

Post Insertion

STS-81

**Mission Operations Directorate
Operations Division**

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National Aeronautics and
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Lyndon B. Johnson Space Center
Houston, Texas

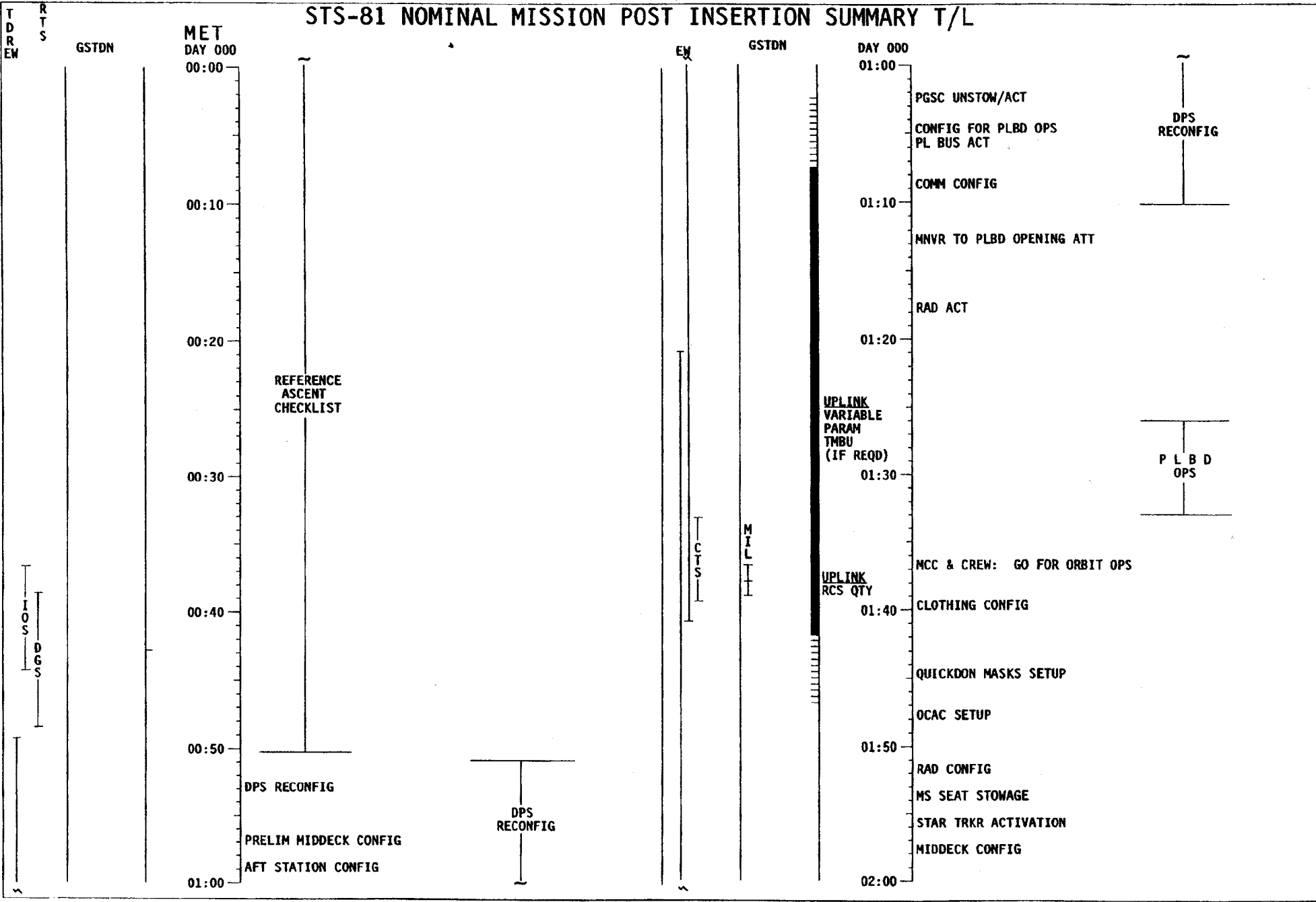


United Space Alliance

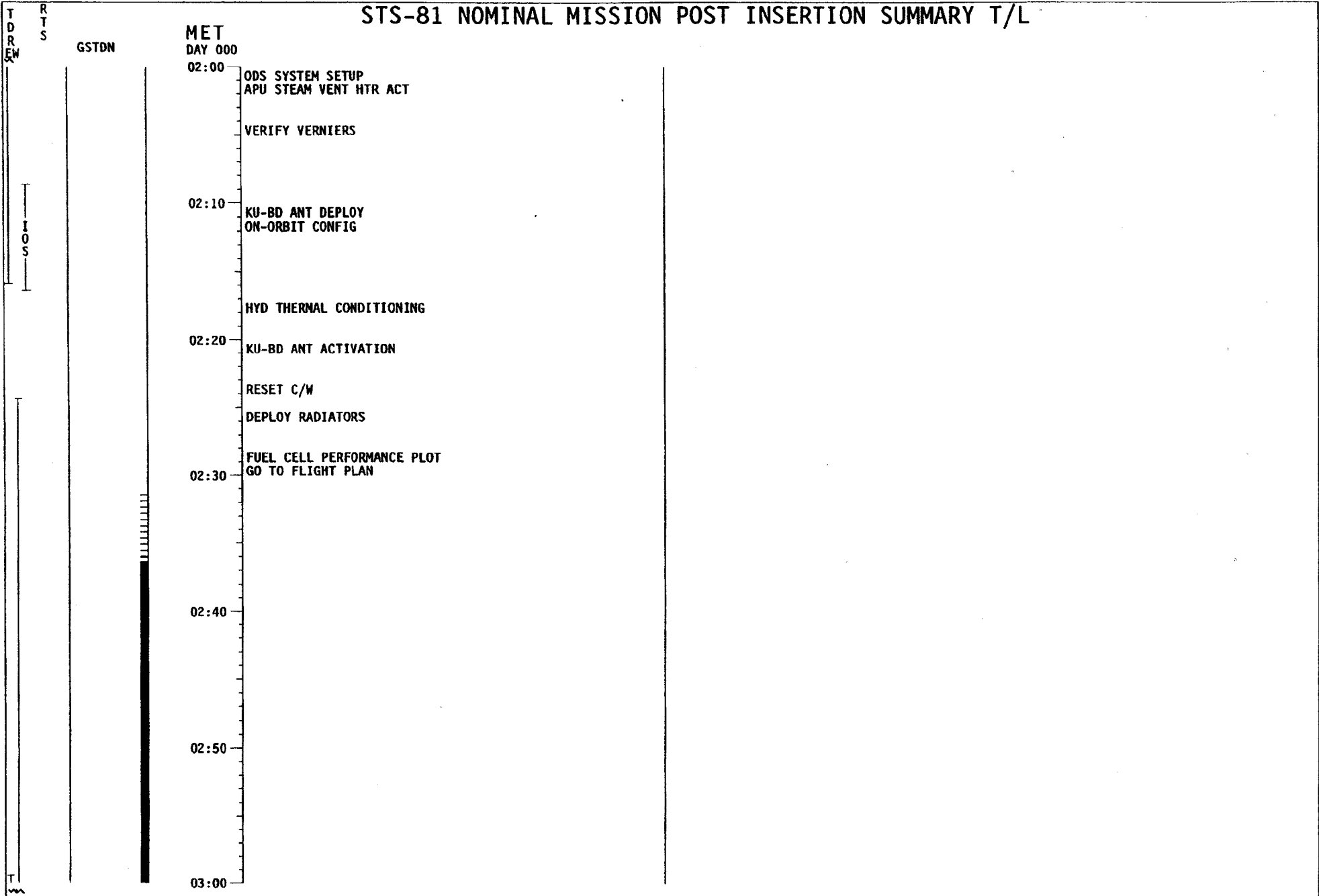


POST INSERTION PROCEDURES

STS-81 NOMINAL MISSION POST INSERTION SUMMARY T/L



STS-81 NOMINAL MISSION POST INSERTION SUMMARY T/L



CONFIG GPCS 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 1,3 to one GPC
* Strings 2,4 to other GPC *

NOTE

Do not perform any keyboard item entries or switch throws 10 seconds before and after moding PASS GPCs to RUN or making OPS transition requests

C,P 1. REASSIGN G2FD STRING TO ANOTHER GPC IN MC 1

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

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

CAUTION
If BFS standalone (BFC lt flash):
BFC CRT DISP - ON
BFS, GNC I/O RESET
BFC CRT DISP - OFF

2. MODE G2FD GPC TO OPS 0

06 GPC MODE G2FD - STBY (tb-bp)
- RUN (tb-RUN)

3. LOAD MC 2 INTO G2FD GPC

CRTX PL, GPC/CRT G2FD GPC/X EXEC
X: PL GPC MEMORY
CONFIG - ITEM 45 +2 EXEC
GPC - ITEM 46 +(G2FD) EXEC
STORE - ITEM 47 EXEC
Store complete when MC = 02 (~16 sec)

* If no MC = 02 after 2 min:

* a. Cycle pwr on MMU 1,2; wait 34 sec

* b. Retry GPC FREEZE DRY (step 3)

* c. If FD successful: Continue with step 4
* If not successful: Select MMU alternate area for GNC MF,
* ITEM 53 +2 EXEC; retry GPC FREEZE DRY (step 3);
* go to step d

* d. If FD successful: Continue with step 4
* If not successful and:

* NO GPCs FAILED: Go to step 1; delete GPC 3 from TGT SET;
* restrng 1,3 to GPC 1 and 2,4 to GPC 4; try to FD
* GPC 2 with steps 2 & 3; go to step e

* ONE GPC FAILED: Go to step 1; delete attempted FD GPC from
* TGT SET; restrng all strings to lowest ID GPC; try to FD
* other GPC with steps 2 & 3; go to step e

* e. If FD successful: Continue with step 4
* If not successful: Select MMU alternate area for GNC MF,
* ITEM 53 +2 EXEC; retry GPC FREEZE DRY (step 3);
* go to step f

* f. If FD successful: Continue with step 4
* If not successful: Consider both MMUs failed; on MCC GO,
* perform transition to OPS 3

4. TRANSITION TO GNC OPS 2

GNC OPS 0 GPC MEMORY
CONFIG - ITEM 1 +2 EXEC
Modify MC 2 per Table

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

GNC OPS 201 PRO
GNC UNIV PTG

5. TURN OFF BFC LT

C3 BFC CRT DISP - ON
C2 BFS,MSG RESET
F2,F4 /BFC lt - off
C3 CRT DISP - OFF

MET

DAY 000
00:30

TRANS
DAP
AUTO
RT 0.5
DB 3.5

00:35

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

00:40

MEMORY CONFIGURATION TABLE				
CONFIG	1	2	3	4(5)
OPS	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	1	3	0
	4	2	4	0
P/L 1/2	1	0	1	4
CRT	1	1	1	4
	2	2	2	4
	3	0	3	0
	4	0	0	4
L	1	0	0	4
	2	0	0	0
MM	1	1	1	4
	2	2	2	4

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

00:50

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

MS SPECIALIST SEAT EGRESS

00:55

C,P CONFIG GPCs FOR OPS 2 [1],1-6
(USE DUAL G2 CONFIG, SINGLE G2 IF GROUP B PWRDN)
 If two PASS GPCs failed, MCC
 If BFS engaged: Go to MAL, DPS, GPC FRP-4

A1(B1)
AUTO
PRI
RT 0.2
DB 5.0

MS PRELIM MIDDECK CONFIG (MID Cue Card) [2],1-19

MS AFT STATION CONFIG (AFT Cue Card) [3],1-17

01:00

6. TRANSITION TO SM OPS 201(401)

CRTX SM, GPC/CRT SM GPC/X EXEC
X: SM GPC MEMORY
CONFIG - ITEM 1 +4(5) EXEC
Modify MC 4(5) per Table

NOTE
Expect multiple msgs, Master
Alarm, SM Alert

SM, OPS 201(401) PRO
SM ANTENNA
C3 ✓JPLK - ENA

SM 1 DPS UTILITY
UL CNTL AUTO - ITEM 35 EXEC

7. SECURE BFS

C3 BFS CRT DISP - ON
CRT3 BFS, GNC, OPS 000 PRO
3: BFS, BFS MEMORY
C3 BFC CRT DISP - OFF
✓All CRTs deassigned from BFS

NOTE
Expect '210 SH PPO2 2' and '215 SH H20 LN HTR' msgs,
Master Alarm, SM Alert

06 GPC MODE 5 - STBY(tb-RUN)

8. RECONFIG CRTs

C2 GPC/CRT 03 EXEC
CRT 3 PWR - OFF
✓4 PWR - ON
GPC/CRT SM GPC/4 EXEC

9. LOAD ORBIT TFLs

C3 01 PCMMU FORMAT - GPC
SM 62 PCMMU/PL COMM

FORMAT:
CRT FXD - ITEM 1 EXEC (*)
SEL ID - ITEM 3 +1 8 4 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

CONFIG	4(5)
GPC	00040
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

10. RECONFIG GPCs

06 GPC MODE 5 - HALT(tb-bp)
 OUTPUT 5 - NORM(tb-bp)
 OUTPUT (SM GPC) - TERM(tb-bp)

If no failed GPC:
 Assign FD GPC CRT to another GPC
 GPC MODE (FD GPC) - STBY(tb-bp)
 - HALT(tb-bp)
 - STBY(tb-RUN)
 - HALT(tb-bp)

06 If single G2 reqd:
 GPC MODE 2 - STBY(tb-bp)
 - RUN(tb-RUN)
 CRTX MAJ FUNC - PL
 CRTX GPC/CRT 2X EXEC

X: PL GPC MEMORY
 CONFIG - ITEM 45 +2 EXEC
 GPC - ITEM 46 +2 EXEC
 STORE - ITEM 47 EXEC
 Store complete when MC = 2 (~30 sec)
 Assign FD GPC CRT to another GPC
 GPC MODE 2 - STBY(tb-bp)
 - HALT(tb-bp)
 - STBY(tb-RUN)
 - HALT(tb-bp)

Perform ERR LOG RESET (GNC + SM)

If PASS GPC failed from ASCENT and dual G2 reqd: Use G2FD to form G2 RS

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

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

If PASS GPC failed from ASCENT and single G2 reqd:
 Assign FD GPC CRT to another GPC
 GPC MODE (FD GPC) - STBY(tb-bp)
 - HALT(tb-bp)
 - STBY(tb-RUN)
 - HALT(tb-bp)

If GPC failed from ASCENT:
 Perform MAL, DPS, GPC FRP-1 as time permits
 PI Locker When all GPC switch configuration complete,
 unstow and install GPC MODE switch guard

PL BUS ACTIVATION 4A

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

NOTE
 Expect multiple msgs, Master Alarm, SM Alert

R1 PL AUX - ON
 AFT MNB - ON
 MNC - OFF

SM 210 SPACEHAB ACT/DEAC

✓BUS EMER VOLTS >24 AND <32
 ✓AUX A AMPS >0 AND <7
 ✓AFT B AMPS >0 AND <7

✓H2O PUMP 2 ORB, ITEM 73 - (*)
 ✓2 ON/1 OFF, ITEM 75 - (*)

MA73C:E cb AC3 PL 3φ - c1

CRT ✓H2O PUMP OUT P >40 and <105
 ✓IN P >30 and <80
 ✓HX H2O FLOW ARS, HAB (two) >250

✓FANS ARS ON, ITEM 67 - (*)
 ✓INV, ITEM 63 - (*)
 ORB - ITEM 65 EXEC (*)
 ✓ΔP 1,2 (two) >0.2 and <5.5

✓FANS HAB OFF, ITEM 62 - (*)
 ✓INV, ITEM 64 - (*)
 ORB - ITEM 66 EXEC (*)
 ON - ITEM 68 EXEC (*)
 ✓ΔP 1,2 (two) >0.2 and <5.5

ORBIT 5/6 DEORBIT 7

If NO-GO for RAD/PLBD OPS due to 2 FCs failed: Go to CONT DEORB, LOSS OF 2 FC ORBIT 2 OR 3 at TIG-1:30

If NO-GO due to any other failure: Go to ORBIT 5/6 D/O, pg 2-1, for Pen and Inks to nominal POST INSERTION and D/O PREP C/L

MET

DAY 000

01:00

A1(B1)
AUTO
PRI
RT 0.2
DB 5.0

1: GNC UNIV PTG

2: SM ANTENNA

MS

PGSC UNSTOW/SETUP/ACTIVATION
PGSC ACTIVATION (ORB OPS, PGSC)

MS

CONFIG FOR PLBD OPERATIONS (AFT Cue Card) [4], 1-18
PL BUS ACTIVATION [4A], 1-8

01:05

C,P

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

01:10

P

UPDATE AND LOAD DAP A6 [5]

A6(B1)

MNVR TO PLBD OPENING ATTITUDE (-ZLV, -XV)

CRT 1
/TGT ID + 2
BODY VECT + 3
/P + 90.0
/Y + 0.0
OM + 0.0

01:15

DAP: A/AUTO/ALT
(01:12) Initiate TRK

C

RAD ACT [6]

RAD/PLBD OPS NO GO FOR FOLLOWING FAILURES

OMS/RCS	GNC	ECLS/EPS	MECH
2 OMS Engs	2 IMUs	1 H2O or Freon Lp	2 LG DPY METHODS
1 OMS Eng & 1 +X	3 RGAs	Both RFCAs	PRES or REDNT
RCS jet	3 AAs	Both Cab Fans	WINDOW PANE
1 OMS Inlet line	3 ADTAs	3 of 6 Av Bay Fans	FAILURE
OMS Prop Tk Leak	3 Elevon or	2 FCs	DPS
Aft RCS He or	BF Pos	Any MN or 3φ AC Bus	3 GPCs
Prop Leak	Fdbks (same	Any CNTL or MPC Bus	2 PL MDMs
COMM	surface)	3 IMU Fans	2 FF or FA MDMs
No Voice and	2 FCS Ch		APU/HYD
No CMD	(same surface)		2 APU/HYD/WSB

01:20

UPLINK
VARIABLE
PARAM
TMBU
(IF REQD)
01:30

If NO-GO for RAD/PLBD OPS: Go to **ORBIT 5/6 DEORBIT** [7], 1-8

MS

OPEN PLBDs, AUTO MODE, 1-15
NOTE: CAUTION BLOCK on 1-15

MS

PL COMM CONFIG [8]

UPDATE AND LOAD DAP A6 [5]

GNC 20 DAP CONFIG

Item 3 +6 EXEC
Item 63 +0.0 5 EXEC
Item 5 EXEC
Item 1 +6 EXEC

RAD ACT [6]

NOTE

If RAD flow has been initiated manually delay
RAD ACT until MCC call or until CNTLR OUT T low

L1 RAD BYP VLV MODE (two) - AUTO
CNTLR LOOP (two) - AUTO A
Wait 90 sec
/RAD BYP VLV tb (two) - RAD

* If RAD BYP VLV 1(2) tb - BYP: *

* RAD CNTLR LOOP 1(2) - AUTO B *

* Wait 90 sec *

* /RAD BYP VLV 1(2)tb - RAD *

* If RAD BYP VLV 1(2) tb still BYP or bp: *

* RAD BYP VLV MODE 1(2) - MAN *

* MAN SEL 1(2) - RAD FLOW *

* Hold 3 sec or until tb - RAD *

* If RAD BYP VLV 1(2) tb - bp: *

* RAD BYP VLV MODE 1(2) - MAN *

* MAN SEL 1(2) - RAD FLOW *

* Hold 3 sec or until tb - RAD *

* If RAD BYP VLV 1(2) tb still bp: *

* Do not select alternate RAD CNTLR *

PL COMM CONFIG [8]

C

SM 62 PCMMU/PL COMM

A1L /PL DATA INTLVR PWR - ON
S-BD PL PWR SYS - 1
/SEL - PSP
/PSP CMD OUTPUT - PL UMB
CNTL - PNL, then CMD

PSP:

CRT I/O RESET PSP 1 - ITEM 6 EXEC (*)

PCMMU:

I/O RESET PCM - ITEM 5 EXEC (*)

SM ANTENNA

MET

1: GNC UNIV PTG

2: SM PL BAY DOORS

4: SM PL BAY DOORS

DAY 000

01:30
A6(BI)
AUTO
PRI
RT 0.05
DB 5.0

MS

If time available:
P/TV01 SETUP, OPS (P/TV, P/TV01 PLB VIEWS)

01:35

MCC & CREW:

GO FOR ORBIT OPS

C 06
C,P

UHF MODE - OFF
SEAT EGRESS

UPLINK
RCS QTY

C,P

CLOTHING CONFIG 9

01:40

MS

CLOTHING CONFIG (MID,AFT Cue Cards) 10,1-18,1-19

01:45

MS

QUICKDON MASKS SETUP
Unstow, install, verify operation

QCAC SETUP (ORB OPS, CREW SYS)

01:50

C

POST PLBD OPS RAD CONFIG 11

MS

SPECIALIST SEAT REMOVAL/STOWAGE

01:55

C

STAR TRKR ACTIVATION/DOOR OPEN 12,1-13

MS

WCS CONFIG/ACT (MID Cue Card) 13,1-20

MS

SWITCH CONFIG/GALLEY ACT (MID Cue Card) 14,1-20

MS

ESCAPE POLE STOWAGE (MID Cue Card) 15,1-20

02:00

P

SUPPLY WATER CONFIG 16

CLOTHING CONFIG 9

Doff, stow
Harness, boots, LES
Stow gloves in Helmet

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

POST PLBD OPS RAD CONFIG 11

C

1: SM 88 APU/ENVIRON THERM

NOTE

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

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

CRT1 When FREON LOOP RAD OUT T < 60 deg:
L1 HI LOAD EVAP - OFF
H2O LOOP 2 BYP MODE - AUTO

1: GNC UNIV PTG

SUPPLY WATER CONFIG 16

ML86B:A ✓tb MNB SPLY H2O DUMP ISOL - c1
R11L SPLY H2O DUMP ISOL VLV - OP(tb-OP)

✓MCC for reqd config:

R11L CONFIG 1
✓SPLY H2O XOVR VLV - CL(tb-CL)
TKB INLET - CL(tb-CL)
TKA OUTLET - OP(tb-OP)

R11L CONFIG 2
SPLY H2O TKC INLET - CL(tb-CL)
OUTLET - CL(tb-CL)
XOVR VLV - OP(tb-OP)

MET

DAY 000

1: GNC UNIV PTG

2: SM ANTENNA

4: SM ANTENNA

02:00
A6(B1) MS
AUTO
PRI
RT 0.05 P
DB 5.0

ODS SYSTEM SETUP FOR INGRESS 17

R2

APU STEAM VENT HTR ACT

✓BLR CNTLR/HTR (three) - A
✓PWR (three) - ON

02:05
A6(B1) C
AUTO
VERN
RT 0.05
DB 1.0

016:F

CONFIG VERNIER CONTROL

Verify GO to use Vernier Jets
RJD MANF L5/F5/R5 DRIVER - ON, wait 5 sec
DAP: A/AUTO/VERN

02:10
MS

KU-BD ANT DEPLOY (ORB OPS, COMM/INST)

C,MS

CONFIG CONTROLS FOR ON-ORBIT

Perform steps on pages 1-21 thru 1-30
Unstow, install HUD covers (two)

02:15
L2

Remove, stow (on PNL L2/FDF FD locker)
NWS sw flex extension

02:20
P
A12
R2

HYD THERMAL CONDITIONING ENABLE

HYD CIRC PUMP PWR 3 - MNA
HYD CIRC PUMP (three) - GPC

MS

KU-BD ANT ACTIVATION (ORB OPS, COMM/INST)

MS

RESET C/W (AFT Cue Card) 18, 1-18

02:25
MS

DEPLOY RADIATORS (ORB OPS, ECLS)

A6(B1) MS
AUTO
VERN
RT 0.05
DB 1.0

FUEL CELL VI PERFORMANCE PLOT (ORB OPS, EPS)

02:30

Stow POST INSERTION; Go to FLIGHT PLAN, FLT DAY 1

ODS SYSTEM SETUP FOR INGRESS 17

MA73C:G
INT A/L Hatch

1. Perform DOCKING MECHANISM INITIALIZATION (MIR-SHUTTLE, NON-JOINT PROCEDURES)
2. cb AC1,2 ARLK TNL FAN A,B (six) - cl
3. Open hatch per decal
4. Remove, stow diffuser cap on cabin middeck floor air fitting (mark stowage location - will be reused)
5. Remove, stow airlock/tunnel booster fan inlet cap
6. Unstow flex duct from A/L floor
7. Attach one end to airlock/tunnel booster fan muffler inlet
8. Attach free end to cabin middeck floor fitting
9. LTS AIRLK (two) - ON (as reqd)
10. Equal vlv cap (two) - remove and stow (two) - NORM
11. Disconnect tunnel adapter flex from PL ISOL vlv, remove cap and stow
12. Reconnect flex duct to PL ISOL vlv
13. PL ISOL vlv - OP
14. Open hatch per decal
15. ARLK/TNL FAN A(B) - ON, ✓airflow at fan outlet
16. ✓Airflow at top of external airlock halo
17. ✓NEG CAB PRESS RELIEF vlv cover (two) - CL (pushed in)

INT A/L (flr)

A7L
TNL ADAPT hatch

TNL ADAPT (aft)

TNL ADAPT hatch
A7L
EXT A/L

STAR TRKR ACTIVATION/DOOR OPEN 12

- C 06 STAR TRKR PWR (two) - ON
GNC, I/O RESET
- 06 STAR TRKR DR CNTL SYS (two) - OP
✓POS tb (two) - bp (start timer)
- When both tb - OP (8-24 sec), or either tb - bp for > 24 sec,
CNTL SYS (two) - OFF

* If tb - bp > 8 sec, notify MCC *

1: GNC 22 S TRK/COAS CNTL

STAR TRK - ITEM 3,4 EXEC

1: GNC 21 IMU ALIGN

RESUME

DETAILED PLBD OPENING PROCEDURES

CAUTION

If SM GPC fails during this operation:
R13L PL BAY DR SYS 1,2 (two) - DSBL
Perform PASS SM GPC FAIL (ORB PKT, DPS)

When opening and unlatching PLBD:

- If no motion determined visually or 'OP/CL' not blank within 10 sec after cmd: PL BAY DR - STOP; J MCC
- If door motion stops and not 'OP': PL BAY DR - STOP; J MCC

NOTE

Note any single mtr operations (continue ops)
(single mtr times = 2 x listed dual motor times).

If one mtr in each of two separate latch gangs fails:
J MCC for mission length determination

AUTO PLBD OPENING PROCEDURE

P CRT4 SM, OPS X02 PRO or **BFS, SM 63 PL BAY DOORS**
4: SM PL BAY DOORS

R13L ✓ PL BAY DR - STOP
CRT4 ✓ PBD SW - STOP
✓ MAN SEL (ten) - (no *)
✓ PBD SW BYPASS - (no *)
AC POWER ON - ITEM 1 EXEC (*)
AUTO MODE SEL - ITEM 3 EXEC (*)

R13L PL BAY DR SYS 1,2 (two) - ENA
CRT4 ✓ OP/CL STATUS (ten) - CL

R13L PL BAY DR - OP
CRT4 ✓ CENTER LATCHES 5-8, 9-12 (two) - blank, OP (~20 sec)
✓ 1-4, 13-16 (two) - blank, OP (~20 sec)
✓ STBD FWD, AFT LAT (two) - blank, OP (~30 sec)
✓ DOOR - RDY, blank, OP (~63 sec)
✓ PORT FWD, AFT LAT (two) - blank, OP (~30 sec)
✓ DOOR - RDY, blank, OP (~63 sec)

R13L PL BAY DR - STOP
SYS 1,2 (two) - DSBL
CRT4 AC POWER OFF - ITEM 2 EXEC (*)
SM, OPS X01 PRO (if PASS SM)
4: SM ANTENNA

A7U After floodlights ON > 25 min:
PL BAY FLOOD (all) - OFF

MANUAL PLBD OPENING PROCEDURE

P CRT4 SM, OPS X02 PRO or **BFS, SM 63 PL BAY DOORS**
4: SM PL BAY DOORS

R13L ✓ PL BAY DR - STOP
CRT4 ✓ PBD SW - STOP
✓ MAN SEL (ten) - (no *)
✓ PBD SW BYPASS - (no *)
AC POWER ON - ITEM 1 EXEC (*)

R13L PL BAY DR SYS 1,2 (two) - ENA
CRT4 ✓ OP/CL STATUS (ten) - CL

OPEN C/L LATCHES

CRT4 Select CENTER LATCHES 5-8,9-12
R13L PL BAY DR - OP
CRT4 ✓ CENTER LATCHES 5-8,9-12 (two) - blank, OP (~20 sec)
R13L PL BAY DR - STOP
CRT4 Deselect CENTER LATCHES 5-8,9-12
Select CENTER LATCHES 1-4,13-16

R13L PL BAY DR - OP
CRT4 ✓ CENTER LATCHES 1-4,13-16 (two) - blank, OP (~20 sec)
R13L PL BAY DR - STOP
CRT4 Deselect CENTER LATCHES 1-4,13-16

OPEN STBD FWD, AFT LATCHES & DOOR

CRT4 Select STBD FWD, AFT LATCHES
R13L PL BAY DR - OP
CRT4 ✓ STBD FWD, AFT LATCHES (two) - blank, OP (~30 sec)
R13L PL BAY DR - STOP
CRT4 Deselect STBD FWD, AFT LATCHES
Select STBD DOOR

R13L PL BAY DR - OP
CRT4 ✓ STBD DOOR - RDY, blank, OP (~63 sec)
R13L PL BAY DR - STOP
CRT4 Deselect STBD DOOR

OPEN PORT FWD, AFT LATCHES & DOOR

CRT4 Select PORT FWD, AFT LATCHES
R13L PL BAY DR - OP
CRT4 ✓ PORT FWD, AFT LATCHES (two) - blank, OP (~30 sec)
R13L PL BAY DR - STOP
CRT4 Deselect PORT FWD, AFT LATCHES
Select PORT DOOR

R13L PL BAY DR - OP
CRT4 ✓ PORT DOOR - RDY, blank, OP (~63 sec)
R13L PL BAY DR - STOP
SYS 1,2 (two) - DSBL
CRT4 Deselect PORT DOOR
AC POWER OFF - ITEM 2 EXEC (*)
SM, OPS X01 PRO (if PASS SM)
4: SM ANTENNA

A7U After floodlights ON > 25 min:
PL BAY FLOOD (all) - OFF

FUNCTION	PLBD CONTROL								PLBD DISPLAY MDM			
	Ref MA73C:C & D for MCA cbs											
	MTR 1				MTR 2				C C O O		C R R R O	
	AC/MCA	CNTL	MDM	SYS	AC/MCA	CNTL	MDM	SYS	A B A B	A B C		
LATCH												
5-8	1/MID3	AB3/AB2	PL1	2	3/MID2	CA3/CA1	PL2	1	1	2	1	2
9-12	1/MID1	AB3/AB1	PL1	1	3/MID4	CA3/CA2	PL2	2	1	2	1	2
1-4	1/MID3	AB3/AB2	PL1	2	3/MID2	CA3/CA1	PL2	1	1	2	1	2
13-16	3/MID4	CA3/CA2	PL2	2	2/MID2	BC3/BC1	PL1	1	2	1	2	1
S FWD	1/MID1	AB3/AB1	PL1	1	2/MID4	BC3/BC2	PL2	2	1	2	1	2
S AFT	3/MID4	CA3/CA2	PL2	2	2/MID2	BC3/BC1	PL1	1	2	1	2	1
S DOOR	1/MID1	AB3/AB1	PL1	1	2/MID4	BC3/BC2	PL2	2				1 1 2 2 1
P FWD	1/MID1	AB3/AB1	PL1	1	2/MID4	BC3/BC2	PL2	2	1	2	1	2
P AFT	1/MID3	AB3/AB2	PL1	2	3/MID2	CA3/CA1	PL2	1	1	2	1	2
P DOOR	3/MID4	CA3/CA2	PL2	2	2/MID2	BC3/BC1	PL1	1				2 1 1 2 2
												1 1 1 2 1

AFT FLIGHT DECK RECONFIGURATION

AFT STATION CONFIG 3

014:D POST SEAT EGRESS
 cb MNA CAB VENT - op
 ISOL - op

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

A12 APU HTR LUBE OIL LINE (three) - A AUTO

CAUTION

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

ON ORBIT CONFIG

Don headset (if reqd)

If WCCS: Perform STD WCCS CONFIG (ORB OPS, COMM/INST)

If flight deck handheld mic/speaker operation:

R10 MS AUD PWR - AUD/TONE
 A/G1 - T/R, tw-2
 A/G2 - RCV, tw-2
 A/A - RCV, tw-2
 ICOM A - T/R, tw-2
 B - RCV, tw-2
 XMIT/ICOM MODE - PTT/PTT

A13 OS AUD SPKR PWR - SPKR
 MSTR SPKR VOL - 8

A11 MS COMM CCU PWR - OFF
 Connect HHMIC to CCU

R6,L5 MS COMM CCU PWR - ON
 CCU PWR - OFF
 HIU VOL (two) - minimum, full CCW

A1L S-BD PM MODE - TDRS DATA
 NSP DATA RATE RCV - HI
 XMIT - HI
 CODING (two) - ON

A1R S-BD FM DATA SOURCE - OPS RCDR (rot)
 AUD CTR VOICE RCD SEL CH 1 - OFF
 2 - OFF

R14:C cb MNB KU ANT HTR - c1
 :D All cbs closed except CCTV ADU
 :E All cbs closed

R11L CRT 4 PWR - ON

A7L cb DOCK LT MN A(B) VEST PORT(STBD) - c1

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

Unstow, deploy reqd FDF

(MET)	MS AFT ACTIONS
00:53	SPECIALIST SEAT EGRESS
00:59	AFT STATION CONFIG 3
01:02	PGSC UNSTOW/SETUP/ACTIVATION (ORB OPS, PGSC)
01:05	CONFIG FOR PLBD OPERATIONS 4
01:30	P/TV01 SETUP, OPS (P/TV, PLB VIEWS)
01:40	CLOTHING CONFIG 10
01:54	SPECIALIST SEAT REMOVAL/STORAGE
02:00	QDS SYSTEM SETUP FOR INGRESS 17
02:24	RESET C/W 18

CONFIG FOR PLBD OPERATIONS 4**SET UP LIGHTS**

A6U ANNUN BUS SEL - MNC

NOTE

Minimum operating time for PLB Floodlights - 25 min.
 Lights must be OFF for minimum of 10 min UNBLOCKED,
 16 min BLOCKED prior to reuse. ≈3 min to full bright

A7U PL BAY FLOOD FWD (two) - ON
 FWD BHD - ON
 MID (two) - ON

Record MET ___/___:___:

- * If PLB Floodlight not ON to full bright *
- * within 5 min: *
- * (Aff) PL BAY FLOOD - OFF *

SET UP P/TV

Perform ACTIVATION (Cue Card, TV)

Perform SETUP and ACTIVATION (Cue Card, 8MM VTR)

CLOTHING CONFIG 10

Doff, stow
 Harness, boots, LES
 Stow gloves in Helmet

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

RESET C/W 18

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
CABIN PRESS	4	3.85V/15.30 psia

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

MIDDECK RECONFIGURATION

PRELIM MIDDECK CONFIG 2

INSTALL FILTERS

Unstow, Install: Side Hatch UV Filter and Locking Device
Pyro Box Safing Pin

PRESS H2O TKA

ML26C SPLY H2O GN2 TK VENT vlv - PRESS
A SPLY vlv - OP

NOTE

Disregard possible 'S66 WASTE H2O PRES' fault msg

COMM CONFIG

Unstow: Headsets, handheld microphone and/or wireless comm
(see WCCS Cue Card), if flown

If WCCS: Perform STD WCCS CONFIG (ORB OPS, COMM/INST)

If middeck handheld mic/speaker operation:

MO42F	MIDDECK SPKR AUD	A/G1	- T/R, tw-2
		A/G2	- RCY, tw-2
		A/A	- RCY, tw-2
		ICOM A	- T/R, tw-2
		B	- RCY, tw-2
		XMIT/ICOM MODE	- PTT/PTT
		SPKR PWR	- SPKR
		MSTR SPKR VOL	- 8
MO39M	MIDDECK COMM CCU PWR		- OFF
	Connect HHMIC to CCU		
	MIDDECK COMM CCU PWR		- ON

EDE CONFIG

Stow in Helmet Bag: ASCENT CUE CARDS, ASC, ASC PKT, SYS AOA

Unstow Jettison Stowage Bag, mark "Return to Houston"

Place Helmet Bag in Return to Houston Bag

Unstow VW bags

(MET)	MS MIDDECK ACTIONS
00:53	SPECIALIST SEAT EGRESS
00:57	PRELIM MIDDECK CONFIG 2
01:40	CLOTHING CONFIG 10
01:54	SPECIALIST SEAT REMOVAL/STOWAGE
01:57	WCS CONFIG/ACT 13
01:58	SWITCH CONFIG/GALLEY ACT 14
01:59	ESCAPE POLE STOWAGE 15
02:00	ODS SYSTEM SETUP FOR INGRESS 17

CLOTHING CONFIG 10

Doff, stow
Harness, boots, LES
Stow gloves in Helmet

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

WCS CONFIG/ACT 13**WCS SWITCH CONFIGURATION**

ML86B:A cb MNA H2O LINE HTR A - c1
 :B WASTE H2O DUMP ISOL - c1
 MNA,MNB VAC VENT ISOL VLV(two) - c1
 WCS CNTLR(two) - c1
 MNB VAC VENT NOZ HTR - c1

NOTE

If WCS CONFIG/ACT performed before PL BUS ACTIVATION, leave MA73C:E cb AC3 PL 3φ - op

MA73C:E All cbs closed (WCS) except:
 cb AC2 PL 3φ - op
 cb AC3 PL 3φ - op

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

* If VAC VENT ISOL VLV CNTL tb - CL or bp: *
 * VAC VENT ISOL VLV BUS SEL - MNB *
 * CNTL - OP(tb-OP) *
 * If VAC VENT ISOL VLV CNTL tb still CL or bp: *
 * ✓MCC for further actions *

WCS ACTIVATION

WCS VAC VLV - OP
 MODE - WCS/EMU, (✓Airflow, MODE - OFF)
 Foot/Toe Restraints - down and locked
 Unstow, install WCS Canister, Bag & Hose, Mirror
 ✓Ventline mated in aux wet trash

SWITCH CONFIG/GALLEY ACTIVATION 14

MA73C:G cb AC3 GALLEY FAN (three) - c1
 ML86B:A All cbs closed except: MNB H2O LINE HTR B - op
 :B All cbs closed except: MNB WASTE H2O TK1 DRAIN - op
 :E All cbs closed except: CO2 SYS 1,2 CNTLR, CO2 COMM INSTR - op
 :F All cbs closed
 :G All cbs closed
 R11L:G SUPPLY H2O GALLEY SUPPLY VLV - OP(tb-OP)
 GALLEY H2O HTRS(two) - ON
 OVEN/RHS - ON
 Unstow, install Personal Hygiene Hose

ESCAPE POLE STOWAGE 15

Remove large port pin
 Slide back - Safing Latch
 Retract and hold locking pin (ring)
 Remove large pin
 Release locking pin (ring)
 Remove STBD pip pin
 Stow pole
 Reinstall large pin

ON-ORBIT SWITCH LIST

LEFT SEAT

L1 1-24
 L2 1-24

 F6 1-22
 F8 1-22

 O6 1-25
 O7 1-26
 O8 1-26

 O14 1-27
 O15 1-28

RIGHT SEAT

O16 1-28
 O8 1-26

 F8 1-22
 R1 1-24
 R11 1-23

AFT

C5 1-28
 C6 1-28
 C7 1-28

 A6L 1-29
 A11 1-29

MIDDECK-FWD

ML86B 1-30

MIDDECK-AFT

MA73C 1-30
 MO32M 1-29
 MO69M 1-29

LEGEND



- up

R - as reqd



- center

● - cb close



- down

○ - cb open

□ - indicates
 switch/display not ck'd
 during ON-ORBIT
 SWITCH
 CONFIGURATION

□ - indicates
 switch configured
 during ON-ORBIT
 SWITCH
 CONFIGURATION

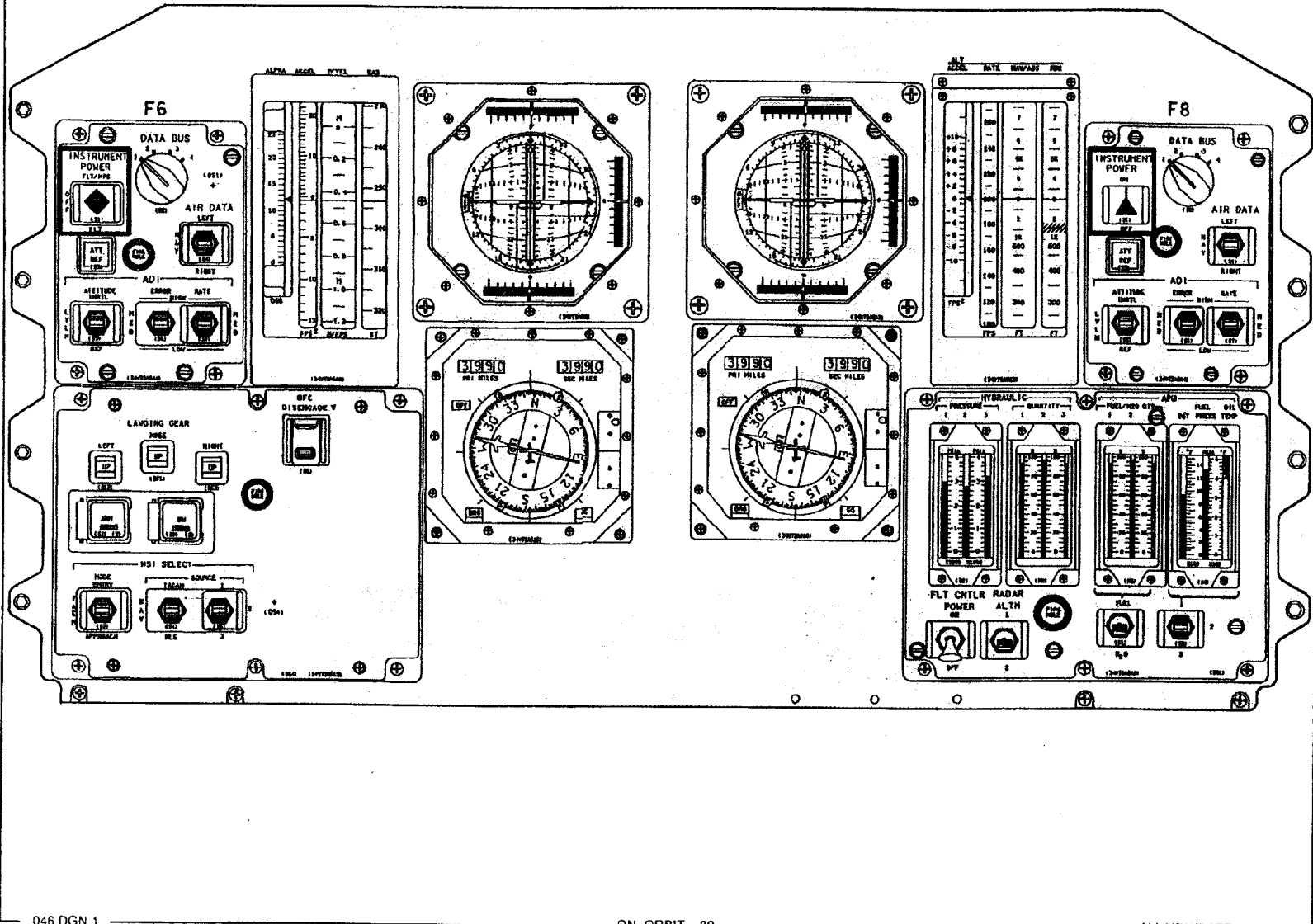
CIRCUIT BREAKER SNAP RING COLOR CODES

COLOR

CONFIGURATION

Red	Open at all times
Green	Open on-orbit only
Yellow	Open ascent, close per procedure
Orange	Open orbit through entry.
Blank (no ring)	Always closed or as required

ALL VEH



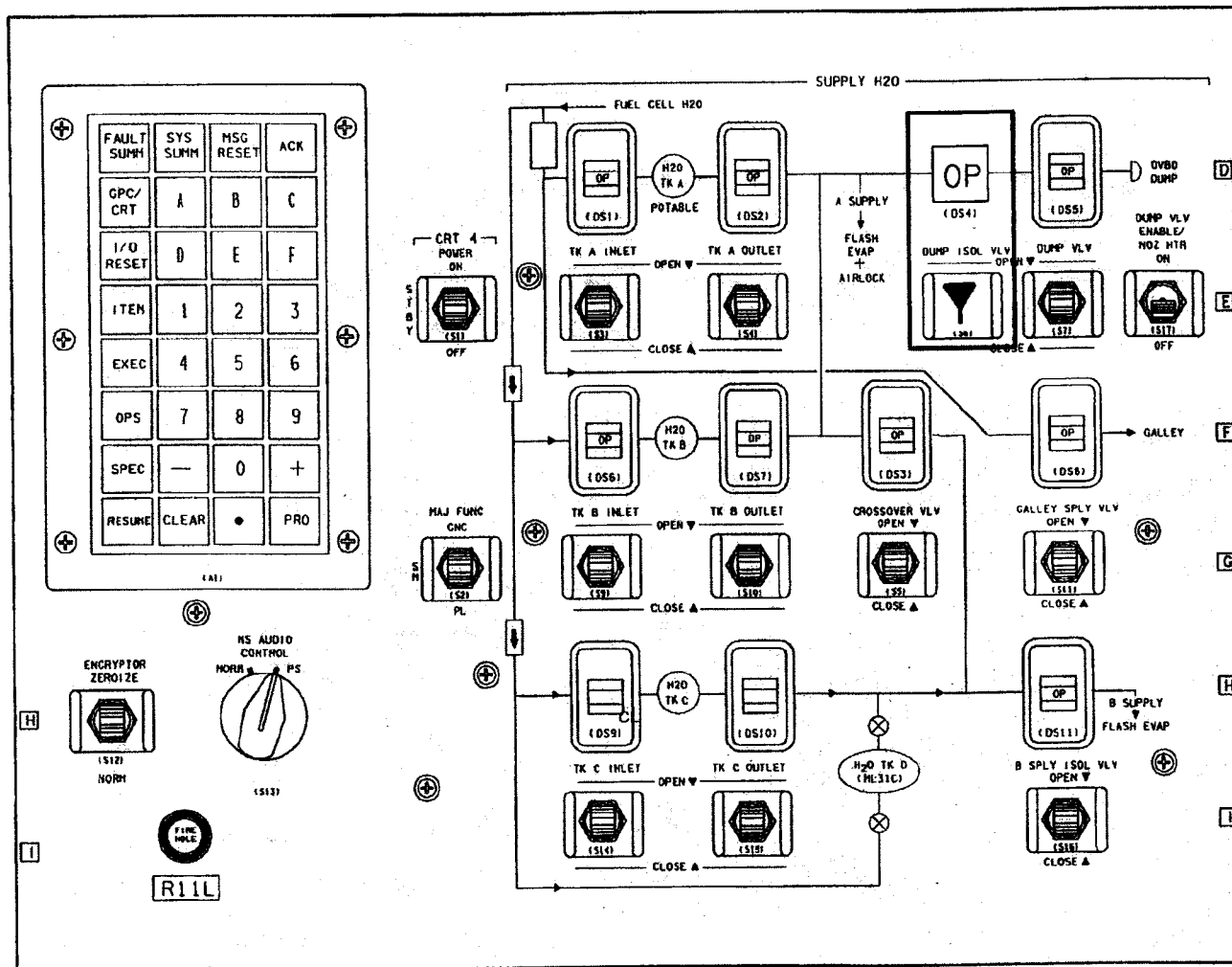
046.DGN,1

ON-ORBIT - 22

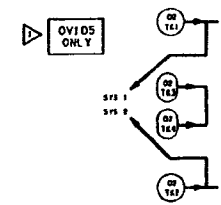
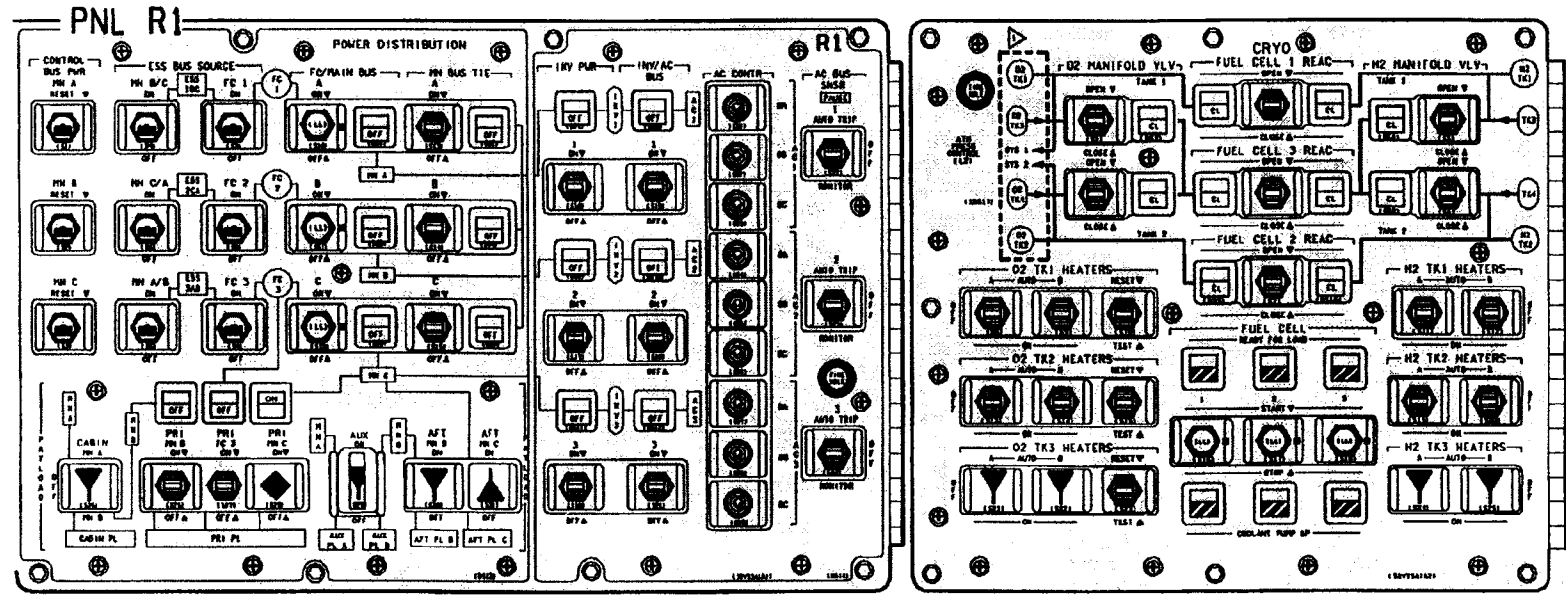
ALL VEH/DATE 07/10/84

ALL VEH

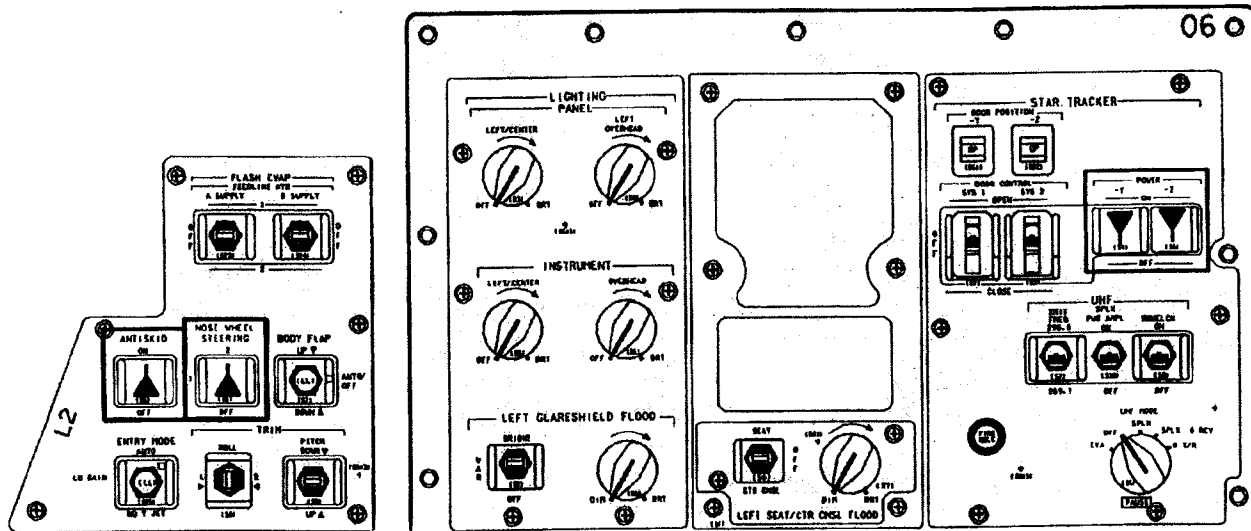
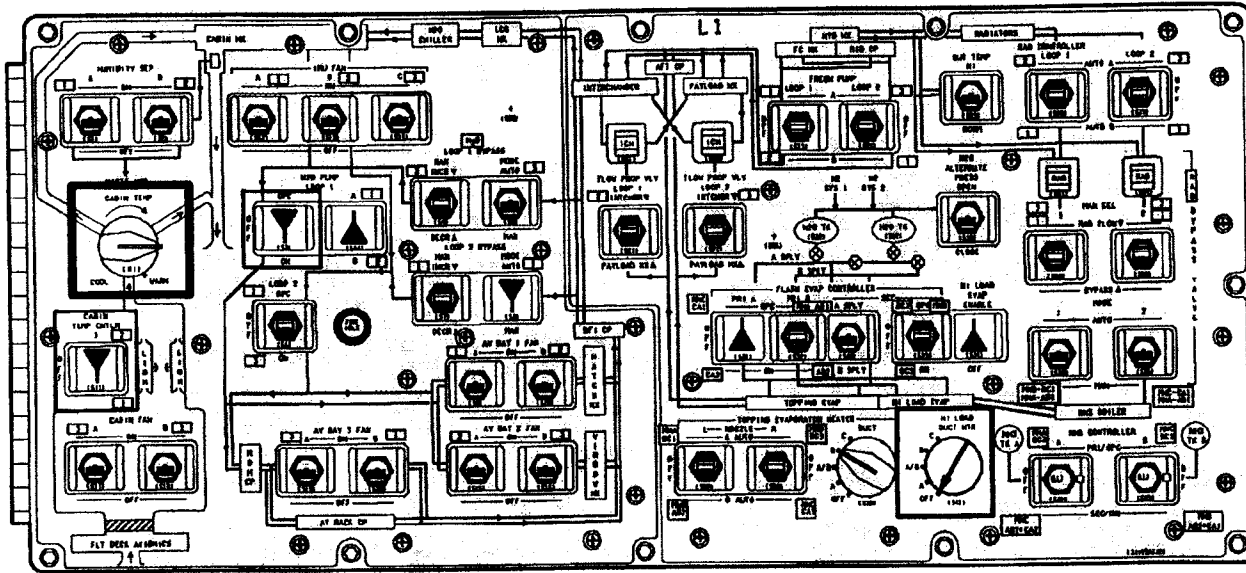
NOTE
 Additional switch configuration for this panel dependent
 on Block 16, SUPPLY WATER CONFIG



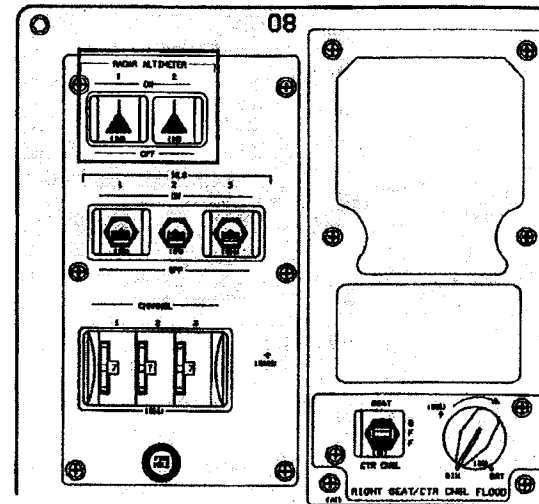
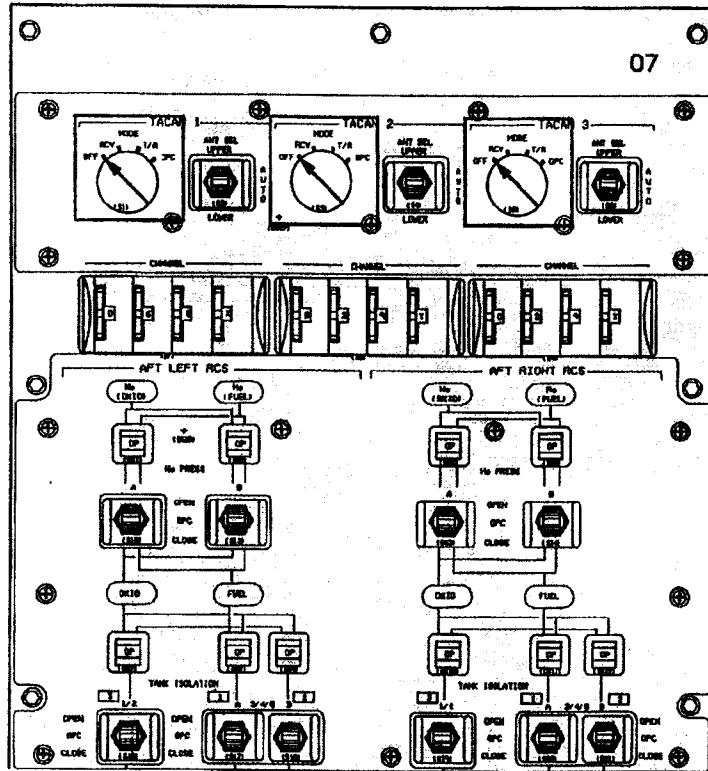
ALL VEH



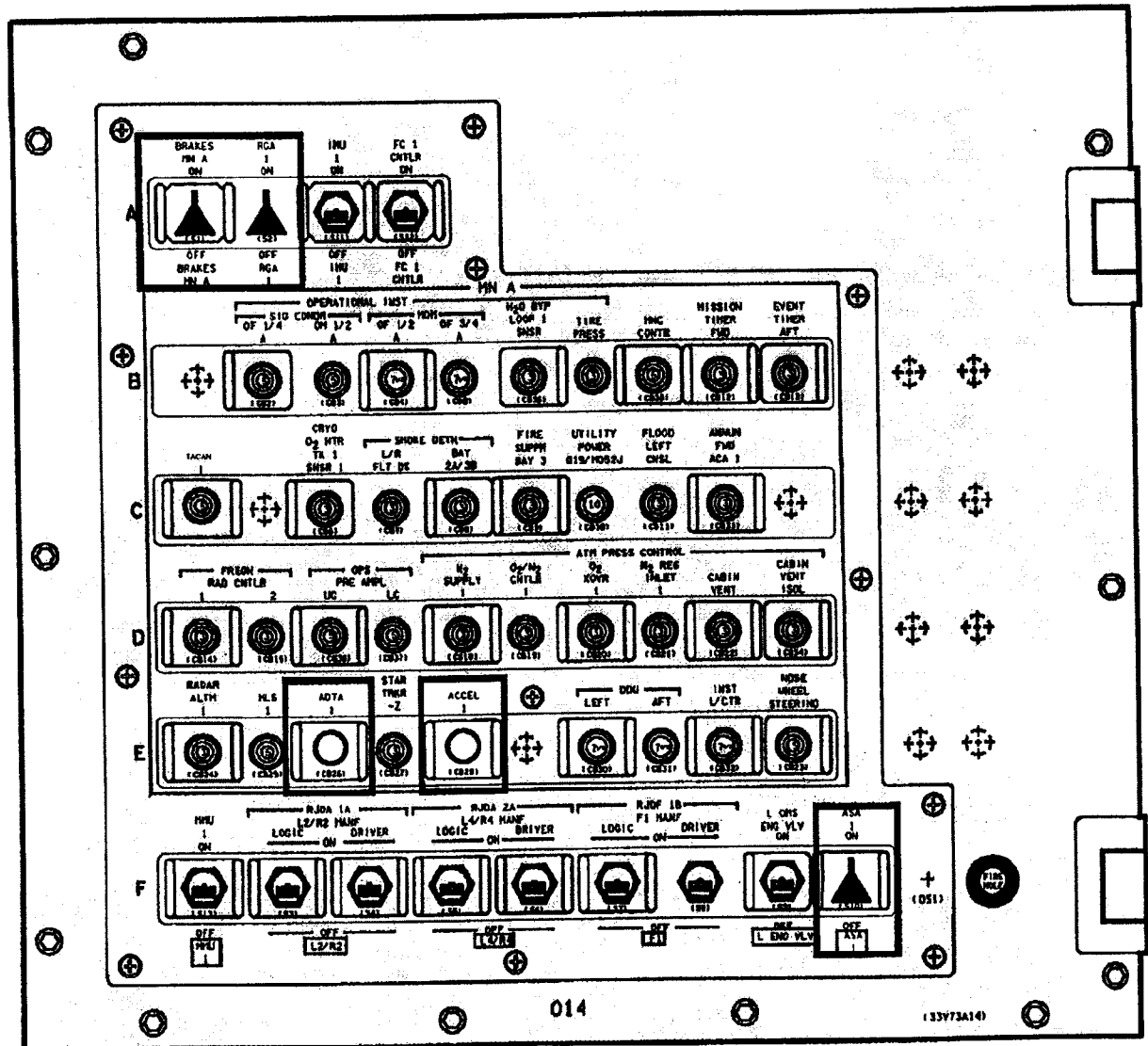
ALL VEH



ALL VEH



OV104

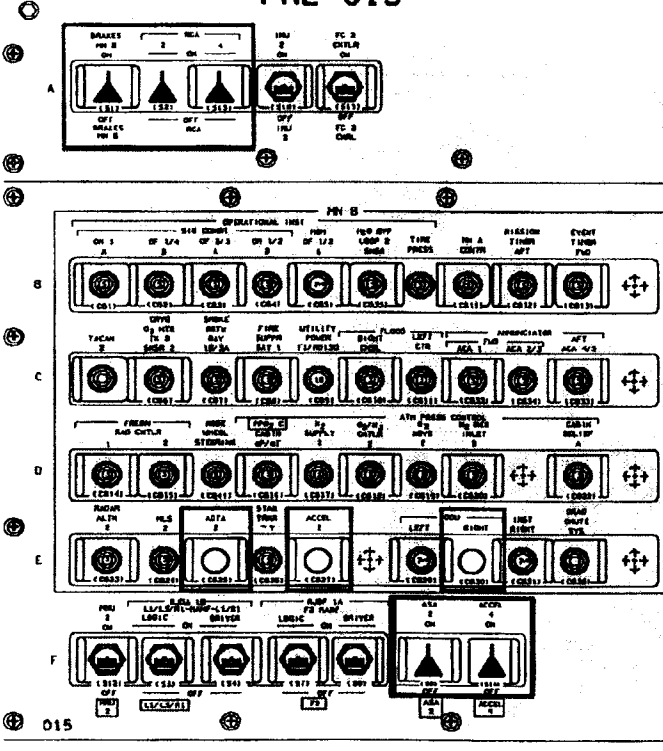


014

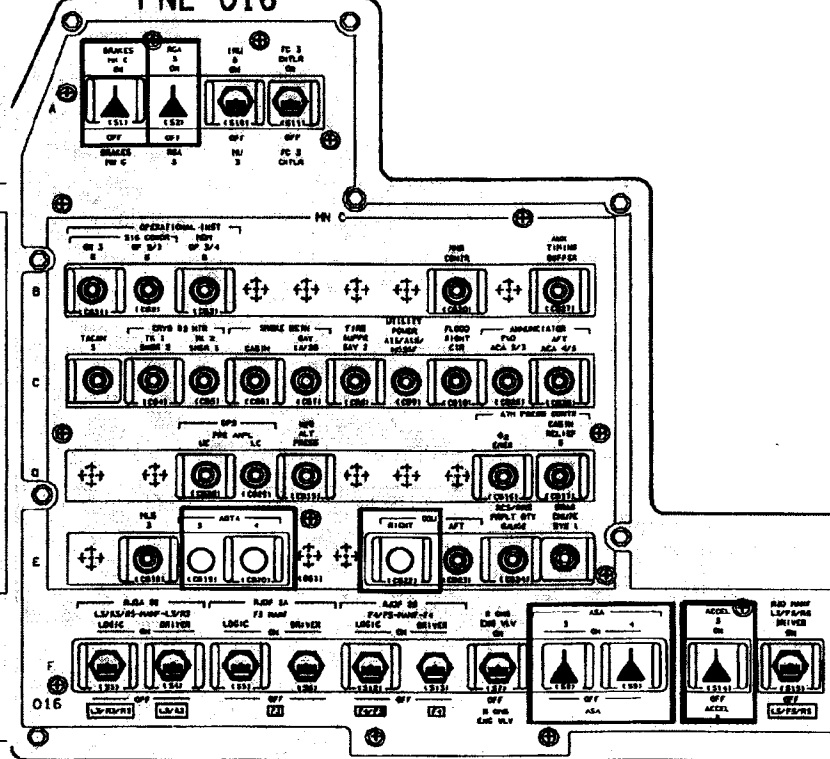
13973A14

OV104

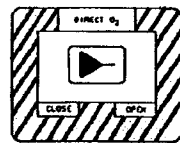
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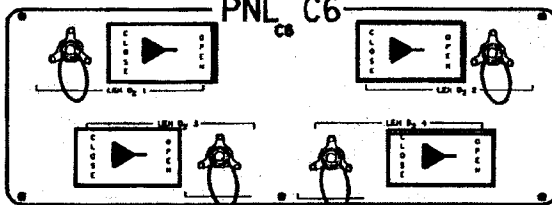
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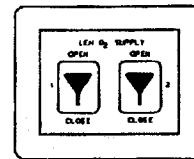
PNL C5



PNL C6



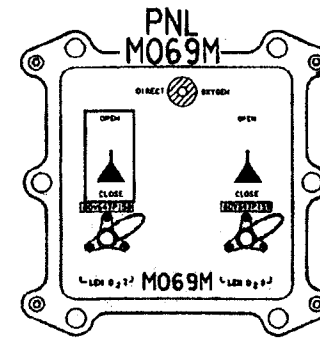
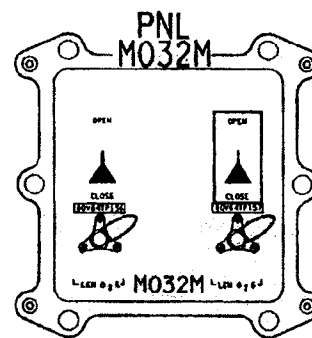
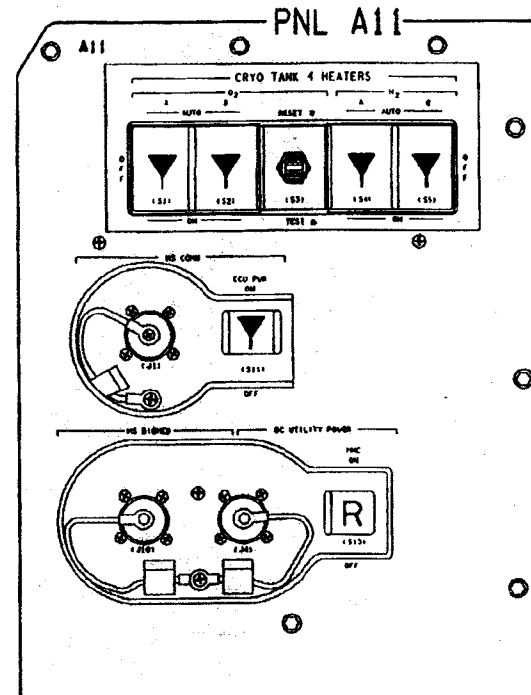
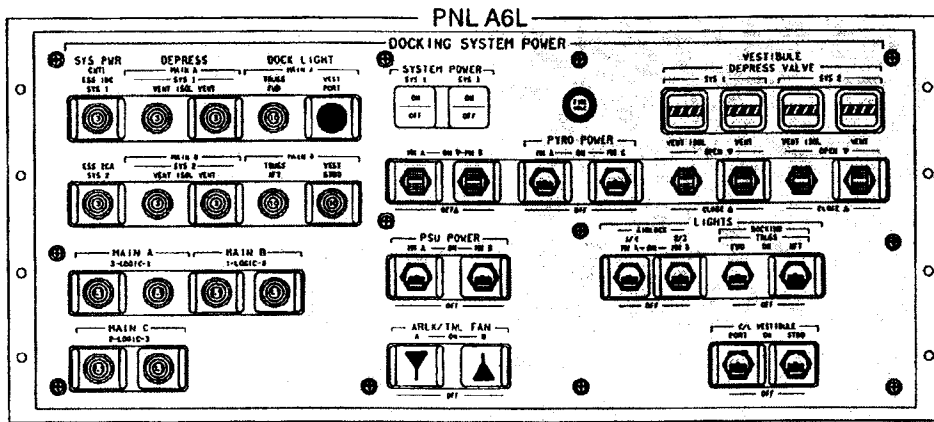
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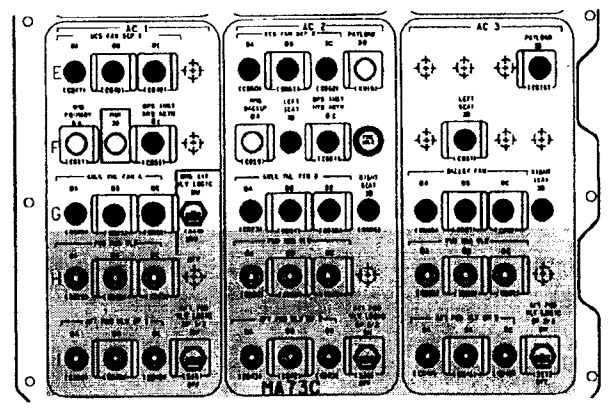
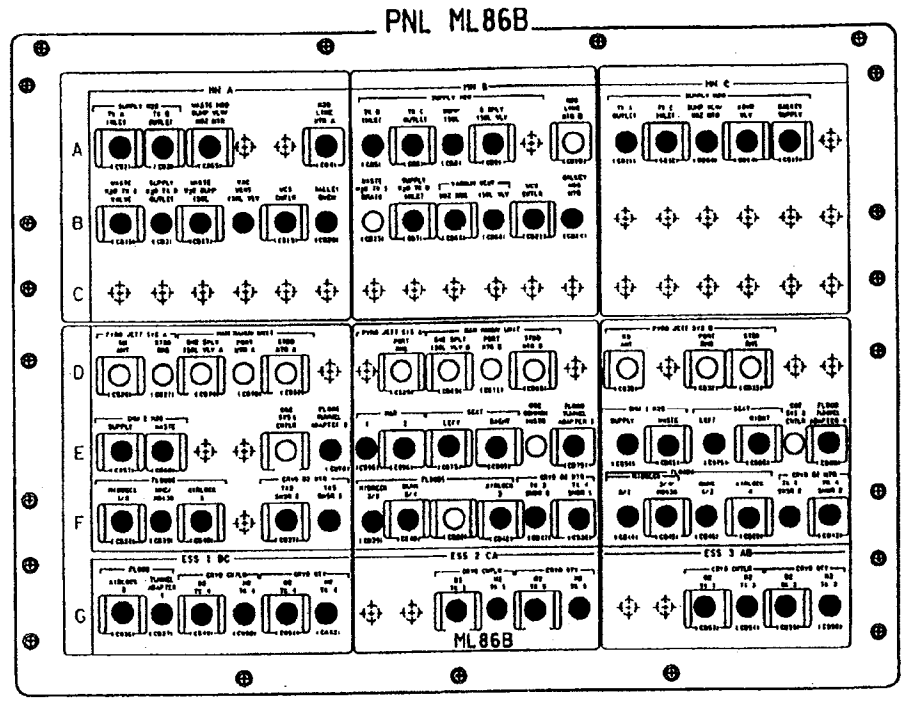


OV103/OV104

NOTE

Do not activate ARLK/TNL FAN unless ODS SYSTEM SETUP FOR INGRESS (Block 17) has been completed





ORBIT 5/6 DEORBIT

**Pen and Inks to Nominal Post
Insertion for Orbit 5/6 Deorbit**

MET

ACTIVITY

ASAP

Perform PRIORITY PWRDN GROUPS A & B (ORB PKT, PRIOR PWRDN)
with following deltas:

DELETE: HI LOAD DUCT HTR OFF in Group A Pwrdn.
PRI RJDs DRIVER & LOGIC OFF in Group B Pwrdn.

When PRIORITY PWRDN is complete, return to Nominal Post Insertion page 1-9,
completing all activities except the following:

MET 1:28	<u>OPEN PLBDs</u>
MET 1:52	<u>POST PLBD OPS RAD CONFIG 11</u>
MET 1:54	<u>SPECIALIST SEAT REMOVAL/STOWAGE</u>
MET 2:00	<u>QDS SYSTEM SETUP FOR INGRESS 17</u>
MET 2:06	<u>CONFIG VERNIER DRIVERS</u>

2:12

CONFIG CONTROLS FOR ON-ORBIT, 1-21 thru 1-30 (SWITCH PICTORIALS)

NOTE: Some of these switch throws will have been done during PRIORITY POWERDOWNS.

DELETE: HI LOAD EVAP - OFF on page 1-25
HI LOAD DUCT HTR - OFF on page 1-25

2:30

Add following MNVR: MNVR (TRK) -ZLV, +YVV
TG=2 BV=3 OM=270

**Pen and Inks to Nominal D/O Prep
For Orbit 5/6 Deorbit**

TIG-	ACTION	PROCEDURES
3:57	Delete	<u>COLDSOAK INITIATE</u> [2]
3:30	Move to TIG -2:30	<u>DPS CONFIG FOR D/O PREP</u> [4]
3:15	Move to TIG -2:20	<u>DED DISP ENT CONFIG</u> [6]
3:00	Add	<u>GNC FRP-3</u> (MAL, <u>GNC FRPs</u>) to recover IMU 2
2:56	Delete	<u>RAD BYPASS/FES C/O</u> (ORB OPS, ECLS)
2:46	Delete	<u>CONFIG FOR PLBD CLOSING</u> [7]
2:40	Delete	<u>PLBD CLOSING</u> [9]
2:40	Add	<u>PWRDN BACKOUT</u> (Group A & B) (ORB PKT, <u>PRIOR PWRDN</u>) (Delete IMU 2 recovery step)
2:26	Delete	<u>POST CLOSING CONFIG</u> [10]