Post Insertion

STS-123

Mission Operations Directorate
Operations Division

Final
November 6, 2007

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

Verify this is the correct version for the pending operation (training, simulation or flight).
Electronic copies of FDF books are available. URL: http://mod.jsc.nasa.gov/do3/FDF/index.html
PCN-2 (Feb 15, 2008) Sheet 1 of 1

List of Implemented Change Requests (482s):
PI-824

Incorporate the following:
1. Replace iii & iv
2. Replace 1-13 & 1-14
3. Replace CC 3-3 & CC 3-4

Prepared by: [Signature]
Publication Manager

Approved by: [Signature]
Manager, Shuttle Procedures Management

Accepted by: [Signature]
FDF Manager

Encl: 6 pages

File this PCN immediately behind the front cover as a permanent record
List of Implemented Change Requests (482s):

PI-819
PI-820
PI-822

Incorporate the following:

1. Replace iii & iv
2. Replace 1-13 & 1-14, 1-17 thru 1-28
3. Replace CC 3-3 & CC 3-4

Prepared by:
Publication Manager

Approved by:
Manager, Shuttle Procedures Management

Accepted by:
FDF Manager

Encl: 18 pages

*File this PCN immediately behind the front cover as a permanent record*
This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted via FDF Workflow Crew Procedure Change Request (CR) to DO3/FDF Manager.

Additional distribution of this book, for official use only, may be requested in writing to DO3/PMO Administrator. The request must include justification and requester's name, organization, position, and phone number. Contractor requests are made through the NASA or DOD organization supported. Deletions, reduction in quantity, or change of address may be submitted to DO3/FDF Management Office, 281-244-1184.
Incorporates the following:

| 482#: PI-815 |

## AREAS OF TECHNICAL RESPONSIBILITY

<table>
<thead>
<tr>
<th>Role</th>
<th>Code</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication Manager</td>
<td>DO3/A.</td>
<td>A. Jones</td>
<td>281-483-1861</td>
</tr>
<tr>
<td>Alternate Publication Manager</td>
<td>DO3/C.</td>
<td>C. Simon</td>
<td>281-483-0656</td>
</tr>
<tr>
<td>INCO</td>
<td>DS23/D.</td>
<td>D. Brown</td>
<td>281-244-9058</td>
</tr>
<tr>
<td>EECOM</td>
<td>DS44/M.</td>
<td>M. Fitzpatrick</td>
<td>281-483-0758</td>
</tr>
<tr>
<td>EGIL</td>
<td>DS43/G.</td>
<td>G. Peck</td>
<td>281-244-7309</td>
</tr>
<tr>
<td>GNC</td>
<td>DS62/K.</td>
<td>K. Dunn</td>
<td>281-483-2413</td>
</tr>
<tr>
<td>DPS</td>
<td>DS22/R.</td>
<td>R. Montgomery</td>
<td>281-483-0416</td>
</tr>
<tr>
<td>P T/V</td>
<td>DX3/G.</td>
<td>G. Kilgo</td>
<td>281-244-7926</td>
</tr>
<tr>
<td>Pointing</td>
<td>DO4/A.</td>
<td>A. Lalich</td>
<td>281-483-7065</td>
</tr>
</tbody>
</table>
**POST INSERTION**
STS-123

**LIST OF EFFECTIVE PAGES**

<table>
<thead>
<tr>
<th>Sign Off</th>
<th>Ref. Page</th>
<th>Card No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>123/FIN 1</td>
<td>1-17</td>
</tr>
<tr>
<td>ii.</td>
<td>123/FIN 1</td>
<td>1-18</td>
</tr>
<tr>
<td>iii.</td>
<td>123/FIN 2</td>
<td>1-19</td>
</tr>
<tr>
<td>iv.</td>
<td>123/FIN</td>
<td>1-20</td>
</tr>
<tr>
<td>v.</td>
<td>123/FIN</td>
<td>1-21</td>
</tr>
<tr>
<td>vi.</td>
<td>123/FIN</td>
<td>1-22</td>
</tr>
<tr>
<td>1-1.</td>
<td>123/FIN</td>
<td>1-23</td>
</tr>
<tr>
<td>1-2.</td>
<td>123/FIN</td>
<td>1-24</td>
</tr>
<tr>
<td>1-3.</td>
<td>123/FIN</td>
<td>1-25</td>
</tr>
<tr>
<td>1-4.</td>
<td>123/FIN</td>
<td>1-26</td>
</tr>
<tr>
<td>1-5.</td>
<td>123/FIN</td>
<td>1-27</td>
</tr>
<tr>
<td>1-6.</td>
<td>123/FIN</td>
<td>1-28</td>
</tr>
<tr>
<td>1-7.</td>
<td>123/FIN</td>
<td>2-1</td>
</tr>
<tr>
<td>1-8.</td>
<td>123/FIN</td>
<td>2-2</td>
</tr>
<tr>
<td>1-9.</td>
<td>123/FIN</td>
<td>2-3</td>
</tr>
<tr>
<td>1-10.</td>
<td>123/FIN</td>
<td>2-4</td>
</tr>
<tr>
<td>1-11.</td>
<td>123/FIN</td>
<td>3-1</td>
</tr>
<tr>
<td>1-12.</td>
<td>123/FIN</td>
<td>3-2</td>
</tr>
<tr>
<td>1-13.</td>
<td>123/FIN 1</td>
<td>CC 3-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>1-14.</td>
<td>123/FIN 2</td>
<td>CC 3-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>1-15.</td>
<td>123/FIN</td>
<td>CC 3-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>1-16.</td>
<td>123/FIN</td>
<td>CC 3-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

**POST INSERTION CUE CARDS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Ref. Page</th>
<th>Card No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT FLIGHT DECK RECONFIGURATION (Front)</td>
<td>CC 3-3</td>
<td>PI-1a/123/O/C</td>
</tr>
<tr>
<td>(Back)</td>
<td>CC 3-4</td>
<td>PI-1b/123/O/B</td>
</tr>
<tr>
<td>MIDDECK RECONFIGURATION (Front)</td>
<td>CC 3-5</td>
<td>PI-2a/123/O/A</td>
</tr>
<tr>
<td>(Back)</td>
<td>CC 3-6</td>
<td>PI-2b/123/O/A</td>
</tr>
</tbody>
</table>

* – Omit from flight book

iii  PI/123/FIN 2
This Page Intentionally Blank
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST INSERTION PROCEDURES</td>
<td>1-1</td>
</tr>
<tr>
<td>ON-ORBIT SWITCH LIST</td>
<td>1-17</td>
</tr>
<tr>
<td>ORBIT 5/6 DEORBIT</td>
<td>2-1</td>
</tr>
<tr>
<td>CUE CARD CONFIG</td>
<td>3-1</td>
</tr>
</tbody>
</table>
NOTE

The STS-123 Post Insertion contains the nominal procedures from:

MET (DAY/HR:MIN)
000/00:51 TO 000/02:30 – POST INSERTION (Section 1)

The remaining STS-123 flight phases are conducted using the Ascent Checklist, Flight Plan, Deorbit Prep Book, Entry Checklist, EVA Checklist, and Rendezvous Book.
POST INSERTION PROCEDURES
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

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

2. MODE G2FD GPC TO OPS 0
GNC GPC MODE G2FD – STBY (lb-bp)
– RUN (lb-RUN)

3. LOAD MC 2 INTO G2FD GPC
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

NOTE
No keyboard entries or sw throws 10 sec:
Before and after moding PASS GPCs to RUN
Before OPS transition or set expansion/contraction
requests until new OPS base page is displayed

If no MC = 02 after 30 sec:
  a. On MCC GO, cycle pwr on MMU 1,2
  b. Retry GPC FREEZE DRY (step 3)
  c. If FD successful, continue with step 4
  If not successful and:
  NO GPCs FAILED: go to step 1, delete GPC 3
  from TGT SET, restring 1,3 to GPC 1, and
  restring 2,4 to GPC 4, try to FD GPC 2 with
  steps 2,3, then go to step d
  ONE GPC FAILED: go to step 1, delete
  attempted FD GPC from TGT SET, restring all
  strings to lowest ID GPC, try to FD other GPC
  with steps 2,3, then go to step d
  d. 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

<table>
<thead>
<tr>
<th>CONFIG GPC</th>
<th>DUAL G2</th>
<th>SINGLE G2</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PL 1/2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CRT 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BFC CRT DISP – OFF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. TURN OFF BFC LT

C3 BFC CRT DISP – ON

\BFC lt – off
C3 CRT DISP – OFF

<table>
<thead>
<tr>
<th>CONFIG GPC</th>
<th>DUAL G2</th>
<th>SINGLE G2</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PL 1/2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CRT 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MM 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

If no MC = 02 after 30 sec:
  a. On MCC GO, cycle pwr on MMU 1,2
  b. Retry GPC FREEZE DRY (step 3)
  c. If FD successful, continue with step 4
  If not successful and:
  NO GPCs FAILED: go to step 1, delete GPC 3
  from TGT SET, restring 1,3 to GPC 1, and
  restring 2,4 to GPC 4, try to FD GPC 2 with
  steps 2,3, then go to step d
  ONE GPC FAILED: go to step 1, delete
  attempted FD GPC from TGT SET, restring all
  strings to lowest ID GPC, try to FD other GPC
  with steps 2,3, then go to step d
  d. If FD successful, continue with step 4
  If not successful: consider both MMUs failed;
  on MCC GO, perform transition to OPS 3
Ref ASC for activities from 00:00-00:50 MET

**MEMORY CONFIGURATION TABLE**

<table>
<thead>
<tr>
<th>CONFIG</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPS</td>
<td>G1, G6</td>
<td>G2</td>
<td>G3</td>
<td>SM</td>
</tr>
<tr>
<td>GPC SEL</td>
<td>1,2,3,4</td>
<td>1,2</td>
<td>1,2,3,4</td>
<td>4</td>
</tr>
<tr>
<td>STR</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>P/L</td>
<td>1/2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>CRT</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MM</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

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

**C**
- L4:B,Q,R: All cbs closed
- L4:D,E: All cbs open
- L4:J: cb AC3 φA SIG CONDR HUM SEP – cl
  - B SIG CONDR IMU FAN – cl

**MS**

**C,P**

**PL BUS ACTIVATION**
- R1: PL CAB – MNA
  - AUX – ON
  - AFT MNB – ON

**PRELIM MIDDECK CONFIG** (Mid Cue Card) 2, 1-15

**AFT STATION CONFIG** (AFT Cue Card) 3, 1-13

**MET**
- DAY 000
- 00:30
- AUTO
- RT 0.2
- DB 5.0
- 00:40
- AUTO
- RT 0.2
- DB 5.0
- 00:45
- AUTO
- RT 0.2
- DB 5.0
- 00:50
- AUTO
- RT 0.2
- DB 5.0
- 00:55
- AUTO
- RT 0.2
- DB 5.0
- 01:00

**1-3 PI/123/FIN**
10. RECONFIG GPCs

**C2**

GPC/CRT 2/X 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)
- √ All IDPs deassigned from FD GPC
- GPC MODE 2 – STBY (tb-bp)
  - HALT (tb-bp)
  - STBY (tb-RUN)
  - HALT (tb-bp)

If single G2 reqd:

- IDP/CRTX MAJ FUNC – PL
- GPC/CRTX 2/X 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)
- √ All IDPs deassigned from FD GPC
- GPC MODE 2 – STBY (tb-bp)
  - HALT (tb-bp)
  - STBY (tb-RUN)
  - HALT (tb-bp)

Perform ERR LOG RESET
- GNC 0 GPC MEMORY
- ITEM 48 EXEC
- SM 0 GPC MEMORY
- ITEM 48 EXEC

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

<table>
<thead>
<tr>
<th>CONFIG GPC</th>
<th>2</th>
<th>XY</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR 1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>PL 1/2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

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

If PASS GPC failed from ASCENT and single
G2 reqd:

- √ All IDPs deassigned from FD 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,
MS CONFIG FOR PLBD OPERATIONS (AFT Cue Card) 4, 1-14

MS WCS CONFIG/ACT (MID Cue Card) 5, 1-16

MS SWITCH CONFIG/GALLEY ACT (MID Cue Card) 6, 1-16

C,P DON/CONFIG COMM

LOAD DAP A5

MNVR TO PLBD OPENING ATT (BIAS -ZLV +YVV)

CRT1

\[ \text{RAD ACT 7} \]

NOTE

Expect 'S88 EVAP OUT T 1(2)' msg

L1 FLASH EVAP CNTLR PRI A – OFF

PRI B – ON

NOTE

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

RAD BYP VLV MODE (two) – AUTO

CNTLR LOOP (two) – AUTO A

Wait 90 sec

RAD BYP VLV (two) – RAD

* If RAD BYP VLV 1(2) – BYP:

  * RAD CNTLR LOOP 1(2) – AUTO B 
  * Wait 90 sec
  * RAD BYP VLV 1(2) – RAD

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

  * RAD BYP VLV MODE 1(2) – MAN
  * MAN SEL 1(2) – RAD FLOW
  * Hold 3 sec or until lb – RAD

* If RAD BYP VLV 1(2) – bp:

  * RAD BYP VLV MODE 1(2) – MAN
  * CNTLR LOOP 1(2) – AUTO B
  * After 10 sec, RAD BYP VLV MODE 1(2) – AUTO
  * Wait 90 sec
  * RAD BYP VLV 1(2) – RAD

  * If RAD BYP VLV 1(2) – bp:

  * RAD BYP VLV MODE 1(2) – MAN
  * CNTLR LOOP 1(2) – AUTO B
  * After 10 sec, RAD BYP VLV MODE 1(2) – AUTO
  * Wait 90 sec
  * RAD BYP VLV 1(2) – RAD

* If RAD BYP VLV 1(2) – bp:

  * RAD BYP VLV MODE 1(2) – MAN
  * CNTLR LOOP 1(2) – AUTO B
  * After 10 sec, RAD BYP VLV MODE 1(2) – AUTO
  * Wait 90 sec
  * RAD BYP VLV 1(2) – RAD

L2 FREON ISOL MODE – AUTO

RAD/PLBD OPS NO-GO FOR FOLLOWING FAILURES

<table>
<thead>
<tr>
<th>OMS/RCS</th>
<th>GNC</th>
<th>ECLS/EPS</th>
<th>MECH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 OMS Engs &amp; 1</td>
<td>2 IMUs</td>
<td>1 H2O or Freon Lp</td>
<td>2 LG DPY METHODS</td>
</tr>
<tr>
<td>+R RCS jet</td>
<td>3 RGAs</td>
<td>Both RFCas</td>
<td>PRES or REDNT</td>
</tr>
<tr>
<td>1 OMS Inlet line</td>
<td>3 AAs</td>
<td>Both Cab Fans</td>
<td>WINDOW PANE</td>
</tr>
<tr>
<td>1 OMS Prop Tk Leak</td>
<td>3 ADTAs</td>
<td>3 of 6 Av Bay Fans</td>
<td>FAILURE</td>
</tr>
<tr>
<td>Aft RCS He or Prop Leak</td>
<td>3 Elevon</td>
<td>2 Fns</td>
<td>DPP</td>
</tr>
<tr>
<td>(same surface)</td>
<td>(same surface)</td>
<td>Any MN or 3p AC Bus</td>
<td>3 GPCs</td>
</tr>
<tr>
<td>COMM</td>
<td>2 FCS Ch</td>
<td>3 IMU Fans</td>
<td>2 APU/HYD</td>
</tr>
<tr>
<td>No Voice and No CMD</td>
<td>(same surface)</td>
<td>2 FF or FA MDMs</td>
<td></td>
</tr>
</tbody>
</table>

If NO-GO for RAD/PLBD OPS, go to ORB 3 DEORBIT 8

MS OPEN PLBDs, AUTO MODE, 18, 1-11

NOTE: CAUTION BLOCK on 1-11

MS ELBOW CAMR PICTURE 20, 1-6

ORB 3 DEORBIT 8

If NO-GO for RAD/PLBD OPS due to 2 FNs failed:

Go to CONT DEORB, LOSS OF 2 FC ORB 2 OR 3, at TIG-1:30

If NO-GO due to any other failure:

Go to CONT DEORB, LAUNCH DAY ORBIT 3, at TIG-2:00
**STAR TRKR ACTIVATION/DOOR OPEN**

- **C**
  - **O6**
    - S TRK PWR (two) – ON
    - GNC I/O RESET
    - S TRK DR CNTL SYS (two) – OP (start timer)
      - √POS tb (two) – bp
    - 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

**SUPPLY WATER CONFIG**

- **R11L**
  - SPLY H2O DUMP ISOL VLV – OP (tb-OP)
  - √XOVR VLV – CL (tb-CL)
  - TKB INLET – CL (tb-CL)
  - TKA OUTLET – OP (tb-OP)

- **ML86B:A**
  - cb MNB SPLY H2O TKB INLET – op
  - MNC SPLY H2O XOVR VLV – op

**NOTE**

Do not perform until blocks 5 and 6 are performed

**ELBOW CAMR PICTURE**

Document Elbow Camr position via DSC760 photo from W10 per the following:
- Lens, 28-70 mm set at 70 mm (stowed in Vol 3B)
- Exp Mode – P
- Meter – Matrix
- Sun(Earth)shine reqd
**MCC & CREW:**

01:30

- **GO for orbit ops**
- **UHF MODE sel – OFF**
- **KU-BD ANT DEPLOY** (ORB OPS, COMM/INST)
- **KU-BD ANT ACTIVATION** (ORB OPS, COMM/INST)

01:35

- **C**, O6
- **UHF MODE sel – OFF**
- **MS**
  - **KU-BD ANT DEPLOY** (ORB OPS, COMM/INST)
  - **KU-BD ANT ACTIVATION** (ORB OPS, COMM/INST)

01:40

- **C,P**
  - **SEAT EGRESS**

01:45

- **ALL**
  - **QUICKDON MASKS SETUP**
  - *If time permits: OCAC SETUP* (ORB OPS, CREW SYS)

01:50

- **C**
  - **POST PLBD OPS RAD CONFIG**

01:55

- **C**
  - **STAR TRKR ACTIVATION/DOOR OPEN**

- **MS**
  - **ESCAPE POLE STOWAGE** (MID Cue Card)
  - **SUPPLY WATER CONFIG**

CLOTHING CONFIG 9

- **C**
  - **Doff, stow:**
    - Harness, Boots, LES
    - Stow gloves in Helmet
  - **Remove radiation dosimeter from LES and insert in inflight garments**

- **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 B(A) – OFF
    - √ RAD BYP VLV tb (two) – RAD
    - H2O LOOP 2 BYP MODE – AUTO
  - **CRT1**
    - When FREON LOOP RAD OUT T < 60 deg:
    - L1 HI LOAD EVAP – OFF

QUICKDON MASKS SETUP 19

- **C**
  - **1: GNC UNIV PTG**
  - **2: SM PL BAY DOORS**
  - **4: SM PL BAY DOORS**

- **MS**
  - **SPECIALIST SEAT REMOVAL/STOWAGE**

- **C**
  - **POST PLBD OPS RAD CONFIG**

- **P**
  - **SUPPLY WATER CONFIG**
**MET**

**DAY 000**

**02:00**

**A5(B1)**

**AUTO**

**ALT**

**RT 0.2**

**DB 5.0**

**MS**

**AIRLOCK SETUP FOR INGRESS** *(MID Cue Card)*

**02:05**

**A5(B1)**

**AUTO**

**ALT**

**RT 0.05**

**DB 1.0**

**P**

**W/B STEAM VENT HTR ACT**

\( \sqrt{BLR CNTLR/HTR (three) \rightarrow A} \)

\( \sqrt{PWR (three) \rightarrow ON} \)

**02:10**

**C**

**CONFIG VERNIER CONTROL**

\( \sqrt{MCC GO for vernier control} \)

**02:15**

**L2**

Remove, stow (on PNL L2/FDF FD locker)

**NWS sw flex extension**

**P**

**HYD THERMAL CONDITIONING-ENABLE**

\( \sqrt{HYD CIRC PUMP (three) \rightarrow GPC} \)

**02:20**

**MS**

**RESET C/W** *(AFT Cue Card)*

**02:25**

**MS**

**FUEL CELL VI PERFORMANCE PLOT** *(ORB OPS, EPS)*

Stow POST INSERTION, go to FLIGHT PLAN, FLT DAY 1
DETAILED PLBD OPENING PROCEDURES

If no motion determined visually or 'OP/CL' not blank within 10 sec after cmd, PL BAY DR – STOP, perform MAL, MECH, 9.1a
If latch not 'OP' in single mtr time, PL BAY DR – STOP, perform MAL, MECH, 9.1d
If door motion stops and not 'OP', PL BAY DR – STOP, perform MAL, MECH, 9.1f
If SM GPC fails during this operation, PL BAY DR SYS (two) – DSBL
Perform PASS SM GPC FAIL (ORB PKT, DPS)

CAUTION
Use MANUAL mode for subsequent BFS PLBD ops if BFS AUTO sequence has been interrupted by reversing latch/door drive direction or if MANUAL mode has already been used during mission

NOTE
Note any single mtr operations (continue ops) (single mtr times = 2X listed dual motor times).
If one mtr in each of two separate latch gangs fails: PL BAY DR – STOP

MANUAL PLBD OPENING PROCEDURE

MS CRT4 1. SM, OPS 202 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 *)
  2. AC POWER ON – ITEM 1 EXEC (*)
  3. AUTO MODE SEL – ITEM 3 EXEC (*)
R13L 4. PL BAY DR SYS (two) – ENA
CRT4 √ OP/CL STATUS (ten) – CL

OPEN C/L LATCHES
  4. Select CENTER LATCHES 5-8,9-12 – ITEM 4,5 EXEC (*)
R13L 5. PL BAY DR – OP
CRT4 √ CENTER LATCHES 5-8,9-12 (two) – blank, OP (~20 sec)
R13L 6. PL BAY DR – STOP
CRT4 7. Deselect CENTER LATCHES 5-8,9-12 – ITEM 4,5 EXEC (no *)
8. Select CENTER LATCHES 1-4,13-16 – ITEM 6,7 EXEC (*)
R13L 9. PL BAY DR – OP
CRT4 √ CENTER LATCHES 1-4,13-16 (two) – blank, OP (~20 sec)
R13L 10. PL BAY DR – STOP
CRT4 11. Deselect CENTER LATCHES 1-4,13-16 – ITEM 6,7 EXEC (no *)

OPEN STBD FWD, AFT LATCHES & DOOR
  12. Select STBD FWD, AFT LATCHES – ITEM 8,9 EXEC (*)
R13L 13. PL BAY DR – OP
CRT4 √ STBD FWD, AFT LATCHES (two) – blank, OP (~30 sec)
R13L 14. PL BAY DR – STOP
CRT4 15. Deselect STBD FWD, AFT LATCHES (two) – ITEM 8,9 EXEC (no *)
16. Select STBD DOOR – ITEM 10 EXEC (*)
R13L 17. PL BAY DR – OP
CRT4 √ STBD DOOR – RDY, blank, OP (~63 sec)
R13L 18. PL BAY DR – STOP
CRT4 19. Deselect STBD DOOR – ITEM 10 EXEC (no *)

OPEN PORT FWD, AFT LATCHES & DOOR
  20. Select PORT FWD, AFT LATCHES – ITEM 11,12 EXEC (*)
R13L 21. PL BAY DR – OP
CRT4 √ PORT FWD, AFT LATCHES (two) – blank, OP (~30 sec)
R13L 22. PL BAY DR – STOP
CRT4 23. Deselect PORT FWD, AFT LATCHES – ITEM 11,12 EXEC (no *)
24. Select PORT DOOR – ITEM 13 EXEC (*)
R13L 25. PL BAY DR – OP
CRT4 √ PORT DOOR – RDY, blank, OP (~63 sec)
R13L 26. PL BAY DR – STOP
CRT4 27. Deselect PORT DOOR – ITEM 13 EXEC (no *)

POST-PLBD OPENING CLEANUP
  28. PL BAY DR SYS (two) – DSBL
CRT4 √ OP/CL STATUS (ten) – OP
  29. AC POWER OFF – ITEM 2 EXEC (*)
30. SM, OPS 201 PRO (if PASS SM)
  4: SM ANTENNA
A7U 31. After floodlights ON > 10 min:
PL BAY FLOOD (all) – OFF
<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>PLBD CONTROL</th>
<th>PLBD DISPLAY MDM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MTR 1</td>
<td>MTR 2</td>
</tr>
<tr>
<td></td>
<td>AC/ MCA</td>
<td>CNTL</td>
</tr>
<tr>
<td>LATCH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-8</td>
<td>1/MID3</td>
<td>AB3/AB2</td>
</tr>
<tr>
<td>9-12</td>
<td>1/MID1</td>
<td>AB3/AB1</td>
</tr>
<tr>
<td>1-4</td>
<td>1/MID3</td>
<td>AB3/AB2</td>
</tr>
<tr>
<td>13-16</td>
<td>3/MID4</td>
<td>CA3/CA2</td>
</tr>
<tr>
<td>S FWD</td>
<td>1/MID1</td>
<td>AB3/AB1</td>
</tr>
<tr>
<td>S AFT</td>
<td>3/MID4</td>
<td>CA3/CA2</td>
</tr>
<tr>
<td>S DOOR</td>
<td>1/MID1</td>
<td>AB3/AB1</td>
</tr>
<tr>
<td>P FWD</td>
<td>1/MID1</td>
<td>AB3/AB1</td>
</tr>
<tr>
<td>P AFT</td>
<td>1/MID3</td>
<td>AB3/AB2</td>
</tr>
<tr>
<td>P DOOR</td>
<td>3/MID4</td>
<td>CA3/CA2</td>
</tr>
</tbody>
</table>
## AFT FLIGHT DECK RECONFIGURATION

### AFT STATION CONFIG

<table>
<thead>
<tr>
<th>Post Seat Egress</th>
<th>AFT STATION CONFIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>O14:D</td>
<td>cb MNA CAB VENT – op</td>
</tr>
<tr>
<td></td>
<td>ISOL – op</td>
</tr>
<tr>
<td>A14</td>
<td>RCS/OMS HTR FWD RCS</td>
</tr>
<tr>
<td></td>
<td>– A AUTO</td>
</tr>
<tr>
<td></td>
<td>L POD (two)</td>
</tr>
<tr>
<td></td>
<td>– A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>R POD (two)</td>
</tr>
<tr>
<td></td>
<td>– A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>OMS CRSFD LINES (two)</td>
</tr>
<tr>
<td></td>
<td>– A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>√FWD, AFT RCS JET (ten)</td>
</tr>
<tr>
<td></td>
<td>– AUTO</td>
</tr>
<tr>
<td>PDIP 1</td>
<td>KU BAND RATE</td>
</tr>
<tr>
<td></td>
<td>– Low</td>
</tr>
<tr>
<td>A12</td>
<td>APU HTR LUBE OIL LN (three)</td>
</tr>
<tr>
<td></td>
<td>– A AUTO</td>
</tr>
<tr>
<td><strong>ON-ORBIT CONFIG</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don headset (if reqd)</td>
</tr>
<tr>
<td></td>
<td>If WCCS flown, perform STD WCCS CONFIG (ORB OPS, COMM/INST)</td>
</tr>
</tbody>
</table>
|                  | 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 sel – PTT/PTT |
| A11              | MS COMM CUC PWR – OFF |
|                  | Connect HHMIC to MHA |
|                  | MS COMM CUC PWR – ON |
| R6,L5            | CCU PWR – OFF |
| A13              | OS AUD SPKR PWR sel – SPKR |
|                  | MSTR SPKR VOL sel – as reqd |
| R6,L5            | HIU VOL (two) |
|                  | – minimum, full ccw |
| A1L              | XMIT – HI |
|                  | CODING (two) |
|                  | – ON |
| A1R              | S-BD FM DATA SOURCE sel – MMU 2 (rot) |
|                  | AUD CTR VOICE RCD SEL CH 1 sel – OFF |
|                  | 2 sel – OFF |

---

### MET

<table>
<thead>
<tr>
<th>MET</th>
<th>MS AFT ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:53</td>
<td>SPECIALIST SEAT EGRESS</td>
</tr>
<tr>
<td>00:59</td>
<td>AFT STATION CONFIG 3</td>
</tr>
<tr>
<td>01:03</td>
<td>CONFIG FOR PLBD OPERATIONS 4</td>
</tr>
<tr>
<td>01:41</td>
<td>CLOTHING CONFIG 10</td>
</tr>
<tr>
<td>01:54</td>
<td>SPECIALIST SEAT REMOVAL/STOWAGE</td>
</tr>
<tr>
<td>02:01</td>
<td>AIRLOCK SETUP FOR INGRESS 15</td>
</tr>
<tr>
<td>02:24</td>
<td>RESET C/W 16</td>
</tr>
</tbody>
</table>

---

**R14:**
- cb MNB KU ANT HTR – cl
- UHF EVA (two) – cl
- D – Close left to right all cbs
- E – Close left to right all cbs

**L10:**
- Remove, stow VIP, VTR covers

**R11L:**
- IDP/CRT 4 PWR – ON

**R12:**
- VPU PWR – ON (LED on)

**MDU:**
- AFD 1 – ON (if desired)

**A15:**
- cb CNTL PWR PTU 1,2 (two) – cl
- PTU/MAIN BUS A,B (two) – ON (tb-ON)
- OPCU 1,2 V-ADJ (two) – CMD

**O17:**
- A: ATVC (four) – OFF
- B: EIU (three) – OFF
- D: MEC 1 – OFF, wait 2 sec, then 2 – OFF
- \*: PL BUS ACTIVATION complete

**L12:**
- SSP1 cb PDIP 1 PWR 2/KU BAND RLY – cl
- PDIP 1 PWR 1 – cl
- SW PWR 1 CAM PWR – cl
- SSP2 cb PDIP 2 PWR 2 – cl
- PDIP 2 PWR 1 – cl
- CAM SW PWR – cl
- ITVC KEEL CAM HTR/Illum PWR – ON
- R12 (OPP) cb OBSS SW PWR – cl
- OBSS SW PWR – ON
- (OBSS) RSC PWR – ON

**Unstow, deploy reqd FDF**
AFT FLIGHT DECK RECONFIGURATION

CONFIG FOR PLBD OPERATIONS  

SET UP LIGHTS
A6U
ANNUN BUS SEL – MNC

NOTE
Minimum operating time for PLB Floodlights is 10 min.
Light must be OFF for minimum of 10 min UNBLOCKED,
16 min BLOCKED prior to reuse. ~3 min to full bright

A7U
PL BAY FLOOD AFT (two) – ON
MID (two) – ON
FWD (two) – ON

OFF
OFF

Record MET: _____/_____:_____

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

SET UP P/TV
Perform ACTIVATION, OPERATION (Cue Card, TV)
If PLBD video rec desired:
Perform PLBD VTR RECORDING (Cue Card)

CLOTHING CONFIG  

Doff, stow:
Harness, Boots, LES
Stow gloves in Helmet
Remove radiation dosimeter from LES and insert in inflight garments

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

RESET C/W  

R13U
PARAMETER NAME C/W CH LOWER LIMIT UPPER LIMIT
FREON LOOP EVAP OUT T1 T2 107 117 1.90V/64.8 deg 1.90V/64.8 deg
CABIN PRESS PPO2 A 4 34 2.50V/2.50 psia 3.80V/15.22 psia
PPO2 B 44 - -

R13U
PARAMETER NAME C/W CH ENA/INH
MPS He TK P C L 9 INH
R 19 INH
MPS He REG P C L 39 INH
R 49 INH
MPS He REG P L 59 INH
HYD P 1 2 99 INH
3 109 INH
# MIDDECK RECONFIGURATION

## PRELIM MIDDECK CONFIG

2

**WARNING**

Eye and skin damage can occur in as little as 10 sec.

**INSTALL FILTERS**

Don Sunglasses

Unstow, install: Side Hatch UV Filter and Locking Device, and 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 mic, and/or wireless comm

(see WCCS Cue Card), if flown

If WCCS flown, perform STD WCCS CONFIG (ORB OPS, COMM/INST)

If middeck handheld mic/speaker ops:

MO42F

MIDDECK SPKR AUD A/G 1 – T/R, tw-2

A/G 2 – RCV, tw-2

A/A – RCV, tw-2

ICOM A – T/R, tw-2

B – RCV, 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

ML86B:C

cb MNA EXT ARLK HTR LINE ZN1,2 (two) – cl

STRUC Z1/2/3 – cl

:E

cb MNA FC PCM – op

**FDF 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**

<table>
<thead>
<tr>
<th>MET</th>
<th>MS AFT ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:53</td>
<td>SPECIALIST SEAT EGRESS</td>
</tr>
<tr>
<td>00:57</td>
<td>PRELIM MIDDECK CONFIG 2</td>
</tr>
<tr>
<td>01:07</td>
<td>WCS CONFIG/ACT 5</td>
</tr>
<tr>
<td>01:08</td>
<td>SWITCH CONFIG/GALLEY ACT 6</td>
</tr>
<tr>
<td>01:41</td>
<td>CLOTHING CONFIG 10</td>
</tr>
<tr>
<td>01:45</td>
<td>QUICKDON MASKS SETUP 19</td>
</tr>
<tr>
<td>01:54</td>
<td>SPECIALIST SEAT REMOVAL/STOWAGE</td>
</tr>
<tr>
<td>01:59</td>
<td>ESCAPE POLE STOWAGE 13</td>
</tr>
<tr>
<td>02:01</td>
<td>AIRLOCK SETUP FOR INGRESS 15</td>
</tr>
</tbody>
</table>

**CLOTHING CONFIG**

10

Doff, stow:

Harness, Boots, LES

Stow gloves in Helmet

Remove radiation dosimeter from LES and insert in inflight garments

Doff, stow in Wet Trash:

UCD (clamp if used)

Emesis Bag, if used (unstow new bag)

**QUICKDON MASKS SETUP**

19

Connect QDM COMM to HIU

Connect QDM O2 to LEH hose

Verify operation

Temp stow QDM/HIU assembly
# MIDDECK RECONFIGURATION

## WCS CONFIG/ACT  5

<table>
<thead>
<tr>
<th>WCS SWITCH CONFIGURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ML86B:A</strong></td>
</tr>
<tr>
<td>cb MNA H2O LINE HTR A    – cl</td>
</tr>
<tr>
<td>:B</td>
</tr>
<tr>
<td>WASTE H2O DUMP ISOL      – cl</td>
</tr>
<tr>
<td>MNA,MBN VAC VENT ISOL VLV (two) – cl</td>
</tr>
<tr>
<td>WCS CNTLR (two)          – cl</td>
</tr>
<tr>
<td>:F</td>
</tr>
<tr>
<td>MNA FLOODS WMC/MO13Q     – cl</td>
</tr>
</tbody>
</table>

| MA73C:E                  |
| All cbs closed except:   |
| 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

- Foot/Toe Restraints – down, locked
- VAC VLV – OP
- Unstow urinal hose from Velcro strap, install hose in cradle
  - CRADLE – AUTO
  - MODE – AUTO
- FAN SEP SEL sw – 1
- Unstow hose from cradle (√Airflow)
- WCS ON It – on
- Stow hose in cradle
- WCS ON It – off
- Unstow, Install WCS Container, Bag & Hose, Mirror, Elbow Bag Dispenser, First Day Clothing
- Ventline mated in aux Wet Trash
- Perform URINE PRETREAT SETUP (Cue Card, URINE PRETREAT CHANGEOUT)

## SWITCH CONFIG/GALLEY ACT  6

| MA73C:F                  |
| cb AC1 MAR 3Φ – cl       |
| :G                       |
| cb AC3 GALLEY FAN (three) – cl |

| ML86B:A                  |
| All cbs closed except:   |
| MNB H2O LINE HTR B – OP  |
| :B                       |
| All cbs closed          |
| :E                       |
| All cbs closed except:   |
| FLOOD TUNNEL ADAPTER (three) – op |
| CO2 SYS 1,2 CNTLR, CO2 COMM INSTR – op |
| FC PCM – op              |
| :F                       |
| All cbs closed          |
| :G                       |
| All cbs closed except:   |
| ESS1BC FLOOD TUNNEL ADAPTER 1 – op |

| R11L:G                   |
| SPLY H2O GALLEY SPLY VLV – OP (tb-OP) |

### ESSENCE POLE STOWAGE  13

- Remove large Port Pin
- Slide back – Safing Latch
- Retract, hold Locking Pin (Ring)
- Remove Large Pin
- Release Locking Pin (Ring)
- Remove STBD Pip Pin
- Stow Pole
- Reinstall Large Pin

### AIRLOCK SETUP FOR INGRESS 15

1. cb AC1,2 AIRLK TNL FAN A,B (six) – cl
2. Equal vlv caps (two) – remove
3. Open hatch per decal
4. Equal vlv (two) – OFF, install caps
5. Remove diffuser from aft middeck floor fitting and temp stow
6. Unstow bypass duct from Tunnel extension wall
7. Attach free end to aft middeck floor fitting
8. AIRLK 2 – ON/OFF
9. LTG FLOOD 1(3,4) – ON (as reqd)
10. √Airflow at top of external airlock halo
11. √NEG CAB PRESS RELIEF vlv cover (two) – CL (pushed in)
## ON-ORBIT SWITCH LIST

### LEFT SEAT
- L1 ............... 1-19
- L2 ............... 1-19
- O6 ............... 1-19
- O7 ............... 1-20
- O8 ............... 1-21
- O14 ............. 1-22
- O15 ............. 1-23

### RIGHT SEAT
- O16 ............. 1-23
- O8 ............. 1-21
- R1 ............. 1-18

### AFT
- C5 ............. 1-23
- C6 ............. 1-23
- C7 ............. 1-23

### MIDDECK-FWD
- ML86B .......... 1-26

### MIDDECK-AFT
- MA73C .......... 1-26
- MO32M .......... 1-25
- MO69M .......... 1-25
- MO63P .......... 1-27

### CIRCUIT BREAKER SNAP RING COLOR CODES

<table>
<thead>
<tr>
<th>COLOR</th>
<th>CONFIGURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Open at all times</td>
</tr>
<tr>
<td>Green</td>
<td>Open on-orbit only</td>
</tr>
<tr>
<td>Yellow</td>
<td>Open ascent, close per procedure</td>
</tr>
<tr>
<td>Orange</td>
<td>Open orbit through entry</td>
</tr>
<tr>
<td>Blank</td>
<td>Always closed or as required</td>
</tr>
</tbody>
</table>

- ▼ - Up
- ◆ - Center
- ▲ - Down
- R - As reqd
- ☐ - cb close
- ☐ - cb open
- Indicates switch/display not checked during ON-ORBIT SWITCH/VERIF
- Switch/display pictorials are generic representations and are not intended to depict actual switch position. Check MCC if clarification reqd
- White area indicates switch verified during ON-ORBIT SWITCH CONFIGURATION
OV105

PNL O14

A

OFF BRAKES MN A

BRAKES MN A

ON

ON

ON

ON

OFF RGA

OFF RGA

OFF MJ M A

OFF RGA

OFF MJ M A

OFF RGA

ON

ON

OFF MJ M A

OFF RGA

OFF MJ M A

OFF RGA

ON

ON

B

OFF SJ TN P M 2/4

SMOKE DETN LR FLK DR

FIRE SURP RN BAY 2/3B

UTILITY POWER CSW 156J

FLOOD LEFT CNTLR

ANNUN PAID ACA 1

RAD ISOL CNTLR

C

FIRE SUPPR BAY 3

GPS 1

FIRE ARM LWR

N2 SUPPLY 1

O2/AR ONCNLR

O2/AR AXXH

ATM PRESS CONTROL O2 N2 MIX

INLET 1

Cabin VENT 1

Cabin VENT BDL

D

FIRE BAY 1

RADAR ALTM 1

MLS 1

ADTA 1

STAR TRKR

ACCEL 1

DDU LEFT AFT

NOSE WHEEL STEERING

E

ASA 1

ON

OFF MJ M 1

L OMS ENG VLV

ON

OFF MJ M 1

L ENG VLV

INLET 1

L ENG VLV

OFF MJ M 1

L ENG VLV

F

OFF MI M 1

L T 2/32

OFF MI M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32

OFF MJ M 1

L T 2/32
OV103, OV105

PNL MO32M

OPEN

CLOSE

80V64TP156

80V64TP157

^LEH O₂, 5^ LEH O₂, 6^ MO32M

PNL MO69M

OPEN

CLOSE

80V64TP158

80V64TP159

^LEH O₂, 7^ LEH O₂, 8^ MO69M
ORBIT 5/6 DEORBIT
WARNING
If AV BAY FIRE (ASC PKT, PWRDN or ORBIT PKT, PWRDN) has been completed and the associated AC BUS, FF MDM, or FMCA is not recovered, \MCC for Vent Door config. Certain failure combinations will cause multiple vent doors to remain open during entry.

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 Pwrnd
- PRI RJDs DRIVER & LOGIC OFF in Group B Pwrnd

When PRIORITY PWRDN is complete, return to Nominal Post Insertion, 1-5, completing all activities except the following:

- MET 1:28 OPEN PLBDs
- MET 1:36 KU-BD ANT DEPLOY
- KU-BD ANT ACTIVATION
- MET 1:52 POST PLBD OPS RAD CONFIG
- MET 1:54 SPECIALIST SEAT REMOVAL/STOWAGE
- MET 1:57 ESCAPE POLE STOWAGE
- MET 2:01 AIRLOCK SETUP FOR INGRESS
- MET 2:05 CONFIG VERNIER DRIVERS

1:00 | If Both Voice and Command Unavailable:
Perform GPS INCORPORATION (ORB OPS, GNC)

2:12 | CONFIG CONTROLS FOR ON-ORBIT, 1-17 thru 1-26 (SWITCH PICTORIALS)
NOTE: Some of these switch throws will have been done during PRIORITY POWERDOWNS

- DELETE: HI LOAD DUCT HTR – OFF, on 1-19

2:30 | Add following MNVR: MNVR (TRK) –ZLV, +YVV
TG = 2  BV = 3  OM = 270
<table>
<thead>
<tr>
<th>TIG-</th>
<th>ACTION</th>
<th>PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:57</td>
<td>Delete</td>
<td>COLDSOAK INITIATE 2</td>
</tr>
<tr>
<td>3:35</td>
<td>Delete</td>
<td>SPECIALIST SEAT INSTALLATION</td>
</tr>
<tr>
<td>3:30</td>
<td>Move to TIG-2:30</td>
<td>DPS CONFIG FOR D/O PREP 4a</td>
</tr>
<tr>
<td>3:15</td>
<td>Move to TIG-2:20</td>
<td>DED DISP ENT CONFIG 6</td>
</tr>
<tr>
<td>3:00</td>
<td>Add</td>
<td>GNC FRP-3 (MAL, GNC FRPs) to recover IMU 2</td>
</tr>
<tr>
<td>2:56</td>
<td>Delete</td>
<td>RAD BYPASS/FES C/O (ORB OPS, ECLS)</td>
</tr>
<tr>
<td>2:55</td>
<td>Delete</td>
<td>CONFIG FOR PLBD CLOSING 7</td>
</tr>
<tr>
<td>2:40</td>
<td>Delete</td>
<td>PLBD CLOSING 9</td>
</tr>
<tr>
<td>2:40</td>
<td>Add</td>
<td>PWRDN BACKOUT (Group A &amp; B) (ORB PKT, PRIOR PWRDN) (Delete IMU 2 recovery step)</td>
</tr>
<tr>
<td>2:26</td>
<td>Delete</td>
<td>POST CLOSING CONFIG 10</td>
</tr>
</tbody>
</table>
# AFT Flight Deck Reconfiguration

<table>
<thead>
<tr>
<th>AFT STATION CONFIG</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST SEAT EGRESS</td>
<td></td>
</tr>
<tr>
<td>O14:D</td>
<td>cb MNA CAB VENT – op</td>
</tr>
<tr>
<td></td>
<td>cb MNA CAB VENT ISOL – op</td>
</tr>
<tr>
<td>A14</td>
<td>RCS/OMS HTR FWD RCS – A AUTO</td>
</tr>
<tr>
<td></td>
<td>L POD (two) – A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>R POD (two) – A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>OMS CRSFD LINES (two) – A AUTO, B OFF</td>
</tr>
<tr>
<td></td>
<td>√ FWD, AFT RCS JET (ten) – AUTO</td>
</tr>
<tr>
<td>PDIP 1</td>
<td>KU BAND RATE – Low</td>
</tr>
<tr>
<td>A12</td>
<td>APU HTR LUBE OIL LN (three) – A AUTO</td>
</tr>
</tbody>
</table>

## ON-ORBIT CONFIG

- Don headset (if reqd)
- If WCCS flown, 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
    - ICAM – RCV, tw-2
    - B – RCV, tw-2
  - XMIT/ICOM MODE sel – PTT/PTT
  - A11 MS COMM CCU PWR – OFF
  - Connect HHMIC to MHA
  - MS COMM CCU PWR – ON
  - CCU PWR – OFF
  - A13 OS AUD SPKR PWR sel – SPKR
    - MSTR SPKR VOL sel – as reqd
  - R6/L5 HIU VOL (two) – minimum, full ccw
  - A/1L S-BD FM MODE – TDRS DATA
    - NSF DATA RATE RCV – HI
    - XMIT – HI
    - CODING (two) – ON
  - A1R S-BD FM DATA SOURCE sel – MMU 2 (rot)
    - AUD CTR VOICE RCD SEL CH 1 sel – OFF
      - 2 sel – OFF
  - R14:C cb MNB KU ANT HTR – cl
    - UHF EVA (two) – cl
  - :D Close left to right all cbs
  - :E Close left to right all cbs
  - L10 Remove, stow VIP, VTR covers
  - R11L IDP/VRT 4 PWR – ON
  - R12 VPU PWR – ON (LED on)
  - MDU AFD 1 – ON (if desired)
  - A15 cb CNTL PWR PTU 1,2 (two) – cl
    - PTU/MAIN BUS A,B (two) – ON (tb-ON)
    - OPCU 1,2 V-ADJ (two) – CMD
  - O17:A ATVC (four) – OFF
  - :B EIU (three) – OFF
  - :D MEC 1 – OFF, wait 2 sec, then
    - 2 – OFF
  - √ VPL BUS ACTIVATION complete

- L12 SSP1 cb PDIP 1 PWR 2/KU BAND RLY – cl
  - PDIP 1 PWR 1 – cl
  - SW PWR 1 CAM PWR – cl
  - SSP2 cb PDIP 2 PWR 2 – cl
  - PDIP 2 PWR 1 – cl
  - CAM SW PWR – cl
  - ITVC KEEL CAM HTR/ILLUM PWR – ON
  - A1R (OPP) cb OBSS SW PWR – cl
    - OBSS SW PWR – ON
  - (OBSS) RSC PWR – ON

Unstow, deploy reqd FDF

## AFT Action Log

<table>
<thead>
<tr>
<th>Action Type</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIALIST SEAT EGRESS</td>
<td>00:53</td>
</tr>
<tr>
<td>AFT STATION CONFIG</td>
<td>00:59</td>
</tr>
<tr>
<td>CONFIG FOR PLBD OPERATIONS</td>
<td>01:03</td>
</tr>
<tr>
<td>CLOTHING CONFIG</td>
<td>01:41</td>
</tr>
<tr>
<td>SPECIALIST SEAT REMOVAL/STOWAGE</td>
<td>01:54</td>
</tr>
<tr>
<td>AIRLOCK SETUP FOR INGRESS</td>
<td>02:01</td>
</tr>
<tr>
<td>RESET CW</td>
<td>02:24</td>
</tr>
</tbody>
</table>

**NOTE:** (reduced copy)
AFT FLIGHT DECK RECONFIGURATION

CONFIG FOR PLBD OPERATIONS

SET UP LIGHTS
ANNUN BUS SEL – MNC

NOTE
Minimum operating time for PLB Floodlights is 10 min.
Light must be OFF for minimum of 10 min UNBLOCKED,
16 min BLOCKED prior to reuse. ~3 min to full bright

PL BAY FLOOD AFT (two) – ON
PL BAY FLOOD MID (two) – ON
PL BAY FLOOD FWD (two) – ON

Record MET: _____/_____/_____:

CLOTHING CONFIG

Doff, stow:
Harness, Boots, LES
Stow gloves in Helmet
Remove radiation dosimeter from LES and insert in inflight garments

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

RESET C/W

PARAMETER NAME | C/W | LOWER LIMIT | UPPER LIMIT
--- | --- | --- | ---
FREON LOOP EVAP OUT T1 | 107 | 1.90V/64.8 deg
T2 | 117 | 1.90V/64.8 deg
CABIN PRESS | 4 | 3.25V/13.02 psia
PPO2 A | 34 | 2.50V/2.50 psia
B | 44 | 2.50V/2.50 psia

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

(reduced copy)
PRELIM MIDDECK CONFIG 2

WARNING
Eye and skin damage can occur in as little as 10 sec.

INSTALL FILTERS
Don Sunglasses
Unstow, install: Side Hatch UV Filter and Locking Device, and Pyro Box Safety Pin

PRESS H2O TKA
ML26C
SPLY H2O GN2 TK VENT  vtv – PRESS
A SPLY vtv – OP

NOTE
Disregard possible ‘S66 WASTE H2O PRES’ fault msg

COMM CONFIG
Unstow: headsets, handheld mic, and/or wireless comm (see WCCS Cue Card), if flown
If WCCS flown, perform STD WCCS CONFIG (ORB OPS, COMM/INST)
If middeck handheld mic/speaker ops:

MO42F
MIDDECK SPKR AUD A/G 1 – T/R, tw-2
A/G 2 – RCV, tw-2
A/A – RCV, tw-2
ICOM A – T/R, tw-2
B – RCV, 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

ML86B:C
cb MNA EXT ARLK HTR LINE ZN1.2 (two) – cl
STRUC Z1/2/3 – cl
:E
cb MNA FC PCM – op

FDF 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

CLOTHING CONFIG 10
Doff, stow:
Harness, Boots, LES
Stow gloves in Helmet
Remove radiation dosimeter from LES and insert in inflight garments
Doff, stow in Wet Trash:
UCD (clamp if used)
Emesis Bag, if used (unstow new bag)

QUICKDON MASKS SETUP 19
Connect QDM COMM to HIU
Connect QDM O2 to LEH hose
Verify operation
Temp stow QDM/HIU assembly

MET  MS AFT ACTIONS
00:53 SPECIALIST SEAT EGRESS
00:57 PRELIM MIDDECK CONFIG 2
01:07 WCS CONFIG/ACT 5
01:08 SWITCH CONFIG/GALLEY ACT 6
01:41 CLOTHING CONFIG 10
01:45 QUICKDON MASKS SETUP 19
01:54 SPECIALIST SEAT REMOVAL/STOWAGE
01:59 ESCAPE POLE STOWAGE 13
02:01 AIRLOCK SETUP FOR INGRESS 15

CC 3-5
PI-2a/123/O/A
PI/123/FIN
MIDDECK RECONFIGURATION

WCS CONFIG/ACT

WCS SWITCH CONFIGURATION

ML86B:A
- cb MNA H2O LINE HTR A – cl
- WASTE H2O DUMP ISOL – cl
- MNA, MNB VAC VENT ISOL VLV (two) – cl
- WCS CNTLR (two) – cl
- MNB VAC VENT NOZ HTR – cl
- MNA FLOODS WMC/MO13Q – cl

ML86B:B
- cb MNA WASTE H2O DUMP ISOL – cl

MA73C:E
- All cbs closed except:
  - cb AC3 PL 3 – op

ML81C
- 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
- Food/Toe Restraints – down, locked
- VAC VLV – Op
- Unstow Urinal hose from Velcro strap, install hose in cradle
- CRADLE – AUTO
- MODE – AUTO
- FAN SEP SEL sw – 1
- Unstow hose from cradle (Airflow)
- WCS ON it – on
- Stow hose in cradle
- WCS ON it – off
- Unstow, install WCS Container, Bag & Hose, Mirror, Elbow Bag Dispenser, First Day Clothing
- Ventline mated in aux Wet Trash
- Perform URINE PRETREAT SETUP (Cue Card, URINE PRETREAT CHANGEOUT)

SWITCH CONFIG/GALLEY ACT

MA73C:F
- cb AC1 MAR 3 – cl
- cb AC3 GALLEY FAN (three) – cl

ML86B:A
- All cbs closed except: MNB H2O LINE HTR B – op
- cb MNA FLOODS WMC/MO13Q – cl

ML86B:B
- MNB VAC VENT NOZ HTR – cl

ML86B:E
- All cbs closed except: ESS1BC FLOOD TUNNEL ADAPTER 1 – op

R11L:G
- SPLY H2O GALLEY SPLY VLV – OP (tb-OP)

GALLEY
- H2O HTRS (two) – ON
- OVEN/RHS – ON

Unstow, install Personal Hygiene Hose

ESCAPE POLE STOWAGE

Remove large Port Pin
- Slide back – Safing Latch
- Retract, hold Locking Pin (Ring)
- Release Locking Pin (Ring)
- Remove STBD PIP Pin
- Stow Pole
- Reinstall Large Pin

AIRLOCK SETUP FOR INGRESS

MA73C:G
1. cb AC1,2 ARLK TNL FAN A,B (six) – cl
2. Inner Hatch
   1. Equal vlv caps (two) – remove
   2. Equal vlv (two) – OFF, install caps
3. MDDK
   1. Remove diffuser from aft middeck floor fitting and temp stow
4. EXT A/L
   1. Unstow bypass duct from Tunnel extension wall
5. MO13Q
   1. AIRLK 2 – ON/OFF
6. AW18A
   1. LTG FLOOD 1(3,4) – ON (as reqd)
   2. Airflow at top of external airlock halo
   3. NEG CAB PRESS RELIEF vlv cover (two) – CL (pushed in)

PI-2b/123/O/A