Pack Temperature Sensor, T474.

<2> Close this access panel:

Number	Name/Location
192CR	ECS Access Door

<3> Close this access panel:

Number	Name/Location
192DR	ECS High Pressure Access Door

<4> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, M2952, then do these steps:

(a) Do this check of the Left Pack Temperature Sensor, T471:

1) Open this access panel:

Number	Name/Location
192CL	ECS Access Door

2) Disconnect electrical connector D3866 from the Left Pack Temperature Sensor (WDM 21-51-13).

3) Do a check for an open circuit or a short between pins 1 and 2 of the Right Pack Temperature Sensor.

4) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Left Pack Temperature Sensor, T471. These are the tasks:

- Pack Temperature Sensor Removal, AMM TASK 21-51-52-000-801
- Pack Temperature Sensor Installation, AMM TASK 21-51-52-400-801

b) Do the Repair Confirmation at the end of this task.

5) If there is not a short or an open circuit between pins 1 and 2, then continue.

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(b) Do this check of the wiring between the Right PFTC, M2952, and the Left Pack Temperature Sensor, T471 (WDM 21-51-13):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816C	L PACK TEMP SENSOR D3866
pin 22	pin 3
pin 16	pin 4

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3866 to the Left Pack Temperature Sensor, T471.

<3> Close this access panel:

Number	Name/Location
192CL	ECS Access Door

<4> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3866 to the Left Pack Temperature Sensor, T471.

<2> Close this access panel:

Number	Name/Location
192CL	ECS Access Door

<3> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

873. MIXMAN TEMP SENSOR - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51211 MIXMAN TEMP SENSOR

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1) Mix Manifold Temperature Sensor Open Fault

(b) 21-51212 MIXMAN TEMP SENSOR

1) Mix Manifold Temperature Sensor Short Fault

(c) 21-51314 MIXMAN TEMP SENSOR

1) Mix Manifold Temperature Sensor Non Recoverable Fault

2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left Mix Manifold Temperature Sensor, T472

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right Mix Manifold Temperature Sensor, T475

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, M2951, then do these steps:

(a) Do this check of the Left Mix Manifold Temperature Sensor, T472:

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1) Open the Forward Cargo Door.
2) Remove the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.
3) Disconnect electrical connector D3868 from the Left Mix Manifold Temperature Sensor (WDM 21-51-12).
4) Do a check for an open circuit or a short between pins 1 and 2 of the Left Mix Manifold Temperature Sensor.
5) If there is a short or an open circuit between pins 1 and 2, then do these steps:
   a) Replace the Left Mix Manifold Temperature Sensor, T472. These are the tasks:
      - Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803
      - Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802
   b) Do the Repair Confirmation at the end of this task.
6) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the Left Mix Manifold Temperature Sensor, T472 (WDM 21-51-12):
1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Do a wiring check as follows:

L PFTC D15814B	L MIX MANIFOLD TEMP SENSOR D3868
pin F9	pin 1
pin F10	pin 2

   a) If you find a problem with the wiring, then do these steps:
      <1> Repair the wiring.
      <2> Re-connect connector D3868 to the Left Mix Manifold Temperature Sensor, T472.
      <3> Install the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.
      <4> Close the Forward Cargo Door.
      <5> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
      <6> Do the Repair Confirmation at the end of this task.
   b) If you do not find a problem with the wiring, then do these steps:
      <1> Re-connect connector D3868 to the Left Mix Manifold Temperature Sensor, T472.

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<2> Install the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

<3> Close the Forward Cargo Door.

<4> Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, M2952, then do these steps:

(a) Do this check of the Right Mix Manifold Temperature Sensor, T475:

1) Open the Forward Cargo Door.

2) Remove the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, AMM TASK 25-52-17-000-801.

3) Disconnect electrical connector D3878 from the Right Mix Manifold Temperature Sensor (WDM 21-51-22).

4) Do a check for an open circuit or a short between pins 1 and 2 of the Right Mix Manifold Temperature Sensor.

5) If there is a short or an open circuit between pins 1 and 2, then do these steps:

a) Replace the Right Mix Manifold Temperature Sensor, T475. These are the tasks:

- Mix Manifold Temperature Sensor Removal, AMM TASK 21-51-51-000-803
- Mix Manifold Temperature Sensor Installation, AMM TASK 21-51-51-400-802

b) Do the Repair Confirmation at the end of this task.

6) If there is not a short or an open circuit between pins 1 and 2, then continue.

(b) Do this check of the wiring between the Right PFTC, M2952, and the Right Mix Manifold Temperature Sensor, T475 (WDM 21-51-22):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816B		R MIX MANIFOLD TEMP SENSOR D3878
pin F9	. . . . .	pin 1
pin F10	. . . . .	pin 2

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-connect connector D3878 to the Right Mix Manifold Temperature Sensor, T475.

<3> Install the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

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<4> Close the Forward Cargo Door.

<5> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<6> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then do these steps:

<1> Re-connect connector D3878 to the Right Mix Manifold Temperature Sensor, T475.

<2> Install the Aft Center Bulkhead Liner in the Forward Cargo Compartment. This is the task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, AMM TASK 25-52-17-400-801.

<3> Close the Forward Cargo Door.

<4> Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

874. TEMP CTRL VALVE - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51083 PFTC CNTRL INOP

1) Pack TCV Driver ON Fault

(b) 21-51084 PFTC CNTRL INOP

1) Pack TCV Driver OFF Fault

(c) 21-51085 PFTC CNTRL INOP

1) Pack TCV Driver Fault

(d) 21-51260 TEMP CTRL VALVE

1) Temperature Control Valve Open Motor Open Fault

(e) 21-51261 TEMP CTRL VALVE

1) Temperature Control Valve Close Motor Open Fault

(f) 21-51263 TEMP CTRL VALVE

1) Temperature Control Valve Motor Short Fault

(g) 21-51264 TEMP CTRL VALVE

1) Temperature Control Valve Seized Fail To Open Fault

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(h) 21-51265 TEMP CTRL VALVE

1) Temperature Control Valve Seized Fail To Close Fault

(i) 21-51507 PFTC CNTRL INOP

1) Pack Temperature Control Valve Hardware Fault

(j) 21-51510 TEMP CTRL VALVE

1) Pack Temperature Control Valve Motor Fault

(2) This task is also for these Non-Latched Maintenance Messages:

(a) 21-51266 TEMP CTRL VALVE

1) Temperature Control Valve Limit Switch Fault

(b) 21-51267 TEMP CTRL VALVE

1) Temperature Control Valve Fault

(3) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left Temperature Control Valve (TCV), V139

(b) ACAU-1, M324

(c) Wiring

(d) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right TCV, V141

(b) Air Conditioning Accessory Unit (ACAU-2), M1455

(c) Wiring

(d) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	1	C01157	A/C TEMP CONT VALVE CLOSE LEFT
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	1	C01160	A/C TEMP CONT VALVE CLOSE RIGHT
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

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AKS 022-999 (Continued)

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If any PACK TEMP SENSOR (21-51205, 21-51206, 21-51313) Maintenance Messages show, first do the applicable FIM Task for these messages.

1) If a TEMP CTRL VALVE Maintenance Message still shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

(c) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Replace the Left TCV, V139. These are the tasks:

- Temperature Control Valve Removal, AMM TASK 21-51-10-000-801
- Temperature Control Valve Installation, AMM TASK 21-51-10-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Accessory Unit (ACAU-1), M324. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the ACAU-1, M324, the Left TCV, V139, and the Left PFTC, M2951 (WDM 21-51-12):

1) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

2) Remove the Left TCV. This is the task: Temperature Control Valve Removal, AMM TASK 21-51-10-000-801.

3) Do a wiring check as follows:

ACAU-1	**L TCV**
D458A	**D3862**
pin 50	pin 10
pin 64	pin 1
pin 63	pin 2

5) Make sure pins 3 and 5 of connector D3862 for the Left TCV connect to ground.

6) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

7) Do a wiring check as follows:

L PFTC	**L TCV**
D15814B	**D3862**
pin B5	pin 4
pin B6	pin 12

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AKS 022-999 (Continued)

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-install the Left TCV. This is the task: Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

<3> Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

<4> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Replace the Right TCV, V141. These are the tasks:

- Temperature Control Valve Removal, AMM TASK 21-51-10-000-801
- Temperature Control Valve Installation, AMM TASK 21-51-10-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Accessory Unit (ACAU-2), M1455. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the ACAU-2, M1455, the Right TCV, V141, and the Right PFTC, M2952 (WDM 21-51-22):

1) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801

2) Remove the Right TCV. This is the task: Temperature Control Valve Removal, AMM TASK 21-51-10-000-801.

3) Do a wiring check as follows:

ACAU-2	**R TCV**
D10002A	**D3872**
pin 50	pin 10
pin 64	pin 1
pin 63	pin 2

5) Make sure pins 3 and 5 of connector D3872 for the Right TCV connect to ground.

6) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

7) Do a wiring check as follows:

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AKS 022-999 (Continued)

R PFTC D15816B	R TCV D3872
pin B5	pin 4
pin B6	pin 12

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-install the Right TCV. This is the task: Temperature Control Valve Installation, AMM TASK 21-51-10-400-801.

<3> Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

<4> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

875. STBY TEMP CTRL VALVE - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51086 PFTC STBY CNTRL

1) Standby TCV Driver High Fault

(b) 21-51087 PFTC STBY CNTRL

1) Standby TCV Driver Low Fault

(c) 21-51300 STBY TCV VALVE

1) Standby TCV Valve Motor Open Fault

(d) 21-51301 STBY TCV VALVE

1) Standby TCV Valve Motor Short Fault

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AKS 022-999 (Continued)

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Right Standby Temperature Control Valve, V142

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Left Standby Temperature Control Valve, V140

(b) Wiring

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-13

(2) WDM 21-51-23

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Replace the Right Standby Temperature Control Valve, V142. These are the tasks:

- Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801
- Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Left PFTC, M2951, and the Right Standby Temperature Control Valve, V142 (WDM 21-51-23):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Disconnect connector D3874 from the Right Standby Temperature Control Valve.

3) Do a wiring check as follows:

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L PFTC	R STBY TCV
D15814C	D3874
pin 12	pin 1
pin 6	pin 3

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-connect connector D3874 to the Right Standby Temperature Control Valve.
   c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Re-connect connector D3874 to the Right Standby Temperature Control Valve.
   b) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

(2) If the maintenance message shows on the Right PFTC, then do these steps:
   (a) Replace the Left Standby Temperature Control Valve, V140. These are the tasks:
   - Standby Temperature Control Valve Removal, AMM TASK 21-51-11-000-801
   - Standby Temperature Control Valve Installation, AMM TASK 21-51-11-400-801

   1) Do the Repair Confirmation at the end of this task.
   (b) Do this check of the wiring between the Right PFTC, M2952, and the Left Standby Temperature Control Valve, V140 (WDM 21-51-13):
   1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
   2) Disconnect connector D3864 from the Left Standby Temperature Control Valve.
   3) Do a wiring check as follows:

R PFTC	L STBY TCV
D15816C	D3864
pin 12	pin 1
pin 6	pin 3

   4) If you find a problem with the wiring, then do these steps:
      a) Repair the wiring.
      b) Re-connect connector D3864 to the Left Standby Temperature Control Valve.
      c) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
      d) Do the Repair Confirmation at the end of this task.
   5) If you do not find a problem with the wiring, then do these steps:
      a) Re-connect connector D3864 to the Left Standby Temperature Control Valve.
      b) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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AKS 022-999 (Continued)

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

876. FLIGHT DECK TRIM VALVE - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51073 PFTC CNTRL INOP

1) Flight Deck Trim Air Valve (TAV) Driver ON Fault

(b) 21-51074 PFTC CNTRL INOP

1) Flight Deck TAV Driver OFF Fault

(c) 21-51075 PFTC CNTRL INOP

1) Flight Deck TAV Driver Interface Fault

(d) 21-51268 F/D TRIM VALVE

1) Flight Deck Trim Valve Open Motor Open Fault

(e) 21-51269 F/D TRIM VALVE

1) Flight Deck Trim Valve Close Motor Open Fault

(f) 21-51271 F/D TRIM VALVE

1) Flight Deck Trim Valve Motor Short Fault

(g) 21-51272 F/D TRIM VALVE

1) Flight Deck Trim Valve Seized Fail To Open Fault

(h) 21-51273 F/D TRIM VALVE

1) Flight Deck Trim Valve Seized Fail To Close Fault

(i) 21-51505 PFTC CNTRL INOP

1) Flight Deck TAV Hardware Fault

(j) 21-51508 F/D TRIM VALVE

1) Flight Deck TAV Motor Fault

(2) This task is also for these Non-Latched Maintenance Messages:

(a) 21-51274 F/D TRIM VALVE

1) Flight Deck Trim Valve Limit Switch Fault

(b) 21-51275 F/D TRIM VALVE

1) Flight Deck Trim Valve Fault

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(3) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Control Cabin TAV, V143

(b) ACAU-1, M324

(c) ACAU-2, M1455

(d) Wiring

(e) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Control Cabin TAV, V143

(b) Air Conditioning Accessory Unit (ACAU-1), M324

(c) Wiring

(d) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	3	C01163	A/C ZONE TEMP VALVE/FAN CONT FLT DECK
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

(3) SSM 21-61-11

(4) SSM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If any F/D TEMP SENSOR (21-51190, 21-51191, 21-51310), F/D DUCT SENSOR (21-5199, 21-51200, 21-51312), or F/D SELECTOR (21-51053, 21-51217, 21-51218, 21-51311) Maintenance Messages show, first do the applicable FIM Task for these messages.

1) If a FLIGHT DECK TRIM VALVE Maintenance Message still shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

(c) If the maintenance message still shows, then do the Fault Isolation Procedure below.

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AKS 022-999 (Continued)

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Replace the Control Cabin TAV, V143. These are the tasks:

- Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801
- Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Accessory Unit (ACAU-1), M324. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Accessory Unit (ACAU-2), M1455. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(d) Do this check of the wiring between the ACAU-2, M1455 and the ACAU-1, M324 (WDM 21-61-11):

1) Remove the ACAU-1 and the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

2) Do a wiring check as follows:

ACAU-2	**ACAU-1**
D10002A	**D458A**
pin 26	pin 42
pin 27	pin 41

4) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

5) Do a wiring check as follows (WDM 21-61-12):

L PFTC	**ACAU-2**
D15814C	**D10002A**
pin 13	pin 25
pin 14	pin 37

6) Do a wiring check as follows (WDM 21-61-12):

L PFTC	**ACAU-2**
D15814B	**D10002A**
pin G1	pin 16

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

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<2> Re-install the Control Cabin TAV. This is the task: Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

<3> Re-install the ACAU-1 and the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

<4> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Left PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Replace the Control Cabin TAV, V143. These are the tasks:

- Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801
- Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Accessory Unit (ACAU-1), M324. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the ACAU-1, M324, the Control Cabin TAV, V143, and the Right PFTC, M2952 (WDM 21-61-11):

1) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

2) Remove the Control Cabin TAV. This is the task: Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801.

3) Do a wiring check as follows:

ACAU-1 D458A	CONTROL CABIN TAV D3886
pin 41	pin 1
pin 42	pin 2
pin 28	pin 10

5) Make sure pins 3 and 5 of connector D3886 for the Control Cabin TAV, V143, connect to ground.

6) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

7) Do a wiring check as follows:

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R PFTC D15816B	CONTROL CABIN TAV D3886
pin C6	pin 12
pin C5	pin 4

8) Do a wiring check as follows:

R PFTC D15816C	ACAU-1 D458A
pin 13	pin 25
pin 14	pin 37

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-install the Control Cabin TAV. This is the task: Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

<3> Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

<4> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

877. ZONE TRIM VALVE - Fault Isolation

A. Description

(1) This task is for these Latched Maintenance Messages:

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(a) 21-51078 PFTC CNTRL INOP

1) Zone Trim Air Valve (TAV) Driver ON Fault

(b) 21-51079 PFTC CNTRL INOP

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1) Zone TAV Driver OFF Fault

(c) 21-51080 PFTC CNTRL INOP

1) Zone TAV Driver Interface Fault

(d) 21-51276 ZONE TRIM VALVE

1) Zone Trim Valve Open Motor Open Fault

(e) 21-51277 ZONE TRIM VALVE

1) Zone Trim Valve Close Motor Open Fault

(f) 21-51279 ZONE TRIM VALVE

1) Zone Trim Valve Motor Short Fault

(g) 21-51280 ZONE TRIM VALVE

1) Zone Trim Valve Seized Fail To Open Fault

(h) 21-51281 ZONE TRIM VALVE

1) Zone Trim Valve Seized Fail To Close Fault

(i) 21-51506 PFTC CNTRL INOP

1) Zone TAV Hardware Fault

(j) 21-51509 ZONE TRIM VALVE

1) Zone TAV Motor Fault

(2) This task is also for these Non-Latched Latched Maintenance Messages:

(a) 21-51282 ZONE TRIM VALVE

1) Zone Trim Valve Limit Switch Fault

(b) 21-51283 ZONE TRIM VALVE

1) Zone Trim Valve Fault

(3) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) AFT Cabin TAV, V145

(b) ACAU-1, M324

(c) Wiring

(d) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Forward Cabin TAV, V144

(b) Air Conditioning Accessory Unit (ACAU-2), M1455

(c) Wiring

(d) Right PFTC, M2952

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C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	3	C01163	A/C ZONE TEMP VALVE/FAN CONT FLT DECK
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

(3) SSM 21-61-13

(4) SSM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If any ZONE TEMP SENSOR (21-51193, 21-51194), ZONE DUCT SENSOR (21-51202, 21-51203), or ZONE SELECTOR (21-51056, 21-51220, 21-51221) Maintenance Messages show, first do the applicable FIM Task for these messages.

1) If a ZONE TRIM VALVE Maintenance Message still shows, then do the Fault Isolation Procedure below.

(b) If the maintenance message does not show, then there was an intermittent fault.

(c) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Replace the AFT Cabin TAV, V145. These are the tasks:

- Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801
- Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801

1) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Accessory Unit (ACAU-1), M324. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the ACAU-1, M324, the AFT Cabin TAV, V145, and the Left PFTC, M2951 (WDM 21-61-14, SSM 21-61-14):

1) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

2) Remove the AFT Cabin TAV. This is the task: Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801.

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3) Do a wiring check as follows:

ACAU-1 D458A	AFT CABIN TAV D3890
pin 52	pin 1
pin 51	pin 2
pin 67	pin 10

5) Make sure pins 3 and 5 of connector D3890 for the AFT Cabin TAV, V145, connect to ground.

6) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

7) Do a wiring check as follows:

L PFTC D15814B	AFT CABIN TAV D3890
pin A6	pin 12
pin A5	pin 4

8) Do a wiring check as follows:

L PFTC D15814C	ACAU-1 D458A
pin 1	pin 53
pin 7	pin 54

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-install the AFT Cabin TAV. This is the task: Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

<3> Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

<4> Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Replace the Forward Cabin TAV, V144. These are the tasks:

- Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801
- Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801

1) Do the Repair Confirmation at the end of this task.

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(b) Replace the Air Conditioning Accessory Unit (ACAU-2), M1455. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Do this check of the wiring between the ACAU-2, M1455, the Forward Cabin TAV, V144, and the Right PFTC, M2952 (WDM 21-61-13, SSM 21-61-13):

1) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

2) Remove the Forward Cabin TAV. This is the task: Zone Trim Air Modulating Valve Removal, AMM TASK 21-61-21-000-801.

3) Do a wiring check as follows:

ACAU-2 D10002A	FORWARD CABIN TAV D3888
pin 52	pin 1
pin 51	pin 2
pin 67	pin 10

5) Make sure pins 3 and 5 of connector D3888 for the Forward Cabin TAV, V144, connect to ground.

6) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

7) Do a wiring check as follows:

R PFTC D15816B	FORWARD CABIN TAV D3888
pin A6	pin 12
pin A5	pin 4

8) Do a wiring check as follows:

R PFTC D15816C	ACAU-2 D10002A
pin 1	pin 53
pin 7	pin 54

a) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> Re-install the Forward Cabin TAV. This is the task: Zone Trim Air Modulating Valve Installation, AMM TASK 21-61-21-400-801.

<3> Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

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<4> Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<5> Do the Repair Confirmation at the end of this task.

b) If you do not find a problem with the wiring, then replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

<1> Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

878. SRADA Inlet - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51400 SRADA CNTRL

1) SRADA Power Sense Interface Fault

(b) 21-51401 SRADA INLET

1) SRADA Inlet Interface Fault

(c) 21-51405 SRADA INLET

1) SRADA Inlet Continuous BIT (CBIT) Fault

(d) 21-51409 SRADA INLET

1) SRADA Inlet Initiated BIT (IBIT) Fault

2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left Forward (Inlet) Ram Air Actuator, M2795

(b) Wiring

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right Forward (Inlet) Ram Air Actuator, M2797

(b) Wiring

(c) Right PFTC, M2952

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C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-51-14

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do these steps to do a visual inspection of the Fault LEDs on the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796:

1) Open these access panels:

Number	Name/Location
192CL	ECS Access Door
192JL	Air Conditioning Panel - Aft

2) If the FWD/INLET ACTUATOR LED is ON, on the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796, then replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

a) Do the Repair Confirmation at the end of this task.

3) If the FWD/INLET ACTUATOR LED is not ON, on the Left AFT (Exhaust, Exit) Ram Air Actuator, then continue.

(b) Do these steps to check for 28V DC at the Left Forward (Inlet) Ram Air Actuator, M2795:

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1) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

2) Disconnect connector D14386 from the Left Forward (Inlet) Ram Air Actuator.
3) Check for 28V DC at pin 4 of connector D14386.
4) If you did not find 28V DC at pin 4 of connector D14386, then do these steps.
   a) Repair the wiring.
   b) Connect connector D14386 to the Left Forward (Inlet) Ram Air Actuator.
   c) Do the Repair Confirmation at the end of this task.
5) If you find 28V DC at pin 4 of connector D14386, then continue.

(c) Do this check of the wiring between the Left PFTC, M2951, and the Left Forward (Inlet) Ram Air Actuator, M2795 (WDM 21-51-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Disconnect electrical connector D14386 from the Left Forward (Inlet) Ram Air Actuator, M2795.
3) Do a wiring check as follows:

L PFTC D15814B	L FWD RAM ACTUATOR D14386
pin G3	pin 19
pin G5	pin 10
pin G6	pin 8
pin G7	pin 12
pin G8	pin 13

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Reconnect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator, M2795.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:
   - Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
   - Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801
   a) Do the Repair Confirmation at the end of this task.

(d) Replace the Left PFTC, M2951. These are the tasks:

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- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do these steps to do a visual inspection of the Fault LEDs on the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798:

1) Open these access panels:

Number	Name/Location
192CR	ECS Access Door
192JR	Air Conditioning Panel - Aft

2) If the FWD/INLET ACTUATOR LED is ON, on the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798, then replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

a) Do the Repair Confirmation at the end of this task.

3) If the FWD/INLET ACTUATOR LED is not ON, on the Right AFT (Exhaust, Exit) Ram Air Actuator, then continue.

(b) Do these steps to check for 28V DC at the Right Forward (Inlet) Ram Air Actuator, M2797:

1) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

2) Disconnect connector D14394 from the Right Forward (Inlet) Ram Air Actuator.

3) Check for 28V DC at pin 4 of connector D14394.

4) If you did not find 28V DC at pin 4 of connector D14394, then do these steps.

a) Repair the wiring.

b) Connect connector D14394 to the Right Forward (Inlet) Ram Air Actuator.

c) Do the Repair Confirmation at the end of this task.

5) If you find 28V DC at pin 4 of connector D14394, then continue.

(c) Do this check of the wiring between the Right PFTC, M2952, and the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Disconnect electrical connector D14394 from the Right Forward (Inlet) Ram Air Actuator, M2797.

3) Do a wiring check as follows:

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R PFTC D15816B	R FWD RAM ACTUATOR D14394
pin G3	pin 19
pin G5	pin 10
pin G6	pin 8
pin G7	pin 12
pin G8	pin 13

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Reconnect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator, M2797.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:
   - Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
   - Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801
   a) Do the Repair Confirmation at the end of this task.

(d) Replace the Right PFTC, M2952. These are the tasks:
- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

879. SRADA EXIT - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51402 SRADA EXIT
      1) SRADA Exit Interface Fault
   (b) 21-51406 SRADA EXIT
      1) SRADA Exit Continuous BIT (CBIT) Fault
   (c) 21-51410 SRADA EXIT
      1) SRADA Exit Initiated BIT (IBIT) Fault

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2) This is a latched message.

NOTE: After you correct a problem related to a Latched Maintenance Message, you can clear the message either by cycling power to the PFTC, or by erasing the EXISTING FAULTS from the PFTC Front Panel Menus.

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left AFT (Exhaust, Exit) Ram Air Actuator, M2796

(c) Left Forward (Inlet) Ram Air Actuator, M2795

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right AFT (Exhaust, Exit) Ram Air Actuator, M2798

(c) Right Forward (Inlet) Ram Air Actuator, M2797

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-51-14

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

NOTE: The Forward (Inlet) Ram Air Actuator is primary. The AFT (Exhaust, Exit) Ram Air Actuator reports its condition to the Forward (Inlet) Ram Air Actuator. If a Forward (Inlet) Ram Air Actuator Maintenance Message shows after the BITE Procedure is performed, continue to the applicable FIM task for that message first.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

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F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, do these steps:

(a) Do these steps to do a visual inspection of the LEDs on the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796:

1) Open these access panels:

Number	Name/Location
192CL	ECS Access Door
192JL	Air Conditioning Panel - Aft

2) If the AFT Actuator LED is ON, on the Left AFT (Exhaust, Exit) Ram Air Actuator, then replace the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796. These are the tasks:

- Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801
- Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801

a) Do the Repair Confirmation at the end of this task.

3) If no LEDs are ON, on the Left AFT (Exhaust, Exit) Ram Air Actuator, then do a voltage check at the Left AFT (Exhaust, Exit) Ram Air Actuator as follows (WDM 21-51-14):

a) Disconnect connector D14390 from the Left AFT (Exhaust, Exit) Ram Air Actuator.

b) Do a check for 28V DC at pin 4 of connector D14390.

c) If you did not find 28V DC at pin 4 of connector D14390, then do these steps.

<1> Repair the wiring.

<2> Connect electrical connector D14390 to the Left AFT (Exhaust, Exit) Ram Air Actuator.

<3> Do the Repair Confirmation at the end of this task.

d) If you find 28V DC at pin 4 of connector D14390, then replace the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796. These are the tasks:

- Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801
- Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801

<1> Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Left Forward (Inlet) Ram Air Actuator, M2795, and the Left AFT (Exhaust, Exit) Ram Air Actuator, M2796 (WDM 21-51-14):

1) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

2) Disconnect connectors D14386 and D14388 from the Left Forward (Inlet) Ram Air Actuator.

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3) Disconnect connectors D14390 and D14392 from the Left AFT (Exhaust, Exit) Ram Air Actuator.

4) Do a wiring check as follows:

L FWD RAM ACTUATOR D14388		L AFT RAM ACTUATOR D14392
pin 1	. . . . .	pin 1
pin 2	. . . . .	pin 2
pin 3	. . . . .	pin 3

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Connect connectors D14386 and D14388 to the Left Forward (Inlet) Ram Air Actuator.

c) Connect connectors D14390 and D14392 to the Left AFT (Exhaust, Exit) Ram Air Actuator.

d) Do the Repair Confirmation at the end of this task.

6) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

b) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, do these steps:

(a) Do these steps to do a visual inspection of the LEDs on the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798:

1) Open these access panels:

Number	Name/Location
192CR	ECS Access Door
192JR	Air Conditioning Panel - Aft

2) If the AFT Actuator LED is ON, on the Right AFT (Exhaust, Exit) Ram Air Actuator, then replace the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798. These are the tasks:

- Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801
- Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801

a) Do the Repair Confirmation at the end of this task.

3) If no LEDs are ON, on the Right AFT (Exhaust, Exit) Ram Air Actuator, then do a voltage check at the Right AFT (Exhaust, Exit) Ram Air Actuator as follows (WDM 21-51-24):

a) Disconnect connector D14398 from the Right AFT (Exhaust, Exit) Ram Air Actuator.

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b) Do a voltage check for 28V DC at pin 4 of connector D14398.

c) If you did not find 28V DC at pin 4 of connector D14398, then do these steps.

<1> Repair the wiring.

<2> Connect electrical connector D14398 to the Right AFT (Exhaust, Exit) Ram Air Actuator.

<3> Do the Repair Confirmation at the end of this task.

d) If you find 28V DC at pin 4 of connector D14398, then replace the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798. These are the tasks:

- Ram Air Exhaust Actuator - Removal, AMM TASK 21-51-27-000-801
- Ram Air Exhaust Actuator - Installation, AMM TASK 21-51-27-400-801

<1> Do the Repair Confirmation at the end of this task.

(b) Do this check of the wiring between the Right Forward (Inlet) Ram Air Actuator, M2797, and the Right AFT (Exhaust, Exit) Ram Air Actuator, M2798 (WDM 21-51-24):

1) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

2) Disconnect connectors D14394 and D14396 from the Right Forward (Inlet) Ram Air Actuator.

3) Disconnect connectors D14398 and D14400 from the Right AFT (Exhaust, Exit) Ram Air Actuator.

4) Do a wiring check as follows:

R FWD RAM ACTUATOR D14396		R AFT RAM ACTUATOR D14400
pin 1	. . . . .	pin 1
pin 2	. . . . .	pin 2
pin 3	. . . . .	pin 3

5) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Connect connectors D14394 and D14396 to the Right Forward (Inlet) Ram Air Actuator.

c) Connect connectors D14398 and D14400 to the Right AFT (Exhaust, Exit) Ram Air Actuator.

d) Do the Repair Confirmation at the end of this task.

6) If you do not find a problem with the wiring, then do these steps:

a) Replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801

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- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

b) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

880. PFTC SRADA Power Fault - Fault Isolation

A. Description

(1) This task is for Maintenance Message:

(a) 21-51408 SRADA CNTRL

1) SRADA Power Fault

(2) This Maintenance Message can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left Forward (Inlet) Ram Air Actuator, M2795

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right Forward (Inlet) Ram Air Actuator, M2797

(c) Right PFTC, M2952

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

D. Related Data

(1) WDM 21-51-14

(2) WDM 21-51-24

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E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do a voltage check at the Left Forward (Inlet) Ram Air Actuator, M2795 as follows:

1) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

2) Disconnect electrical connector D14386 from the Left Forward (Inlet) Ram Air Actuator, M2795 (WDM 21-51-14).

3) Do a check for 28V DC at pin 4 of connector D14386.

a) If you do not find 28V DC at pin 4 of connector D14386, then do these steps:

<1> Repair the wiring.

<2> Connect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator.

<3> Do the Repair Confirmation at the end of this task.

b) If you find 28V DC at pin 4 of connector D14386, then continue.

(b) Do this check of the wiring between the Left PFTC, M2951, and the Left Forward (Inlet) Ram Air Actuator, M2795 (WDM 21-51-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC D15814B	L FWD RAM ACTUATOR D14386
pin G5	pin 10
pin G6	pin 8
pin G7	pin 12
pin G8	pin 13

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Connect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator.

d) Do the Repair Confirmation at the end of this task.

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4) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:
      - Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
      - Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801
   b) Re-install the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Do the Repair Confirmation at the end of this task.

(c) Replace the Left PFTC, M2951. These are the tasks:
- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do a voltage check for 28V DC at the Right Forward (Inlet) Ram Air Actuator, M2797:

1) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

2) Disconnect electrical connector D14394 from the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24).

3) Do a check for 28V DC at pin 4 of connector D14394.
   a) If you do not find 28V DC at pin 4 of connector D14394, then do these steps:
      <1> Repair the wiring.
      <2> Connect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator.
      <3> Do the Repair Confirmation at the end of this task.
   b) If you find 28V DC at pin 4 of connector D14394, then continue.

(b) Do this check of the wiring between the Right PFTC, M2952, and the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC D15816B	R FWD RAM ACTUATOR D14394
pin G5	pin 10
pin G6	pin 8
pin G7	pin 12
pin G8	pin 13

3) If you find a problem with the wiring, then do these steps:

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a) Repair the wiring.

b) Re-install the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Connect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator.

d) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

b) Re-install the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

(c) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

881. ADIRU1 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51133 ARINC 429 INVLD

1) Left Air Data Inertial Reference Unit (ADIRU) 1 ARINC Data Invalid Fault

(b) 21-51147 ARINC 429 INVLD

1) ADIRU 1 (Left) Parity Error Fault

(c) 21-51148 ARINC 429 INVLD

1) ADIRU 1 (Left) No Activity Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left ADIRU, M1749

(b) Wiring

(c) Left PFTC, M2951

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(d) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Left ADIRU, M1749

(b) Wiring

(c) Right PFTC, M2952

(d) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

(3) WDM 34-21-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Left ADIRU, M1749. These are the tasks:

- Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801
- Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Left ADIRU, M1749 (WDM 21-51-12, WDM 34-21-14):

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1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Remove the Left ADIRU, M1749. This is the task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
3) Do a wiring check as follows:

L PFTC	**L ADIRU**
D15814B	**D3687A**
pin G14	pin B12
pin G15	pin D12

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Left ADIRU. This is the task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) Replace the Left PFTC, M2951. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

   a) Do the Repair Confirmation at the end of this task.
6) Replace the Right PFTC, M2952. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

   a) Do the Repair Confirmation at the end of this task.

(3) If the maintenance message shows on the Right PFTC, then do these steps:
   (a) Do this check of the wiring between the Right PFTC, M2952, and the Left ADIRU, M1749 (WDM 21-51-22, WDM 34-21-14):
      1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
      2) Remove the Left ADIRU, M1749. This is the task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
      3) Do a wiring check as follows:

R PFTC	**L ADIRU**
D15816B	**D3687A**
pin G14	pin B12
pin G15	pin D12

      4) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.

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b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install the Left ADIRU. This is the task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.

d) Do the Repair Confirmation at the end of this task.

5) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

882. ADIRU2 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51134 ARINC 429 INVLD

1) Right Air Data Inertial Reference Unit (ADIRU) 2 ARINC Data Invalid Fault

(b) 21-51149 ARINC 429 INVLD

1) ADIRU 2 (Right) Parity Error Fault

(c) 21-51150 ARINC 429 INVLD

1) ADIRU 2 (Right) No Activity Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Right ADIRU, M1752

(b) Wiring

(c) Left PFTC, M2951

(d) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right ADIRU, M1752

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(b) Wiring

(c) Right PFTC, M2952

(d) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

(3) WDM 34-21-24

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Right ADIRU, M1752. These are the tasks:

- Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801
- Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Right ADIRU, M1752 (WDM 21-51-12, WDM 34-21-24):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Right ADIRU, M1752. This is the task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

3) Do a wiring check as follows:

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L PFTC		R ADIRU
D15814B		**D3693A**
pin D14	. . . . .	pin B12
pin D15	. . . . .	pin D12

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Right ADIRU. This is the task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) Replace the Left PFTC, M2951. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.
6) Replace the Right PFTC, M2952. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.

(3) If the maintenance message shows on the Right PFTC, then do these steps:
   (a) Do this check of the wiring between the Right PFTC, M2952, and the Right ADIRU, M1752 (WDM 21-51-22, WDM 34-21-24):
      1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
      2) Remove the Right ADIRU, M1752. This is the task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
      3) Do a wiring check as follows:

R PFTC		R ADIRU
D15816B		**D3693A**
pin D14	. . . . .	pin B12
pin D15	. . . . .	pin D12

      4) If you find a problem with the wiring, then do these steps:
         a) Repair the wiring.
         b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
         c) Re-install the Right ADIRU. This is the task: Air Data Inertial Reference Unit Installation, AMM TASK 34-21-01-400-801.
         d) Do the Repair Confirmation at the end of this task.
      5) Replace the Right PFTC, M2952. These are the tasks:

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- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

883. CPC1 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51131 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 1 ARINC Data Invalid Fault

(b) 21-51143 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 1 Parity Error Fault

(c) 21-51144 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 1 No Activity Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) CPC 1, M1653

(b) Wiring

(c) Left PFTC, M2951

(d) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) CPC 1, M1653

(b) Wiring

(c) Right PFTC, M2952

(d) Left PFTC, M2951

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C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
F	3	C01270	PRESSURIZATION CONTROL AUTO 1

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

(3) WDM 31-35-04

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Cabin Pressure Controller, M1653. These are the tasks:

- Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801
- Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Cabin Pressure Controller 1, M1653 (WDM 21-51-12, WDM 31-35-04):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Cabin Pressure Controller 1. This is the task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

3) Do a wiring check as follows:

L PFTC D15814B		CPC 1 D10738A
pin H14	. . . . .	pin A5
pin H15	. . . . .	pin A6

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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c) Re-install CPC 1. This is the task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

d) Do the Repair Confirmation at the end of this task.

5) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

(3) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Cabin Pressure Controller 1, M1653 (WDM 21-51-22, WDM 31-35-04):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Cabin Pressure Controller 1. This is the task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

3) Do a wiring check as follows:

R PFTC	**CPC 1**
D15816B	**D10738A**
pin H14	pin A5
pin H15	pin A6

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install CPC 1. This is the task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

d) Do the Repair Confirmation at the end of this task.

5) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

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G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

884. CPC2 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51132 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 2 ARINC Data Invalid Fault

(b) 21-51145 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 2 Parity Error Fault

(c) 21-51146 ARINC 429 INVLD

1) Cabin Pressure Controller (CPC) 2 No Activity Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) CPC 2, M1654

(b) Wiring

(c) Left PFTC, M2951

(d) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) CPC 2, M1654

(b) Wiring

(c) Right PFTC, M2952

(d) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
F	5	C01271	PRESSURIZATION CONTROL AUTO 2

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D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

(3) WDM 31-35-04

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) Replace the Cabin Pressure Controller, M1654. These are the tasks:

- Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801
- Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801

(a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Cabin Pressure Controller 2, M1654 (WDM 21-51-12, WDM 31-35-04):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Cabin Pressure Controller 2. This is the task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

3) Do a wiring check as follows:

L PFTC	**CPC 2**
D15814B	**D10740A**
pin C14	pin A5
pin C15	pin A6

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install CPC 2. This is the task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

d) Do the Repair Confirmation at the end of this task.

5) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801

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- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

(3) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Cabin Pressure Controller 2, M1654 (WDM 21-51-22, WDM 31-35-04):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Cabin Pressure Controller 2. This is the task: Cabin Pressure Controller (CPC) Removal, AMM TASK 21-31-01-000-801.

3) Do a wiring check as follows:

R PFTC	**CPC 2**
D15816B	**D10740A**
pin C14	pin A5
pin C15	pin A6

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install CPC 2. This is the task: Cabin Pressure Controller (CPC) Installation, AMM TASK 21-31-01-400-801.

d) Do the Repair Confirmation at the end of this task.

5) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

6) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

885. COMM1 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51135 ARINC 429 INVLD

1) Communications 1 ARINC Data Invalid Fault

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(b) 21-51151 ARINC 429 INVLD

1) Communications 1 Parity Error Fault

(c) 21-51152 ARINC 429 INVLD

1) Communications 1 No Activity Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Left PFTC, M2951

(b) Wiring

(c) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Right PFTC, M2952

(b) Wiring

(c) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on either the Right PFTC or the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Left PFTC, M2951 (WDM 21-51-12, WDM 21-51-22):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

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3) Do a wiring check as follows:

L PFTC D15814B	R PFTC D15816B
pin A14	pin B14
pin A15	pin B15
pin B14	pin A14
pin B15	pin A15

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) Replace the Right PFTC, M2952. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.
6) Replace the Left PFTC, M2951. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

886. COMM2 ARINC - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51136 ARINC 429 INVLD
      1) Communications 2 ARINC Data Invalid Fault
   (b) 21-51153 ARINC 429 INVLD
      1) Communications 2 Parity Error Fault
   (c) 21-51154 ARINC 429 INVLD
      1) Communications 2 No Activity Fault

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(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Right PFTC, M2952

(c) Left PFTC, M2951

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on either the Right PFTC or the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Left PFTC, M2951 (WDM 21-51-12, WDM 21-51-22):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

3) Do a wiring check as follows:

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L PFTC D15814B	R PFTC D15816B
pin F14	pin E14
pin F15	pin E15
pin E14	pin F14
pin E15	pin F15

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) Replace the Right PFTC, M2952. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.
6) Replace the Left PFTC, M2951. These are the tasks:
   - Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
   - Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801
   a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

887. PFTC Flight Deck INOP Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51110 PFTC CNTRL INOP
      1) Flight Deck INOP Interface Fault
   (b) 21-51111 PFTC CNTRL INOP
      1) Flight Deck INOP Load Fault
(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Module, P5-10

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Left PFTC, M2951 (WDM 21-61-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

3) Do a wiring check as follows:

AIR CONDITIONING MODULE D646	L PFTC D15814B
pin 27	pin G2

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4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Right PFTC, M2952 (WDM 21-61-11):
1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.
3) Do a wiring check as follows:

AIR CONDITIONING MODULE D646	**R PFTC D15816B**
pin 40	pin G2

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:

- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

888. PFTC Flight Deck Fault Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51112 PFTC CNTRL INOP

1) Flight Deck Fault Interface Fault

(b) 21-51113 PFTC CNTRL INOP

1) Flight Deck Fault Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Accessory Unit (ACAU-2), M1455

(d) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) ACAU-1, M324

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-11

(2) WDM 21-61-12

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-2, M1455, the Left PFTC, M2951, and the Air Conditioning Module, P5-10 (WDM 21-61-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

ACAU-2	**L PFTC**
D10002A	**D15814B**
pin 16	pin G1

4) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

5) Do a wiring check as follows:

AIR CONDITIONING MODULE	**ACAU-2**
D646	**D10002A**
pin 48	pin 16

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

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d) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

e) Do the Repair Confirmation at the end of this task.

7) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

d) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-2. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Module, P5-10. These are the tasks:

- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-1, M324, and the Right PFTC, M2952 (WDM 21-61-11):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

ACAU-1	**R PFTC**
D458A	**D15816B**
pin 16	pin G1

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) Do the Repair Confirmation at the end of this task.

5) If you do not find a problem with the wiring, then do these steps:

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a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-1. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

889. PFTC Zone Fault Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51114 PFTC CNTRL INOP

1) Zone Fault Interface Fault

(b) 21-51115 PFTC CNTRL INOP

1) Zone Fault Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Accessory Unit (ACAU-1), M324

(d) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Accessory Unit (ACAU-2), M1455

(d) Air Conditioning Module, P5-10

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C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-1, M324, the Left PFTC, M2951, and the Air Conditioning Module, P5-10 (WDM 21-61-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

ACAU-1	L PFTC
D458A	D15814B
pin 11	pin H2

4) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

5) Do a wiring check as follows:

AIR CONDITIONING MODULE	ACAU-1
D646	D458A
pin 51	pin 11

6) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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c) Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

e) Do the Repair Confirmation at the end of this task.

7) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

d) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-1. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Module, P5-10. These are the tasks:

- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-2, M1455, the Right PFTC, M2952, and the Air Conditioning Module, P5-10 (WDM 21-61-13):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

ACAU-2	**R PFTC**
D10002A	**D15816B**
pin 11	pin H2

4) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

5) Do a wiring check as follows:

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AIR CONDITIONING MODULE D680	ACAU-2 D10002A
pin 40	pin 11

6) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   d) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   e) Do the Repair Confirmation at the end of this task.
7) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-2. These are the tasks:
- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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890. PFTC Backup Zone Fault Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51116 PFTC CNTRL INOP

1) Backup Zone Fault Interface Fault

(b) 21-51117 PFTC CNTRL INOP

1) Backup Zone Fault Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Module, P5-10

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-61-13

(2) WDM 21-61-14

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Left PFTC, M2951 (WDM 21-61-13):

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1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.
3) Do a wiring check as follows:

AIR CONDITIONING MODULE D680	**L PFTC D15814B**
pin 5	pin H3

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Right PFTC, M2952 (WDM 21-61-14):
1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.
3) Do a wiring check as follows:

AIR CONDITIONING MODULE D646	**R PFTC D15816B**
pin 16	pin H3

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4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

891. PFTC Pack INOP Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51118 PFTC CNTRL INOP
      1) Pack INOP Interface Fault
   (b) 21-51119 PFTC CNTRL INOP
      1) Pack INOP Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:
   (a) Wiring
   (b) Left PFTC, M2951
   (c) Air Conditioning Accessory Unit (ACAU-1), M324
   (d) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

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(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Accessory Unit (ACAU-2), M1455

(d) Air Conditioning Module, P5-10

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-1, M324, the Left PFTC, M2951, and the Air Conditioning Module, P5-10 (WDM 21-51-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

ACAU-1	**L PFTC**
D458A	**D15814B**
pin 58	pin H1

4) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

5) Do a wiring check as follows:

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AIR CONDITIONING MODULE D646	ACAU-1 D458A
pin 10	pin 58

6) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   d) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   e) Do the Repair Confirmation at the end of this task.
7) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-1. These are the tasks:
- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the ACAU-2, M1455, the Right PFTC, M2952, and the Air Conditioning Module, P5-10 (WDM 21-51-22):
   1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
   2) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.
   3) Do a wiring check as follows:

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ACAU-2	**R PFTC**
D10002A	**D15816B**
pin 58	pin H1

4) Remove the Air Conditioning Module, P5-10. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

5) Do a wiring check as follows:

AIR CONDITIONING MODULE	**ACAU-2**
D680	**D10002A**
pin 1	pin 58

6) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   d) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   e) Do the Repair Confirmation at the end of this task.

7) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.

(b) Replace the ACAU-2. These are the tasks:
- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

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G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

892. PFTC Pack Fault Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51120 PFTC CNTRL INOP

1) Pack Fault Interface Fault

(b) 21-51121 PFTC CNTRL INOP

1) Pack Fault Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Module, P5-10

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

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(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Left PFTC, M2951 (WDM 21-61-12):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

3) Do a wiring check as follows:

AIR CONDITIONING MODULE D646	**L PFTC D15814B**
pin 55	pin J1

4) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

d) Do the Repair Confirmation at the end of this task.

5) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:

- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Right PFTC, M2952 (WDM 21-51-22):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

3) Do a wiring check as follows:

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AIR CONDITIONING MODULE D680	R PFTC D15816B
pin 55	pin J1

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— **END OF TASK** ———

893. PFTC Standby Pack Fault Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:
   (a) 21-51122 PFTC CNTRL INOP
      1) Standby Pack Fault Interface Fault
   (b) 21-51123 PFTC CNTRL INOP
      1) Standby Pack Fault Load Fault
(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Air Conditioning Module, P5-10

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Air Conditioning Module, P5-10

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-12

(2) WDM 21-51-22

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Left PFTC, M2951 (WDM 21-51-22):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.

3) Do a wiring check as follows:

AIR CONDITIONING MODULE D680		L PFTC D15814B
pin 2	. . . . .	pin J2

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4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:
- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Air Conditioning Module, P5-10, and the Right PFTC, M2952 (WDM 21-51-12):
1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.
2) Remove the Air Conditioning Module. This is the task: Air Conditioning Module Removal, AMM TASK 21-51-65-000-801.
3) Do a wiring check as follows:

AIR CONDITIONING MODULE D646	**R PFTC D15816B**
pin 12	pin J2

4) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.
   d) Do the Repair Confirmation at the end of this task.
5) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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b) Re-install the Air Conditioning Module. This is the task: Air Conditioning Module Installation, AMM TASK 21-51-65-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the Air Conditioning Module, P5-10. These are the tasks:

- Air Conditioning Module Removal, AMM TASK 21-51-65-000-801
- Air Conditioning Module Installation, AMM TASK 21-51-65-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

894. PFTC Activate Standby Pack Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51124 PFTC CNTRL INOP

1) Activate Standby Pack Interface Fault

(b) 21-51125 PFTC CNTRL INOP

1) Activate Standby Pack Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC

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(Continued)

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-13

(2) WDM 21-51-23

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Right PFTC, M2952 (WDM 21-51-13):

1) Remove the Left PFTC and the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC	**R PFTC**
D15814B	**D15816B**
pin J3	pin J8

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC and the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

5) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Left PFTC, M2951 (WDM 21-51-23):

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AKS 022-999 (Continued)

1) Remove the Right PFTC and the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC	L PFTC
D15816B	**D15814B**
pin J3	pin J8

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Right PFTC and the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

——— END OF TASK ———

895. PFTC Controller INOP Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51126 PFTC CNTRL INOP

1) Controller INOP Interface Fault

(b) 21-51127 PFTC CNTRL INOP

1) Controller INOP Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

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AKS 022-999 (Continued)

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Right PFTC, M2952

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Left PFTC, M2951

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC

D. Related Data

(1) WDM 21-51-13

(2) WDM 21-51-23

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, and the Right PFTC, M2952 (WDM 21-51-13):

1) Remove the Left PFTC and the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

L PFTC	**R PFTC**
D15814B	**D15816B**
pin K3	pin K9

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC and the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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AKS 022-999 (Continued)

c) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

5) Replace the Right PFTC, M2952. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

a) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, and the Left PFTC, M2951 (WDM 21-51-23):

1) Remove the Right PFTC and the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Do a wiring check as follows:

R PFTC	**L PFTC**
D15816B	**D15814B**
pin K3	pin K9

3) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Right PFTC and the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

4) If you do not find a problem with the wiring, then do these steps:

a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

c) Do the Repair Confirmation at the end of this task.

(b) Replace the Left PFTC, M2951. These are the tasks:

- Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801
- Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then you corrected the problem.

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AKS 022-999 (Continued)

(b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

896. PFTC SRADA BITE Discrete Output - Fault Isolation

A. Description

(1) This task is for these Maintenance Messages:

(a) 21-51128 PFTC CNTRL INOP

1) SRADA BITE Test Interface Fault

(b) 21-51129 PFTC CNTRL INOP

1) SRADA BITE Load Fault

(2) These Maintenance Messages can show on either the Left or the Right Pack Flow Temperature Controller (PFTC).

B. Possible Causes

(1) For maintenance messages that show on the Left PFTC, M2951:

(a) Wiring

(b) Left PFTC, M2951

(c) Left Forward (Inlet) Ram Air Actuator, M2795

(d) Air Conditioning Accessory Unit (ACAU-1), M324

(2) For maintenance messages that show on the Right PFTC, M2952:

(a) Wiring

(b) Right PFTC, M2952

(c) Right Forward (Inlet) Ram Air Actuator, M2797

(d) ACAU-2, M1455

C. Circuit Breakers

(1) These are the primary circuit breakers related to this fault:

F/O Electrical System Panel, P6-4

Row	Col	Number	Name
A	4	C01950	AIR CONDITIONING RAM AIR MOD LEFT
A	8	C00555	AIR CONDITIONING RAM AIR MOD CONT L
A	9	C01158	AIR CONDITIONING PACK CONTROL LEFT DC
A	11	C01159	AIR CONDITIONING PACK CONTROL LEFT AC
B	4	C01951	AIR CONDITIONING RAM AIR MOD RIGHT
B	8	C01178	AIR CONDITIONING RAM AIR MOD CONT R
B	9	C01161	AIR CONDITIONING PACK CONT RIGHT DC
B	11	C01162	AIR CONDITIONING PACK CONT RIGHT AC
C	5	C00263	AIR CONDITIONING PACK CONT VALVES R
C	6	C00262	AIR CONDITIONING PACK CONT VALVES L

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AKS 022-999 (Continued)

D. Related Data

(1) WDM 21-51-14

(2) WDM 21-51-24

E. Initial Evaluation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message still shows, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

(1) If the maintenance message shows on the Left PFTC, then do these steps:

(a) Do this check of the wiring between the Left PFTC, M2951, the ACAU-1, M324, and the Left Forward (Inlet) Ram Air Actuator, M2795 (WDM 21-51-14):

1) Remove the Left PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

L PFTC D15814B	**ACAU-1 D458A**
pin G3	pin 47

4) Get access to the Left Forward (Inlet) Ram Air Actuator, M2795, as follows:

a) Open these access panels:

Number	Name/Location
191FL	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GL	Ram Air Actuator Panel - Forward

5) Disconnect electrical connector D14386 from the Left Forward (Inlet) Ram Air Actuator.

6) Do a wiring check as follows:

L PFTC D15814B	**L RAM AIR INLET ACTUATOR D14386**
pin G3	pin 19

7) If you find a problem with the wiring, then do these steps:

a) Repair the wiring.

b) Re-install the Left PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

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AKS 022-999 (Continued)

c) Re-install the Air Conditioning Accessory Unit (ACAU-1). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

d) Connect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator.

e) Do the Repair Confirmation at the end of this task.

8) If you do not find a problem with the wiring, then do these steps:

a) Replace the Left PFTC, M2951. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.

b) Re-install the ACAU-1. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.

c) Connect electrical connector D14386 to the Left Forward (Inlet) Ram Air Actuator.

d) Do the Repair Confirmation at the end of this task.

(b) Replace the Left Forward (Inlet) Ram Air Actuator, M2795. These are the tasks:

- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the ACAU-1. These are the tasks:

- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

(2) If the maintenance message shows on the Right PFTC, then do these steps:

(a) Do this check of the wiring between the Right PFTC, M2952, the ACAU-2, M1455, and the Right Forward (Inlet) Ram Air Actuator, M2797 (WDM 21-51-24):

1) Remove the Right PFTC. This is the task: Pack Flow Temperature Controller Removal, AMM TASK 21-61-17-020-801.

2) Remove the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801.

3) Do a wiring check as follows:

R PFTC	**ACAU-2**
D15816B	**D10002A**
pin G3	pin 47

4) Get access to the Right Forward (Inlet) Ram Air Actuator, M2797, as follows:

a) Open these access panels:

Number	Name/Location
191FR	Forward Wing To Body Fairing Panel - Mid Fairing, Above Ram Air Inlet
191GR	Ram Air Actuator Panel - Forward

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AKS 022-999 (Continued)

5) Disconnect electrical connector D14394 from the Right Forward (Inlet) Ram Air Actuator.

6) Do a wiring check as follows:

R PFTC D15816B	R RAM AIR INLET ACTUATOR D14394
pin G3	pin 19

7) If you find a problem with the wiring, then do these steps:
   a) Repair the wiring.
   b) Re-install the Right PFTC. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   c) Re-install the Air Conditioning Accessory Unit (ACAU-2). This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   d) Connect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator.
   e) Do the Repair Confirmation at the end of this task.

8) If you do not find a problem with the wiring, then do these steps:
   a) Replace the Right PFTC, M2952. This is the task: Pack Flow Temperature Controller Installation, AMM TASK 21-61-17-400-801.
   b) Re-install the ACAU-2. This is the task: Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801.
   c) Connect electrical connector D14394 to the Right Forward (Inlet) Ram Air Actuator.
   d) Do the Repair Confirmation at the end of this task.

(b) Replace the Right Forward (Inlet) Ram Air Actuator, M2797. These are the tasks:
- Ram Air Inlet Actuator Removal, AMM TASK 21-51-21-000-801
- Ram Air Inlet Actuator Installation, AMM TASK 21-51-21-400-801

1) Do the Repair Confirmation at the end of this task.

(c) Replace the ACAU-2. These are the tasks:
- Air Conditioning Accessory Unit (ACAU) Removal, AMM TASK 21-51-02-000-801
- Air Conditioning Accessory Unit (ACAU) Installation, AMM TASK 21-51-02-400-801

1) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do the Pack Temperature Control - BITE Procedure, 21-62 TASK 801.
   (a) If the maintenance message does not show, then you corrected the problem.
   (b) If the maintenance message shows, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

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PACK/ZONE CABIN TEMPERATURE CONTROLLER, M1442, M1443 (LOCATED IN EE BAY - E3 RACK) 1

1 HONEYWELL P/N 51090160-1
BOEING P/N 10-62091-19

BIT Check and Erase Faults

1. Push BIT - shows faults found during the last flight.
2. Push PREV FLT - shows faults that occurred during the 9 flights before the last flight.
3. Press VERIFY - this is a REAL TIME check (IBIT initiation) that displays all active faults.

3a. Replace faulted LRUs. If SRADA or Ram Temperature Sensor faults, cycle power to SRADA.

3b. Press VERIFY again to run IBIT.

4. Push RESET - removes all faults kept in memory. Push RESET only after the VERIFY button is pushed and the result is a green GO indication. Do not push RESET if faults show.
5. PRESS/TEST - does a check of all fault lights when pushed. Replace the controller if a fault light does not come on.

Fault Isolation

1. Always examine controller BIT to do fault isolation of a PACK or ZONE INOP indication in the flight deck.
2. Examine the overheat switches if you have a PACK or ZONE INOP indication and no controller BIT faults.
3. Remove controllers if a PACK/ZONE or STANDBY PACK controller fault shows. Remove controllers if a light does not come on when the PRESS/TEST button is pushed.
4. Do not remove a controller for a valve, sensor or selector fault.
5. The source of a LRU fault can be aircraft wires, the ACAU, or the LRU.
6. Always use VERIFY to do a check for existing faults.
7. TAV, TCV and SRADA Inlet or Exit faults in BIT storage will stay until the correct reset procedure is done. See step 4 of BIT Check and Erase Faults for correct reset procedure. All other faults will move from BIT to PREV FLT after the takeoff.
8. Erase all faults in memory before you change controllers. Push the BIT, PREV FLT, and VERIFY buttons. You erased the memory if a green GO lamp comes on after you push each of the three buttons.
9. If SRADA fault, compare exit SRADA light to PZTC light. If lights match, replace LRU. If not, cycle power and check wiring.

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2391562 S0000550410_V2

Pack/Zone Temperature Controller Troubleshooting Tips
Figure 301/21-62-00-990-801

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NOTE: FOR DOOR OPEN LIGHT DURING CRUISE, FOLLOW NORMAL FIM TROUBLESHOOTING PROCEDURE.

RECOMMENDED TROUBLE SHOOTING PROCEDURE FOR 737NG SRADA AND PACK ZONE TEMPERATURE CONTROLLER

2478252 S0000581413_V1

Checklist – Pack Zone Temperature Controller and SRADA
Figure 302/21-62-00-990-804

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Pack Flow Temperature Controller BITE Test
Figure 303/21-62-00-990-802 (Sheet 1 of 3)

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PACK FLOW TEMPERATURE CONTROLLER

B

2406564 S0000556786_V1

Pack Flow Temperature Controller BITE Test
Figure 303/21-62-00-990-802 (Sheet 2 of 3)

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INSTRUCTION PANEL

C

2406579 S0000557050_V1

Pack Flow Temperature Controller BITE Test
Figure 303/21-62-00-990-802 (Sheet 3 of 3)

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PACK FLOW TEMPERATURE CONTROLLER BITE PROCESS DIAGRAM

2407862 S0000557204_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 1 of 7)

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EXISTING FAULTS MENU

2407925 S0000557207_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 2 of 7)

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2407994 S0000557209_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 3 of 7)

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GROUND TEST MENU

2408194 S0000557211_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 4 of 7)

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OTHER FUNCTIONS MENU

2408267 S0000557213_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 5 of 7)

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SYSTEM CONFIGURATION

2408286 S0000557215_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 6 of 7)

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2408302 S0000557216_V1

Pack Flow Temperature Controller BITE Procedure
Figure 304/21-62-00-990-803 (Sheet 7 of 7)

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