

Deorbit Prep Checklist

**Mission Operations Directorate
Flight Design and Dynamics Division
Final
August 08, 2024**

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



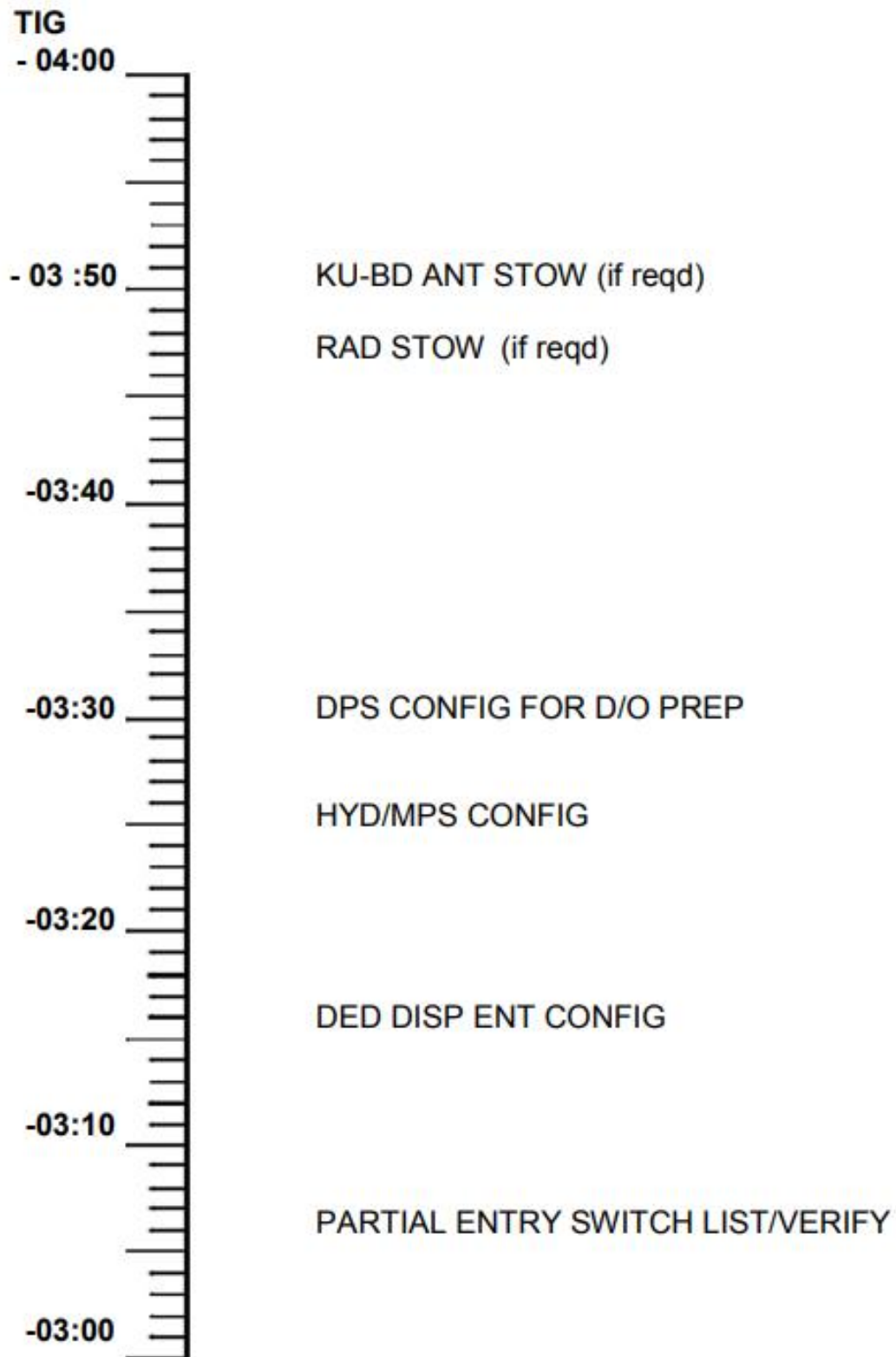
NOTES

1. This Checklists is made by Johan Meza Bracamontes (Johan2011 on Orbiter Forum).
2. The Design of the Checklists Will be the same of the Original NASA Checklists as possible.
3. This Checklists is made for the Space Shuttle Vessel (SSV) Addon by GLS.
4. Deorbit Prep contains the nominal procedures from: Deorbit Burn (TIG) -04:00 to -01:00

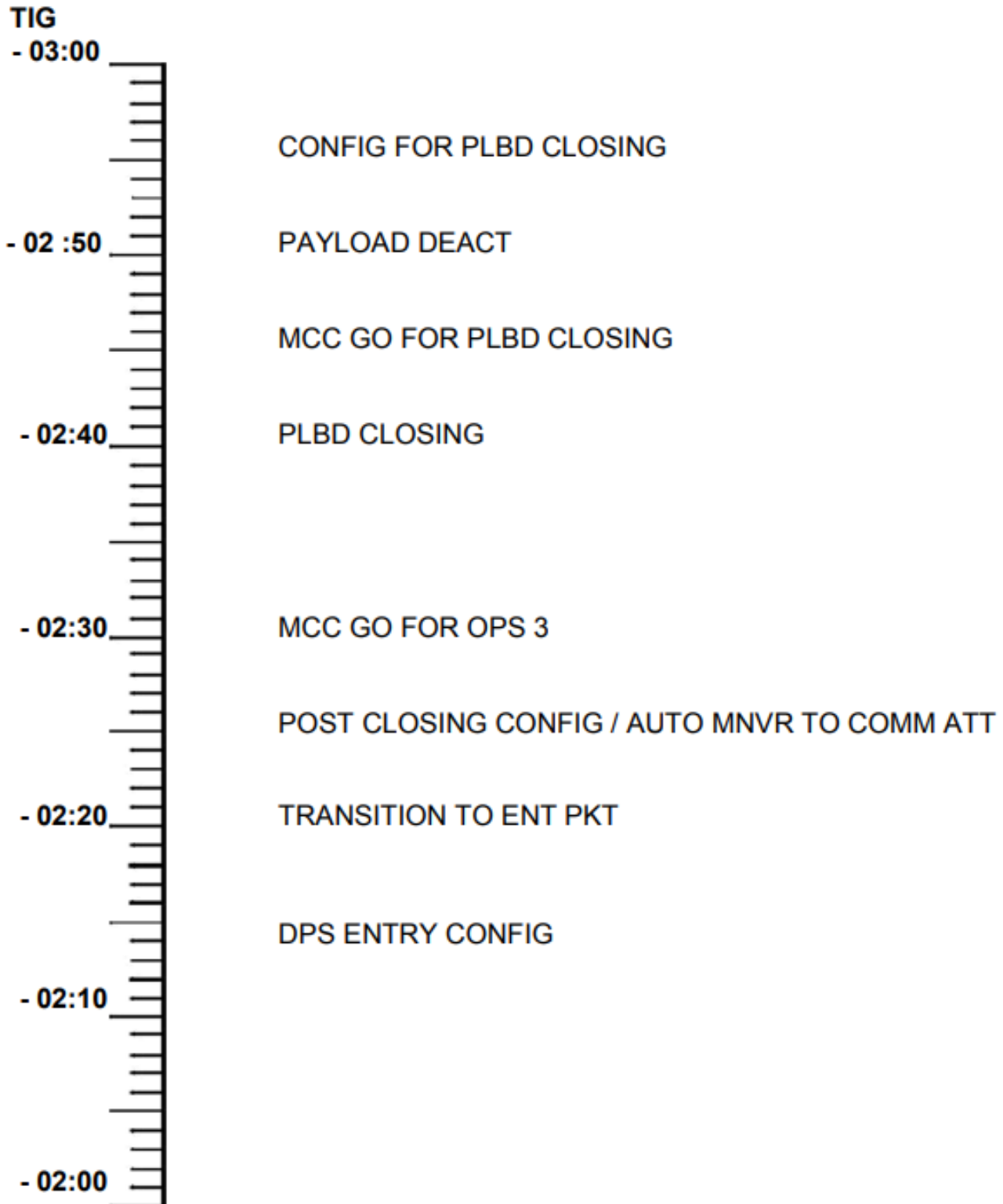
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NOMINAL DEORBIT PREP PROCEDURES

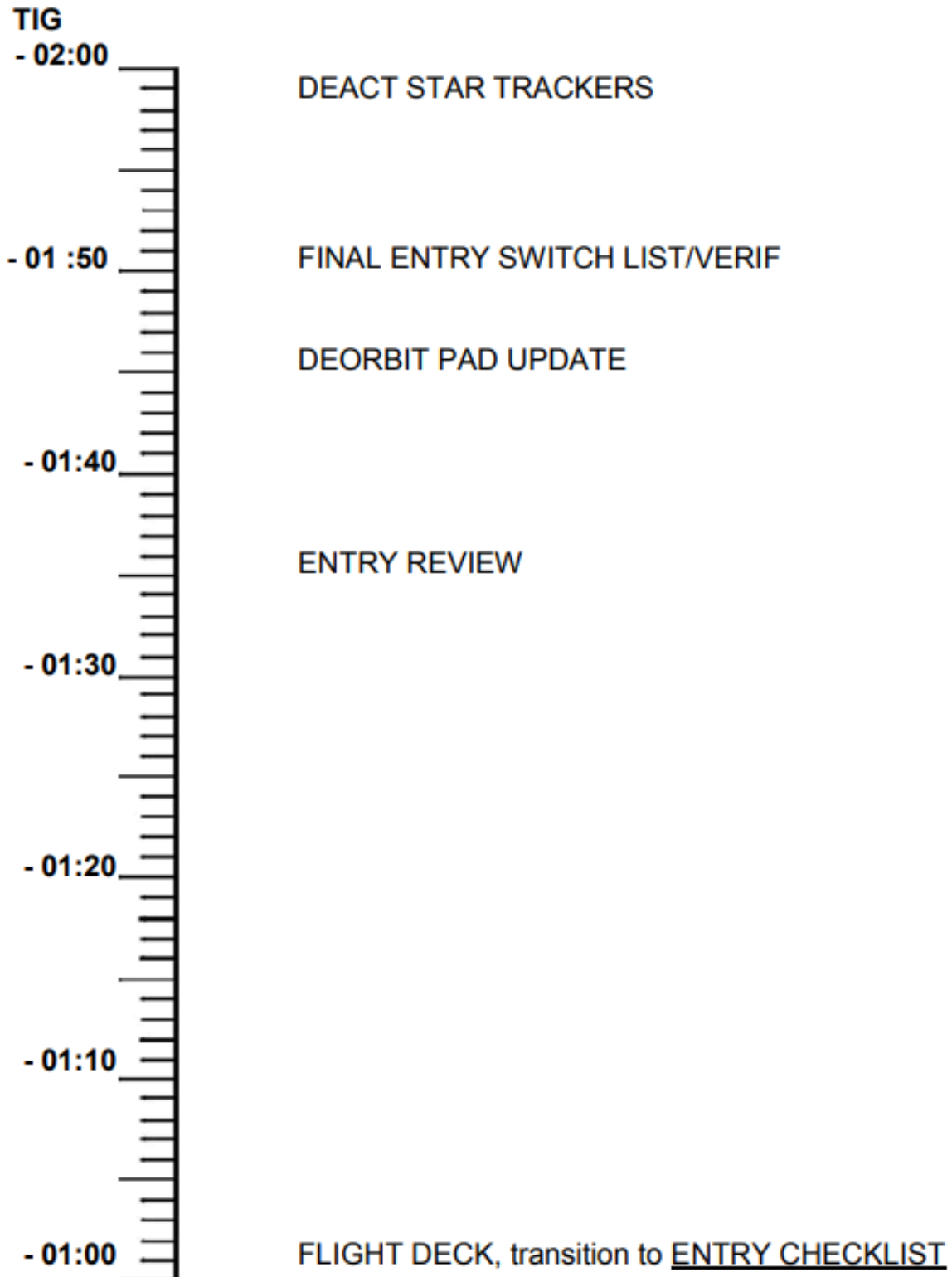
NOMINAL DEORBIT PREP SUMMARY TIMELINE



NOMINAL DEORBIT PREP SUMMARY TIMELINE



NOMINAL DEORBIT PREP SUMMARY TIMELINE



FCS CHECKOUT (ORB OPS, GNC)

MNVR (TRK) BIASED – XSI (FLIGHT PLAN, DETAILED TIMELINE)
Back out of PRIORITY PWRDN as reqd (ORB PKT, PRIOR PWRDN)

KU-BD ANT STOW

A1U	√CNTL	– CMD
	√RADAR OUTPUT	– LOW
	KU BD PWR	– ON
	KUBD MODE	– RDR

CNTL – PNL
KU BD sel – MAN

A2	√DIGI DIS SEL	– EL/AZ
A1U	SLEW RATE	– as reqd

A2 RR/AZM ind: -123.0 ($\pm 1^\circ$)

R13L	DAP: VERN(FREE)	
A2	KU ANT	– STO
	√R/EL ind:	-29.0 (± 1°)
	√RR/AZM ind:	-125.0 (± 1°)
	00:00 Start Event Timer	

DEO-REV3-SSV

DAP: as reqd

STOW DEPLOYED ASSEMBLY

R13L PL BAY MECH PWR SYS 1,2 (two) – ON
 √KU ANT tb – STO (~23 to 46 sec)

A1U KU BD PWR – OFF (Expect 'BCE BYP KU' msg)

R13L PL BAY MECH PWR SYS1,2 – OFF
 KU ANT – GND

-03:45 **RAD STOW**

1.STOW PANELS

R13L √RAD LAT CNTL SYS A,B (two) – OFF
 √CNTL SYS A,B (two) – OFF
 √RAD,LAT PORT,STBD tb (four) match current RAD
 config
 PL BAY MECH PWR SYS 1,2 (two) – ON
 RAD CNTL SYS A,B (two) – STO
 √Stowing RAD tb-bp, ~50 sec STO
 RAD CNTL SYS A,B (two) – OFF

If stowing RAD tb(s) not bp after 10 sec and no motion,
or

If RAD panel(s) in transit and no motion,
or

If stowing RAD tb(s) not STO within 100 sec and no
motion:

RAD CNTL SYS A,B (two) – OFF

2. LATCH PANELS

R13L	RAD LAT CNTL SYS A,B (two)	– LAT
	√Stowing RAD LAT tb-bp, ~30 sec, LAT	
	RAD LAT CNTL SYS A,B (two)	– OFF
	If stowing RAD LAT tb not LAT in 60 sec:	
	RAD LAT CNTL SYS A,B (two)	– OFF
	PL BAY MECH PWR SYS 1,2 (two)	– OFF

-03:30 **DPS CONFIG FOR DEORBIT PREP**

ACTIVATE GPC 2 (if in HALT)

bp)	O6	√GPC MODE 2	– HALT (tb-
		√OUTPUT2	– NORM
		√PWR 2	– ON
		MODE 2	– STBY (tb-
RUN), RUN			

Transition GPCS 1 & 2 to OPS 2 (if GPC 2 just activated)
Ensure BFS GPC can command an IDP

O6	√GPC PWR 5	– ON
	MODE 5	– STBY (tb-RUN)
C3	BFC CRT DISP	– ON
	SEL	– 2+3
CRT2	BFS GNC SYS SUMM 2	
	BFC CRT DISP	– OFF
	SEL	– 3+1

-03:25

CCTV PWRDN

A7U	TV PWR CONTR UNIT	– OFF
	TV CAMR PWR (five)	– OFF
A3	PWR (two)	– OFF
R14	CAMR/PTU (five)	– OUT
	CAMR/HTR (five)	– OUT
	ILLUM/PTU HTR (five)	– OUT
	CONTR UNIT (three)	– OUT
	MON 1	– OUT
	MON 2	– OUT

HYD/MPS CONFIG

W/B STEAM VENT HTR ACT

R2	√BLR CNTLR/HTR (three)	– B
	√BLR CNTL PWR (three)	– ON

SME HYD REPRESS PREP

C3	√FCS CH (four)	– AUTO
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-03:15

DED DISP ENT CONFIG

O8	RADAR ALTM (two)	– ON
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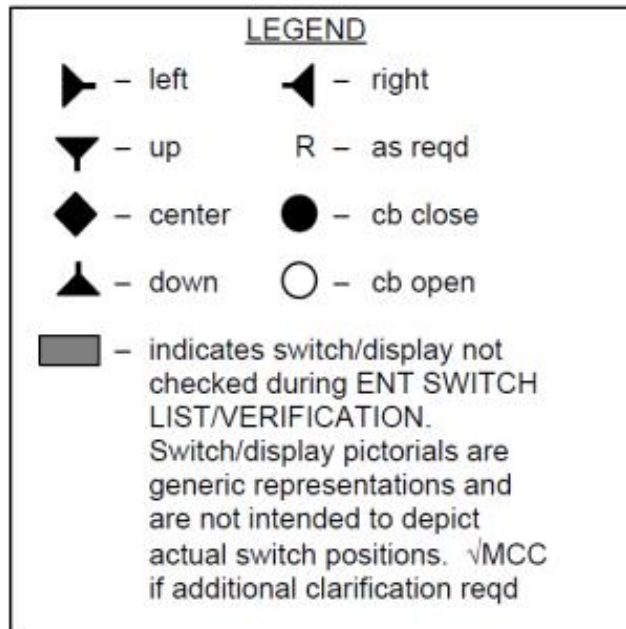
PARTIAL ENTRY SWITCH LIST/VERIFICATION

LEFT SEAT

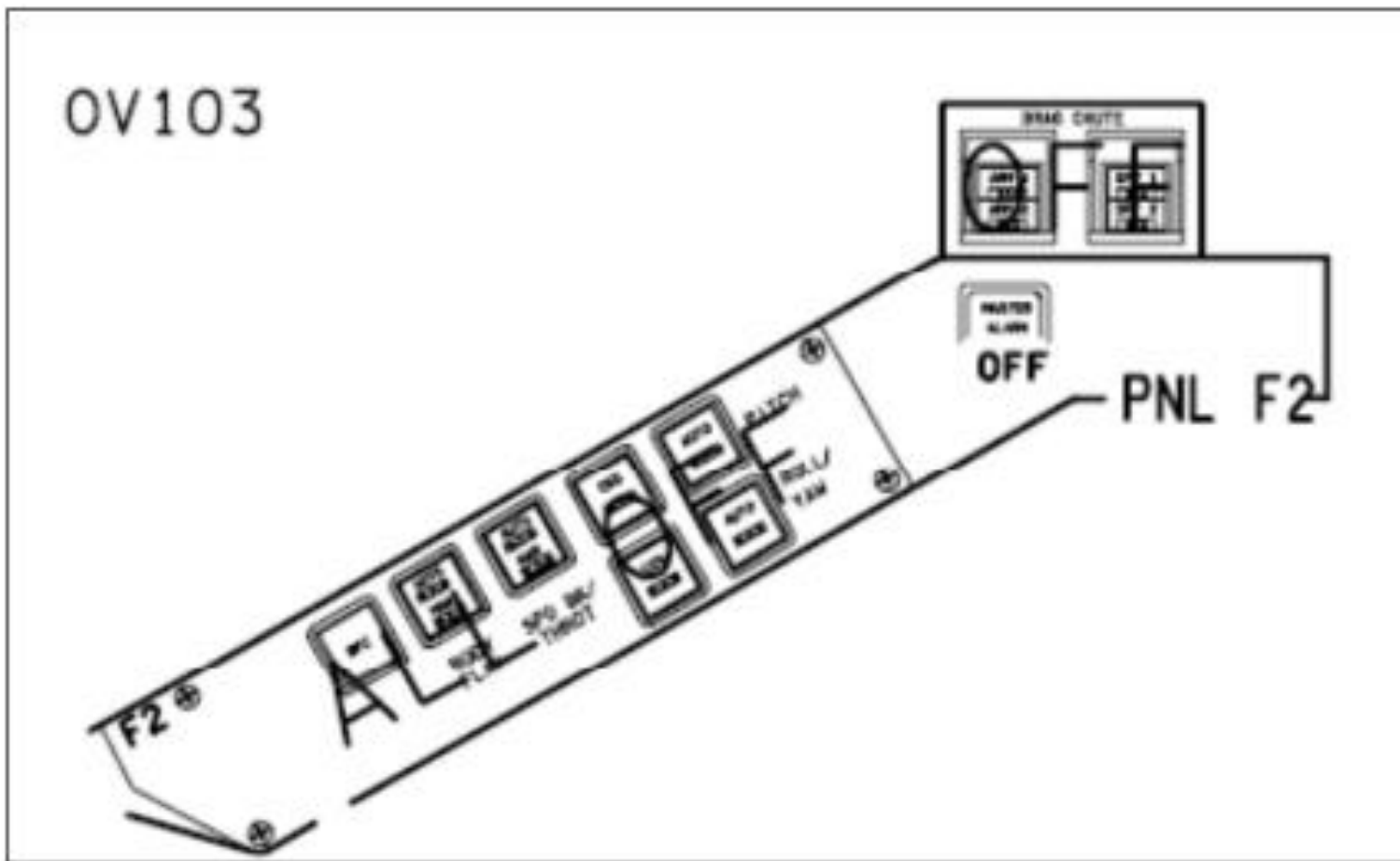
F2.....1-10
F6.....1-12
F3.....1-11
F7.....1-11

RIGHT SEAT

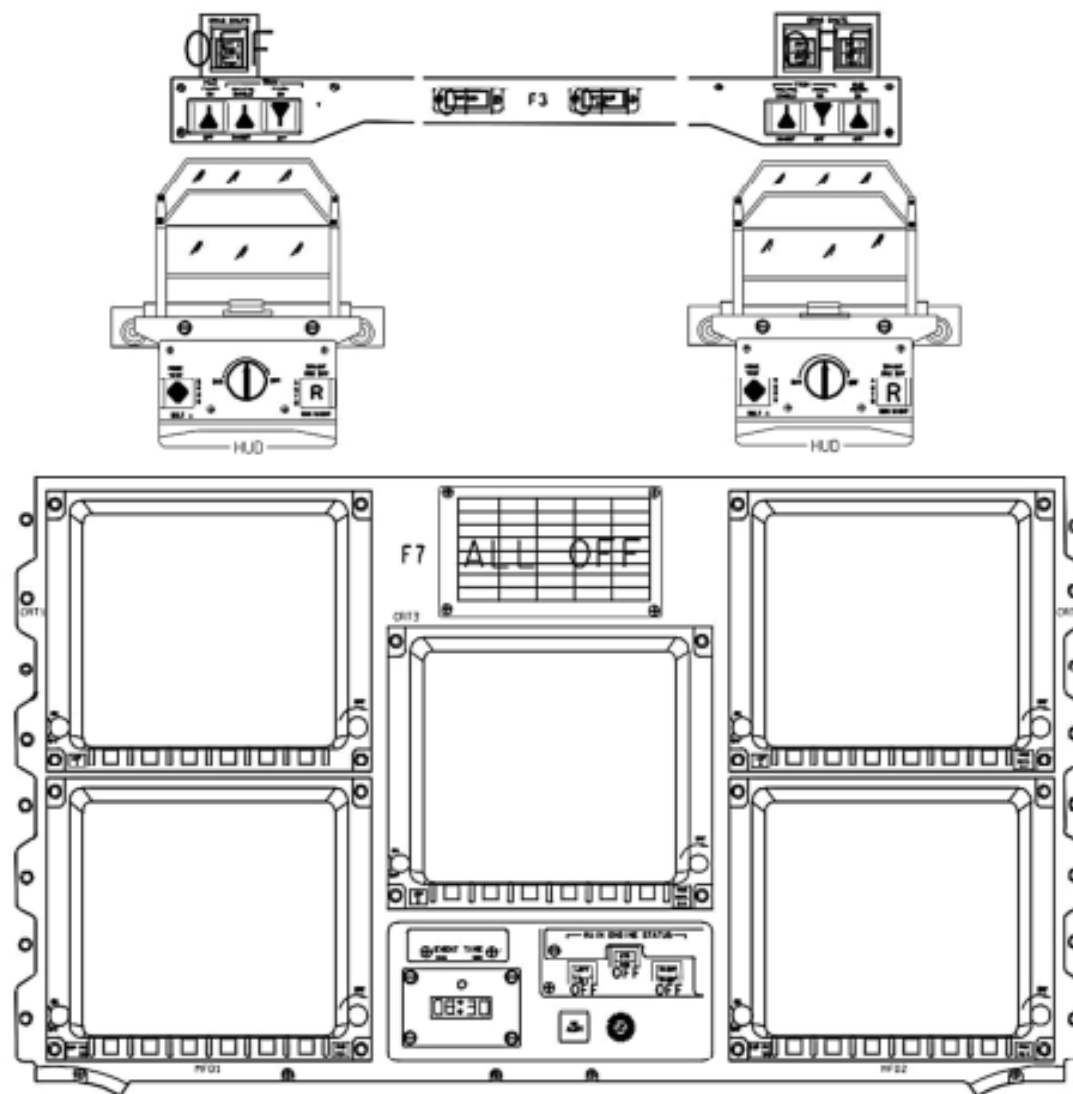
R1.....1-14
F3.....1-11
F7.....1-11
F8.....1-13
F4.....1-13

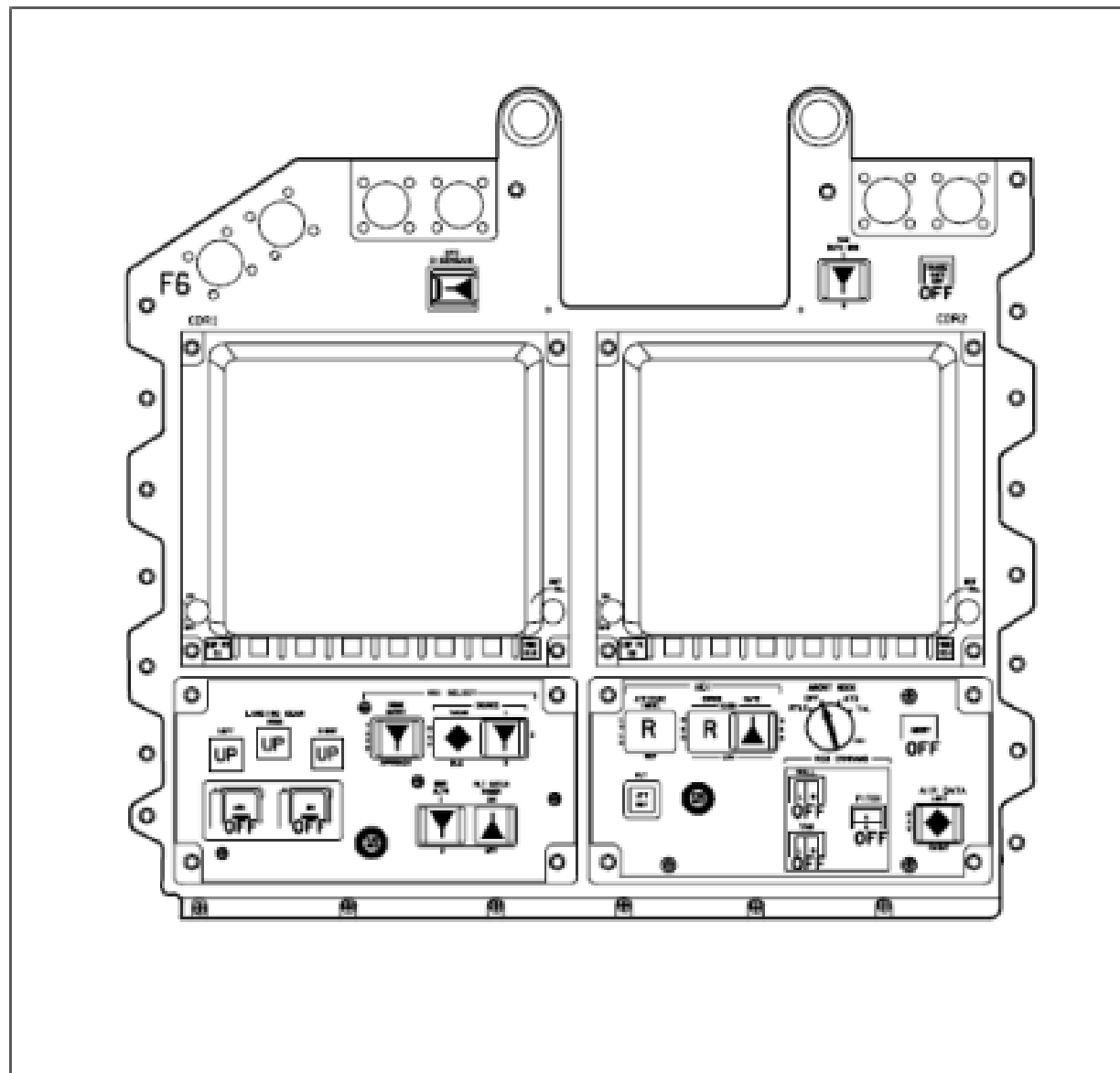


OV103



OV103





-02:55

CONFIG FOR PLBD CLOSING

CONFIG RMS/OBSS (if RMS/OBSS onboard)

1. ✓Elbow Camr in aligned position
 - Pan 90° from X-axis
 - Tilt per decal

A8L	2. RMS PWR	– OFF
	PORT RMS HTR (two)	– OFF

SET UP LIGHTS

R11L	3. IDP/CRT4 PWR	– ON
MDU	✓CRT 4 PWR	– ON
A6U	✓ANNUN BUS SEL	– MNC
A7U	PL BAY FLOOD AFT STBD	– ON
	PL BAY FLOOD AFT PORT	– ON
	PL BAY FLOOD MID STBD	– ON
	PL BAY FLOOD MID PORT	– ON
	PL BAY FLOOD FWD STBD	– ON
	PL BAY FLOOD FWD PORT	– ON
	PL BAY FLOOD BHD	– ON

Record MET ____ / ____ : ____ : ____

-02:40

DETAILED PLBD CLOSING PROCEDURES

MANUAL PLBD CLOSING

CRT4	SM OPS 202 PRO (PL BAY DOORS)	
	AC PWR ON – ITEM 1 EXEC	
	AUTO MODE ON – ITEM 3 EXEC	
R13L	✓PL BAY DR	– STOP
	PL BAY DR SYS (two)	– ENA
	PL BAY DR	– CL
	When PL BAY DR tb	– CL
	PL BAY DR	– STOP
	PL BAY DR SYS (two)	– DSBL
CRT4	AC PWR OFF – ITEM 2 EXEC	

A7U After floodlights ON > 10 min:
PL BAY FLOOD (all) – OFF

-02:15

DPS ENTRY CONFIG

1. MEDS CONFIG

C2 IDP/CRT 3 PWR – ON
F6,F7,F8 √All forward MDUs ON and selected to primary port

2.VERIFY GPC CONFIG

O6 √GPC MODE 3 – HALT (tb-bp)
 √PWR 3 – ON
 √OUTPUT 1,2 – NORM (
 √ OUTPUT 3,5 – NORM (tb-bp)
 √ OUTPUT 4 – TERM (tb-bp)
 √MODE 1,2,4 – RUN
 √MODE 3 – STBY
 √MODE 5 – STBY

C2 Set event timer to countdown to TIG

3. TRANSITION GPC 1&2 TO GNC OPS 3

CRT1 GNC OPS 301 PRO (DEORB MNVR COAST)

4. TRANSITION BFS GPC TO GNC OPS 3

C3 BFC CRT DISP – ON
 √SEL = 3+1

CRT3 BFS **GNC SYS SUMM 1**

O6 GPC OUTPUT 5 –B/U (tb bp)

CRT2 √TFL ENA – ITEM 29 (*)

CRT3 BFS GNC OPS 301 PRO (DEORB MNVR COAST)

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

C3	BFC CRT DISP	– ON
	√SEL =	3+1
O6	GPC OUTPUT 4	– NORM
	GPC MODE 3,5 (two)	– RUN
C3	BFC CRT DISP	– OFF
	(GPC 3 commanding IDP 3)	
	BFC CRT DISP	– ON

6. MANEUVER BACK TO COMM ATT

C3	DAP A/AUTO/ALT
-02:05	Load DEORB BURN TGTS
CRT1	√GNC OPS 301 PRO (DEORB MANVR COAST)

-02:00 DEACTIVATE STAR TRACKERS

O6	STAR TRKR DR CNTL SYS (two)	– CL
	STAR TRKR DR CNTL SYS (two)	– OFF
	STAR TRKR PWR (two)	– OFF

-01:50 FINAL ENTRY SWITCH LIST/VERIF

LEFT SEAT

C2.....1-18

C3.....1-18

RIGHT SEAT

C2.....1-18

C3.....1-18

R1.....1-19

R4.....1-20

AFT

R13L.....1-21

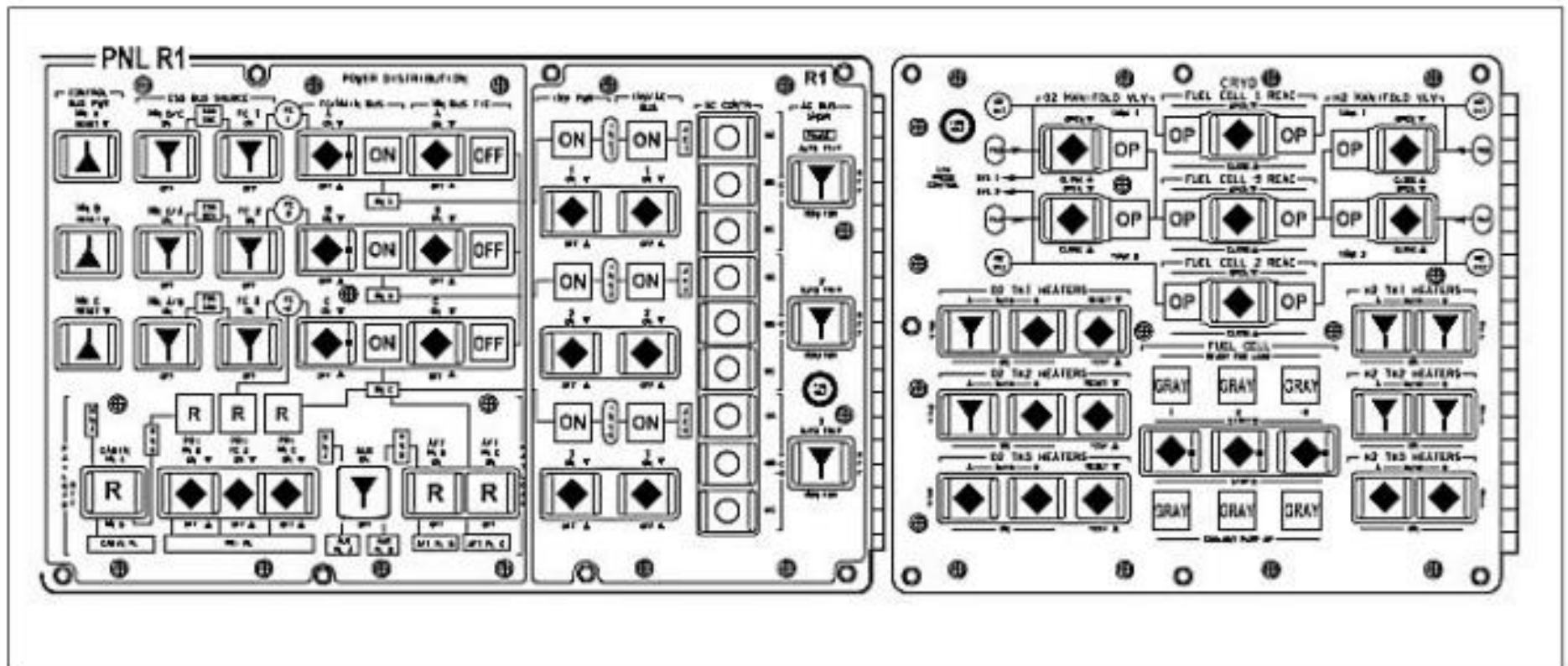
A1.....1-22

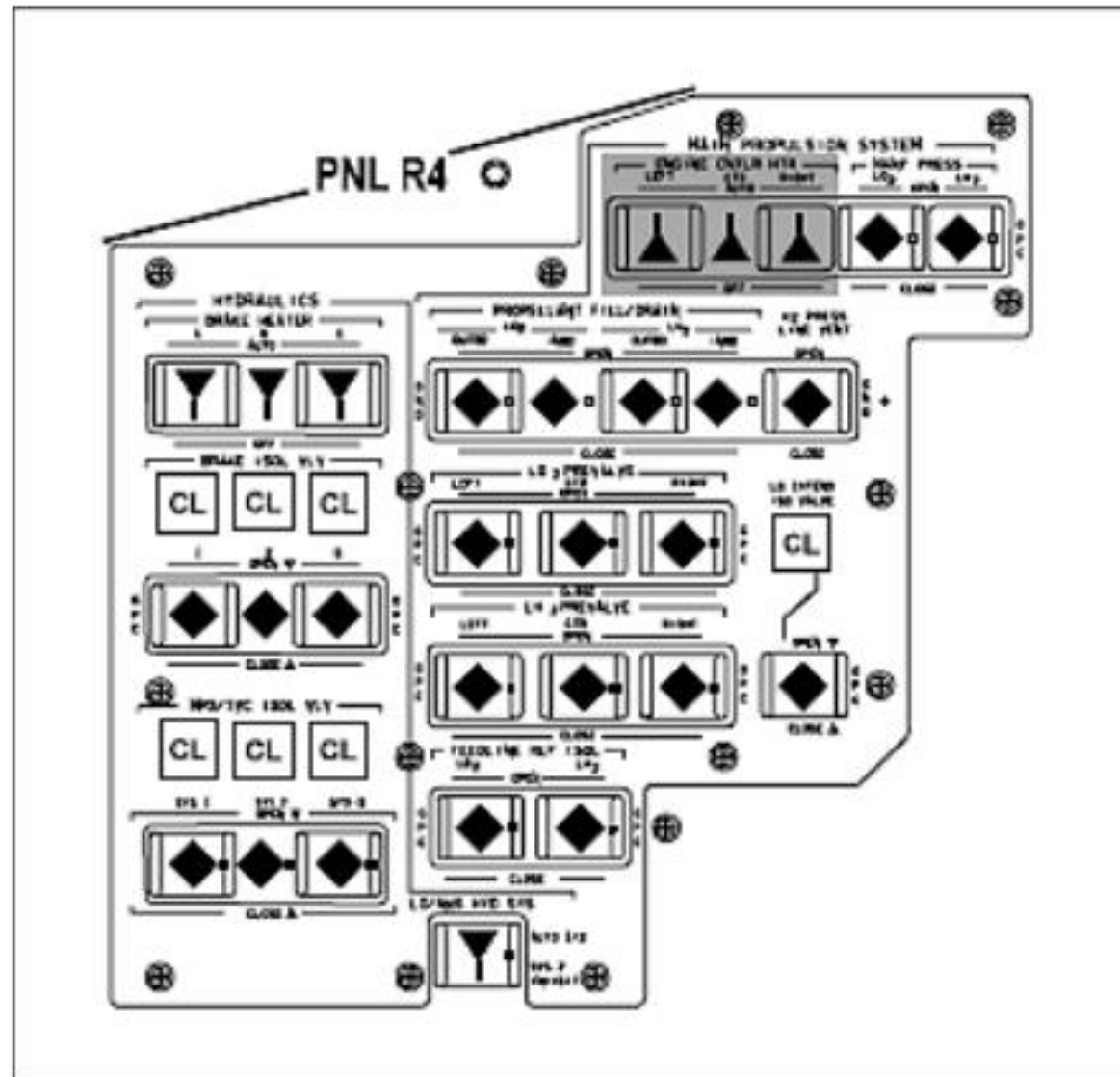
A7U.....1-23

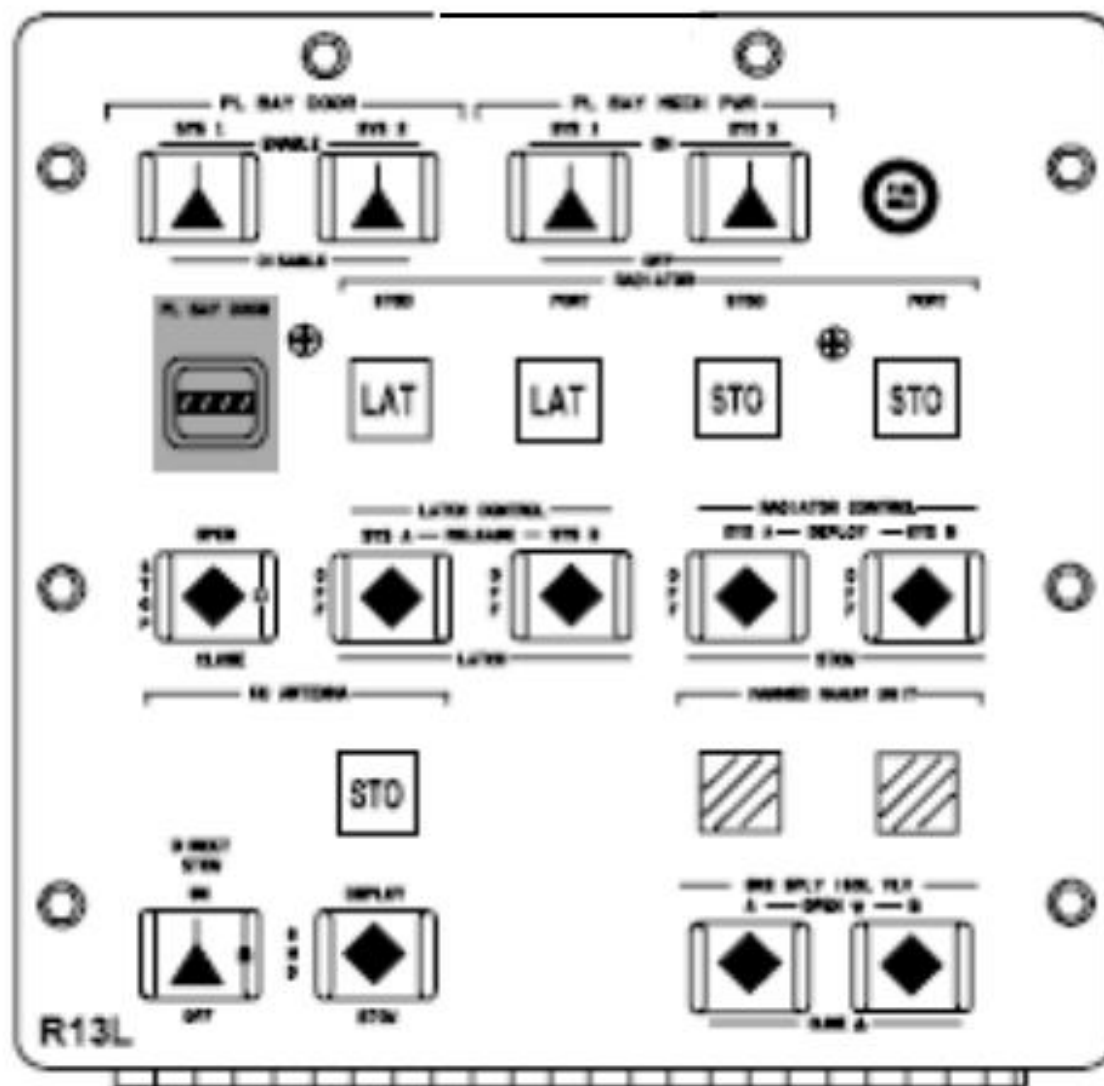
A6L.....1-24

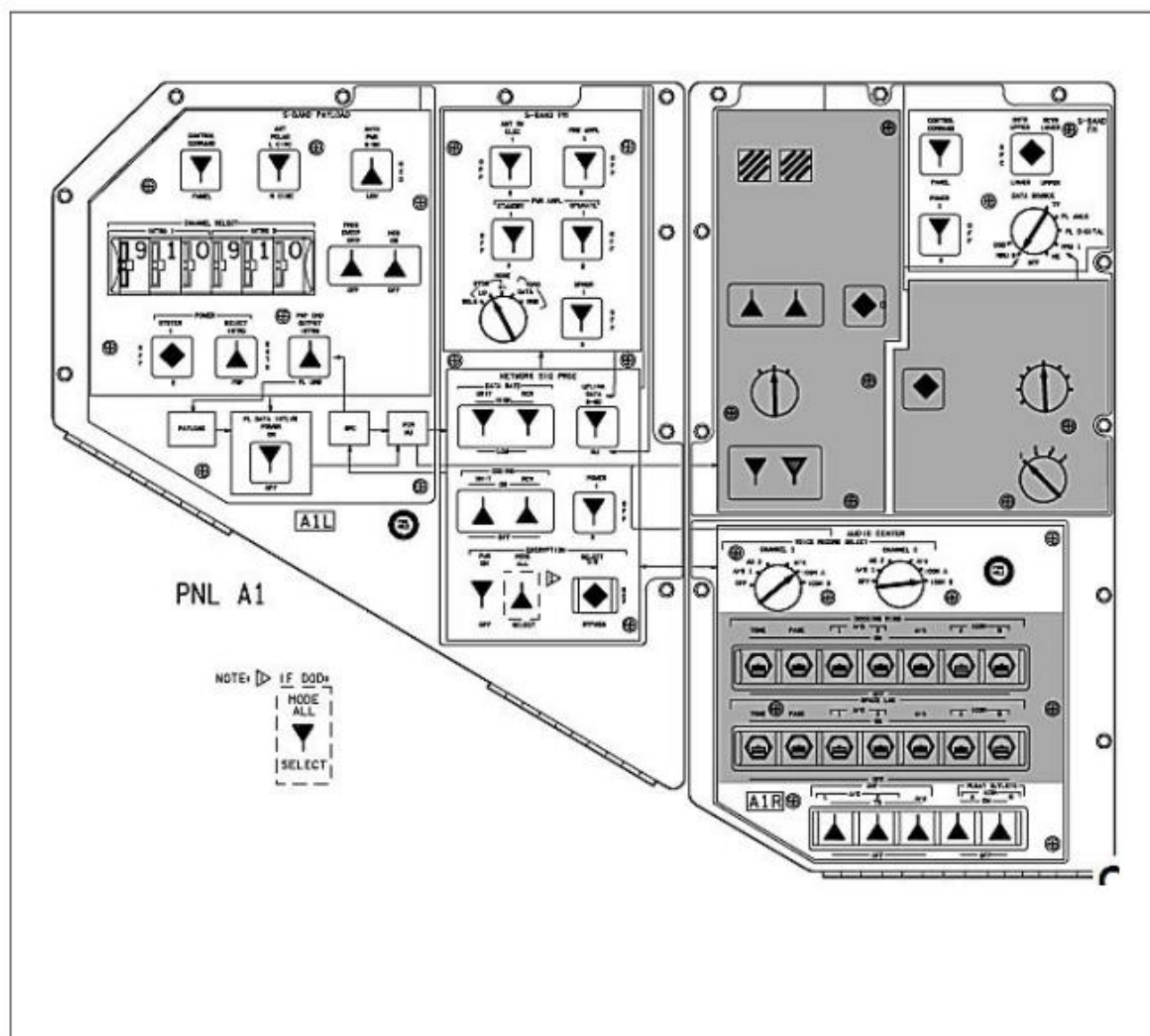
A7L.....1-25

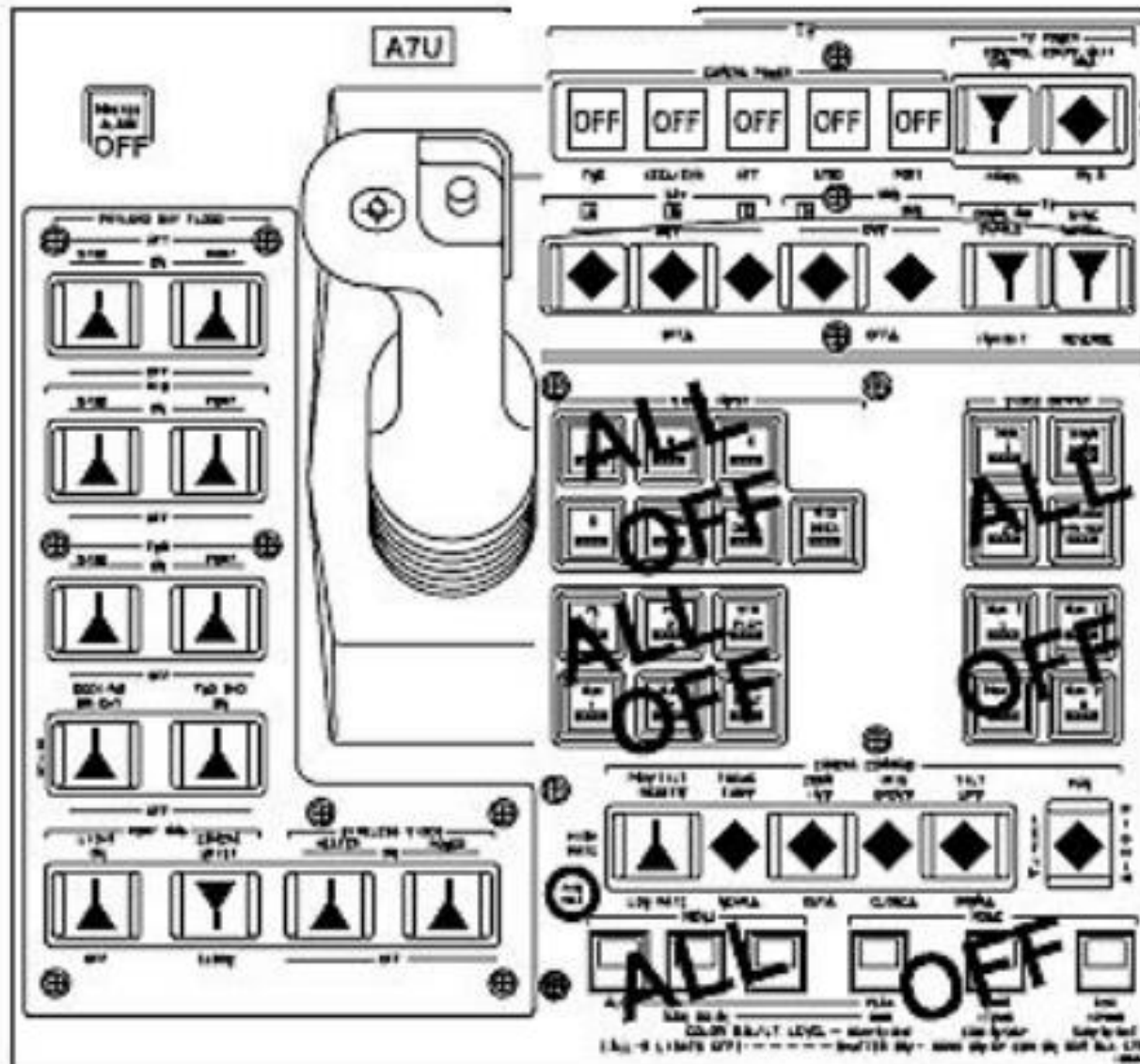


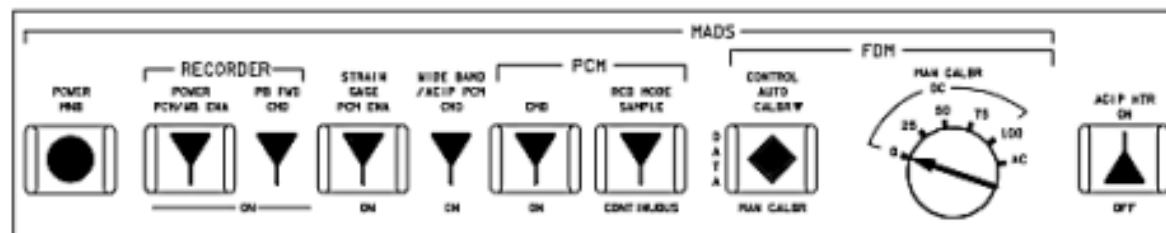
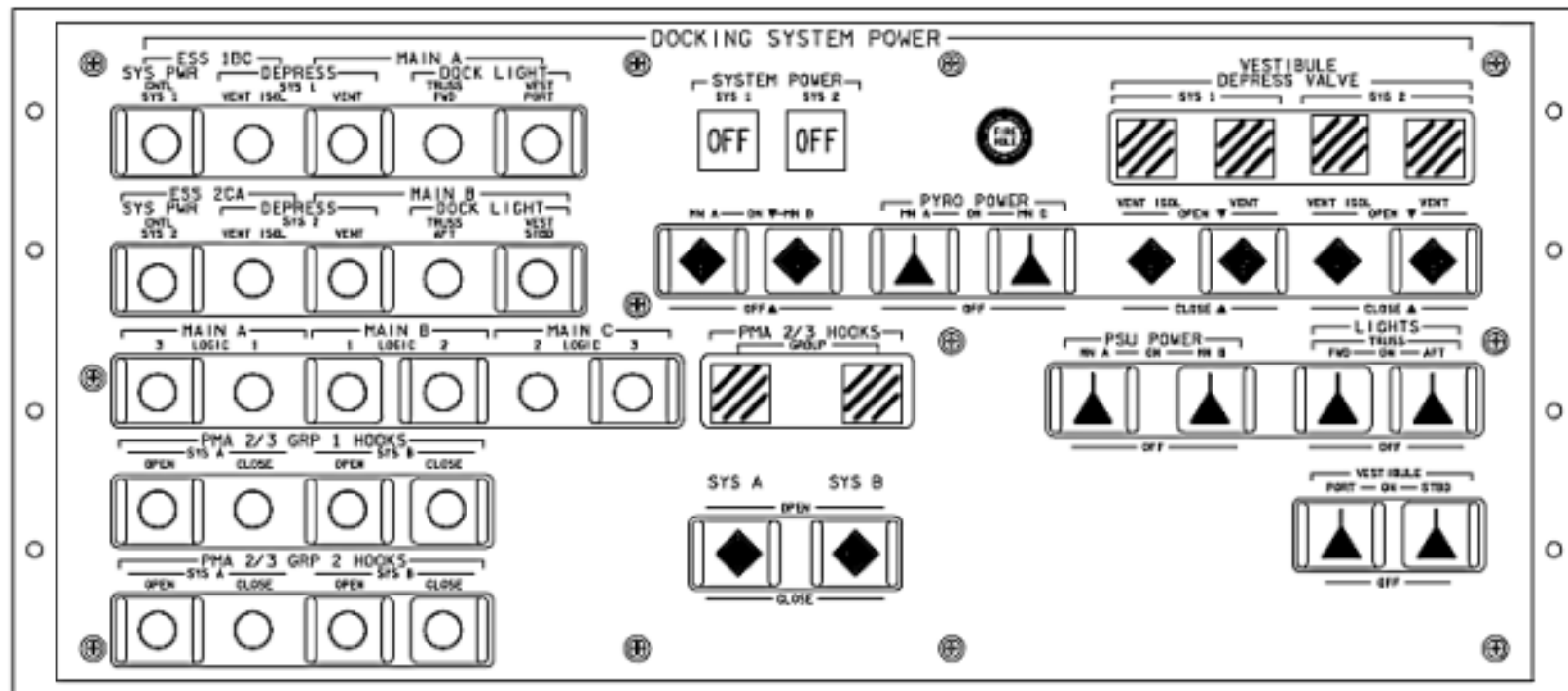


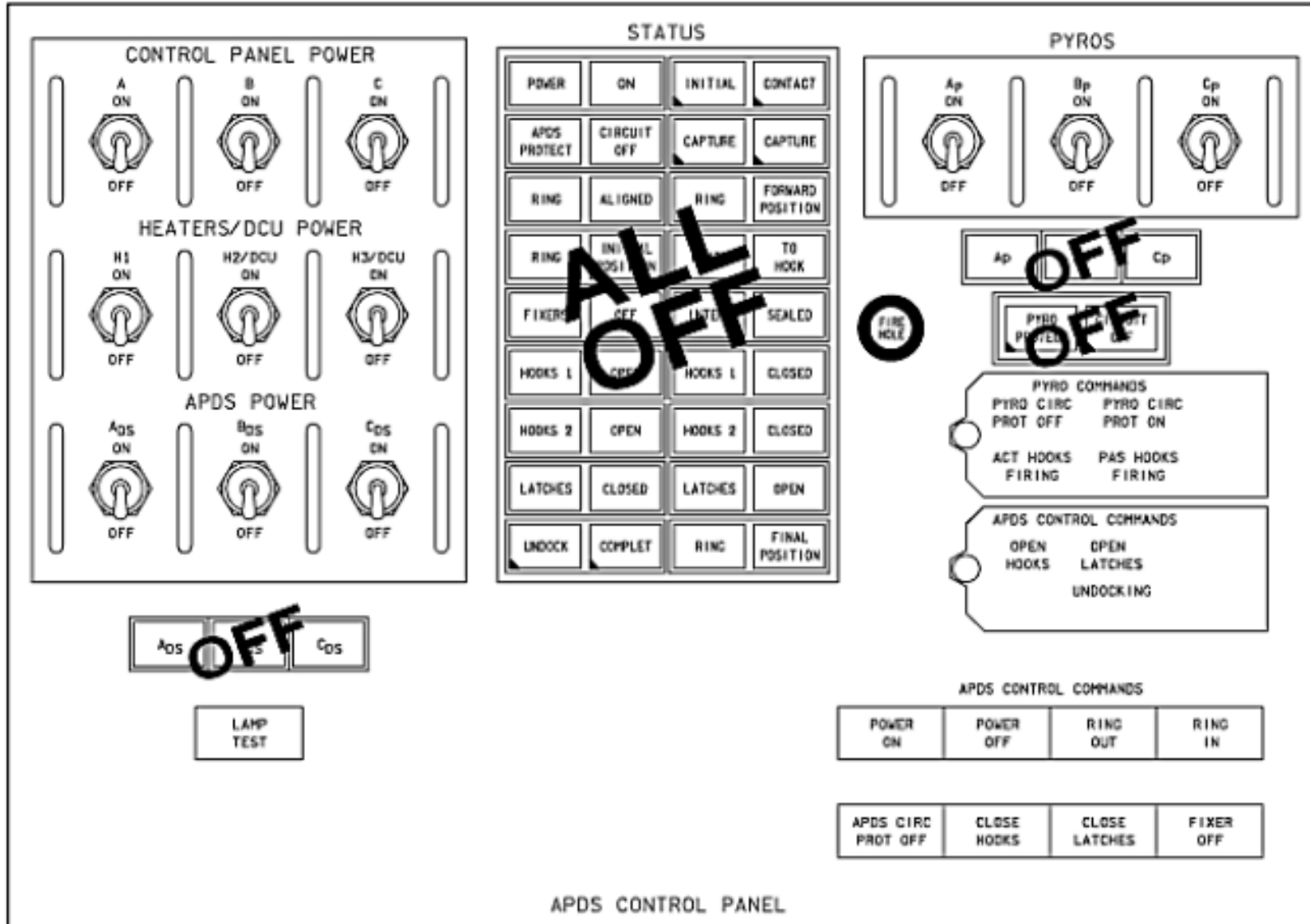














**DEORB PREP
CHECKLIST**

**STS
ALL**

Flight Cover (trim bottom to expose tabs)