

Flight Data File Post Insertion STS 51-B

Mission Operations Directorate
Operations Division

Final, Revision A
March 1, 1985



National Aeronautics and
Space Administration

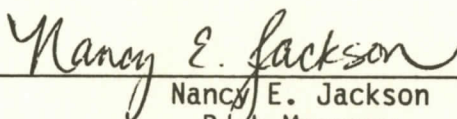
Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE

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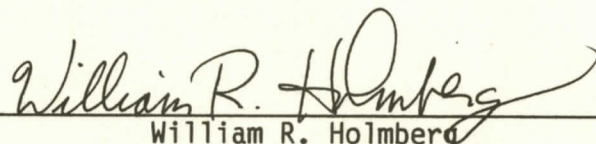
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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to DH4/FDF Manager, Bldg 4, Rm 352, 713-483-2868.

Comments concerning this document may be addressed to DH4/Nancy E. Jackson, Bldg 4, Rm 3042, 713-483-3466.

Changes to the distribution list should be submitted in writing to DH4/Gwen Butler, Bldg 4, Rm 373, 713-483-5224.

Incorporates 482

No:	P1-106	FDF-439A
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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC form 482 to DHA/PTD Manager, Bldg 4, Rm 325, 713-483-2848.

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STS 51-B POST INSERTION

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iii.....	PI/51-B/FIN A
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NOTES

1. The 51-B Post Insertion contains the nominal procedures from:

MET (DAY/HR:MIN)

0/00:51 TO 0/02:30 - POST INSERTION

(Section 1)

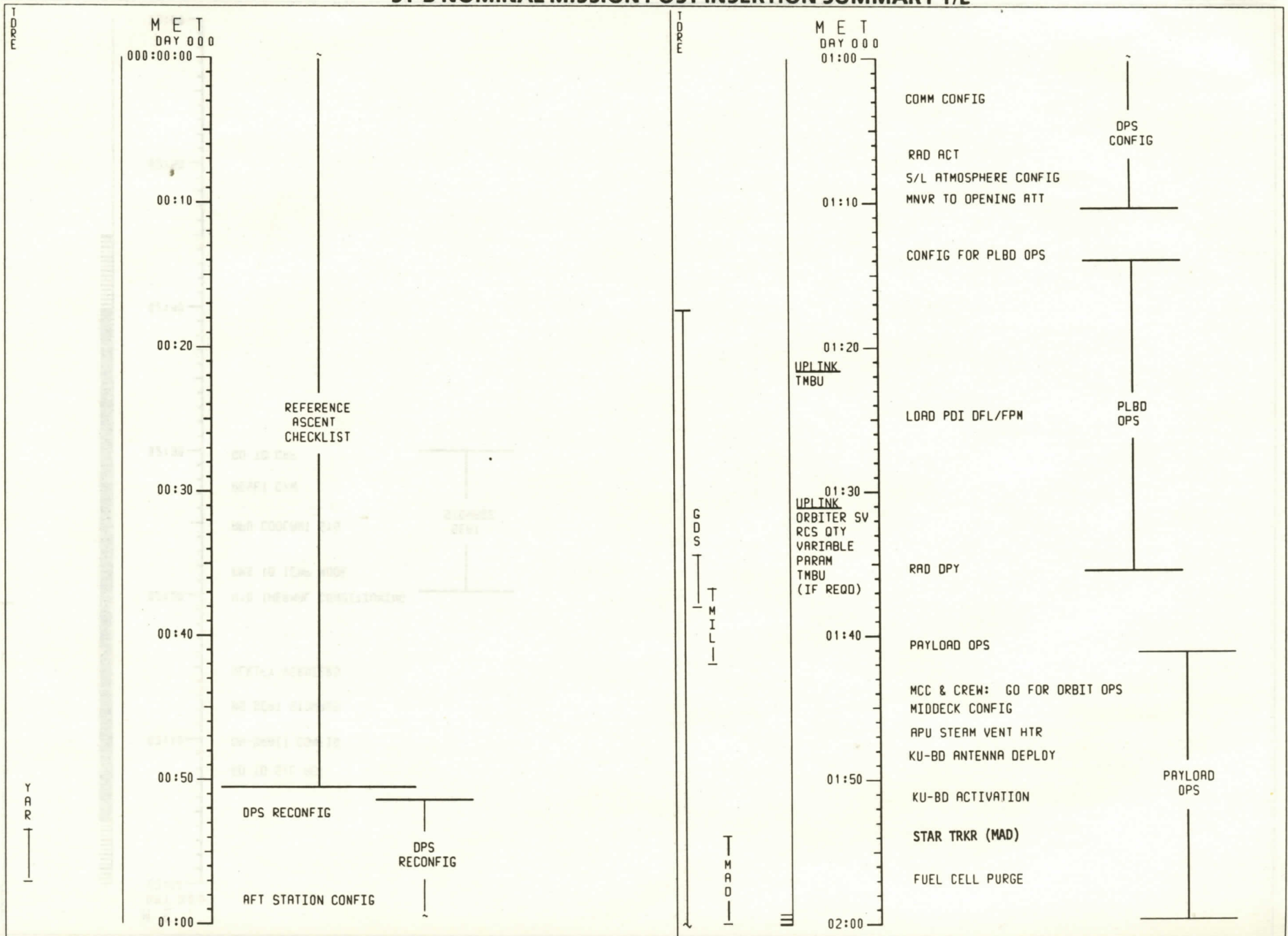
The remaining 51-B flight phases are conducted using the Ascent Checklist, Crew Activity Plan, Deorbit Prep Book, and Entry Checklist.

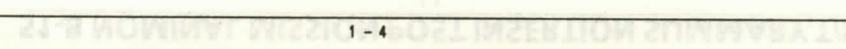
2. The trajectory data used for this document are based on an April 30, 1985 launch date (Cycle 3).
3. The ATO Post Insertion procedures are built for a delayed OMS 2 burn.

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ON-ORBIT SWITCHING	IV-1
POST INSERTION PROCEDURES	I-1
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POST INSERTION PROCEDURES

51-B NOMINAL MISSION POST INSERTION SUMMARY T/L





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CONFIG GPC FOR OPS 2 [1]

* For single PASS GPC failure, build PASS set as follows: *

Failed GPC	GPC			
	1	2	3	4
1	X	G2	FD	SM
2	G2	X	FD	SM
3	G2	FD	X	SM
4	G2	SM	FD	X

* In Step 1:
* Assign strings 1 & 4 to one GPC and
* strings 2 & 3 to the other GPC *

C,P 1. REASSIGN G3FD STRING TO ANOTHER GPC IN MC 1

C3 GNC 0 GPC MEMORY
CONFIG - ITEM 1 + 1 EXEC
Modify MC 1 per Table
BFC CRT DISP - OFF
GNC, OPS 106 PRO
GNC 0 GPC MEMORY

* CAUTION
* If BFS is stand alone (BFC lt flash)
* BFC CRT DISP sw - ON
* BFS, GNC IO RESET EXEC
* BFC CRT DISP - OFF *

2. REASSIGN ALL STRINGS TO G3FD GPC IN MC 3

CONFIG - ITEM 1 + 3 EXEC
Modify MC 3 per Table

3. MODE G3FD GPC TO OPS 0

06 GPC MODE G3FD - STBY (tb-bp),
RUN (tb-RUN)

4. LOAD MC 3 INTO G3FD GPC

CRTX PL, GPC/CRT G3FD GPC/X EXEC
X: PL 0 GPC MEMORY
CONFIG - ITEM 45 + 3 EXEC

CONFIG GPC	1
STR 1	1
2	2
3	2
4	4
PL 1/2	1
CRT 1	1
2	2
3	2
4	0
L 1	1
2	2
MM 1	1
2	2

CONFIG GPC	3
STR 1	3
2	3
3	3
4	3
PL 1/2	0
CRT 1	3
2	3
3	3
4	0
L 1	0
2	0
MM 1	3
2	3

GPC - ITEM 46 + (G3FD) EXEC
STORE ITEM 47 EXEC
Store complete when MC = 03 (~ 12 sec)

* If no MC = 03 after 2 min:
* a. Cycle pwr on MMU 1 & 2, wait 1 min
* b. Retry GPC FREEZE DRY (Step 4)
* If FD successful, continue with Step 5
* If not successful:
* c. If no GPC failed, restring 1 & 4 to GPC 1
* and 2 & 3 to GPC 4, then try to FD GPC 2
* d. If one GPC failed, restring all strings to
* lowest ID GPC, then try to FD other GPC
* If FD successful:
* e. Consider first attempted FD GPC to
* be failed and continue with Step 5
* If not successful:
* f. Both MMUs failed - set up ASAP for
* OPS 3 overlay (MAL, OPS, SSR-11) *

5. SECURE BES

C3 BFC CRT DISP - ON
CRT3 BFS, GNC, OPS 000 PRO
3: BFS, BFS MEMORY
C3 BFC CRT DISP - OFF

6. TRANSITION TO GNC OPS 2

GNC 0 GPC MEMORY
CONFIG - ITEM 1 + 2 EXEC
Modify MC 2 per Table
GNC, OPS 201 PRO
GNC UNIV PTG

7. TURN OFF BFC LT

C2 BFS, MSG RESET (✓BFC LT - OFF)

CONFIG GPC	DUAL	SINGLE
	G2	G2
STR 1	1	1
2	2	1
3	2	1
4	1	1
PL 1/2	0	0
CRT 1	1	1
2	2	1
3	0	0
4	2	1
L 1	0	0
2	0	0
MM 1	1	1
2	2	1

8. TRANSITION TO SM OPS 201(401)

CRTX SM, GPC/CRT SM GPC/X EXEC
X: SM 0 GPC MEMORY
CONFIG - ITEM 1 + 4(5) EXEC
Modify MC 4(5) per Table
SM, OPS 201(401) PRO
SM ANTENNA
C3 UPLK - ENABLE
SM 1 OPS UTILITY
UL CNTL AUTO - ITEM 35 EXEC
SM ANTENNA
TDRS E - ITEM 14 EXEC

CONFIG GPC	4(5)
STR 1	0
2	0
3	0
4	0
PL 1/2	4
CRT 1	4
2	4
3	0
4	4
L 1	4
2	0
MM 1	4
2	4

M E T
DAY 000
00:30

TRANS
DAP
AUTO
RT 0.5
DB 3.5

Ref ASC for activities from 00:00 - 00:50 MET

MEMORY CONFIGURATION TABLE				
CONFIG	1	2	3	4(5)
DPS	G1,G6	G2	G3	SM
GPC SEL	1,2,3,4	1,2	1,2,3,4	4
STR	1	1	1	0
	2	2	2	0
	3	2	3	0
	4	1	4	0
P/L 1/2	1	0	1	4
CRT	1	1	1	4
	2	2	2	4
	3	3	3	0
	4	0	0	4
L	1	1	0	0
	2	2	0	0
MM	1	1	1	4
	2	2	2	4

OPS 2 DAP CONFIG (GNC)				
TRANSLATION		A 1		B 1
PULSE		1	0 .1	15 0 .02
ROTATION				
DISC RATE	NORM	2	0 .2	16 0 .5
	VERN	3	0 .2	17 0 .2
PULSE	NORM	4	0 .1	18 0 .04
	VERN	5	0 .01	19 0 .002
COMP	NORM	6	.0	20 .0
	VERN	7	.0	21 .0
DEADBAND				
ATT	NORM	8	5 .0	22 3 .0
	VERN	9	1 .0	23 1 .0
RATE	NORM	10	0 .2	24 0 .2
	VERN	11	0 .02	25 0 .02

1: GNC OMS 2 MNVR COAST 2: GNC OMS 2 MNVR COAST
3: BFS, SYS SUMM 2

C L4:B,D,R All cbs closed
:J cb SIG COND HUM SEP - c1
IMU FAN - c1

MS,PS SPECIALIST SEAT EGRESS

C,P CONFIG GPCs FOR OPS 2 [1]
If two PASS GPCs failed, go to MAL, OPS, GPC FRP-2
If BFS engaged go to MAL, OPS, GPC FRP-4

MS UNSTOW/CONFIG COMM, FDE MID Cue Card [2]

MS AFT STATION CONFIG AFT Cue Card [3]

A1(B1)
AUTO
NORM
RT 0.2
DB 5.0

01:00

9. RECONFIG CRTs

GPC/CRT 03 EXEC
GPC/CRT SM GPC/4 EXEC
CRT 3 PWR - OFF

C2

10. LOAD ORBIT TEL

C3 ☒ DI PCMMU FORMAT - GPC

☒ SM 62 PCMMU/PL COMM

FORMAT:

CRT FXD - ITEM 1 EXEC (M)
SEL ID - ITEM 3 + 1 6 1 EXEC
LOAD - ITEM 4 EXEC
-RUN,CPLT
SEL ID - ITEM 3 + 1 0 3 EXEC
LOAD - ITEM 4 EXEC
-RUN,CPLT
PGM - ITEM 2 EXEC

☒ SM ANTENNA

11. RECONFIG GPCs

06 GPC MODE 5 - STBY (tb-RUN)
- HALT (tb-bp)
OUTPUT 5 - NORM (tb-bp)
OUTPUT (SM GPC) - TERM (tb-bp)
MODE (FD GPC) - STBY (tb-bp)
- HALT (tb-bp)
PWR (G3FD), 5 (two) - OFF

If single G2 reqd,
GPC MODE 2 - STBY (tb-bp)
- HALT (tb-bp)
PWR 2 - OFF

RAD ACT 4

C 01 ✓FREON EVAP OUT TEMP ind - 38-41 deg
 L1 RAD BYP VLV MODE (two) - AUTO
 CNTLR LOOP (two) - AUTO A
 Wait - 90 sec:
 ✓RAD BYP VLV (two) - RAD

x If RAD BYP VLV 1(2) tb still BYP or bp: x
 x L1 RAD BYP VLV MODE 1(2) - MAN x
 x MAN SEL 1(2) - RAD FLOW x
 x Hold 3 sec or until tb - RAD x
 x If RAD BYP VLV 1(2) tb still BYP or bp: x
 x Do not select alternate RAD CNTLR x

M E T
DAY 000
01:00
A1(B1)
AUTO
NORM
RT 0.2
DB 5.0

1: GNC UNIV PTG 2: SM ANTENNA

P PL BUS ACTIVATION R1 PL CAB - MNA (MNB)
PRI MNC - ON (tb-ON)

C,P DDN/CONFIG COMM
XX AUD A/G 2 - RCV, tw-R
XMIT/ICOM MODE - PTT/VOX (recommended)

C RAD ACT 4

P MNVR TO PLBD OPENING ATTITUDE (-ZLV)

CRT1 ✓ TGT ID + 2
BODY VECT + 3
P + 90.0
Y + 00.0
OM + 180

DAP: A/AUTO/NORM
(01:10) Initiate TRK

MS SPOC UNSTOW/SETUP/ACTIVATION SPOC Cue Card

C,P SEAT EGRESS

MS CONFIG FOR PLBD OPERATIONS AFT Cue Card 6

RAD/PLBD OPS NO GO FOR FOLLOWING FAILURES		
<u>OMS/RCS</u>	<u>GNC</u>	<u>ECIS/EPS</u>
2 OMS Engs	2 IMUs	1 H2O or Freon Lp
OMS Prop Leak	2 RGAs	Both Cab Fans
Aft RCS He or Prop Leak	2 IMU Fans	3 of 6 Av Bay Fans
<u>DPS</u>	<u>COMM</u>	2 FCs
3 GPCs	No Voice	Any MN or 3 AC Bus
2 PL MDMs	and No CMD	CNTL AB3 (BC3 or CA3)
2 FF or FA MDMs		<u>APU/HYD</u>
		2 APU/HYD/WSB

UPLINK
TMBU

P OPEN PLBDs, AUTO MODE, 1-15 Note: CAUTION BLOCK on 1-16

1. NEW YORK AIRPORT 1-10 NEW YORK AIRPORT 1-10

1. NEW YORK AIRPORT	NEW YORK AIRPORT	NEW YORK AIRPORT
2. NEW YORK AIRPORT	NEW YORK AIRPORT	NEW YORK AIRPORT
3. NEW YORK AIRPORT	NEW YORK AIRPORT	NEW YORK AIRPORT
4. NEW YORK AIRPORT	NEW YORK AIRPORT	NEW YORK AIRPORT
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3. NEW YORK AIRPORT

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5. NEW YORK AIRPORT

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8. NEW YORK AIRPORT

9. NEW YORK AIRPORT 1-10 NEW YORK AIRPORT 1-10

10. NEW YORK AIRPORT

11. NEW YORK AIRPORT

12. NEW YORK AIRPORT 1-10 NEW YORK AIRPORT 1-10

13. NEW YORK AIRPORT

14. NEW YORK AIRPORT 1-10 NEW YORK AIRPORT 1-10

M E T
DAY 000
01:30
A1(B1)
AUTO
NORM
RT 0.2
DB 5.0
UPLINK
ORBITER SV
RCS QTY

01:35
UPLINK
VARIABLE
PARAM
TMBU
(IF REQD)

01:40 C D6 STAR TRK PWR (two) - ON
MS SUNSHIELD CLOSING (if reqd) (PAM DPT, ON ORBIT OPS)

MCC & CREW: GO FOR ORBIT OPS
01:45 MS MIDDECK CONFIG MID Cue Card [B]
P APU STEAM VENT HTR ACT
R2 ✓BLR CNTRL PWR/HTR (three) - A
CNTRL (three) - ON
P KU-BD ANT DEPLOY (ORB OPS, COMM/INST)

01:50 P KU-BD ACTIVATION - COMM MODE (ORB OPS, COMM/INST)

C STAR TRKR SELF TEST/DOOR OPEN [9]

01:55

P FUEL CELL AUTO PURGE Cue Card

02:00

1: GNC UNIV PTG 2: SM PL BAY DOORS 4: SM PL BAY DOORS

POST PLBD OPS RAD CONFIG [7]

C 1: SM 88 APU/ENVIRON THERM

NOTE

FREON LOOP RAD OUT temps will not drop to their normal operating range (< 60 deg) until ~ 15 min after doors are opened

L1 NH3 CNTRL A(B) - OFF
✓RAD BYP VLV tb (two) - RAD

CRT1 When FREON LOOP RAD OUT T < 60 DEG:
L1 HI LOAD EVAP - OFF

1: GNC UNIV PTG

STAR TRKR SELF TEST/DOOR OPEN [9]

C 06 ✓STAR TRK PWR (two) - ON
GNC, I/O RESET EXEC

1: GNC 22 S TRK/COAS CNTL

If SHUTTER - CL:
ITEM 15(16) EXEC (X)
ITEM 15(16) EXEC (no X)

CRT ✓S TRK -Y, -Z STATUS (two) - blank
SELF-TEST -Y, -Z (two) - ITEM 1,2 EXEC
✓S TRK -Y, -Z STATUS (two) - ST PASS (- 30 sec)

* If self test fails, redo once & proceed *
06 STAR TRKR DR CNTRL SYS (two) - OP
✓POS tb (two) - bp (start timer)
When both tb-OP (8-24 sec), or either tb - bp
for >24 sec,
CNTRL SYS (two) - OFF

CRT STAR TRK - ITEM 3,4 EXEC

NOTE

If tb-bp > 12 sec (one mtr problem), or > 24 sec (two mtr problem), notify MCC

PI/51-B/FIN A

M E T
DAY 000
02:00
A1 (B1)
AUTO
VERN
RT 0.2
DB 1.0

1: GNC UNIV PTG 2: SM ANTENNA 4: SM ANTENNA

C,P CLOTHING CONFIG 10

MS,PS CLOTHING CONFIG MID, AFT Cue Cards 11

MS,PS SPECIALIST SEAT REMOVAL/STOWAGE

MCC: GO FOR S/L ACT

MS,PS Go to S/L ACT/DEACT Page 1-3

02:10 C,P CONFIG CONTROLS FOR ON-ORBIT, 1A-1 thru 1A-9
HUD covers (two) unstow, install

02:15 C CONFIG VERNIER CONTROL
016:F RJD MANF L5/F5/R5 DRIVER - ON
Verify GO to use Vernier Jets
DAP: A/AUTO/VERN

02:20 P HYD THERMAL CONDITIONING - ENABLE (ORB OPS, APU/HYD)

MS PWR-UP RMS TO TEMP MODE (If reqd) AFT Cue Card 12

02:25 P SWITCH APU COOLANT SYS

R2 APU FUEL PUMP/VLV COOL A - OFF
B - AUTO

P RESET C/W 13

A1 (B1)
AUTO
VERN
RT 0.2
DB 1.0

02:30 Stow POST INSERTION (2), Go to CAP, FLT DAY 1

CLOTHING CONFIG 10

Doff, stow
Harness boots

Doff, stow in Wet Trash
UCD (clamp if used)
Emesis Bag, if used (unstow new bag)

RESET C/W 13

R13U		
PARAMETER NAME	C/W CH	UPPER LIMIT
FREON LOOP EVAP OUT T1	107	1.90V/64.8 deg
T2	117	1.90V/64.8 deg

R13		
PARAMETER NAME	C/W CH	ENA/INH
MPS He TK P C	9	INH
L	19	INH
R	29	INH
REG P C	39	INH
L	49	INH
R	59	INH
HYD P 1	99	INH
2	109	INH
3	119	INH

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82	100	100
83	100	100
84	100	100
85	100	100
86	100	100
87	100	100
88	100	100
89	100	100
90	100	100
91	100	100
92	100	100
93	100	100
94	100	100
95	100	100
96	100	100
97	100	100
98	100	100
99	100	100
100	100	100

113

113

AUTO PLBD OPENING PROCEDURE

P CRT4 SM, OPS X02 PRO
 2: SM PL BAY DOORS 4: SM PL BAY DOORS
 AC POWER ON - ITEM 1 EXEC (X)

R13L ✓PL BAY DR - STOP
 CRT4 AUTO MODE SEL - ITEM 3 EXEC (X)
 R13L PL BAY DR - OP (start timer)
 Verify the following dual mtr times during opening sequence:

1. CENTER LATCHES 5-8, 9-12 (two) - blank, OP (~ 20 sec)
 1-4, 13-16 (two) - blank, OP (~ 20 sec)
2. STBD FWD & AFT LATCHES - blank (~ 30 sec), OP
3. STBD DOOR - RDY, blank (~ 60 sec), OP
4. PORT FWD & AFT LATCHES - blank (~ 30 sec), OP
5. PORT DOOR - RDY, blank (~ 60 sec), OP

R13L PL BAY DR - STOP (stop timer)
 Total Elapsed Time ~ 3:40

CRT4 AC POWER OFF - ITEM 2 EXEC
 SM, OPS X01 PRO
 2: SM ANTENNA 4: SM ANTENNA

A7U PL BAY FLOOD (all) - OFF

MANUAL PLBD OPENING PROCEDURE

P CRT4 SM, OPS X02 PRO
 2: SM PL BAY DOORS 4: SM PL BAY DOORS

R13L ✓PL BAY DR - STOP

CRT4 AC POWER ON - ITEM 1 EXEC (X)
 ✓OP/CL STATUS (ten) - CL
 ✓MAN SEL:
 CENTER LATCHES (four) - (no X)
 S LATCHES & DOOR (three) - (no X)
 P LATCHES & DOOR (three) - (no X)
 ✓PBD SW BYPASS - (no X)

OPEN CENTER LINES
 Select CENTER LATCHES 5-8 & 9-12
 R13L PL BAY DR - OP
 ✓CENTER LATCHES 5-8 & 9-12 (two) - blank, OP (~ 20 sec)
 PL BAY DOOR - STOP
 Deselect CENTER LATCHES 5-8 & 9-12
 Select CENTER LATCHES 1-4 & 13-16
 PL BAY DOOR - OP
 ✓CENTER LATCHES 1-4 & 13-16 (two) - blank, OP (~ 20 sec)
 PL BAY DOOR - STOP
 Deselect CENTER LATCHES 1-4 & 13-16

OPEN STBD FWD, AFT LATCHES & DOOR
 Select S FWD, AFT LATCHES
 R13L PL BAY DOOR - OP
 ✓S FWD, AFT LATCHES (two) - blank, OP (~ 30 sec)
 PL BAY DOOR - STOP
 Deselect S FWD, AFT LATCHES

Select S DOOR
 PL BAY DOOR - OP
 ✓S DOOR - RDY, blank, OP (~ 60 sec)
 PL BAY DOOR - STOP
 Deselect S DOOR

OPEN PORT FWD, AFT LATCHES & DOOR
 Select P FWD, AFT LATCHES
 R13L PL BAY DOOR - OP
 ✓P FWD, AFT LATCHES (two) - blank, OP (~ 30 sec)
 PL BAY DOOR - STOP
 Deselect P FWD, AFT LATCHES

Select P DOOR
 PL BAY DOOR - OP
 ✓P DOOR - RDY, blank, OP (~ 60 sec)
 PL BAY DOOR - STOP
 Deselect P DOOR

CRT4 AC POWER OFF - ITEM 2 EXEC
 SM, OPS X01 PRO
 2: SM ANTENNA 4: SM ANTENNA

A7U PL BAY FLOOD (all) - OFF

CAUTION

If SM GPC fails during any PLBD test:

- 06 MDM PL1,2 (two) - OFF
- GPC MODE 4 - STBY, HALT
- MDM PL1,2 (two) - ON

Reload SM into GPC 2

Perform MAL, DPS, SSR-3 and DPS, SSR-4

When opening/closing any PLBD latch group

- o If no OP after 40 sec c/l (60 sec bhd)
 1. with at least one open microswitch indication, continue PLBD procedures
 2. with no open microswitch indication, Perform MAL, MECH 9.1h
- o If no CL after 40 sec c/l (60 sec bhd):
 1. with at least one closed microswitch indication, continue PLBD procedures
 2. otherwise Perform MAL, MECH 9.1i
- o If a c/l latch closes on a single mtr (40 sec), continue Flight for Priority Msn
- o If a bhd latch closes on a single mtr (60 sec), continue nominal Flight

- o Always note any single mtr latch operations

- o If one mtr fails in two c/l or bhd latch gangs, Prepare to Deorbit. If a Deorbit Opp not available, reopen PLBD

- o If no latch or door motion within - 10 sec after cmd (no motion determined visually):
PL BAY DR - STOP, Perform MAL, MECH 9.1a

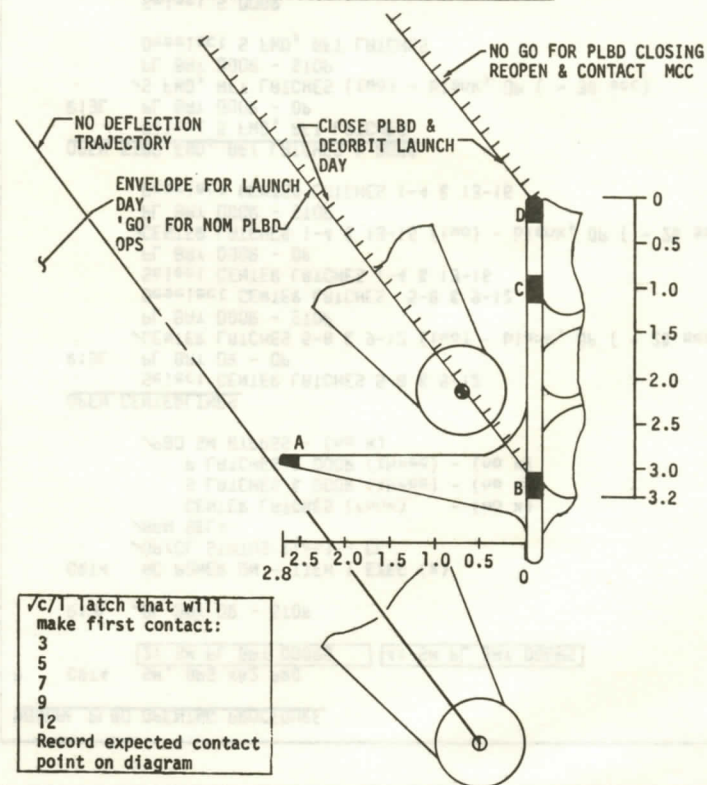
When opening/closing PLBD

- o If door motion stops and no OP/RODY status:
PL BAY DR - STOP, Perform MAL, MECH 9.1j for opening or 9.1k for closing
- o If door closes on a single mtr (- 120 sec), reopen PLBDs, continue to priority flight
- o For failed open latches, do not attempt to close unless an Entry capability is available

FUNCTION	PLBD CONTROL						PLBD DISPLAY MDM					
	Ref MA73C:C & D for MCA cbs											
	MTR 1			MTR 2			C C C O O			C R R R O		
	AC/MCA	CNTL	MDM	AC/MCA	CNTL	MDM	A B A B	A B C		A B C		
LATCH												
5-8	1/MID3	AB3	PL1	3/MID2	CA3	PL2	1 2 1 2					
9-12	1/MID1	AB3	PL1	3/MID4	CA3	PL2	1 2 1 2					
1-4	1/MID3	AB3	PL1	3/MID2	CA3	PL2	1 2 1 2					
13-16	3/MID4	CA3	PL2	2/MID2	BC3	PL1	2 1 2 1					
S FWD	1/MID1	AB3	PL1	2/MID4	BC3	PL2	1 2 1 2					
A AFT	3/MID4	CA3	PL2	2/MID2	BC3	PL1	2 1 2 1					
S DOOR	1/MID1	AB3	PL1	2/MID4	BC3	PL2				1 1 2 2 1		
										2 1 2 2 2		
P FWD	1/MID1	AB3	PL1	2/MID4	BC3	PL2	1 2 1 2					
P AFT	1/MID3	AB3	PL1	3/MID2	CA3	PL2	1 2 1 2					
P DOOR	3/MID4	CA3	PL2	2/MID2	BC3	PL1				2 1 1 2 2		
										1 1 1 2 1		

LAUNCH DAY NO GO CRITERIA DIAGRAM

C/L LATCH EXTENDED GUIDE ROLLER TRAJECTORY



AFT FLIGHT DECK RECONFIGURATION

PWR-UP RMS TO TEMP MODE 12

MS RMS AC PWR

MA73C:F cb AC1 RMS PRI #A - c1
AC2 RMS B/U #A - c1

RMS TEMP MODE

ABL RMS PWR - PRI (MA)

4: SM 94 PDRS CONTROL (MA, GPC DATA lt-on)

CRT4 I/O ON - ITEM 5 EXEC (*)

4: SM ANTENNA

ABU SAFING - CANCEL (tb-bp)
GPC DATA lt - off

PNL TEST

ABU Adjust pnl ltg as reqd

CAUTION

Selection of PARAM sel - TEST for
> 30 sec may cause pnl A8 to overheat

ABU PARAM sel - TEST (MA) (< 30 sec)

IND 1,2,3 - + 8.8.8.8

All pnl A8 lts - on

PARAM sel - POS X/Y/Z

RMS HTR ACT

PARAM sel - PORT TEMP

JOINT - CRIT TEMP (INDs (three) - blank)

ABL PORT RMS HTR - AUTO

RMS SHOULDER BRACE RELEASE

ABL RMS SEL - PORT (MA, REACH LIM lt - on, SINGULAR lt - on)

ABU SHLDR BRACE REL - PORT (hold for 2 sec following tb - gray)

ABL RMS SEL - OFF

AFT FLIGHT DECK RECONFIGURATION

AFT STATION CONFIG [3]

POST SEAT EGRESS

014:D cb MNA CAB VENT (two) - op

A12 APU HTR GAS GEN/FUEL PUMP (three) - OFF
APU HTR TK/FU LINE/H2O SYS 1A,2A,3A - AUTO

CAUTION

Return Htrs to A-AUTO if APU FUEL T PUMP OUT/BYP LN
(S88 APU/ENVIRON THERM) exceeds lower FDA limit

A14 RCS/OMS HTR FWD RCS - A AUTO
L POD (two) - A AUTO, B OFF
R POD (two) - A AUTO, B OFF
OMS CRSFD LINES (two) - A AUTO, B OFF
FWD, AFT RCS JET (ten) - AUTO

ON ORBIT CONFIG

Don wireless headset (if reqd)
XX AUD A/G 2 - RCV, tw-R
XMIT/ICOM MODE - PIT/VOX (recommended)
Unstow, deploy S/L ACT/DEACT

IF TORS AVAILABLE:

A1L S-BD PM MODE - TORS DATA
NSP DATA RATE RCV - LO
XMIT - HI
CODING (two) - DN

A1R S-BD FM DATA SOURCE - OPS RCDR (rotary)
PL RCDR MODE - PRL RCD

R15:C cb MNB KU ANT HTR - c1
:D,E All cbs closed

R12L CRT 4 PWR - DN
R12U FC H2O LINE HTR - A AUTO

017:A ATVC (four) - OFF
:B EIU (three) - OFF
:D MEC 1 - OFF, wait 2 sec, then
2 - OFF

016:E cb MNC DDU AFT - c1

014:E cb MNA DDU AFT - c1

Activate Teleprinter (if flown): Cue Card (L9) (Step 1)

TIME (MET)	MS AFT ACTIONS
00:53	SPECIALIST SEAT EGRESS
00:59	AFT STATION CONFIG [3]
01:12	SPOC UNSTOW/SETUP/ACTIVATION SPOC Cue Card
01:14	CONFIG FOR PLAD OPERATIONS [6]
01:41	SUNSHIELD CLOSING (if reqd) (PAM DPY, ON ORBIT OPS)
02:01	CLOTHING CONFIG [11]
02:06	SPECIALIST SEAT REMOVAL/STOWAGE
02:10	GO TO S/L ACT/DEACT
02:22	PWR-UP RMS TO TEMP MODE [12]

COMM COVERAGE

Station	AOS	LOS
YAR	00:54 - 00:56	
GDS	01:35 - 01:41	
MAD	01:54 - 01:59	
TORS E	01:18 - 02:19	

CLOTHING CONFIG [11]

Doff, stow
Harness, boots

Doff, stow in Wet Trash
UCD (clamp if used)
Emesis Bag, if used (unstow new bag)

CONFIG FOR PLAD OPERATIONS [6]

MS SET UP LIGHTS

A6U ANNUN BUS SEL - MNC

A7U PL BAY FLOOD FWD,MID,AFT (six) - ON (~ 3 min to full bright)
FWD BHD - ON (~ 3 min to full bright)

NOTE

PL BAY FLOODS do not immediately re-illuminate
if turned OFF/ON (~ 2-5 min delay)

TABLE 1

VOLUME INPUT (v ₈₂)	CAL NO	IN-FLIGHT CALIBRATIONS		READOUT FROM GROUND CAL
		READING (COUNTS)	AVERAGE	
60	1	251 *	160 ± 2	75
	8	162		
	11	161		
	16	158		
120	2	236	236 ± 1	136
	9	387 *		
	12	?, *		
	17	237		
180	3	284	287 ± 3	203
	10	286		
	13	286		
	18	292		
240	4	331	334 ± 4	263
	14	337		
480	5	482	486 ± 6	508
	15	490		
720	6	609	606 ± 4	755
	7	603		

* THESE POINTS DISCARDED - DIFFICULTIES REPORTED ON CUE CARD

$$75 \overline{) 15.0} \begin{array}{r} .2 \\ 15.0 \end{array}$$

$$120 \overline{) 16.0} \begin{array}{r} .13 \\ 12.0 \\ \hline 40 \end{array}$$

$$180 \overline{) 23.0} \begin{array}{r} .13 \\ 18.0 \\ \hline 5.00 \end{array}$$

$$136 \overline{) 16.0} \begin{array}{r} .11 \\ 13.6 \\ \hline 2.40 \end{array}$$

9.4	8.0
-----	-----

$$203 \overline{) 23.0} \begin{array}{r} .10 \\ 20.3 \\ \hline 2.70 \end{array}$$

$$508 \overline{) 28.00} \begin{array}{r} .056 \\ 25.440 \\ \hline 2.560 \end{array}$$

$$263 \overline{) 23.00} \begin{array}{r} .09 \\ 23.670 \end{array}$$

$$755 \overline{) 35.00} \begin{array}{r} .046 \\ 30.250 \\ \hline 4.750 \end{array}$$

15
(20%)16
(11%)23
(11%)23
(9%)28
(5.6%)35
(4%)

MIDDECK RECONFIGURATION

DR. THORNTON,

THE COMPLETE WCS ACTIVATION IS
IN THE POST INSERTION. THE
WCS USAGE CUE CARD IS IN THE
MIDDECK FDF LOCKER (URINE COLLECTION)

Phil Morgan
x 2541

ML26C SPLY H2O TK A PRESS CNTL vlv - PRESS (S66 CABIN, S66 H2O)

Unstow: Wireless headsets or Hand-held microphones
Don Wireless headset (if reqd)
XX AUD A/G 2 - RCV, tw-R
XMIT/ICOM MODE - PTT/VOX (recommended)

Unstow, deploy ORBIT CUE CARDS, MAL, ORBIT MAP, ORBIT OPS,
P/TV, WORLD ATLAS, UMI (PL FDF)

Stow in Helmet Bag: ASCENT CUE CARDS, ASC, ASC PKT,
Unstow Jettison Stowage Bag, mark 'Return to Houston'
Stow in Jettison Bag: Helmet Bag containing
ASCENT CUE CARDS, ASC, ASC PKT

CLOTHING CONFIG 11

MS Doff, stow
Harness, boots

Doff, stow in Wet Trash
UCD (clamp if used)
Emesis Bag, if used (unstow new bag)

MIDDECK CONFIG 8

SWITCH CONFIG

ML86B:A All cbs closed (H2O) except: MNB H2O LINE HTR B - op
:B All cbs closed (WCS) except: MNB WASTE H2O TK 1 DRAIN - op
:E All cbs closed
:F All cbs closed except CRYO TK 4 as reqd
:G All cbs closed except CRYO TK 4 as reqd

MA73C:E All cbs closed (WCS & pl except:
cb AC2 PL 3# - op
cb AC3 PL 3# - op

PLB DOOR OPS - DISABLE

MA73C:A MCA LOGIC MNA MID 1 - OFF
MNB MID 2 - OFF
:B MCA LOGIC MNB MID 4 - OFF
MNC MID 4 - OFF

ML31C WASTE H2O DUMP ISOL VLV - OP (tb-OP)
VAC VENT ISOL VLV CNTL - OP (tb-OP)
NOZ HTR - ON

MD44F Unstow, Install: CAB TEMP CNTL actuator linkage to actuator 1

GALLEY (WATER DISPENSER) ACTIVATION

IF GALLEY onboard

GALLEY ✓MV3 - ON
DC POWER BUS A - ON
B - ON

or

IF OPS WATER DISPENSER onboard (no GALLEY)

✓ELEC CONNECTOR connected
MD30F DC UTIL PWR - ON
Unstow, Install Personal Hygiene Hose

WCS ACTIVATION

Remove and stow seat S7 (if flown)

WCS VAC VLV - OP
Foot restraints - down & locked
WCS Restraint bag - remove, install on wall
✓WCS operation, WCS Cue Card
✓WMS ACTIVATION (UMI, NOMINAL PROCS) (WHEN TIME PERMITS)

Unstow, install:

Mirror
Facial Tissue dispensers
Toilet Tissue
Wet Wipe/Wash Dispenser
WCS Wipes/Cleanser (aft WMC wall)

ON-ORBIT SWITCH LIST

LEFT SEAT

L1.....1A-3
 L2.....1A-3

 F6.....1A-2
 F8.....1A-2

 O6.....1A-4
 O7.....1A-5
 O8.....1A-5

 O14.....1A-6
 O15.....1A-6

RIGHT SEAT

O16.....1A-7
 O8.....1A-5

 F8.....1A-2

 R1.....1A-3

AFT

C5.....1A-7
 C6.....1A-7
 C7.....1A-7

 A7L.....1A-8
 A11.....1A-8

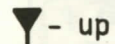
MIDDECK-FWD

ML86B.....1A-9

MIDDECK-AFT

MA73C.....1A-9
 MA75H.....1A-8
 MO32M.....1A-8
 MO69M.....1A-8

LEGEND



- up



- center



- down

R - as reqd

● - cb close

○ - cb open

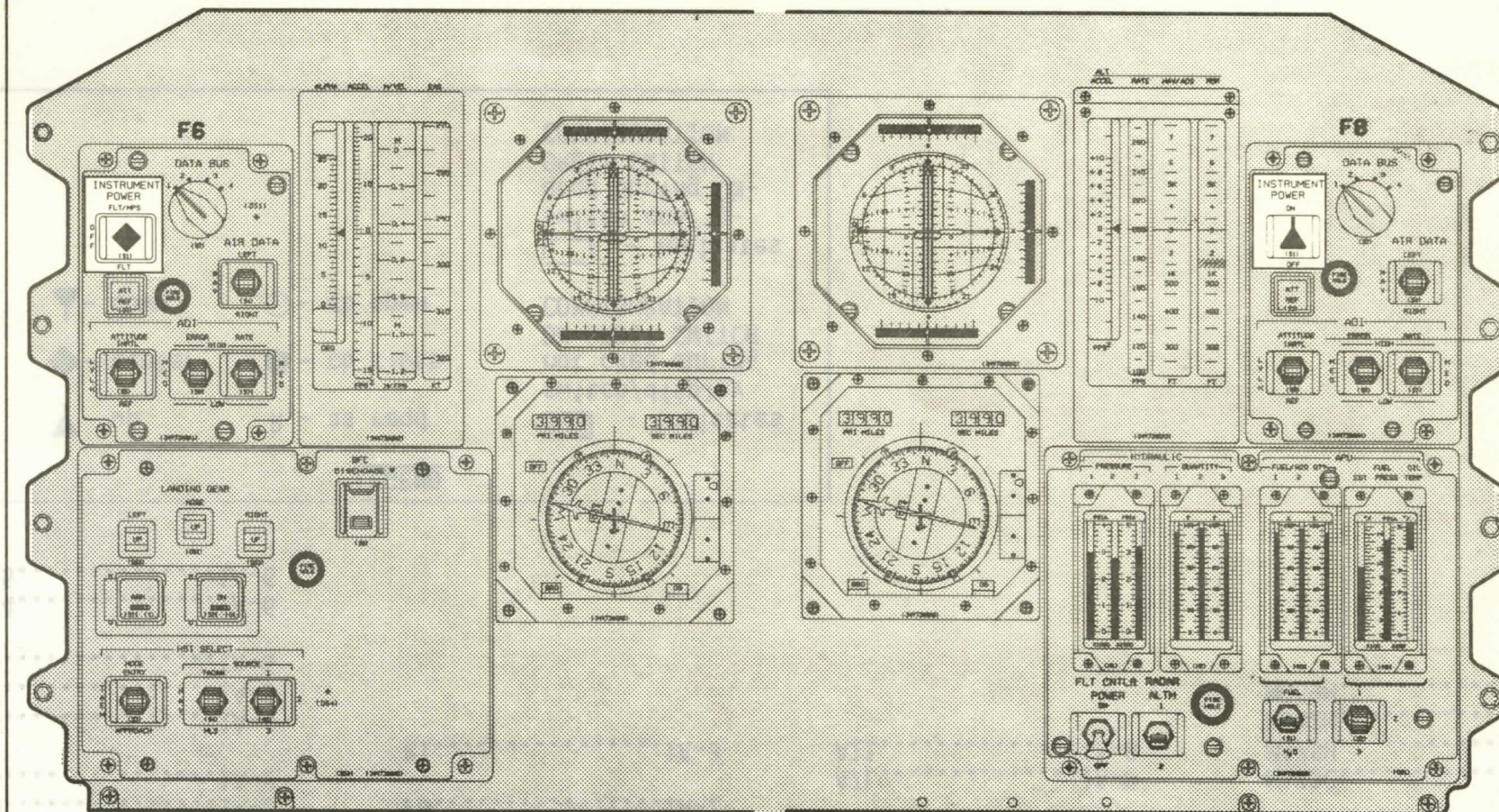


- indicates
 switch/display
 not ckd during
 ON-ORBIT SWITCH
 CONFIGURATION



- indicates
 switch config-
 ured during ON-
 ORBIT SWITCH
 CONFIGURATION

ALL VEH



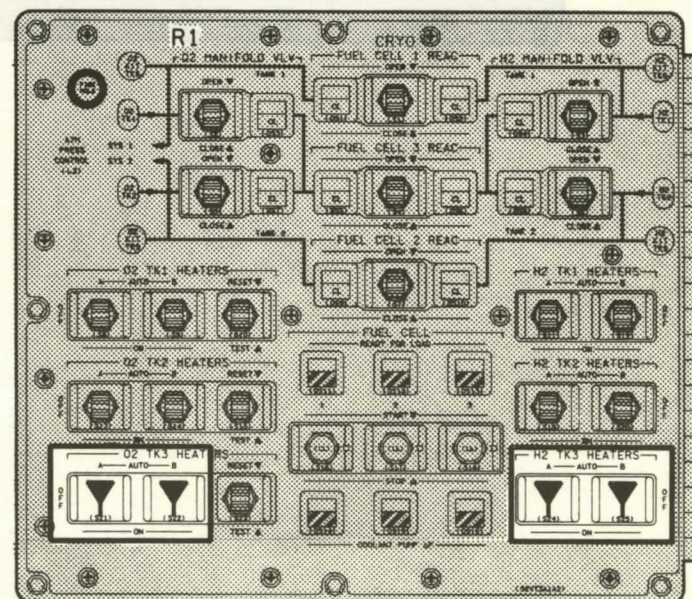
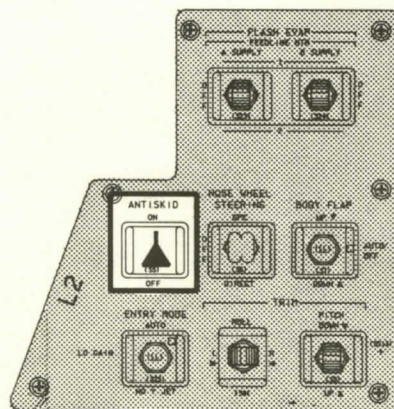
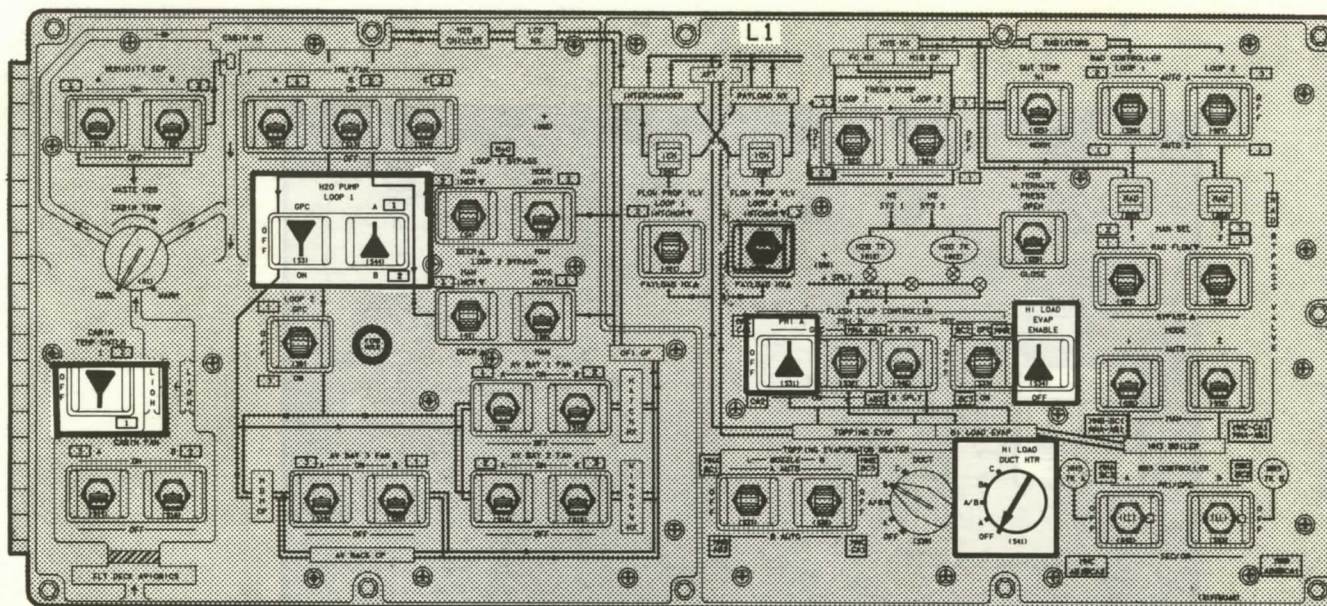
ON-ORBIT-2

1A-2

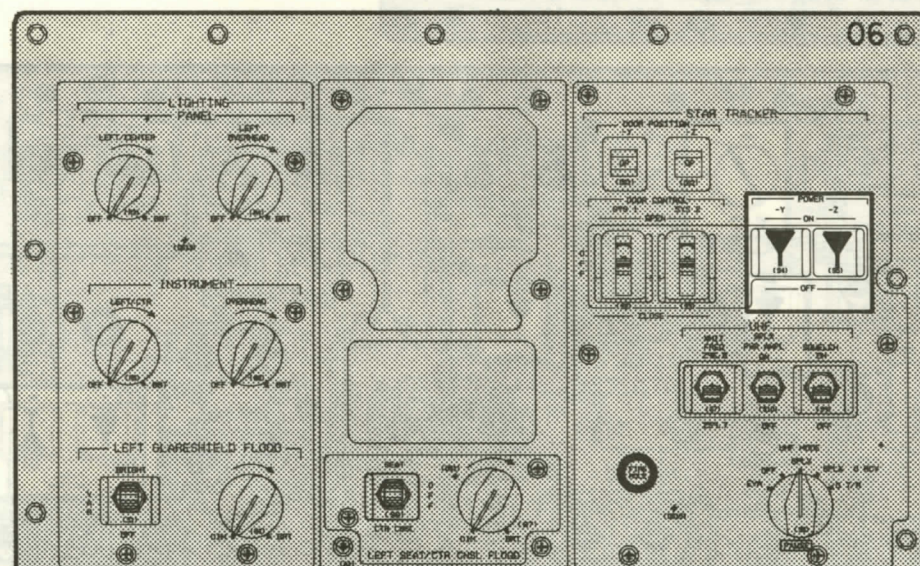
ALL VEH/DATE 07/10/84

PI/51-B/FIN A

ALL VEH



ALL VEH



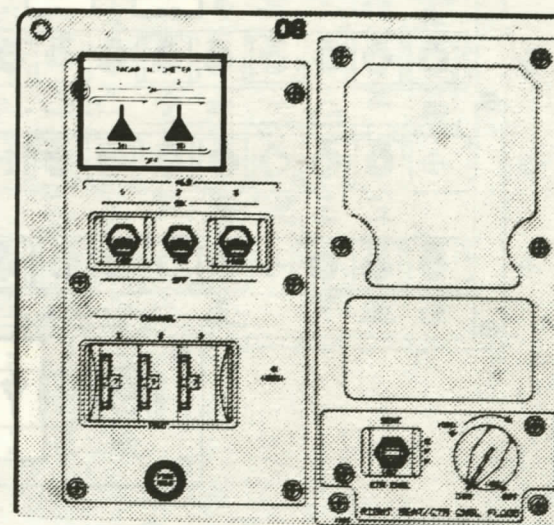
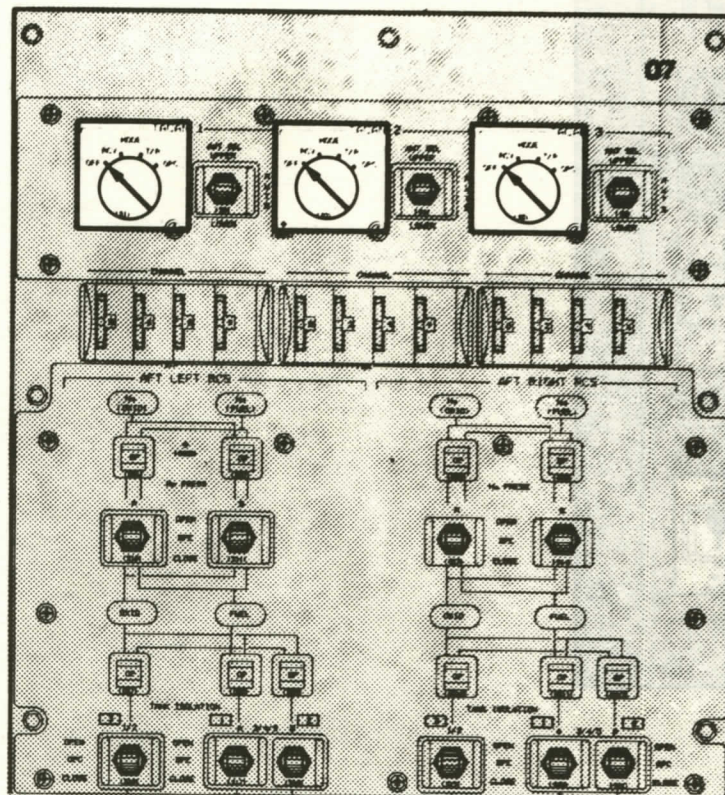
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1A-4

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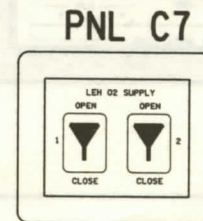
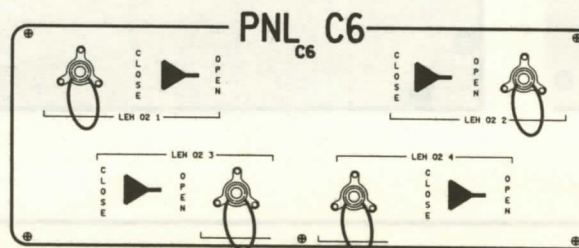
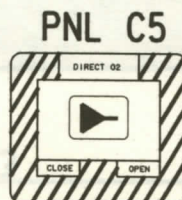
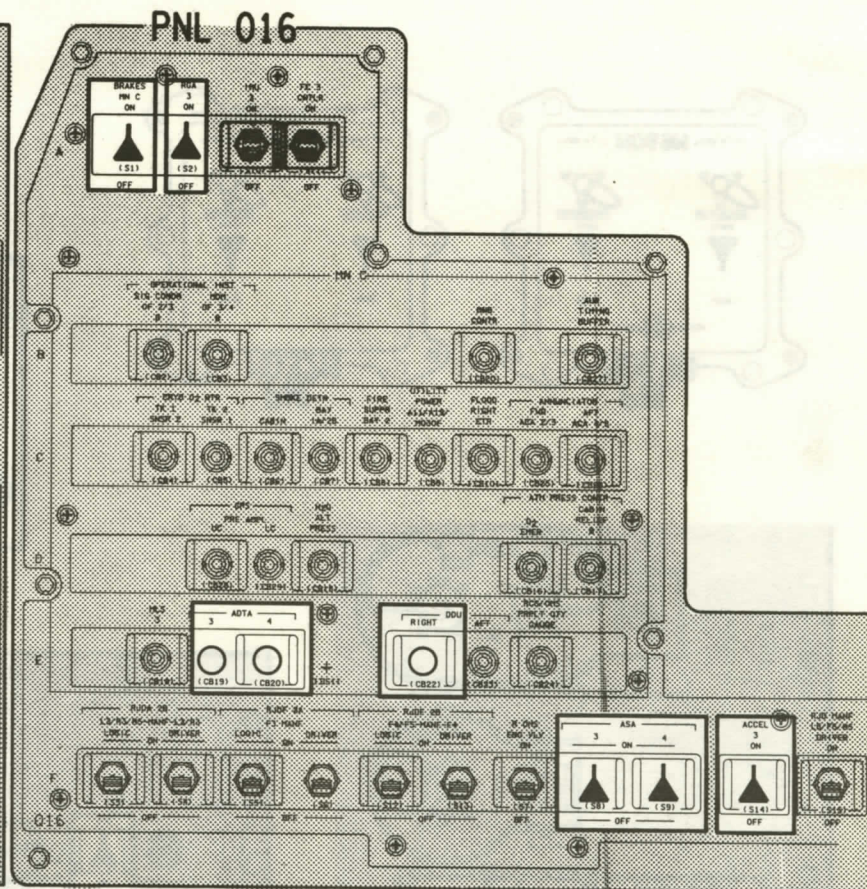
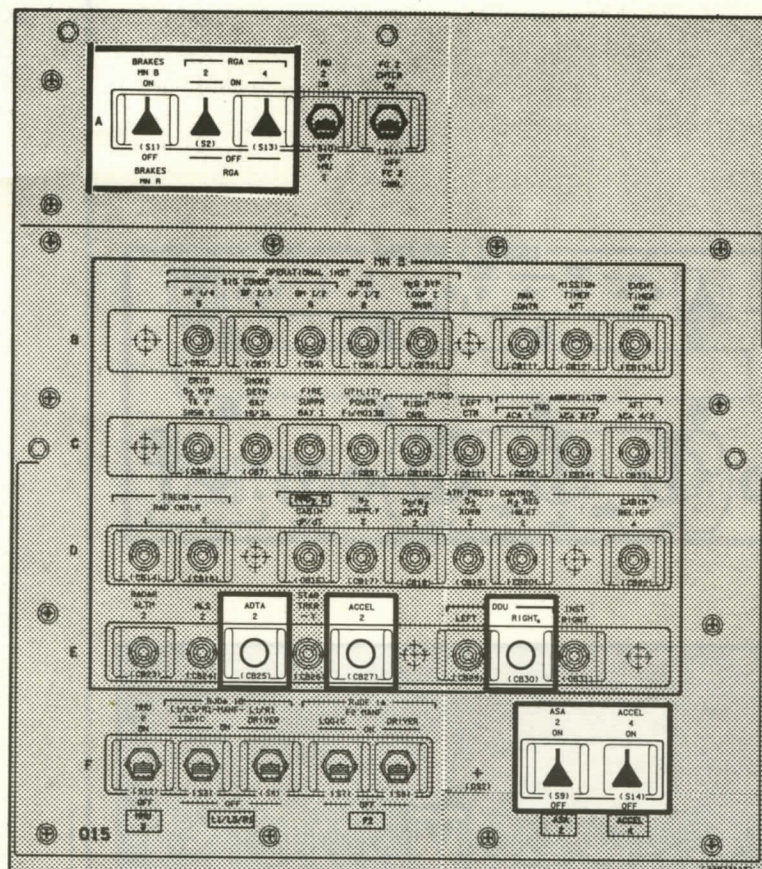
PI/51-B/FIN A

ALL VEH

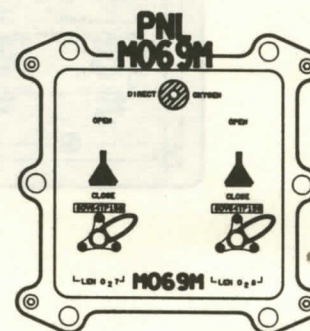
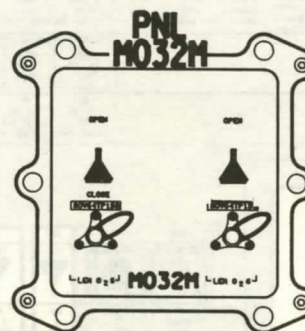
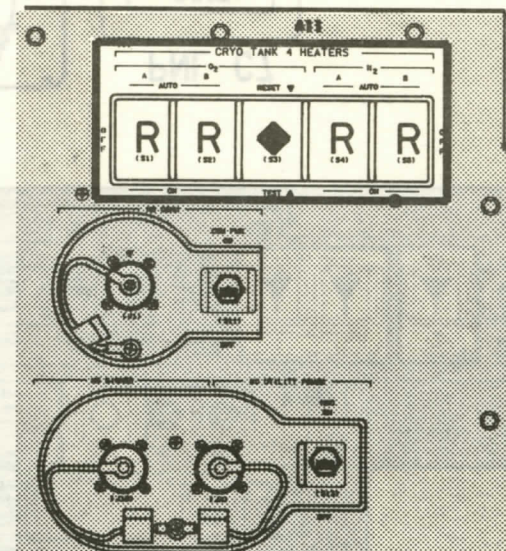
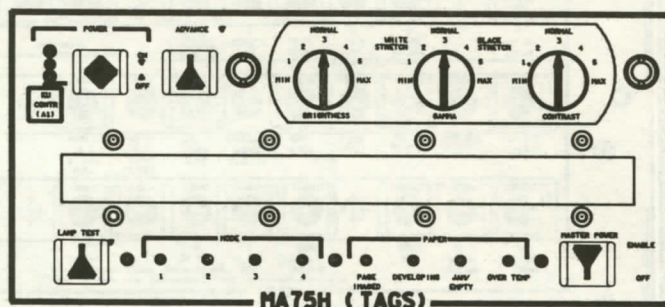
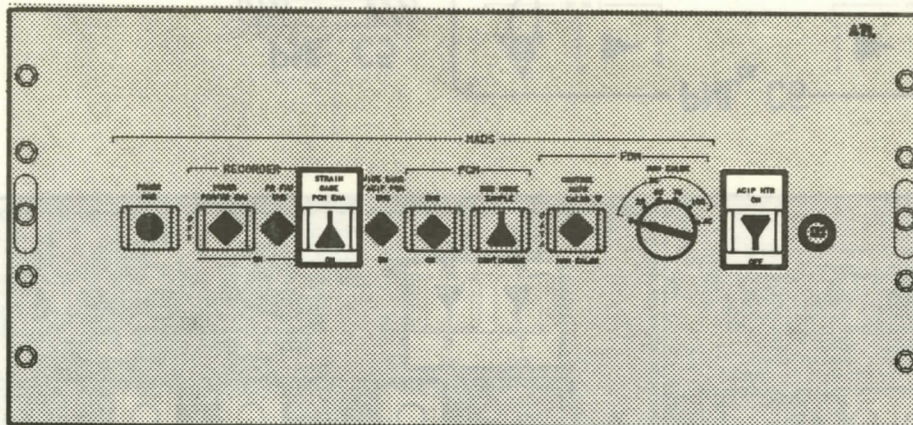




ALL VEH



OV099/OV103



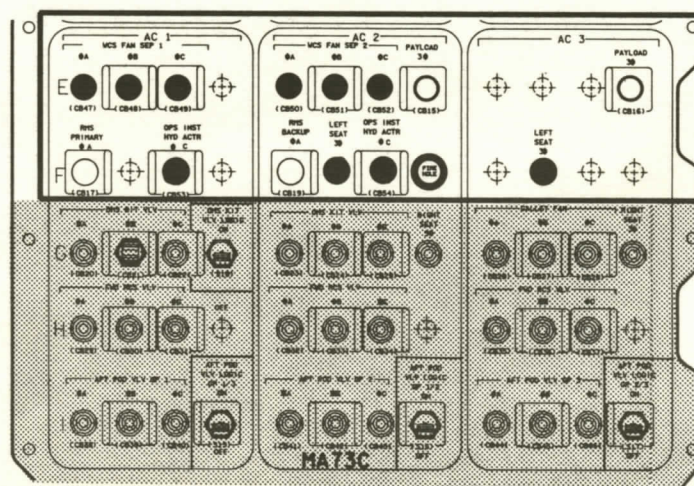
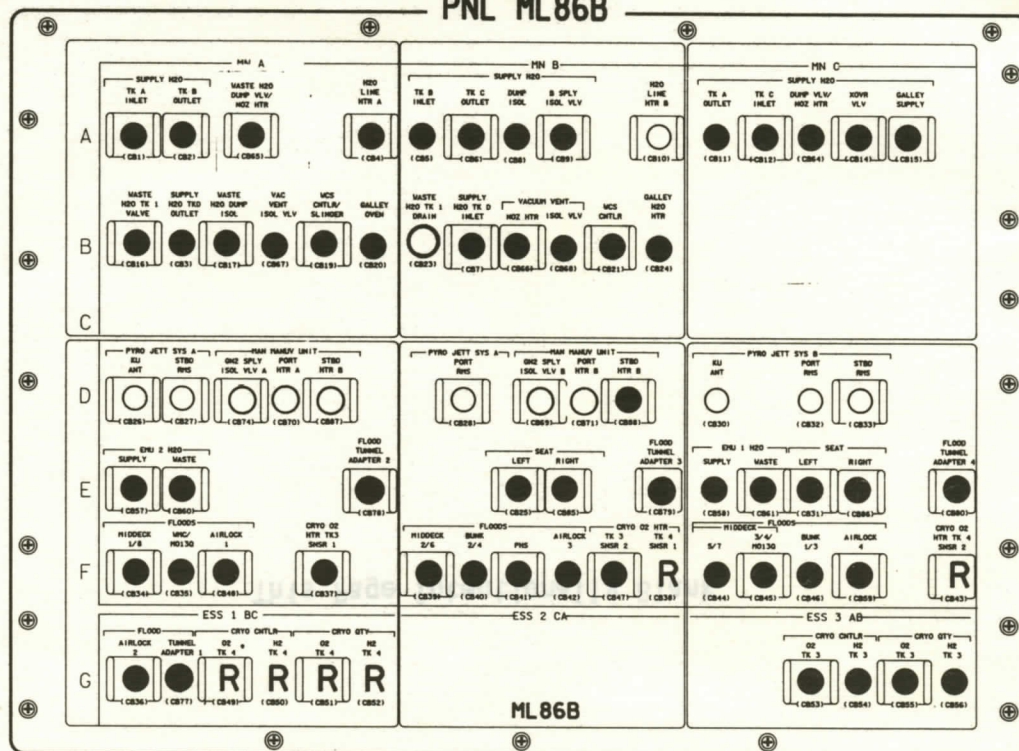
ON-ORBIT-8

1A-8

OV099/OV103/DATE 07/10/84

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- OV099/OV103 DATE 07/10/84

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1A-10

PI/51-B/FIN A

ATO POST INSERTION PROCEDURES

07:42	04 05:12 WEI NCC F CHER 60XMO 60 FOR 08011 062 MAY OCCUR AT THE JETTER TIME
WEI	Changes to the nominal post insertion

in the nominal sequence
activities begin at 05:12. All activities should be followed
because of a 05:12 start time. The nominal post insertion

ATO POST INSERTION PROCEDURES

Because of a ~22 min late OMS 2 burn, the nominal Post Insertion activities begin ~22 min late. All activities should be performed in the nominal sequence

MET	Changes to the Nominal Post Insertion
01:45	<u>MCC & CREW GO/NO GO FOR ORBIT OPS</u> may occur at the latest time of 02:15 MET

ATO POST INSERTION PROCEDURES

FLIGHT DATA FILE
CORE DISTRIBUTION
03/01/85

JSC
AP/Director
AP3/Support (2)
Pub. Information (1)
CA/Director
CA7/Chief
DA6/Chief (2)
DF/Chief
DF24/INCO (4)
DF63/Head
DG/Rockwell
DG4/Crew Sys. (2)
DH4/FDF MGR
FAO
T/L
Flt. Act Br (16)
DH6/Branch Off. (3)
EC/Chief
EC2/Support (4)
EH13/Chief
Support
EH3/Chief
EH4/Chief
EH5/Chief
Support
EN43/Head
EN44/Head
ES5/Support
ET/Support
EX/FDF CPCB Rep.
FE42/Head
FM3/Sys. Analysis Sect.
JM2/Technical Library (3)
JM24/COD Pub Center
MD/Manager
MD3/Support
MF/GFE Project Office
Support (RIC)
MP2/CPCB Rep.
NS/Safety Div.
SD2/Surgeon
Support
ZR1/MMC Library (2)
ZR2/Mission Support (2)

Boeing
HS-04/D. Bennett

Dryden Flight Research Facility
OS/J. L. Kolf

NASA Headquarters
MO/C. Lee
TX-1/J. G. Maley
MOE/R. D. McCafferty (2)

Kennedy Space Center
SE-PEO-A/J. A. Thomas
SO-A/Astronaut Office (2)
ZK-25/Rockwell Tech Data
LSO-233/A. Grenville

Marshall Space Flight Center
MDTSCO, Bldg 4666,
DCC/L. White
MS12A/K. Jackson
SA82/R. R. Pride
EE45/R. Marmann
PMIC/TBE/J. Humphrey

Goddard Space Flight Center
405/J. B. Hartmann

NASA SSPRO - Palmdale
MR5/R. R. Frazer
PL14/H. Kuznicki

McDonnell Douglas - Houston
A2/L. T. Guderian
A3/G. Venables
D3/M. Pipher (2)
D4/H. Stegall
R. DeVall

Charles Stark Draper Lab
MS23/R. A. Larson (2)

IBM - Houston
MC9236/A. J. Sava
T&O Library
MC8212/Verification Library
MC9186/Project Office Library
MC6251/Wilson-Lib.

Lockheed - Houston
B12/M. Martin
B12/E. M. Bains
J. Termini

Singer-Link - Houston
SMS Data Library

Honeywell Inc. Avionic Division
13350 U.S. Highway 19
Clearwater, FL 33546
#818-5/J. R. Peterson

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