

CDR



STS

7

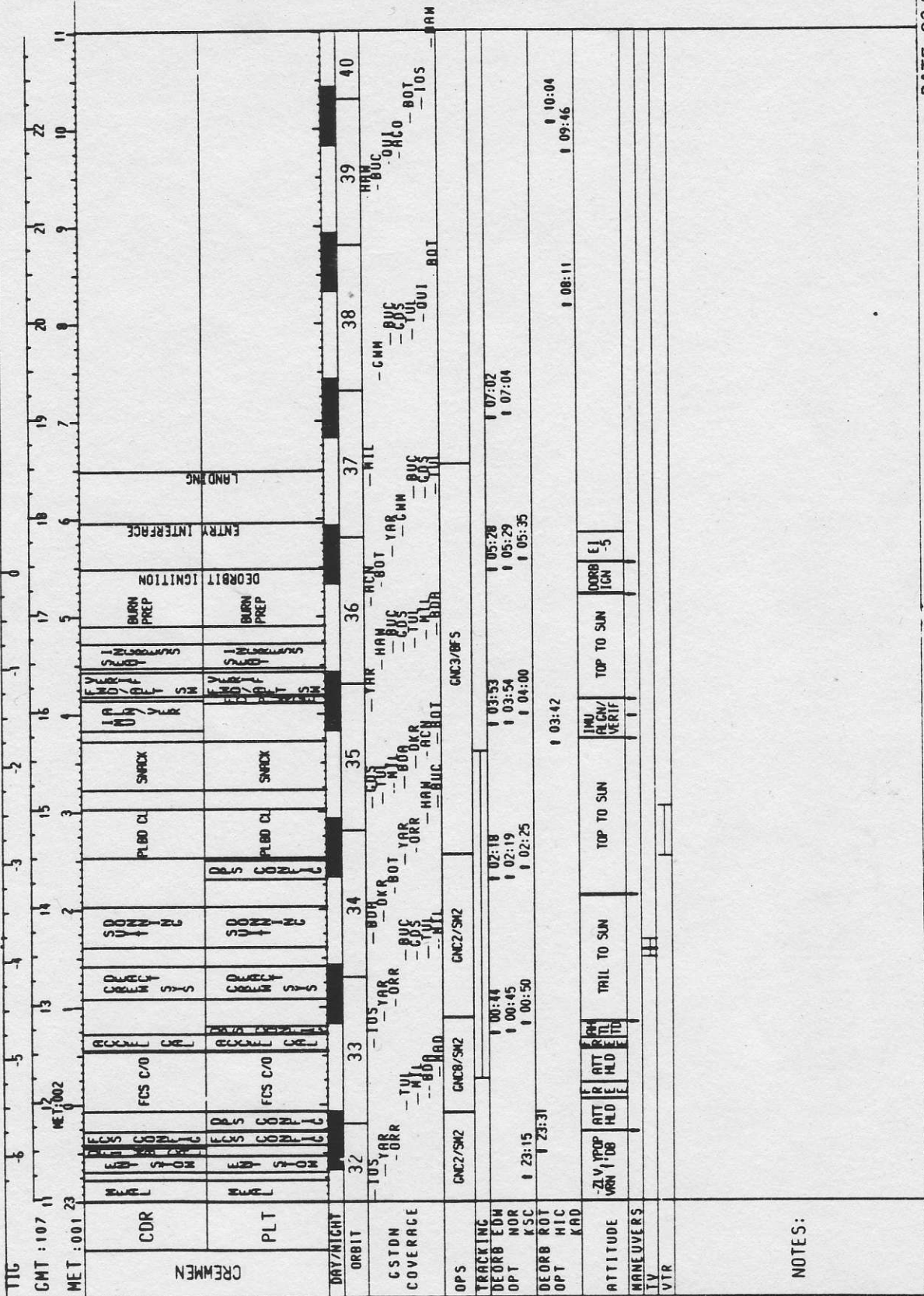
DEORBIT PDP

DATE 03/02/81

NOMINAL DEORBIT PREP PROCEDURES

3-1

STS 1 NOMINAL SUMMARY



DATE 03/02/81

3-2

NOTES:

FORM 1041-1 (REV. 11-80) USE PREVIOUS EDITIONS DISCONTINUED

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DATE 03/02/81

3-3

LINE	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL	TAXES	NET TOTAL
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FORM 1041-1 (REV. 11-80) USE PREVIOUS EDITIONS DISCONTINUED

NOMINAL DEORBIT PREP OVERVIEW OF CONFIGURATION MANAGEMENT

DPS	OPS 1 ASC C/L					OPS 2 ON-ORBIT					OPS 8 FCS C/O					OPS 2 DEORBIT PREP				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
GPC	G1	G1	G1	G1	BFS	G2	G2	FD	S2	BFS	GB	GB	FD	S2	BFS	G2	G2	FD	S2	BFS
POWER	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
OUTPUT	N	N	N	N	B	N	N	N	T	N	N	N	N	T	N	N	N	N	T	N
MODE	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R	R	R	R	S	R
CONFIG	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
GPC	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
STR	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
PL 1/2	1					1					1					1				
CRT	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
MM	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
MDM	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4	
D & C	ADI/DDU CRT/DEU INSTR	L, R 1, 2, 3 L, R	All ON			L, A 1, 2, 4 None	All ON			L, R L, R	All ON			L, R L, R	All ON					
E	AV BAY FAN CABIN FAN IMU FAN	1-B, 2-A, 3-B A B	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
L	WATER LP FREON LP RADIATOR	1-OFF, 2-ON 1-A, 2-A Stow	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
F	FCS	AUTO	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
S	ASA	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
/E	AA	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
N	RGA	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
A	ADTA	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
V	IMU	1, 2, 3	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
A	RA	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
I	TACAN	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
S	UHF	ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
R	RJDA	All ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
J	RJDF	All ON	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					
D			All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON			1-A, 2-A, 3-B 1-GPC, 2-ON Deploy	All ON					

Note: FLT CNTLR PMR will be turned off following OPS 8 C/O and mmvrs in OPS 301

NOMINAL DEORBIT PREP OVERVIEW OF CONFIGURATION MANAGEMENT (CONT)

		OPS 3 DEORBIT PREP					SEAT INGRESS					YIG-20					ET-5		V-15K								
DPS	GPC	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5						
OPS	GPC	ON	ON	ON	ON	ON	ON	ON	ON	ON	BFS	ON	ON	ON	ON	ON	BFS	ON	ON	ON	ON	ON					
POWER	OUTPUT	N	N	N	N	B	N	N	N	N	B	N	N	N	N	B	N	N	N	N	N	B					
MODE		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R					
CONFIG		3																									
STR		1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0						
PL 1/2		1																									
CRT		1	2	2	3	0	1	2	3	3	0	1	2	3	3	0	1	2	3	3	0						
MM		1																									
FROM		1	2																								
		ALL ON					ALL ON					ALL ON															
D	ADI/DDU	L,R					1,2,3																				
B	CRT/DEU																										
C	INSTR																										
E	AV BAY FAN																										
C	CABIN FAN																										
L	IMU FAN																										
S	WATER LP																										
	FREON LP																										
	RADIATOR																										
F																											
C	FCS																										
S	ASA																										
/	E AA																										
N	N RGA																										
A	S ADTA																										
V	O IMU																										
A	R RA																										
R	I S																										
I	TACAN																										
D	UHF																										
R	RJDA																										
J	RJDF																										
D																											

DEORBIT ON FLT DAY 2 (REH) FOR FOLLOWING FAILURES

**APU/HYD**

- 1 APU/HYD/WSB

**COMM/INST**

- 2 Voice (S-Band 1 & 2, UHF)
- 2 Command
- 2 ACCU
- 2 ATU (PL, CDR & MS)
- 2 PCMMUS
- 2 FDAs (SM & BFS)
- 2 SM (Ops 2/BFS)

**C/W**

- 2 C/W (Pri & B/U)

**DPS**

- 1 GPC\*
- 1 FF, FA or PL MDM
- 2 Fwd DEU/CRTs\*
- 1 Fwd KYBD\*
- 2 MMUS

**ECLS**

- 1 Freon Loop/Rad FES
- 2 FES Contrs
- 1 NH3 Boiler Sys
- 1 H2O Loop or Cab Fan
- 1 Av Bay 1 & 2 Fan

**ECLS (Cont)**

- 2 Av Bay 3 Fans
- 2 IMU Fans
- 1 O2 or H2 Cryo Tk
- 2 Sply/Waste H2O Tks

**EPS**

- 1 FC
- 1 Main Bus
- 1 Cnt1 AB1, AB2, BC1, BC2, CA1, CA2
- 1 Ess Bus
- 1 AC Bus (2Φ)

**GNC**

**SENSORS**

- 1 AA, RGA or IMU
- 2 ST/COAS
- 2 Tacan Range or ADTAs

**CONTROLLERS & SWITCH CONTACTS**

- 3 L, R RHC\*
- 4 L, R RPTA
- 4 L, R SBTC
- 2 L, R Bdy Flp
- 2 L, R Panel Trim (reqd in Roll only)
- 4 L, R FCS Mode Auto, Gain Ena or Bdy Flp
- 2 Control Effector or Alpha Bias
- 2 Gains, Pitch or R/Y

**GNC (Cont)**

**DEDICATED DISPLAYS**

- 1 L or R ADI\*, HSI, AMI, AVVI

**AERO SURFACES**

- 1 Act Ch Elev (per actuator), Rud, SBTC or Bdy Flp
- 1 Pri ΔP
- 1 FDBK (Elev & Bdy Flp)

**MECH**

- 2 Ldg Gear Dply (Hyd or Pyro)
- 1 PLBD or Gang Latch Drive Mtrs for close Critical Latch

**OMS**

- 2 He Tks
- 1 Prop Tk
- 1 OMS Eng
- 1 Critical Pod Htr
- 1 OMS TVC

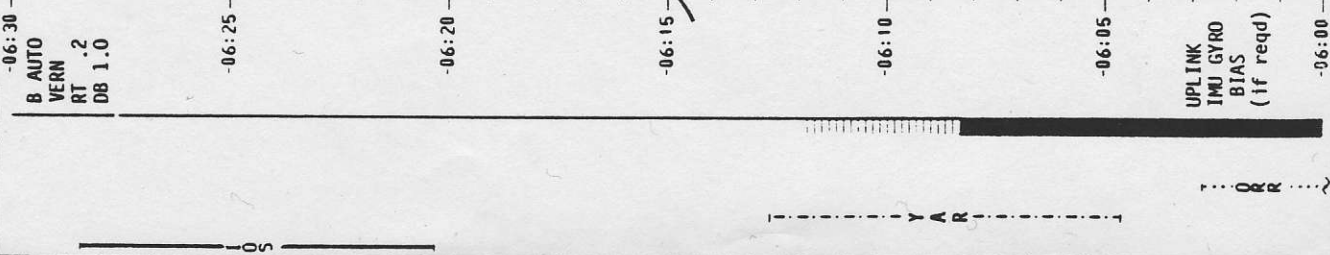
**RCS**

- 1 Aft Pod Fu or Ox Tk
- 1 Aft Manifold (Pri)
- 2 OMS/RCS Xfeed (Htr/Flow Paths)
- 1 Aft Jet L, R, UP, DN (Pri)

\*If good replacement unit not available

MEI: 22:58 (HH:MM)

TIG



Ref CAP, FLI DAY 3, 2-39 for activities prior to 002/23:12/MET

OPS 2 DAP CONFIG (GNC 20)

TRANSLATION	A			B		
PULSE	1	0.1	16	0.02		
ROTATION						
DISC RATE	2	0.2	17	0.5		
	3	0.2	18	0.2		
PULSE	4	0.1	19	0.04		
	5	0.01	20	0.002		
COMP	6	.0	21	.0		
	7	.0	22	.0		
DEADBAND						
ATT	R	10.0	23	1.0		
	P	10.0	24	1.0		
	Y	10.0	25	1.0		
RATE	NORM	0.2	26	0.2		
	VERN	.02	27	.02		

CRT TIMER SETUP (1)

1: GNC 2 TIME

SET CRT TIMER TO COUNT DOWN TO TIG (repeat for GNC & SM)

REHEARSAL DAY (HR:MIN:SEC - MET)

ITEM 17 + [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

ENTRY DAY

ITEM 17 + [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

24 HOUR LATE DELAYED DEORBIT

ITEM 17 + [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

1: GNC ORBIT

ENTRY STORAGE (2)

B PERSONAL HYGIENE SYS STORAGE

- Stow:
  - Personal Hygiene Kit - CDR - PLT
  - Towels
  - Washcloths
  - Trash
  - Mirror
  - Towel Restraints
  - Trash Bag
- MF14H
- MF28H
- MF280
- MF43E
- MF43E

AIR SAMPLES/COAS STORAGE

- MCS
- MA9L
- AL7
- Disconnect Hose from Vacuum Vent
- AIR SAMPLER - DAY OFF
- Stow Air Sampler/Vent Filter, Vent Hose
- Stow Air Bottle #4 (#3 Reh Day)
- Stow COAS

MCC: UPDATE APU # (Reh Day if FCS C/O Part 1 performed)

UPLINK IMU GYRO BIAS (if reqd)

Hose Record time: 11:23:13  
Record time: 11:23:14



FCS & DED DISPLAY ENTRY CONFIG ①

B 014:A RGA 1 - ON  
 :E cb MNA ADTA 1 - c1  
 /ACCEL 1 - c1  
 DDU AFT - op  
 :F ASA 1 - ON

015:A RGA 2,4 (two) - ON  
 :E cb MNB ADTA 2 - c1  
 /ACCEL 2 - c1  
 DDU R - c1  
 :F ASA 2 - ON  
 /ACCEL 4 - ON

016:A RGA 3 - ON  
 :E cb MNC ADTA 3,4 (two) - c1  
 DDU R - c1  
 AFT - op  
 :F ASA 3,4 (two) - ON  
 /ACCEL 3 - ON

07 TACAN (three) MODE - GPC  
 (three) /ANT SEL - AUTO

08 RADAR ALTM (two) - ON  
 MLS (three) - ON

F6/F8 INST PMR - FLT (F6)  
 - ON (F8)  
 FLT CNTLR PMR - ON  
 TRIM PNL - ON  
 HSI:/off flag - not visible

F8 ADI:/Error Needles & Rate Pointers - unstowed  
 C3 /FCS CH (four) - AUTO

1: GNC ORBIT 2: SM SYS SUMM 1 4: OFF

TTG

MET: 23:28 (HH:MM)

C DFI MB AUTO CAL ■  
 C3 DFI RCDRS WB MSN - CONT RCD (tb-gray)  
 RLL:E /DFI MB MSN RCDR - FMD CNTL  
 PHR - ON  
 :F FDM CNTL - AUTO CALBR, (hold 2 sec)  
 /CNTL - DATA  
 C3 DFI RCDRS WB MSN - STBY (tb-bp)

~~P CABIN TEMP (TWS) (tb-bp) (only) ■  
 (16)~~

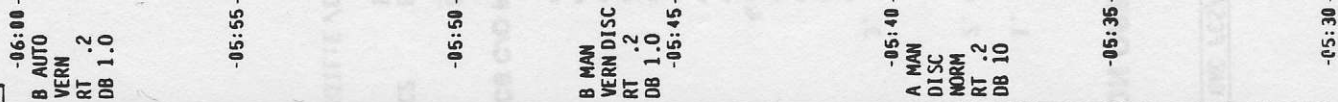
B FCS & DED DISPLAY ENTRY CONFIG ①

C TERMINATE -ZLV (05:45) DAP ROT: DISC/DISC/DISC  
 B/MAN/VERN

P DPS CONFIG FOR FCS C/O ②

1: GNC FCS/DED DIS C/O 2: GNC FCS/DED DIS C/O

B ON-ORBIT FCS CHECKOUT TESTS



DPS CONFIG FOR FCS C/O ②

TFL FOR FCS C/O

P C3 2: SM 62 PCMMU/PL COMM  
 /OT PCMMU FORMAT - GPC

CRT3 /SM COM BUFF 'RDY'

FORMAT:

FXD - ITEM 1 EXEC  
 SEL ID - ITEM 3 +4 EXEC  
 LOAD - ITEM 4 EXEC  
 -/RUN, CPT  
 SEL ID - ITEM 3 +1 6 2 EXEC  
 LOAD - ITEM 4 EXEC  
 -/RUN, CPT  
 PGM - ITEM 2 EXEC

CONFIG CRTS

GPC/CRT 04 EXEC

TRANSITION TO GNC OPS 8

[GNC 0 GPC MEMORY]

CONFIG - ITEM 1 +8 EXEC  
 Verify MC 8 per Table

GNC OPS 801 PRO

[GNC FCS/DED DIS C/O]

If in GG,  
 DAP: PULSE/PULSE/PULSE

CONFIG	8
GPC	12000
STR	1 2 2 2 1 0
PL	1/2 0
CRT	1 2 2 2 0
MM	1 2

1: GNC FCS/DED DIS C/O

2: GNC FCS/DED DIS C/O

4: OFF

### ON ORBIT FCS CHECKOUT, PART 1

#### NOTE

1. Perform Part 1 on FLT DAY 1; Part 2 on FLT DAY 2 & 3.
2. Only one APU will be used for the FCS C/O. Selection of APU will be made real time and MCC will provide APU number
3. \* Continue FCS C/O for APU alarms except as follows: \*
  - \* If WB REG PRESS '+'; \*
  - \* R2 BLR N2 SPLY - OFF \*
  - \* If OIL OUT P < 25 & GBX P < 5; shut down APU \*
  - \* If [APU OVERSPEED] or [APU UNDERSPEED] \*
  - \* Confirmed overspeed or if APU has shut down \*
  - \* or \*
  - \* If [APU TEMP] \*
  - \* Overtemp confirmed by SM APU B/U EGT: \*
  - \* Affected APU CNTL - OFF \*
  - \* FUEL TK VLV - CL \*

### FCS C/O PREP

#### EVENT TIMER & DFI RCDR SETUP

C C2 EVENT TIMER MODE - UP  
 TIMER SET tw = 00:00

R11L:E /DFI WB MSN PWR - ON  
 /RCDR - FWD CNTL

1: GNC FCS/DED DIS C/O

2: SM 86 APU/HYD

4: OFF

### APU PRESTART

/DAP: A/MAN/DISC - NORM

2: SM 86 APU/HYD

CRT2 /APU, HYD, WB status no '+' or '+'

R4 /HYD LG RET/CIRC VLV - CL

R2 BLR N2 SPLY X

✓CNTLR (three)

/APU FUEL TK VLV (three)

CNTLR PWR X

/HYD CIRC PUMP (three)

MN PUMP PRESS X

APU AUTO SHUT DN

SPEED SEL (three)

✓CNTL (three)

- ON

- ON

- A

- CL

- ON

- OFF

- LO

- ENA

- NORM

- OFF

### FCS C/O

Inform MCC: READY FOR APU START (AOS 07:45 MET, FLT DAY 1)

Wait for MCC GO

C3 DFIRCDRS PCM = CONT RCD (tb-gray)  
 WB MSN - CONT RCD (tb-gray)

C C2 EVENT TIMER CNTL - START (at APU START)

1: GNC FCS/DED DIS C/0 | 2: SM 86 APU/HYD | 4: OFF

**APU START**

P R2 APU FUEL TK VLV X - OP  
✓APU/HYD RDY X tb - gray

\* If tb-bp, consult MCC \*

00:00

R2 APU CMTL X - START/RUN  
F8 ✓HYD PRESS ind X - LOW green  
R2 ✓APU/HYD RDY X tb - bp

\* If APU did not start normally: APU CMTL - START ORIDE/RUN \*  
\* (wait 3.5 min for APU start) \*  
\* If still no start: APU AUTO SHUT DN - INH \*  
\* If still no start: APU CMTL - OFF \*  
\* FUEL TK VLV - CL \*

R2 HYD MN PUMP PRESS X - NORM  
F8 ✓HYD PRESS ind X - HI green

R4 ✓HYD LG HYD ISOL VLV X - CL (tb-CL)

CRT2 ✓SW VLV ELVN (four)  
RUD/SPDBK

If HYD SYS 1	If HYD SYS 2	If HYD SYS 3
1(*)	2(*)	3(*)
1(*)	2(*)	3(*)

**INITIATE AEROSURFACE DRIVE**

C CRT1 SURF DR START - ITEM 9 EXEC  
Verify all surfaces cycling for 5 seconds

**NOTE**

POS '+' may be indicated until HYD SYS is warm

\* If FCS CH failure ('+' port status), reset affected FCS CH: \*  
\* FCS CH - ORIDE, then \*  
\* - AUTO \*

**TERMINATE AEROSURFACE DRIVE**

C CRT1 After 5 seconds of aerosurface drive,  
SURF DR STOP - ITEM 10 EXEC

1: GNC FCS/DED DIS C/0 | 2: SM 86 APU/HYD | 4: OFF

**SECONDARY ACTUATOR CHECK**

NOTE  
✓surfaces not moving

C C3 1. ✓FCS CH 1,2,3,4 - AUTO

CRT1 2. SEC ACT CK:  
CH 1 - ITEM 14 EXEC

CRT1 3. ✓all CH 1 ports trip ('+')  
STOP - ITEM 18 EXEC

C3 4. FCS CH 1 - ORIDE  
CRT1 ✓all CH 1 ports reset (no '+')  
C3 FCS CH 1 - AUTO

CRT1 5. CH 2 - ITEM 15 EXEC

CRT1 6. ✓all CH 2 ports trip ('+')  
STOP - ITEM 18 EXEC

C3 7. FCS CH 2 - ORIDE  
CRT1 ✓all CH 2 ports reset (no '+')  
C3 FCS CH 2 - AUTO

8. Repeat steps 5 thru 7 for CH 3 & 4

04:55 (EVENT TIMER)

**APU SHUTDOWN**

On MCC GO for APU SHDN:

R2 BLR CMTLR (three) - OFF  
APU CMTL X - OFF  
FUEL TK VLV X - CL  
C3 BLR N2 SPLY X - OFF  
APU FUEL PUMP/VLV COOL A - AUTO

C3 DFI RCDRS WB MSN - STBY (tb-bp)

FLY DAY 1	FLY DAY 2/3
NET	TTG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06

*Card blank*

1: GMC FCS/DED DIS C/O | 2: SM 86 APU/HYD | 4: OFF

**ON ORBIT FCS CHECKOUT, PART 2**

**SENSOR TEST - MLS, TAC, RA, AA**

- \* During MLS/TAC/RA/AA test, deselect LRU for failure \*
- \* indicated:
- \* MLS, TAC, RA, AA - 't' or '†'
- \* or AA - BIAS/NULL limits exceeded
- \* Record values of failures defined

2: GMC 40 SENSOR TEST

- ✓DES: (no \*)
- ✓STAT: blank
- ✓RNG, AZ, EL: no M
- ✓Y, Z: dynamic data

CONFIG FOR FREE DRIFT (Omit if GG)

- F6 ADI RATE - LO
- DAP: B/MAN/VERN
- ✓R, P, Y rates 0 ±.1 deg/sec then:
- DAP ROT: PULSE/PULSE/PULSE
- AA BIAS/NULL SHIFT TEST
- ✓Y, Z within limits: Y -.3 to +.3
- Z -.9 to +.9

MLS, TAC, RA, AA TEST

CRT2 START - ITEM 13 EXEC

- NOTE
- '\*' blanks when test is complete
- ✓no 't' or '†'

CRT2 STOP - ITEM 14 EXEC

FLY DAY 1	FLY DAY 2/3
MEET	TIG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06

LIMIT VALUES TABLE			
MLS	RNG	AZ	CL
	15.0 to 15.4	+,-2.9 to 3.1 (+ for ~ 10 sec, then -)	5.9 to 6.1
TAC	0 to .5	177.5 to 182.5	
RA	900 to 1100		
AA		Y +14.40 to 17.80	Z +57.70 to 71.10

*Handwritten signature/initials*

1: GNC FCS/DED DIS C/O | 2: GNC 40 SENSOR TEST | 4: OFF

**SENSOR TEST - RGA, ADTA**

- \* During RGA, ADTA test, deselect LRU for failure indicated:
- \* RGA: bias null limits exceeded or '+' or '+'
- \* ADTA: any '+' or '+' except temp ('T')
- \* ADTA BITE: Perform memory read
- \* Record values of failures defined

2: GNC 41 RGA/ADTA/RCS

- C CRT2 ✓DES: (no \*)
- ✓STAT: blank
- ✓R,P,Y: dynamic data
- ✓PS,PaC,PaU,PaL,T - no M

CONFIG FOR FREE DRIFT (Omit if GG)

- ✓DAP: B/MAN/VERM
- ✓R,P,Y rates 0 ±.1 deg/sec then:
- DAP ROT: PULSE/PULSE/PULSE

**RGA BIAS/NULL SHIFT TEST**

CRT2 ✓R,P,Y within limits: -.2 to +.2

**HIGH TEST**

- TEST HI - ITEM 9 EXEC (\*) (after 10 sec, no \*)
- ✓no '+' or '+'
- If ADTA BITE, ref MEMORY READ TABLE

TEST STOP - ITEM 11 EXEC

**LOW TEST**

- TEST LOW - ITEM 10 EXEC (\*) (after 10 sec, no \*)
- ✓no '+' or '+'
- If ADTA BITE, ref MEMORY READ TABLE

TEST STOP - ITEM 11 EXEC

- \* If RGA does not respond to HIGH or LOW TEST:
- \* Null vehicle rates
- \* Maneuver at 0.50/sec (DAP: B/NORM) about failed axis, monitor RGA data
- \* If RGA responds, self test circuitry is failed
- \* If no RGA response, deselect sensor

FLY DAY 1	FLY DAY 2/3
MEY	TIG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06

- \* ADTA MEMORY READ TABLE
- [GNC 0 GPC MEMORY]
- DATA - ITEM 20 EXEC
- HEX - ITEM 27 EXEC
- ADD ID - ITEM 28 + (see below)
- ADTA 1 BITE 0 7 5 6 8
- ADTA 2 BITE 0 7 5 7 8
- ADTA 3 BITE 0 7 6 2 8
- ADTA 4 BITE 0 7 6 8 8
- If data in actual column (last 3 char) is not equal to -FDC, -FF8, -FD8, -FFC, deselect failed ADTA

LIMIT VALUES TABLE	
HIGH TEST LIMITS	
RGA R	P +9.2 to +10.8
	Y +9.2 to +10.8
ADTA PS	PaC 5.473 to 5.477
	PaU 2.740 to 2.744
	PaL 1.708 to 1.712
	T 173.56 to 173.70
LOW TEST LIMITS	
RGA R	P -9.2 to -10.8
	Y -9.2 to -10.8
ADTA PS	PaC 29.527 to 29.531
	PaU 21.708 to 21.712
	PaL 14.713 to 14.717
	T 18.50 to 18.54

1: GNC FCS/DED DIS C/0 | 2: GNC 41 RGA/ADTA/RCS | 4: OFF

DAP CONFIG (Omit if GG)

C3 DAP: B/MAW/VERN  
DAP ROT: DISC/DISC/DISC

DFI RCDRS CONFIG

C3 ► DFI RCDRS PCM - HI SAMP (~15 min after APU SHUTDN)

Cont 3-15

FLY DAY 1	FLY DAY 2/3
MET	TYG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06

1: GNC FCS/DED DIS C/O | 2: GNC 41 RGA/ADTA/RCS | 2: OFF

FCS MODE/CH SWITCH TEST

- \* During tests,
- \* FCS CH & down moding sw:
- \* Fail op - 2 op or 1 op/1 cl contacts
- \* precludes use of sw
- \* Fail cl - deselect failed contact
- \* \*
- \* ENTRY ROLL MODE:
- \* Fail op or cl - 1st, 2nd failure, deselect contact
- \* 3rd failure, deselect all contacts
- \* \*
- \* FCS MODE:
- \* Fail op - 2 op or 1 op/1 cl contacts precludes use
- \* of sw
- \* Fail cl - 1st failure, deselect failed contact
- \* 2nd failure (L(R), deselect all L(R)
- \* contacts
- \* \*
- \* SURF TEST: deselect feedback if limit exceeded
- \* \*

2: GNC 42 SWITCH/SURF

- C CRT2 \* During following tests verify '\*' appears
- \* except as noted. If '\*' remains after releasing pb,
- \* contact is failed closed
- C C3 FCS CH (four) - ORIDE
- AUTO (no \*)
- B F2/F4 PITCH pb - AUTO
- CSS
- GAIN ENA
- ROLL/YAW pb - AUTO
- CSS
- GAIN ENA
- SPDBK/THROT pb - AUTO
- BODY FLAP pb - AUTO
- B L2/C3 SBTC TAKEOVER pb - push

1: GNC FCS/DED DIS C/O | 2: GNC 42 SWITCH/SURF | 4: OFF

FCS MODE/CH SWITCH TEST (Cont)

- SURF TEST
- Verify no single surf feedback
- exceeds average of other three
- feedbacks greater than:
- Elevons ( $\Delta 1.3$  deg)
- Rudder ( $\Delta 1.2$  deg)
- SPD BK ( $\Delta 2.2$  %)
- BDY FLP ( $\Delta 6.3$  %)

2: GNC 44 SWITCHES

During following switch test verify '\*' appears

- C F6 CONTROL EFFECTORS - NO Y JET
- NO AIL/RUD
- ALPHA BIAS - POS
- NEG
- GAIN P - HI FWD
- MIN FB
- R/Y - HI FWD
- LO FWD
- C L2 ENTRY R MODE - YAW JET/RUD
- AIL
- Return switches to Nominal Entry configuration
- C F6 CMTL EFF - NORM
- ALPHA BIAS - ZERO
- GAIN P - LO FWD
- R/Y - NOM
- C L2 ENTRY R MODE - AUTO

FLY DAY 1	FLY DAY 2/3
MET	TTG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06



1: GNC FCS/DED DIS C/O [2: GNC 44 SWITCHES] [4: OFF]

CONTROLLER & SWITCH TEST

- \* During controller/switch test,
  - THC: One TX(TV, TZ) failure - reselec all contacts (failed contact last)
  - Multi +TX, -TX, +TY, -TY, - reselec good contacts only
  - +TZ, -TZ failures
- \* SPDBK L(R): Deselec failed xdcrs
  - After 2nd L(R) failures, use other side
- \* RUD PED L(R): One failure
  - Multi L(R) failures - deselec failed xdcr
  - Multi L(R) failures - deselec all L(R) xdcrs
- \* RHC L(R): One xdcr failure - reselec good xdcrs only
  - Multi L(R) failures - reselec good xdcrs L(R) & F6(F8) FLT CNTLR PWR - OFF
- \* BDY FLP L(R): Fail close, deselec L(R) all contacts
- \* RHC TRIM L(R): If contact failed open;
  - deselec failed contact row, then
  - TRIM RHC L(R) - INH, use other side
- \* PNL TRIM L(R): If contact failed open;
  - deselec failed contact row, then
  - TRIM PNL L(R) - OFF, use other side

2: GNC 43 CONTROLLERS

- CRT2 1. THC
  - Deselec L THC:
  - THC L DES - ITEMS 1,2,3 EXEC (\*)
  - L THC - push in each axis
  - √THC - '+', '&', '-'
  - Reselec THC contacts:
  - THC L - ITEM 1,2,3 EXEC (no \*)

2. L SBTC

- CRT2 L SBTC - full aft; √ > 95%
- full fwd; √ < 5%

1: GNC FCS/DED DIS C/O [2: GNC 43 CONTROLLERS] [4: OFF]

CONTROLLER & SWITCH TEST (CONT)

FLY DAY 1	FLY DAY 2	TIG
MET		
AOS 07:45	AOS -5:33	
LOS 07:58	LOS -5:17	
AOS 07:59	AOS -5:12	
LOS 08:02	LOS -5:06	

- 3. RUDDER/BRAKE
  - CRT2 RUD PED - full L,R; √ > 91%
  - null; √ < 9%
  - BK PED - Depress to verify unrestricted movement (~ 20 to 25%)
- 4. L BODY FLAP SWITCH
  - C L2 BDY FLP - UP
  - DN
  - √BDY FLP UP, DN - \*\*
  - \* If FF MDM COMFAULTED, R BDY FLP indication may be incorrect
- 5. L RHC
  - CRT2 Deselec L RHC:
  - RHC L DES - ITEMS 23,24,25 EXEC (\*)
  - L RHC - deflect to hardstop in each axis
  - √RHC L: R, P - > 92%
  - Y - > 88%
  - Reselec RHC CHs:
  - RHC DES - ITEMS 23,24,25 EXEC (no \*)
- 6. L RHC TRIM SWITCH
  - C CRT2 L RHC Trim - deflect switch in each axis
  - √RHC TRIM L: R - R/L
  - P - U/D
- 7. L PANEL TRIM SWITCHES
  - C L2 ROLL TRIM - R, then L
  - PITCH TRIM - UP, then DN
  - YAW TRIM - R, then L
  - √PNL TRIM L: R, Y - R/L
  - P - U/D
- 8. Repeat Steps 2 & 4 through 7 for R controllers/switches
  - R RHC DES - ITEMS 26,27,28

1: GMC FCS/DED DIS C/O | 2: GMC 43 CONTROLLERS | 4: OFF

**DEDICATED DISPLAY CHECK**

- C CRT1 FWD - ITEM 1 EXEC  
LOW - ITEM 4 EXEC
- B F6/F8 /Readouts for DATA BUS 1,2,3,4
- CRT1 HIGH - ITEM 3 EXEC
- B F6/F8 /Readouts for DATA BUS 1,2,3,4 & record deltas

\* For ADI failure, consult MCC for possible replacement \*

**DEDICATED DISPLAY INPUT CHECKOUT VALUES TABLE**

PARAMETER	LOW VALUE	HIGH VALUE
F6/F8 ADI: R, P, Y ATT	20 deg	300 deg
R, Y RATE	2 ticks L	3 ticks R
P RATE	2 ticks D	3 ticks U
R, Y ATT ERR	2 ticks L	3 ticks R
P ATT ERR	2 ticks D	3 ticks U
AMI: ALPHA	+2 deg	+30 deg
ACCEL	+20 fps <sup>2</sup>	+30 fps <sup>2</sup>
M/VEL	20,000 fps	MACH 3
EAS	20 kts	300 kts
AVVI: ALT ACCEL	-2 fps <sup>2</sup>	+3 fps <sup>2</sup>
ALT RATE	-200 fps	+300 fps
ALT	200 ft	+300K ft
RDR ALT	200 ft	+3000 ft
HSI: SEL COURSE	200 deg	30 deg
HEADING	20 deg	300 deg
PRI BEAR	20 deg	30 deg
SEC BEAR	200 deg	300 deg
PRI, SEC MILES	200 nm	3000 nm
COURSE DEV	1 tick L	1 tick R
G/S DEV	1 tick D	1 tick U
SPI: ELEV	U20 deg	U30 deg
BODY FLP	20%	30%
RUD	20 deg L	3 deg R
AILERON	2 deg L	3 deg R
SPD BK	20%	30%
SPD BK CMD	N/A	N/A

1: GMC FCS/DED DIS C/O | 2: GMC 43 CONTROLLERS | 4: OFF

**FLAG TEST**

CRT1 FLAG - ITEM 5 EXEC

Verify flags visible:		FLAG TEST	
AMI	4		
AVVI	4		
HSI MILES	2		
CDI	1		
BRG	1		
GS	1		
ADI	1		
SPI	1		

FLY DAY 1	FLY DAY 2/3
NET	TIG
AOS 07:45	AOS -5:33
LOS 07:58	LOS -5:17
AOS 07:59	AOS -5:12
LOS 08:02	LOS -5:06

**TEST TERMINATE**

CRT1 DED DIS OFF - ITEM 6 EXEC

**MODE/SEQ LAMP TEST**

**TEST START**

CRT1 MODE/SEQ LT ON - ITEM 7 EXEC

- B F2/F4 ✓EVENT SEQ 1t (five)
- ✓PITCH AUTO, CSS, GAIN ENA 1t (three)
- ✓ROLL/YAW AUTO, CSS, GAIN ENA 1t (three)
- ✓SPDBK/THROT AUTO & MAN 1t (two)
- ✓BDBY FLP AUTO & MAN 1t (two)

**TEST TERMINATE**

CRT1 MODE/SEQ LT OFF - ITEM 18 EXEC

B F6/F8 FLT CNTLR PWR - OFF

260 BK CMB	200	300	400	500	600	700	800	900	1000	
260 BK	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
260 BK	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900
260 BK	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900
260 BK	4000	4100	4200	4300	4400	4500	4600	4700	4800	4900

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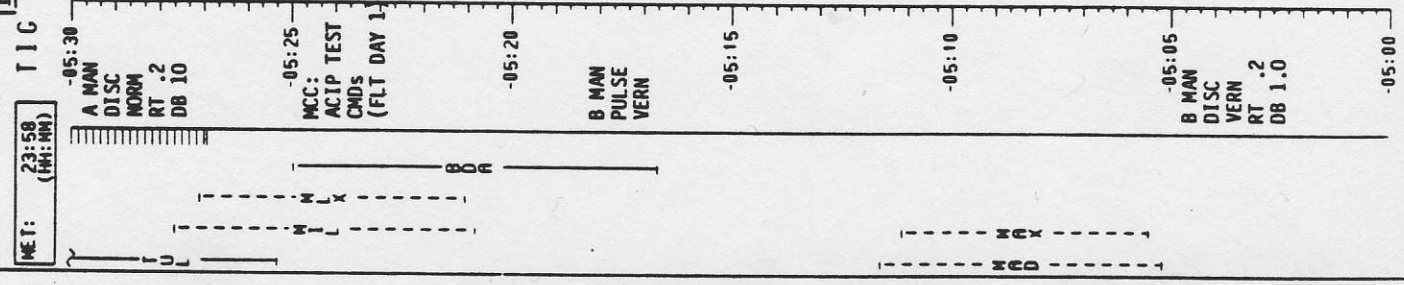
102 02-03	102 2-08
102 02-08	102 2-13
102 02-18	102 2-23
102 02-28	102 2-33
102 03-03	102 3-08
102 03-13	102 3-18
102 03-23	102 3-28
102 03-33	102 3-38

261	1	1	1	1	1
262	1	1	1	1	1
263	1	1	1	1	1
264	1	1	1	1	1
265	1	1	1	1	1

102 02-03 102 2-08  
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102 02-18 102 2-23  
102 02-28 102 2-33  
102 03-03 102 3-08  
102 03-13 102 3-18  
102 03-23 102 3-28  
102 03-33 102 3-38

1: GNC FCS/DED DIS C/O 4: OFF  
2: GNC FCS/DED DIS C/O

ON-ORBIT FCS CHECKOUT TESTS (Cont)



1. LEVON EARL CUBITS MS V - ON  
12 EARL MS 1 - 01

2. EARL CUBITS MS V - ON  
13 EARL CUBITS MS V - ON

3. EARL CUBITS MS V - ON  
14 EARL CUBITS MS V - ON

4. EARL CUBITS MS V - ON  
15 EARL CUBITS MS V - ON

5. EARL CUBITS MS V - ON  
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99 EARL CUBITS MS V - ON

89. EARL CUBITS MS V - ON  
100 EARL CUBITS MS V - ON

IMU ACCELEROMETER CAL ① \*If ATO, delete \*

✓DAP: B/MAN/VERN  
✓DISC/DISC/DISC  
✓ROT RATE < 0.1  
✓no dumps in progress  
Prior to IOS AOS (TIG -04:54)

C ◀

ESTABLISH FREE DRIFT

L1 FLASH EVAP CNTLR PRI A - OFF

C3 DAP ROT: PULSE/PULSE/PULSE

DAP: B/MAN/VERN

Prepare to remain still for ~ 6 minutes after AOS

AT AOS

Inform MCC configured for IMU CAL  
Remain still until LOS

VEHICLE RECOVERY AND FES RESTART

DAP ROT: DISC/DISC/DISC

If EVAP OUT T < 47:

L1 RAD CNTLR OUT TEMP - HI

When EVAP OUT T = 50 + 2:

L1 FLASH EVAP CNTLR PRI A - ON

RAD CNTLR OUT TEMP - NORM

If EVAP OUT T > 47:

L1 FLASH EVAP CNTLR PRI A - ON

1: GNC FCS/DED DIS C/O 4: OFF  
 2: GNC 43 CONTROLLERS

ON-ORBIT FCS CHECKOUT TESTS (Cont)

C3 ✓DFI RCDRS PCM - HI SAMP  
 ✓WB M8N - STBY (tb-bp)

IMU ACCELEROMETER CAL 1

P DPS ON-ORBIT CONFIG 2

1: GNC ORBIT 2: GNC ORBIT

C AUTO MNVR TO TAIL SUN ATT

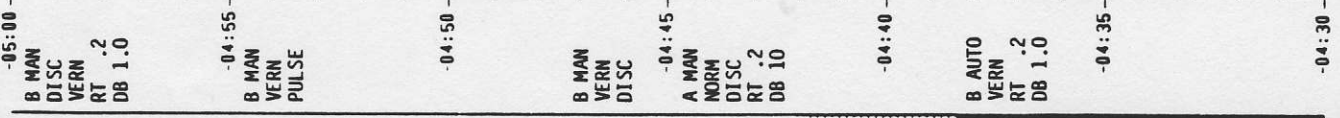
INRTL ATT: R +1 7 6  
 P +2 0 6  
 Y +3 4 9  
 (04:40) DAP: 87AUTO/VERN

P CABIN TV DEACT (Reh Day only)  
 OTS TV PHR - OFF  
 A7U TV PHR CNTL - PNL  
 CONTR UNIT - OFF  
 CNTL - CMD  
 A3 ✓MON 1(2) PHR (two) - OFF

P TV STORAGE (Reh Day only)  
 Stow: TV 1(2) (MF576, MF57E)  
 Camr Mt & Adapters (MF14G, MF57E)  
 Aux It (A17)

C 16MM/03 (LANDING) 3

MEI: 00:28 (HH:MM)



DPS ON-ORBIT CONFIG 2

IFL FOR ON-ORBIT OPS

1: SM 62 PCMM/PL COMM  
 ✓OT PCMMU FORMAT - GPC  
 CRT1 ✓SM COM BUFF 'RDY'  
 FORMAT:  
 FXD - ITEM 1 EXEC  
 SEL ID - ITEM 3 +3 EXEC  
 LOAD - ITEM 4 EXEC  
 -/RUN, CPLT  
 SEL ID - ITEM 3 +1 6 1 EXEC  
 LOAD - ITEM 4 EXEC  
 -/RUN, CPLT  
 PGM - ITEM 2 EXEC  
 1: GNC FCS/DED DIS C/O

TRANSITION TO GNC OPS 2

1: GNC 0 GPC MEMORY  
 CONFIG - ITEM 1 +2 EXEC  
 Verify MC 2 per Table

GNC OPS 201 PRO  
 1: GNC ORBIT

If in G6,  
 DAP: PULSE/PULSE/PULSE

CONFIG CRTS

GPC/CRT 03 EXEC  
 24 EXEC  
 44 EXEC

If interconnect, reinitialize OMS gauging  
 1: GNC 23 RCS  
 OMS PRESS EMA:  
 L(R) OMS - ITEM 5(6) EXEC  
 1: GNC ORBIT

CONFIG	2
GPC	12000
STR	1 2
	2 2
	3 2
	4 1
PL 1/2	0
CRT 1	1
	2 2
	3 2
	4 0
MM	1 1
	2 2

16MM/03 (LANDING) 3

F1 ✓DC UTIL PHR MNB - ON

✓Full Mag (both camrs)  
 ✓16mm Camr installed  
 M1 & M6 (pointed outboard)  
 ✓Settings

	M1 Camr	M6 Camr
Lens	10mm	18mm
MODE	12 Fps	12 Fps
SPEED	1/125	1/125
APERTURE	16	16
FOCUS	∞	∞

**CREW SYS DEACT ①**

**CONFIG CABIN TEMP CNTLR/CO2 ABSORBERS**

- L1 CAB TEMP CNTLR - OFF
- M044F Pin CAB TEMP CNTLR in FULL COOL position  
Remove CO2 Absorbers; rebag & stow (Ent Day only) ■

**MCS DEACTIVATION**

- WCS VAC VALVE - CL  
Foot restraints - up & locked  
Seat belt - fastened  
Stow:  
Wet Wipe dispenser  
MCS Wipes/Cleanser  
Mirror
- IMC Close & latch door

**FD/ RAD INSTR CONFIG**

- Unstow, Install:  
Entry & Deorbit Burn Cue Cards
- C6 ENT C/L (2) w/tether
- C6/ ENT PKT C/L (2) w/tether
- R5 ✓Stowed in A16:  
Data Card Kit 3 (MALF (1) & REF DATA (1))  
Data Card Kit 4 (empty)
- ✓Stowed in C6:  
Data Card Kit 1 (Orbit Burn Cue Cards, Sw Caps)
- LDG SITE CHARTS
- OMS RCS Slide Rule
- SYSTEMS TROUBLESHOOTING GUIDE Cue Card
- STAR CHART & BACKUP STAR PATRS Cue Card

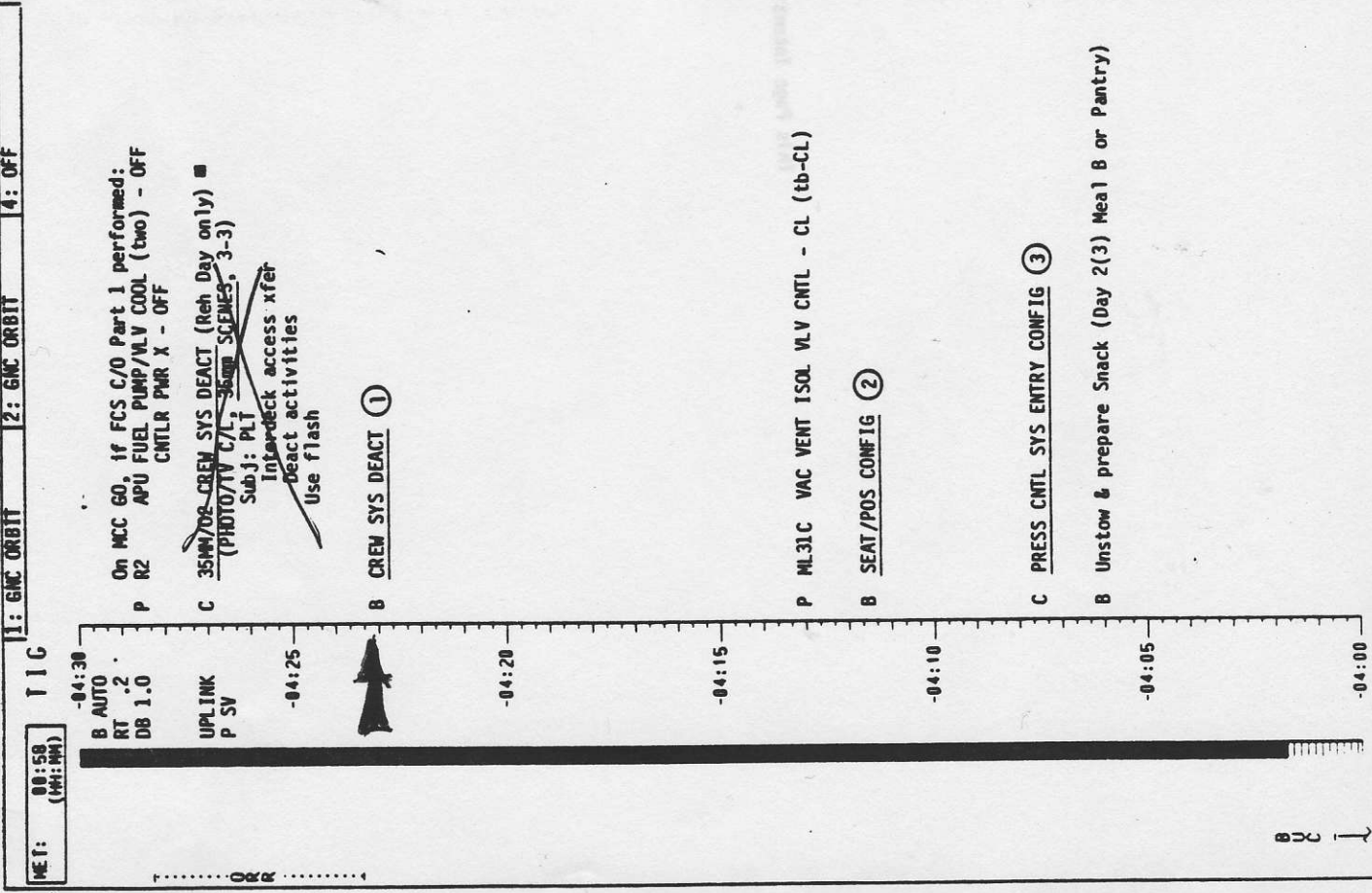
- ✓Stowed in R5:  
UPDATES BK  
Handheld Radio
- ✓Unstowed in FD:  
Orbit Cue Cards
- DEORBIT PDP (2)
- ORBIT PKT C/L (2)
- REF DATA
- Crew Note Bk (2)
- ✓Stowed in L FD/FDF:  
CAP

**CONT PDP**

- MALF
- ORBIT OPS C/L
- CREW SYS C/L

**POST INSERT PDP**

- ✓Stowed in R FD/FDF:  
EVA OPS BK  
EVA C/L  
CAP
- CONT PDP
- DPS DICT
- ORBIT OPS C/L
- CREW SYS C/L
- PHOTO/TV C/L
- POST INSERT PDP



MF28E Transfer, stow:  
 FD/FDF (2)  
 Map Kit  
 FD Dosimeters (3)  
 6 (above R11)  
 5 (above L10)  
 4 (fwd of OS flood)  
 MD Dosimeters  
 1 (front of air/lock)  
 2 (behind DFI)  
 3 (above hatch)  
 /Deployed: CONTINGENCY/PANTRY LIST Cue Card  
 /Stowed in MD/FDF:  
 Data Card Kit 2 (MD Orbit, EVA Cue Cards)  
 EVA OPS BK  
 EVA C/L  
 EVA Cuff C/L (2)  
 MED C/L  
 ORB SYS C/L  
 ORB SYS DATA  
 Stow MD/FDF

ENTRY STORAGE  
 ML83L Stow FMD/AFT Shades/Filters  
 W7/W8 Install overhead shades  
 AL7 Stow 35mm Camr

SEAT/POS CONFIG (2)  
 C2 ✓ Attach SUIT Cue Card to locker  
 ✓ Stow Helmet Bags near seat  
 ✓ Vent Hose connected to seat  
 ✓ Config seats  
 ✓ POS (two) stowed  
 C9 SEAT 02 - OP  
 AL6 ✓ Connect Vent Hose Extension (2), snap  
 ✓ Stow misc equip except:  
 70mm Camr w/80mm Lens & Mag CH 01 yellow  
 VTR Cassette  
 ✓ Modular locker, floor compartments secure

PRESS CNTL SYS ENTRY CONFIG (3)  
 C M010W 14.5 PSI CAB REG INLET SYS (two) vlv - CL  
 PP02 CNTLR SYS (two) - EMER  
 H20 TK M2 REG INLET SYS 1,2 (two) vlv - OP

NOTE  
 Ref 5-26 for resultant configuration

L2 O2 SYS (two) SPLY - OP (tb-OP)  
 XOVR SYS (two) - OP  
 ✓ N2 SYS (two) SPLY - OP (tb-OP)  
 (two) REG INLET - OP (tb-OP)  
 O2/N2 CNTLR VLV SYS (two) - AUTO



05-105 00078 #1 282 (100) - 0100  
 (100) 000 0000 - 05 (01-06)  
 05-282 (100) 282 A - 05 (01-06)  
 05-282 (100) 282 B - 05  
 05-282 (100) 282 C - 05 (01-06)

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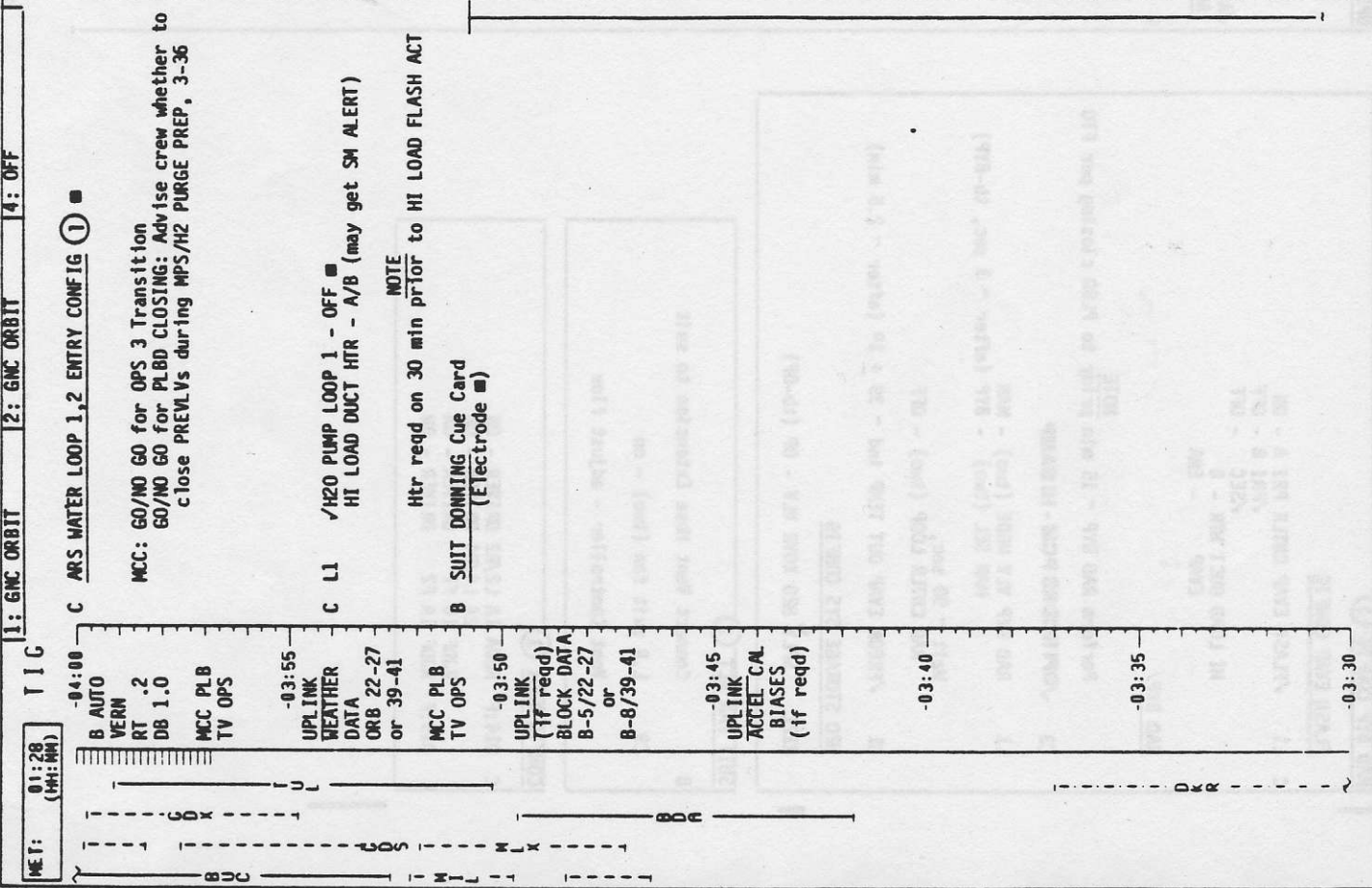
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1: GMC ORBIT      2: GMC ORBIT      4: OFF

**C ARS WATER LOOP 1,2 ENTRY CONFIG 1**

MCC: GO/NO GO for OPS 3 Transition  
 GO/NO GO for PLBD CLOSING: Advise crew whether to  
 close PREVLVs during MPS/H2 PURGE PREP, 3-36

C L1 ✓H2O PUMP LOOP 1 - OFF  
 HI LOAD DUCT HTR - A/B (may get SH ALERT)

NOTE  
 Htr reqd on 30 min prior to HI LOAD FLASH ACT

B SUIT DOWNING Cue Card  
 (Electrode)

**C ARS WATER LOOP 1,2 ENTRY CONFIG 1**

I: SM BB APU/ENVIRON THERM

- L1 ✓H2O PUMP LOOP 1 - ON, B /2 - ON
- ✓H2O LOOP 1,2 BYP MODE - MAN
- CRT1 ✓H2O LOOP 1,2 ICH FLOW 950 + 25 lb/hr  
 Adjust flow as reqd if changed from prelaunch setting
- L1 H2O LOOP 1,2 BYP MAN - INCR or DECR
- O1 H2O PUMP OUT PRESS LOOP 1,2 - 61-69 psia
- NOTE  
 Let H2O LOOP 1 run 6 min before going to OFF
- L1 H2O PUMP LOOP 1 - OFF, B



NAME	UNIT	STATUS
APU	1	ON
APU	2	ON
APU	3	ON
APU	4	ON
APU	5	ON
APU	6	ON
APU	7	ON
APU	8	ON
APU	9	ON
APU	10	ON
APU	11	ON
APU	12	ON
APU	13	ON
APU	14	ON
APU	15	ON
APU	16	ON
APU	17	ON
APU	18	ON
APU	19	ON
APU	20	ON
APU	21	ON
APU	22	ON
APU	23	ON
APU	24	ON
APU	25	ON
APU	26	ON
APU	27	ON
APU	28	ON
APU	29	ON
APU	30	ON

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**RAD BYP CONFIG ①**

**FLASH EVAP CONFIG**

- C L1 ✓FLASH EVAP CNTLR PRI A - ON
- ✓PRI B - OFF
- ✓SEC - OFF
- HI LOAD DUCT HTR - B
- EVAP - ENA

**RAD BYP**

- Perform RAD BYP ~ 15 min prior to PLBD closing per FTO
- C3 ✓DFIRCDRS PCM - HISAMP
- L1 RAD BYP VLV MODE (two) - MAN
- MAN SEL (two) - BYP (after ~ 3 sec, tb-BYP)
- Wait ~ 90 sec.
- RAD CNTLR LOOP (two) - OFF
- O1 ✓FREON EVAP OUT TEMP ind ~ 39 ± 1° (after ~ 2.5 min)

**H2O STORAGE SYS CONFIG**

- R12L SPLY H2O XOVR VLV - OP (tb-OP)

**SUIT FAN ACT ②**

- B Connect Vent Hose Extension to suit
- C9 L,R suit fan (two) - on
- Vent Controller - adjust flow

**CONFIG RJDS ③**

- C 014:F RJDA 1A L2/R2 DRIVER - ON
- 2A L4/R4 DRIVER - ON
- RJDF 1B F1 DRIVER - ON
- 015:F RJDF 1A F2 DRIVER - ON

**DPS ENTRY CONFIG ④**

- \* If IMU or RMC dilemma, do not proceed with OPS 3 Transition \*
- \* If non-nominal landing site, prior to OPS 3 Transition \*
- \* perform LAND SITE UPDATE - ITEM 13,14 [GNC ORBIT]. Go to \*
- \* CLS DATA, 12-1, for input value

✓Att mnvr complete; RGA AA, IMU configured for OPS 3  
 ALT LAND SITE UPDATE: [ORBIT], ALT ITEM 15 +1 3 EXEC (✓EDM15); ✓PRI, SEC

**VERIFY CONFIG**

- P 06 ✓GPC PMR (five) - ON
- ✓OUTPUT 1,2 - NORM (tb-gray)
- ✓3,5 - NORM (tb-bp)
- ✓4 - TERM (tb-bp)
- ✓MODE 1,2,4 - RUN (tb-RUN)
- ✓3 - STBY (tb-bp)
- ✓5 - STBY (tb-RUN)

**RECONFIG CRTs/UPLK BLK**

- C3 UPLK BLK - ALL
- CRT3 PMR - ON
- R12L CRT4 PMR - ON
- GPC/CRT 04 EXEC
- 4: ~~GPC/CRT 43 EXEC~~

**TRANSITION GPC 1 & 2 TO GNC OPS 3**

[GNC 0 GPC MEMORY]  
 CONFIG - ITEM 1 +3 EXEC  
 Modify MC 3 per Table

GNC OPS 301 PRO  
 [DEORB MNVR COAST]

**TRANSITION BFS GPC TO GNC OPS 3**

- C3 BFC CRT DISP - ON
- ✓SEL - 3+1
- [3: BFS, MEMORY or THERMAL]
- 06 GPC OUTPUT 5 - B/U (tb-bp)

CRT3 BFS, GNC, OPS 301 PRO  
 [3: BFS, DEORB MNVR COAST]

**LOAD ENTRY TFL**

[SM 62 PCMMU/PL COMM]  
 ✓OT PCMMU FORMAT - GPC  
 ✓SM COM BUFF 'RDY'

**FORMAT:**

- FXD - ITEM 1 EXEC
- SEL ID - ITEM 3 +5 EXEC
- LOAD - ITEM 4 EXEC
- ✓RUN, CPLT
- SEL ID - ITEM 3 +1 6 4 EXEC
- LOAD - ITEM 4 EXEC
- ✓RUN, CPLT
- PGM - ITEM 2 EXEC

CONFIG	GPC	12000
STR	1	1
	2	2
	3	2
	4	1
PL 1/2	0	0
CRT	1	1
	2	2
	3	2
	4	0
MM	1	1
	2	2

MEI: 01:58 (MM:MM)

1: GNC ORBIT 2: GNC ORBIT 4: OFF

SUIT DOWNING Cue Card, (Cont)



C MIDDECK SWITCH VERIFICATION, 5-23 thru 5-27  
M0130 Lights - off

C AUTO MNVR TO TOP TO SUM ATT  
DAP B: ROT DISC RATE VERN - 0.20/s  
DB ATT R,P,Y - 10 DB  
INRTL ATT: R +1 6 9  
P +1 2 5  
Y + 2 2

DAP: B/AUTO/VERN  
(03:20) Initiate MNVR

SM2 CHECKPOINT

C3 BFC CRT DISP - OFF  
1: SM 60 SM TABLE MAINT  
3: SM 1 DPS UTILITY

CRT3 MMU ASSIGN 2 SM - ITEM 4 EXEC  
CHECKPT INITIATE - ITEM 18 EXEC  
/Update of CHECKPT TIME and STATUS GOOD indicated

CRT3 MMU ASSIGN 1 SM - ITEM 3 EXEC  
CHECKPT INITIATE - ITEM 18 EXEC  
/Update of CHECKPT TIME and STATUS GOOD indicated

CRT3 CKPT RETRV ENA - ITEM 12 EXEC (\*)

UL CNTL ENA/BFS TFL

CRT3 UL CNTL ENA - ITEM 36 EXEC  
BFC CRT DISP - ON  
3: BFS, GNC 0 BFS MEMORY  
/TFL ENA ITEM 28 (\*)

TRANSITION GPC 1,2,3,4 TO GNC OPS 3

CONFIG	GPC	12340
STR	1	1
STR	2	2
STR	3	3
STR	4	4
PL	1/2	1
CRT	1	1
CRT	2	2
CRT	3	3
CRT	4	0
MM	1	1
MM	2	2

SM, OPS 000 PRO (releases payload buses)  
SM 0 GPC MEMORY  
GPC OUTPUT 4 - NORM (tb-gray)  
MODE 3,5 (two) - RUIN (tb-RUN)

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

GNC, OPS 301 PRO  
GNC DEORB MNVR COAST  
BFS, GNC 1/0 RESET EXEC

RECONFIG CRTs FOR PLBD OPS

GPC/CRT 54 EXEC  
4: BFS, GNC DEORB MNVR COAST  
CRT4 PHR - OFF

RECONFIG MC 9 TABLE (GNC 9) FOR POST LANDING

CONFIG	GPC	9	10000
STR	1	1	1
STR	2	1	1
STR	3	1	1
STR	4	1	1
PL	1/2	1	1
CRT	1	1	1
CRT	2	1	1
CRT	3	1	1
CRT	4	0	0
MM	1	1	1
MM	2	1	1

GNC 0 GPC MEMORY  
CONFIG - ITEM 1 +9 EXEC  
Modify MC 9 per Table

MEMORY DUMP SETUP (if BFS omit)

2: GNC 0 GPC MEMORY  
MEMORY DUMP:  
START ID - ITEM 40 +0 0 0 0 EXEC  
NUMBER WDS - ITEM 41 +2 1 2 9 2 EXEC  
WD/FRAME - ITEM 42 +1 2 8 EXEC

DOWNLIST GPC - ITEM 44 +4 EXEC

NOTE  
Retain GPC MEMORY on CRT2 until dump completed

**CONFIG FOR PLBD CLOSING ①**

**SET UP LIGHTS, CAMRS, MON & VTR**

- P R12L CRT4 PWR - ON
- ALR ✓AUD CTR PL BAY OUTLETS ICOM A - ON
- A6U ANNUN BUS SEL - MMC
- A7U PL BAY FLOOD FWD,AFT (four) - ON (~3 min to full bright)  
FWD BHD - ON (~3 min to full bright)
- L12 Install VTR Cassette  
Use TV Cue Card and power up FWD,AFT,RMS STBD Camr, MON,  
& VTR  
Record all PLBD Ops continuously on VTR

**STOM RADIATORS**

- P R13L ✓RAD LAT CNTL SYS (two) - OFF (tb-REL)  
✓CNTL SYS (two) - OFF (tb-DPY)
- \* If tb not bp after 10 sec, or if tb not STO  
\* in 40 sec and no motion determined visually: \* \*  
\* R13L RAD CNTL SYS (two) - OFF \* \*  
\* Go to MALF, MECH, 9.2h or 9.2d (Stbd) or \* \*  
\* MECH, 9.2f or 9.2h (Port) \* \*

PL BAY MECH PWR SYS (two) - ON  
- STOM (concurrently)  
RAD CNTL SYS (two) - ✓tb-bp ~ 40 sec, STO  
- OFF

RAD LAT CNTL SYS (two) - LAT (concurrently)  
- ✓tb-bp ~ 25 sec, LAT  
- OFF

PL BAY MECH PWR SYS (two) - OFF

SINGLE RAD OPS	
(Requires opening MA73C:CMD MCA LOGIC PWR AC cbs)	
STOM:	STBD RAD cbs PORT RAD cbs
	AC1M1D3 AC1M1D1
	AC3M1D2 AC3M1D4
LATCH:	AC1M1D3 AC1M1D1
	AC2M1D2 AC2M1D4
	AC3M1D2 AC3M1D4

**CLOSE PLBD**

**CAUTION**  
If BFS GPC fails during this operation:  
06 MDM PL1,2 (two) - OFF  
GPC MODE 5 - STBY, HALT  
MDM PL1,2 (two) - ON  
Perform BFS GPC FAILURE (G3/BFS) (ORBIT PKT C/L,  
DPS, 3-10), then use new BFS to close PLBDs

When closing any PLBD latch set:  
If no CL after 40 sec c/1 (60 sec bhd), and latch  
visually closed with at least one microswitch closed  
indication occurring at dual mtr close time, continue  
PLBD procedures; otherwise wait for MCC

If latches close on single mtr  
(40 sec c/1, 60 sec bhd), wait for MCC

Always note any single mtr latch operations

If no latch or door motion within ~ 10 sec after cmd,  
(no motion determined visually)  
PL BAY DR - STOP, wait for MCC

**When closing PLBD:**

If door motion stops and no RDY status,  
PL BAY DR - STOP, wait for MCC  
If door closes on single mtr (~ 120 sec), do not reopen  
PLBD, wait for MCC

**NOTE**

**Ref DETAILED PLBD CLOSING PROCEDURES (3-40) if reqd**

1: GNC DEORB HWVR COAST1 2: GNC D GPC MEMORY  
 3: BFS, GNC DEORB HWVR COAST

C CONFIG MANF 5  
 07 AFT L,R RCS MANF ISOL 5 (two) - CL (tb-CL)  
 08 FWD RCS MANF ISOL 5- CL (tb-CL)

B CONFIG FOR PLBD CLOSING (1)

P GPC MEMORY DUMPS  
 On MCC GO - initiate 1st MEMORY DUMP  
 CRT2 DUMP - ITEM 43 EXEC  
 Repeat MEMORY DUMP SETUP, 3-27, while 1st dump in progress  
 On MCC GO - initiate 2nd MEMORY DUMP  
 CRT2 DUMP - ITEM 43 EXEC

After MCC GO:  
 CRT2 DOWNLIST GPC - ITEM 44 +1 EXEC

4: BFS, SM 63 PL BAY DOORS  
 R13L /PL BAY DR - STOP  
 CRT4 AC POWER ON - ITEM 1 EXEC

B CLOSE LEFT DOOR TO 'RDY' (70mm/01 PAD)  
 Time & Record \_\_\_\_\_

CLOSE LEFT FWD/AFT LATCH GROUPS & DOOR (70mm/01)

PLBD  
 CLOSING

CLOSE RIGHT DOOR TO PROXIMITY OF CLOSED POSITION,  
 VERIFY 2 MOTORS

Alternate start & stop PLBD until near closed  
 Determine c/1 latch # that will make contact first  
 Record this latch # & its expected contact point  
 on NO GO DIAGRAM, 3-33

\* If NO GO for CLOSE PLBD and Entry reqd, \*  
 \* perform MALF, MECH, SSR-4 (SIMO PLBD CLOSE) \*

CLOSE RIGHT DOOR TO 'RDY' (if not already at 'RDY')  
 (70mm/01)

CLOSE RIGHT FWD/AFT LATCH GROUPS & DOOR (70mm/01)

FUNCTION	PLBD CB FUNCTIONS		CNTL BUS FUNCTIONS	
	MCA MTR 1/MHM	MA/3C: C/D MCA LOGIC POWER AC cbs AC MTR 2/MHM	MTR 1	MTR 2
LATCH 5-8	AC1M1D3/1	AC3M1D2/2	AB 3	CA 3
9-12	AC1M1D1/1	AC3M1D4/2	AB 3	CA 3
1-4	AC1M1D3/1	AC3M1D2/2	AB 3	CA 3
13-16	AC3M1D4/2	AC2M1D2/1	CA 3	BC 3
R FWD	AC1M1D1/1	AC2M1D4/2	AB 3	BC 3
R AFT	AC3M1D4/2	AC2M1D2/1	CA 3	BC 3
R DOOR	AC1M1D1/1	AC2M1D4/2	AB 3	BC 3
L FWD	AC1M1D1/1	AC2M1D4/2	AB 3	BC 3
L AFT	AC1M1D3/1	AC3M1D2/2	AB 3	CA 3
L DOOR	AC3M1D4/2	AC2M1D2/1	CA 3	BC 3

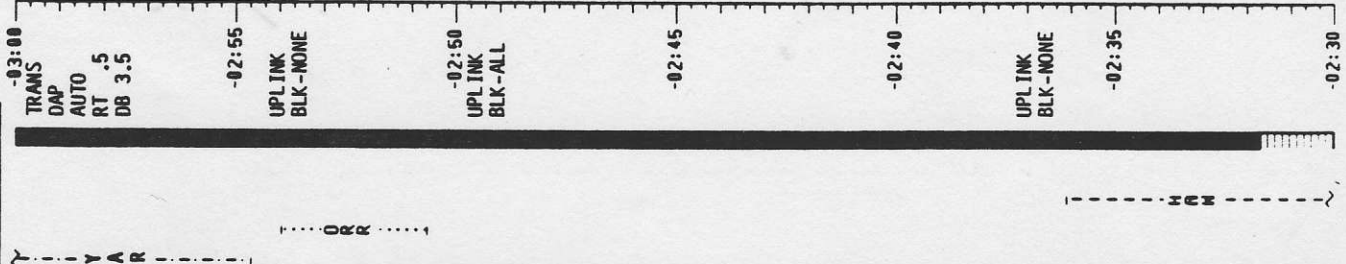
70mm/01 PAD

SUBJ: c/1 Def1 vs Latch Config  
 LENS: 80mm MAG: CH 01 (Yellow)  
 FOCUS: ~20 ft

APERTURE/SHUTTER SPEED:

CONDITION	APERTURE	SHUTTER SPEED
Both doors closed or night	F/4	1/60
Sunlit PLBD	F/22	1/500

MET: 02:28 (MHI:MM)



Handwritten notes: "11/11/81" and "D. J. G." with a signature.

**RAD HEAT STNK FIR 63V02 ①**

**NOTE**

Delete if NH3 anomalies

**DFI RCDRS PCM - CONT RCD (tb-gray)**

**C C3** RAD BYP VLV MODE (two) - AUTO  
CNTLR LOOP (two) - AUTO A

After - 90 sec:  
✓RAD BYP VLV (two) tb - RAD

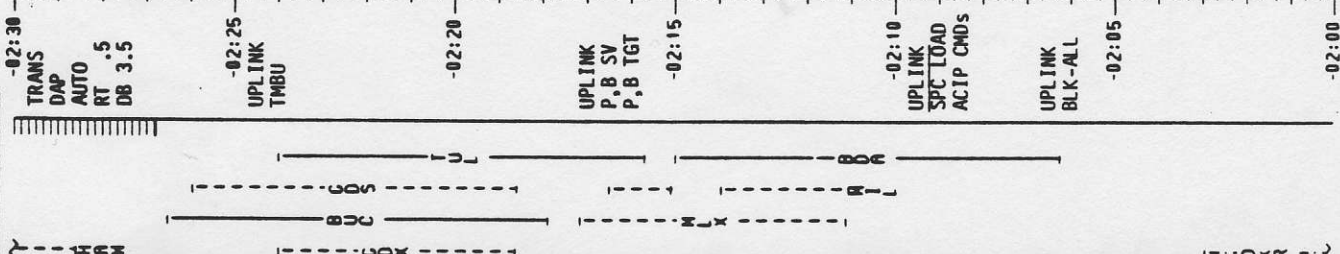
Wait 4 min, then  
RAD BYP VLV MODE (two) - MAN  
MAN SEL (two) - BYP (after ~ 3 sec, tb-BYP)

Wait - 90 sec:  
RAD CNTLR LOOP (two) - OFF

**C3 DFI RCDRS PCM - HI SAMP**

MET: 02:58 (MM:SS)

TIG



1: GNC DEORB MNVR COAST 2: BFS, GNC DEORB MNVR COAST 4: BFS, SM 63 PL BAY DOORS

C. TOP SUN-ATT 20: DAP: AUTO

B CLOSE c/1 LATCH GROUPS (1-4 & 13-16) (70mm/01), then (5-8 & 9-12) (70mm/01)

C RAD HEAT SINK FTR 63VV02 1

B POST CLOSING CONFIG CRT4 AC POWER OFF - ITEM 2 EXEC

R12L CRT4 PHR - OFF A3 MON 1,2 PHR (two) - OFF PL BAY FLOOD (all) - OFF A7U TV CAMR PHR BAY (three) - OFF (tb-OFF)

PHR CMTL - PIN CONTR UNIT - OFF CMTL - CMD

L12 VTR pb - STOP, wait 5 sec

AJZ Stow VTR Cassette X16 Stow 70mm Camr

C PREL DEORB UPDATE/UPLINK 2

B SNACK 3 page 3-32

SNACK

PREL DEORB UPDATE/UPLINK 2

C C3

UPLK BLK - NONE 1: GNC DEORB MNVR COAST 3: BFS, GNC DEORB MNVR COAST

MCC Update: OMS PRPLT PAD/DEL PAD (ENT C/L, PRPLT/DEL PADS, 2-1) IMU ALIGN PAD, if reqd TOP SUN ATT, 3-37

MCC Uplink: PRIME SV BFS SV PRIME TGT BFS TGT

On MCC GO: LOAD - ITEM 39 EXEC ST CRT TMR - ITEM 40 EXEC

CRT1 CRT1 /PRIME & BFS TGTs per DEL PAD: BURN ATT HA HP AV TOT TGO

2: GNC 50 HORTZ SIT 3: BFS, GNC 50 HORTZ SIT

C CRT2/3 ALTM - ITEM 1 + (ref pad)

ITEM	PASS	BFS
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50

\* If BFS engaged: \* Set HSD BFS Items to PASS Config \* Any failed TACANS: \* 07 TACAN 1(2,3) MODE - OFF \*

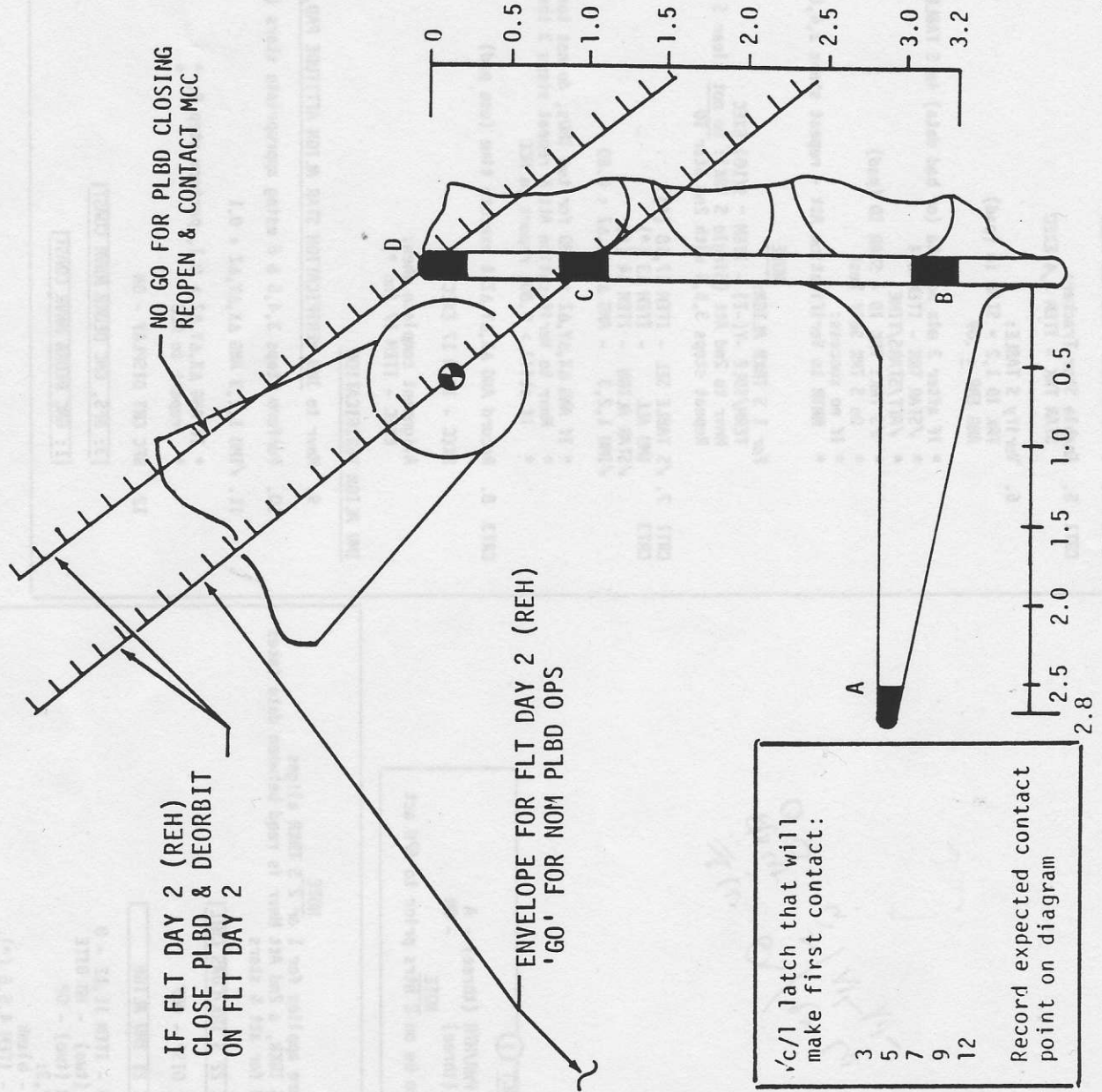
\* If non-nominal landing site selected in PASS, \* LOAD Landing Sites in BFS, ITEM 34-36

CRT3 ALT LAND SITE UPDATE (BFS): ALT ITEM 36 +1 3 EXEC (/EDMT5); /PRI, SEC





**FLT DAY 2 (REH)/FLT DAY 3 (ENTRY) NO GO CRITERIA DIAGRAM**  
**C/L LATCH EXTENDED GUIDE ROLLER TRAJECTORY**



3. ✓IMU ALIGN ATT (pad)

CRT1 4. S TABLE CLR - ITEM 20 EXEC  
CRT1 5. Enable Star Tracker:  
STAR TRK - ITEM 3,4 EXEC

6. Verify S TABLE:  
TRK ID 1,2 = STAR ID (pad)  
ANG ERR ≤ .09

- \* If after 3 min no data (or bad data) in S TABLE: \*
- \* ✓STAR TRK - ITEM 3,4 \*
- \* ✓ATT/STARS/TIME \*
- \* ✓S TRK: TRK ID - STAR ID (pad) \*
- \* Do S TRK Self Test \*
- \* If no success: \*
- \* MNVR to Verification Att - repeat steps 3,4,6 \*

NOTE

For 1 S TRKR ALIGN:  
TERM/IDLE -Y(-Z) - ITEM ~ 9(10) EXEC  
Mnvr to 2nd Att (Single S TRK): Do not clear S Table  
Repeat steps 3,5,6 with 2nd Star ID

CRT1 7. ✓S TABLE SEL - ITEM 17,18 (\*)  
CRT3 IMU ALL - ITEM 13 (\*)  
✓STAR ALIGN - ITEM 14 (\*)  
✓IMU 1,2,3 - ANG ΔX,ΔY,ΔZ < 0.80

- \* If ANG ΔX,ΔY,ΔZ > 0.80 for two IMUs, do not torque: \*
- \* Mnvr to Verification Att & repeat steps 3 thru 7 once. \*
- \* If still > 0.80, report to MCC \*

CRT3 8. Record ANG ΔX,ΔY,ΔZ & execute time (use pad)  
EXEC - ITEM 17 EXEC (\*)  
Alignment complete when:  
EXEC - ITEM 17 (no \*)

IMU ALIGN VERIFICATION

- 9. Mnvr to IMU VERIFICATION STAR ALIGN ATTITUDE PAD, DAP: MAN
- 10. Perform steps 3,4,5 & 6 using appropriate stars (pad)
- 11. ✓IMU 1,2,3 ANG ΔX,ΔY,ΔZ < 0.1  
\* If ANG ΔX,ΔY,ΔZ > 0.1, perform step 8; \*
- \* report to MCC \*
- 12. BFC CRT DISPLAY - ON

|3: BFC, GNC DEORB MNVR COAST|

|1: GNC DEORB MNVR COAST|

*Handwritten notes:*  
1. ✓S TABLE SEL - ITEM 17,18 (\*)  
2. ✓STAR ALIGN - ITEM 14 (\*)  
3. ✓IMU 1,2,3 - ANG ΔX,ΔY,ΔZ < 0.80

APU STEAM VENT HTR ACT ①

P R2 ✓BLR CMTLR PMR/HTR (three) - A  
CMTLR (three) - ON

NOTE

Htr reqd to be on 2 Htrs prior to APU act

IMU ALIGNMENT ②

NOTE

Procedure applies for 1 or 2 S TRKR aligns  
For 1 S TRKR, a 2nd Att Mnvr is reqd between data takes  
See pad for att & stars

C 1. |1: GNC 22 S TRK/COAS CNTL|

C3 BFC CRT DISP - OFF

|3: GNC 21 IMU ALIGN|

CRT1 2. ✓REQD ID - ITEM 11,12 - 0  
✓STATUS (two) - NO BITTE  
✓SHUTTER (two) - OP

CRT3 IMU 1,2,3:  
✓STAT - blank  
✓OPER - ITEM 4,5,6 (\*)

166  
12A2

MET: 03:28  
(HH:MM)

TTC

-02:00  
TRANS DAP  
AUTO

RT .5  
DB 3.5

UPLINK  
BLK-NONE

-01:56

UPLINK  
BLK-ALL

-01:50

-01:45

-01:40

-01:35

-01:30

1: GNC DEORB MNRV COAST 12: GNC DEORB MNRV COAST

3: BFS, GNC DEORB MNRV COAST

SMACK (Cont)

P APU STEAM VENT HTR ACT ①

C ACT -Z STAR TRK (if BFS omit)  
06 STAR TRKR PWR -Z - ON

CRT1 GNC, I/O RESET EXEC  
✓STAR TRKR doors are open

P HTR CONFIG  
RI2U FC PURGE HTR - ON

NOTE  
HTR must be on 27 min prior to purge

A12 APU HTR TK/FU LINE (six) - AUTO

A14 HYD HTR (eight) - OFF  
RCS/OMS HTR FWD RCS - OFF

L POD (two) → A OFF, B OFF  
R POD (two) → A OFF, B OFF

OMS CRSED LINES (two) - A AUTO  
- B AUTO

FWD, AFT RCS JET 5 (two) - OFF

C MAN MNRV TO IMU ATT

INRTL ATT: R 2 3  
P 1 2 5  
Y 1 2

C IMU ALIGNMENT ② (If BFS omit)

TMU STAR ALIGN ATTITUDE PAD

DUAL S TRKR ALIGNMENT R 2 3  
2nd ATTITUDE (Single S TRKR) -Z: 1 7 -Y: 2 0  
ID -Y: +1 7, ACRUX (01:51-01:03)  
-Z: +2 0, ARCTURUS (01:36-00:52)  
ANG DTF: 85.0

TMU VERIFICATION STAR ALIGN ATTITUDE PAD

DUAL S TRKR ALIGNMENT R 3 4 9  
2nd ATTITUDE (Single S TRKR) -Z: 3 3 -Y: 1 9  
ID -Y: +3 3, PEACOCK (01:36-00:58)  
-Z: +1 9, SPTCA (01:43-01:00)  
ANG DTF: 88.8

TMU STAR ALIGN LOG

REQD ID: -Y 17, -Z 0 5  
ANG +1 7 1 0 8  
ΔX (4) --- .045 --- (+) --- .65 --- (4) --- .02  
ΔY (-) --- .04 --- (-) --- .01 --- (-) --- .0  
ΔZ (+) --- .01 --- (-) --- .02 --- (+) --- .03  
EXECUTE TIME 22:42:42: 17 (140 MINUS) 4.5

TMU STAR ALIGN LOG

REQD ID: -Y 23, -Z 19 88, 8 + 01  
ANG +0 8 -1 6 7  
ΔX (-) --- .010 --- (-) --- .04 --- (+) --- .03  
ΔY (+) --- .03 --- (-) --- .04 --- (+) --- .02  
ΔZ (+) --- .03 --- (-) --- .01 --- (+) --- .04  
EXECUTE TIME 2:02:04 (TIG MINUS)

STARS AT SUNRISE

For Stars at Sunrise, ref  
BACKUP STAR PAIRS Cue Card

FUEL CELL PURGE ①

P ✓FC PURGE HTR on > 27 min  
NOTE  
FCs must be purged separately  
R12U FC PURGE VLV 1 - OP for 2 min, then  
- GPC  
Repeat for FC 2(3)  
FC PURGE HTR - GPC  
✓VLV (three) - GPC

DEACT STAR TRACKERS & CLOSE DOORS ②

C 06 STAR TRKR PWR (two) - OFF  
DR CNTL SYS (two) - CL (tb-bp ~ 8-12 sec, then CL)  
\* If either S TRK door closing (tb-bp) time > 12 sec, \*  
\* door is closing on single mtr \*  
\* If either tb-bp > 24 sec, \*  
\* S TRKR DR CNTL SYS 1 or 2 - OFF \*  
STAR TRKR DR CNTL SYS (two) - OFF (tb-CL)

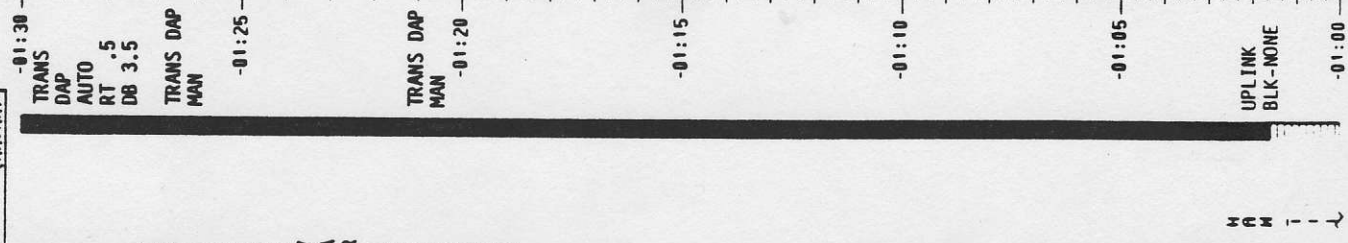
PRE INGRESS CONFIG ③

P MPS/HZ PURGE PREP  
\* Per MCC UPDATE or NO COMM, perform additional steps for \*  
\* closing PREVLVs (H2 Only Purge Prep) \*  
\* R2 MPS PNEU He ISOL - OP \*  
\* R4 MPS L02,LH2 PREVLV (six) - OP, wait 3 sec, then - CL \*  
\* R2 MPS PNEU He ISOL - CL \*  
R2 MPS He ISOL (two) L - OP  
I'NECT L - IN OP  
CTR,R - IN CL  
R4 MPS MANF PRESS (two) - OP  
FILL/DRAIN LH2 INBD - OP  
MLS CH/TACAM CH/DATA BUS  
08 ✓MLS CH (three) tw - 8 (EDM RWY 23)  
TACAM (three) CH tw - 111X (EDM)  
(three) MODE - T/R  
\* For CLS go to CLS DATA, 12-1 \*  
F6/ ✓DATA BUS - 3  
FB -4

MET: 03:58 (HH:MM)

TIG

1: GMC DEORB MNRV COAST | 2: GMC DEORB MNRV COAST | 3: BFS, GMC DEORB MNRV COAST



IMU ALIGN (Cont)

**P FUEL CELL PURGE ①**  
 MAN MNRV TO TOP SUN ATT  
 INRTL ATT: R 171 P 173  
 Y 34 V 94  
 When mnr complete, DAP: AUTO

**C DEACT STAR TRACKERS & CLOSE DOORS ②**

**P PRE INGRESS CONFIG ③**

**B ENTRY SWITCH VERIFICATION, 5-2 (FMD & AFT only)**

**B SECURE AFT DECK ④**  
 C Report IMU ALIGN results  
 C ✓ TOP SUN ATT +20; DAP: AUTO  
 B SEAT INGRESS, 6-2

**BRAKE/ANTISKID ACT**

L2 ANTISKID - ON  
 014:A BRAKES MHA - ON  
 015:A BRAKES MMB - ON  
 016:A BRAKES MNC - ON  
 SSME HYD REPRESS PREP  
 C3 FCS CH (four) - AUTO  
 017:D MEC 1 - ON, wait 2 sec, then 2 - ON  
 :A ATVC (four) - ON

**RESET C/M**

R13U	C/M	PARAMETER NAME	EN/INH
99	HYD B70 P 1	ENABLE	ENABLE
109		ENABLE	ENABLE
119		ENABLE	ENABLE

**DFI**

R11L:G DFI PCM PRESS XDCRS - AUTO  
 :E /MB MSN PWR - ON

**ENTRY COMM CONFIG (FLT DECK)/TELEPRINTER DEACT**

AIR AUD CTR PL BAY OUTLETS, ICOM A - OFF  
 A11 MS COMM CCU PWR - OFF  
 DC UTIL PMR MNC - OFF  
 L9 PS AUD PWR - OFF  
 R10 MS AUD PWR - AUD/TONE  
 A/G (two) - OFF  
 A/A - OFF  
 ICOM A (two) - OFF  
 05 L AUD A/G 2 - T/R  
 09 R AUD A/G 2 - T/R

\* For CLS: UHF MODE - G T/R \*  
 \* 06

MA9F ✓ TELEPRINTER locker door secure

**CONFIG CRT**

CRT2 GPC/CRT 04

**SECURE AFT DECK ④**

B A16 Stow Vent Hose Extension  
 /A16, A17 secure  
 /L,R suit fan (two) - on  
 /Aft deck lts off (R10, A6, L9)

1. VILLAGE (172 014) (100' W) (10)  
 2. VILLAGE (172 014) (100' W) (10)  
 3. VILLAGE (172 014) (100' W) (10)  
 4. VILLAGE (172 014) (100' W) (10)

5. VILLAGE (172 014) (100' W) (10)  
 6. VILLAGE (172 014) (100' W) (10)  
 7. VILLAGE (172 014) (100' W) (10)  
 8. VILLAGE (172 014) (100' W) (10)

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9. VILLAGE (172 014) (100' W) (10)  
 10. VILLAGE (172 014) (100' W) (10)  
 11. VILLAGE (172 014) (100' W) (10)  
 12. VILLAGE (172 014) (100' W) (10)

172	172	172	172
172	172	172	172
172	172	172	172
172	172	172	172

13. VILLAGE (172 014) (100' W) (10)  
 14. VILLAGE (172 014) (100' W) (10)  
 15. VILLAGE (172 014) (100' W) (10)  
 16. VILLAGE (172 014) (100' W) (10)

1: GNC DEORB MNVR COAST 2: GNC DEORB MNVR COAST  
3: BFS, GNC DEORB MNVR COAST

B SEAT INGRESS, 6-2 (Cont)

\* If SH GPC retained due to both MMUs failed, \*  
\* go to OPS 3 TRANSITION (BOTH MMUs FAILED), \*  
\* MALF, DPS, FRP-15, step 9

B C6 Stow ORBIT PKT C/L (2) & Orbit Cue Cards  
Transition to ENT PKT C/L  
Go to ENT C/L, DEORBIT BURN, 3-1

TIC

MET: 04:28 (HH:MM)





**DETAILED PLBD CLOSING PROCEDURES**

**CAUTION**

If BFS GPC fails during this operation:  
 06 MOM PL1,2 (two) - OFF  
 GPC MODE 5 - STBY, HALT  
 MOM PL1,2 (two) - ON  
 Perform BFS GPC FAILURE (63/BFS) (ORBIT PKT C/L, DPS, 3-10), then:  
 Use new BFS to close PLBDs

**When closing any PLBD latch set:**

If no CL after 40 sec c/l (60 sec bhd), and latch visually closed with at least one micro switch closed indication occurring at dual mtr close time, continue PLBD procedures; otherwise wait for MCC

If latches close on a single mtr (40 sec c/l, 60 sec bhd), wait for MCC

Always note any single mtr latch operations

If no latch or door motion within ~ 10 sec after cmd, (no motion determined visually)  
 PL BAY DR - STOP, wait for MCC

**When closing PLBD:**

If door motion stops and no RDY status,  
 PL BAY DR - STOP, wait for MCC

If door closes on a single mtr (~ 120 sec), wait for MCC

**SET UP LIGHTS, MON & VTR**

- P R12L CRT4 PHR - ON
- ALR /AUD CTR PL BAY OUTLETS ICOM A - ON
- AGU ANNUN BUS SEL - MNC
- A7U PL BAY FLOOD FMD,AFT (four) - ON (-3 min to full bright)  
 FMD BHD - ON (-3 min to full bright)
- TV PHR CMTL - PNL
- CONTR UNIT - MVA
- CMTL - CMD
- CAMR PHR BAY FMD,BAY AFT,RMS STBD (three) - ON (tb-ON)
- /DNLK - ENA
- /SYNC - NORM
- A3 MOM 1,2 SOURCE (two) - PNL
- MODE - NORM
- SCAN - NORM
- DATA - ON
- SYNC - EXT
- X-HAIR - ON
- PHR - ON

- A7U VID OUT pb - MON 1
- IM pb - TEST
- Adjust monitor #1 test pattern (contrast/brightness)
- VID OUT pb - MON 2
- IM pb - TEST
- Adjust monitor #2 test pattern (contrast/brightness)
- VID IN pb - FMD BAY,BAY AFT,RMS STBD
- 2/ADJUST CAMR CMD controls for each camera
- 2/INSTA1 cassette
- VTR VID MODE - BAH/FSC
- ALB PHR 216W
- /NO VIDEO it - off
- VECT it - off
- TAPE POSITION ind is zero
- Record all PLBD OPS continuously on VTR

PL: BFS, SN 63 PL BAY DOORS

PLBD SW - STOP

MAN SEL: CENTER LATCHES (four) - (no \*)  
 R LATCHES & DOOR (three) - (no \*)  
 L LATCHES & DOOR (three) - (no \*)  
 PLBD SW BYPASS - (no \*)

\* If PLBD closing from FMD Station, perform:  
 PLBD SW BYPASS - ITEM 14  
 \* Substitute: ITEM 17 for R13L PL BAY DR - CL  
 \* ITEM 16 for R13L PL BAY DR - STOP

**CLOSE LEFT DOOR**

Select L DR  
 PL BAY DR - CL (start timer)

/L DR - blank

When L DR - RDY (- 60 min):  
 PL BAY DR - STOP (stop timer)

R13L Record L Door closing elapsed time: \_\_\_\_\_

**CLOSE LEFT FMD & AFT LATCHES**

Select L DR  
 PL BAY DR - CL (start timer)

/L DR - RDY, CL  
 /L FMD & AFT LATCHES (two) - blank ~ 30 sec, CL  
 PL BAY DR - STOP

Deselect L FMD, AFT LATCHES & L DOOR

Cont 3-41

CLOSE RIGHT DOOR TO PROXIMITY OF CLOSED POSITION  
VERIFY 2 MOTORS

Select R DR  
PL BAY DR - CL (start timer)

Alternately start & stop PLBD until nearly closed  
Determine c/1 latch # that will make contact first  
Record this latch # & its expected contact point  
on NO GO DIAGRAM, 3-33  
Close R DOOR to 'RDY' (if not already at 'RDY')

CLOSE RIGHT FWD & AFT LATCHES

Select R FWD, AFT LATCHES  
PL BAY DR - CL

/R DR - RDY, CL  
/R FWD & AFT LATCHES (two) - blank - 30 sec, CL  
PL BAY DR - STOP

Deselect R FWD, AFT LATCHES & R DOOR (70mm/01)

CLOSE c/1 LATCH GROUPS

Select CENTER LATCHES 1-4 & 13-16  
PL BAY DR - CL

/CENTER LATCHES 1-4 & 13-16 (two) - blank - 20 sec, CL  
PL BAY DR - STOP

Deselect CENTER LATCHES 1-4 & 13-16

Select CENTER LATCHES 5-8 & 9-12  
PL BAY DR - CL

/CENTER LATCHES 5-8 & 9-12 (two) - blank - 20 sec, CL  
PL BAY DR - STOP (70mm/01)

/PBD SW - STOP  
/OP/CL STATUS (ten) - CL

AC POWER OFF - ITEM 2 EXEC

R12L CRT4 PHR - OFF (ten) - 00

DEACT LIGHTS, MON & VTR

A3 MON 1.2 PHR (two) - OFF  
A7U PL BAY FLOOD (all) - OFF  
TV CMR PHR BAY (three) - OFF (10-0FF)  
PHR CNTL - PW

L12 VTR PHR STOP - CMD  
ALPHABET OFF - BEMAL2C

A17'S Stop VTR Cassette  
A16 Stop 70mm Cassette  
AID IN up - EXD BVA BVA VLI B82 218D  
IN up - 1E24  
AID GHI up - NOM S  
IN up - 1E24

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