

Ascent Checklist

Mission Operations Directorate
Flight Design and Dynamics Division
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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. Ascent contains the nominal procedures from: Crew Ingress
MET(DAY/HR:MIN) – 000/02:25 TO POST OMS2 burn
5. To properly use this Checklist the Orbiter must be configured as per
PRE CREW-INGRESS status

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PRELAUNCH PROCEDURES

SWITCH LIST FOR HANDOVER/INGRESS

F6U	L HUD MODE	– √NORM
	DIM BRT sel	– mid range
	HUD BRT	– as reqd
F3	HUD PWR	– √OFF
	DRAG CHUTE pb (six)	– √lt off
F8U	R HUD MODE	– √ NORM
	DIM BRT sel	– mid range
	HUD BRT	– as reqd
F4	All pb lts off except:	
	SPDBK/THROT pb	– AUTO lt on
	PITCH pb	– AUTO lt on
	ROLL/YAW pb	– AUTO lt on
F6	MDU PWR (two)	– ON
	BRT sel (two)	– as reqd
	LDG GEAR pb (two)	– lt off
	LDG GEARtb (three)	– √UP
	FLT CNTLR PWR	– ON
	ADI ATT	– √REF
	ADI ERR	– MED
	ADI RATE	– MED
	ABORT MODE	– √OFF
	ABORT MODE pb	– √lt off
	AIR DATA	– √NAV
F7	MDU PWR (five)	– ON
	BRT sel (five)	– as reqd
	MAIN ENG STAT lts (six)	– √off
	SM ALERT lt	– √off
	C/W matrix lts	– √off
F8	MDU PWR (two)	– ON
	BRT sel (two)	– as reqd
	LDG GEAR pb (two)	– √lt off
	LDG GEAR tb (three)	– √UP

FLT CNTLR PWR	– ON
ADI ATT	– √REF
ADI ERR	– MED
ADI RATE	– MED
AIR DATA	– √NAV

R1

PL PRI MN B,FC3 (two)	– √ctr (tb-OFF)
PL AUX MN A,B	– √OFF
PL AFT MN B	– √OFF
PL AFT MN C	– √OFF
INV PWR (three)	– √ctr (tb-ON)
INV/AC BUS (three)	– √ctr (tb-OFF)
AC BUS SNSR (three)	– MONITOR (CRYO)
O2 MANF VLV (two)	– √ctr (tb-OP)
O2 TK1,2 HTRS A (two)	– AUTO
O2 TK1,2 HTRS B (two)	– √OFF
O2 TK1,2 HTRS RESET/TEST	– √ctr
O2 TK3 HTRS (two)	– √OFF
O2 TK3 HTRS RESET/TEST	– √ctr
FUEL CELL REAC (three)	– √ctr
tb (six)	– √OP
H2 MANF VLV (two)	– √ctr (tb-OP)
H2 TK1,2 HTRS A (two)	– AUTO
H2 TK1,2 HTRS B (two)	– √OFF
H2 TK3 HTRS (two)	– √OFF

R2

MPS PRPLT DUMP (two)	– GPC
ENG PWR (six)	– ON
He ISOL A,B (six)	– GPC
PNEU L ENG He XOVR	– GPC
PNEU He ISOL	– GPC
LH2 ULL PRESS	– AUTO
He I'CNCT (three)	– GPC

R2	APU/HYD RDY TO STRT tb (three) – √bp APU OPER (three) – √OFF HYD MN PUMP PRESS (three) – NORM APU CNTLR PWR (three) – √OFF FUEL TK VLV (three) – √CL BLR CNTLR/HTR (three) – A BLR PWR (three) – ON BLR N2 SPLY (three) – √OFF ET UMB DR CTRLINE LAT – GND (tb-bp) L,R DR (two) – √OFF (tb-OP) LAT (two) – √OFF (tb-REL)
C2	IDP/CRT PWR (three) – ON MAJ FUNC (three) – GNC SEL (two) – as reqd EVENT TIMER MODE – DN EVENT TIMER CNTL – ctr TIMER SET pb (four) – 0900 TIMER – ctr
C3	OMS ENG (two) – √OFF BFC CRT DISP – √OFF BFC CRT DISP SEL – √3+1 AIR DATA PROBE STO (two) – √INH MN ENG LIMIT SHUTDN – AUTO DAP – √all off SRB SEP – √AUTO ET SEP – √AUTO AIR DATA PROBE (two) – √STOW
O2	CRYO O2 HTR ASSY TEMP sel – √TK 1 O2/H2 sel – √TK 1 FUEL CELL STACK TEMP sel – 1
O3	RCS/OMS PRESS sel – RCS He X 10 PRPLT QTY sel – OMS FUEL MSN TIME – MET

O6	S TRK DR CNTL (two)	– √OFF
	ANNUN LAMP TEST	– √ctr
	BUS SEL ACA 1	– √MNA
	BUS SEL ACA 2/3	– √MNB
	GPC PWR (five)	– ON
	OUTPUT 1,2,3,4 (four)	– √NORM
	OUTPUT 5	– NORM (tb-bp)
	IPL SOURCE	– √OFF
	GPC MODE 1,2,3,4 (four)	– RUN
	GPC MODE 5	– SBY
O8	RADAR ALTM (two)	– ON / OFF
R11L	IDP/CRT4 PWR	– ON
	MAJ FUNC	– SM
R13L	PL BAY DR SYS (two)	– √DSBL
	PL BAY MECH PWR SYS (two)	– √OFF
	PL BAY DR	– √STOP (tb-as is)
	RAD LAT CNTL (two)	– √OFF (tb-LAT)
	RAD CNTL (two)	– √OFF (tb-STO)
	KU ANT DIRECT STO	– √OFF
	KU ANT	– √GND (tb-STO)
A6U	DAP	– √all off
	SENSE:	-Z
	FLT CNTLR PWR	– √OFF
	ADI ATT	– INRTL
	ADI ERR	– MED
	ADI RATE	– MED
	ANNUN BUS SEL	– OFF
	LAMP TEST	– √ctr
	EVENT TIMER SET pb (four)	– as reqd
	MODE	– UP
	CNTL	– √ctr
	TIMER	– √ctr
	PL RETEN LOGIC PWR (two)	– √OFF
	PL SEL	– MON
	PL RETEN LAT (five)	– √OFF (tb-bp)
	RDY TO LAT tb (five)	– √bp

A2	DIGI DIS SEL X-PNTR SCALE	– √EL/AZ – √X10
A7U	MSTR ALARM pb PL BAY FLOOD (eight) PORT RMS LIGHT TV CAMR PWR (five) VID INP pb (thirteen) VID OUT pb (eight) CAMR CMD PAN/TILT TILT PAN	– √lt off – √OFF – √OFF – √ctr (tb-OFF) – √lt off – √lt off – LO RATE – √ctr – √ctr
A7L	(APDS CNTL PNL) CNTL PNL PWR (three) HTRS/DCU PWR (three) APDS PWR (three) STATUS lts (thirty-six) PYROS (three) PYRO CIRC PROT OFF lts (two)	 – √OFF – √OFF – √OFF (lt off) – √off – √OFF (lt off) – √off
A4	MSN TIMER sel	– MET
A8U	(This panel may be replaced or deleted if RMS not flown)	
	MSTR ALARM pb EE MODE MAN CONTR tb (six) DIRECT DR PARAM sel JOINT sel SINGLE/DIRECT DR SHDLR BRACE REL	– √lt off – √OFF – √ctr – bp – √ctr – PORT TEMP – CRIT TEMP – √ctr – √ctr (tb-bp)

A8L (This panel may be deleted if RMS not flown)

	STBD RMS	– √OFF (tb-STO)
	STBD RMS	– (√OFF (tb-bp)
if no MPMs)		
	RETEN LAT	– √OFF (tb-LAT)
	RETEN LAT	– (√OFF (tb-bp)
if no MPMs)		
	HTR (two)	– √OFF
	RDY FOR LT tb (three)	– √gray
	RDY FOR LT tb (three)	– (√bp if no
RMS)		
	RMS SEL	– √OFF
	RMS PWR	– √OFF
	PORT RMS	– √OFF (tb-STO)
	PORT RMS	– (√OFF (tb-bp)
if no MPMs)		
	RETEN LAT	– √OFF (tb-LAT)
	RETEN LAT	– (√OFF (tb-bp)
if no MRLs)		
	HTR (two)	– √OFF
	RDY FOR LT tb (three)	– √gray
	RDY FOR LT tb (three)	– (√bp if no
RMS)		

MEDS CONFIGURATION FOR INGRESS

MDU	Display	Edgekey Menu
CRT1	DPS	DPS
CRT2	DPS	DPS
CRT3	DPS	DPS
CRT4	DPS	DPS
CDR1	OMS/MPS	SUBSYS STAT
CDR2	A/E PFD	FLT INST
MFD1	HYD/APU	SUBSYS STAT
MFD2	OMS/MPS	SUBSYS STAT
PLT1	A/E PFD	FLT INST
PLT2	HYD/APU	SUBSYS STAT
AFD1	N/A	N/A

-32:00 (-1:22:00)	PASS/BFS TRANSFER PREP		
O6	√GPC MODE 5	– STBY	
C3	√BFC CRT SEL: CRT DISP	3+1 – ON	
-30:00 (-1:20:00)	OMS GN2 PRESS		
C3	OMS ENG (two)	– ARM PRESS	
	WSB GN2 SUPPLY ACTIVATION		
R2	√BOILER CTRL/HEATER(three) BOILER N2 SUPPLY	– ON – ON	
-20:00 (-1:00:00)	OPS 1 LOAD		
CRT1	GNC OPS 101 (LAUNCH TRAJ)		
CRT2	GNC OPS 101 (LAUNCH TRAJ)		
CRT3	BFS, SM SYS SUMM 2		
C3	√BFC CRT DISPLAY √BFC CRT SEL	– ON – (3+1)	
-16:00 (-56:00)	MPS He RECONFIG		
R2	MPS He ISOL A,B (six) √He REG A Press ~800 psi MPS PNEU He ISOL √He REG Press ~800 psi	– OP – OP	
-9:00 (~-15:00)	When 'GO FOR LAUNCH' (All)		
C2	Set Timer Thumbwheels To 09:00 TIMER SWITCH √EVENT TIMER MODE is DWN At T-9'	– SET	
	EVENT TIMER	– START	

F7	√TIME ind – counting down	
-8:00	Connect ESS BUSES to FC (GLS √@T-7:24)	
R1	ESS BUS SOURCE FC (three) – ON	
-6:15	APU PRE START (GLS √ @ T-5:25)	
R2	BLR N2 SPLY (three)	– ON
	BLR PWR (three)	– ON
	BLR CNTLR/HTR (three)	– A
	√HYD CIRC PUMP (three)	– GPC
	√APU FU TK VLV (three)	– CL
	√APU SPEED SEL (three)	– NORM
	√APU OPER (three)	– OFF
	√HYD MN PUMP PRESS (three)	– LO
	APU CNTLR PWR (three)	– ON
	APU FU TK VLV (three)	– OP
	√APU/HYD RDY tb (three)	– gray
-5:00	APU START (GLS √ @ T-4:05)	
R2	APU OPER (three)	– START/RUN
	√HYD PRESS ind (three)	– LO green
	√APU/HYD RDY tb (three)	– bp
	HYD MN PUMP PRESS (three)	– NORM
	√PRESS ind (three)	– HI green

ASCENT PROCEDURES

ASCENT FLIP BOOK (EMERGENCY EGRESS)

PRELAUNCH MODE 1	
TABS – RELEASE	
VISOR – CLOSE / LOCK	
SUIT O2 – ON	
GREEN APPLE – PULL	
KNEEBOARDS – REMOVE	
COOLING – DISCONNECT	
SEAT RESTRAINT – RELEASE	
PARACHUTE (four) – RELEASE	
COMM – DISCONNECT	
SUIT O2 – DISCONNECT	
EGRESS SEAT	
HATCH – OPEN MANUALLY	
SLIDEWIRE BASKETS	
POST LANDING MODE 5	
TABS – RELEASE	
VISOR – CLOSE / LOCK	
SUIT O2 – ON	
GREEN APPLE – PULL	
KNEEBOARDS – REMOVE	
COOLING – DISCONNECT	
SEAT RESTRAINT – RELEASE	
PARACHUTE (four) – RELEASE	
COMM – DISCONNECT	
(G-SUIT CLIP – PULL)	
SUIT O2 – DISCONNECT	
PLT – EMER PWR DOWN	
EGRESS SEAT	
SLIDE/ESCAPE PANEL	

BAILOUT MODE 8	
REPORT POSITION	
√MACH < 1.0	
P, R/Y – CSS	
OPS 305/603 PRO (if reqd)	
SB – AUTO; BF – AUTO	
FLY 185-195 KEAS, $\Phi = 0^\circ$	
ABORT MODE – ATO	
ABORT PBI – PUSH	
P,R/Y – AUTO	
FLT CNTLR PWR (two) – OFF	
<u>~50K FT</u>	
TABS – RELEASE	
VISOR – CLOSE / LOCK	
SUIT O2 – ON	
GREEN APPLE – PULL	
<u>~40K FT</u>	
MS3 – VENT CABIN	
CDR,PLT SEATS – LOWER	
KNEEBOARDS – REMOVE	
COOLING – DISCONNECT	
SEAT RESTRAINT – RELEASE	
D-RING – UNCOVER	
<u>~30K FT</u>	
MS3 – JETTISON HATCH	
COMM – DISCONNECT	
(G-SUIT CLIP – PULL)	
SUIT O2 – DISCONNECT	
EGRESS SEAT	
POLE – DEPLOY	
D-RING – HOOK UP	
BAILOUT	

SYS FLIGHT RULES

RTLS TAL

OMS – 2 He TKs		
– 1 OX & 1 FU TKs (diff pods)		X
– 2 OX or 2 FU TKs		X
APU/HYD – Impending loss of all capability	X	X
CABIN LEAK – (-EQ dP/dT > .15)	X	X
CRYO – All O ₂ (H ₂)	X	X
2 FREON LOOPS ↓ [Accum Qty (↓ and decr) and/or Flow (↓)]	X	X
2 MAIN BUSES ↓	X	
THERMAL WINDOW PANE	X	

NO COMM MODE BOUNDARIES

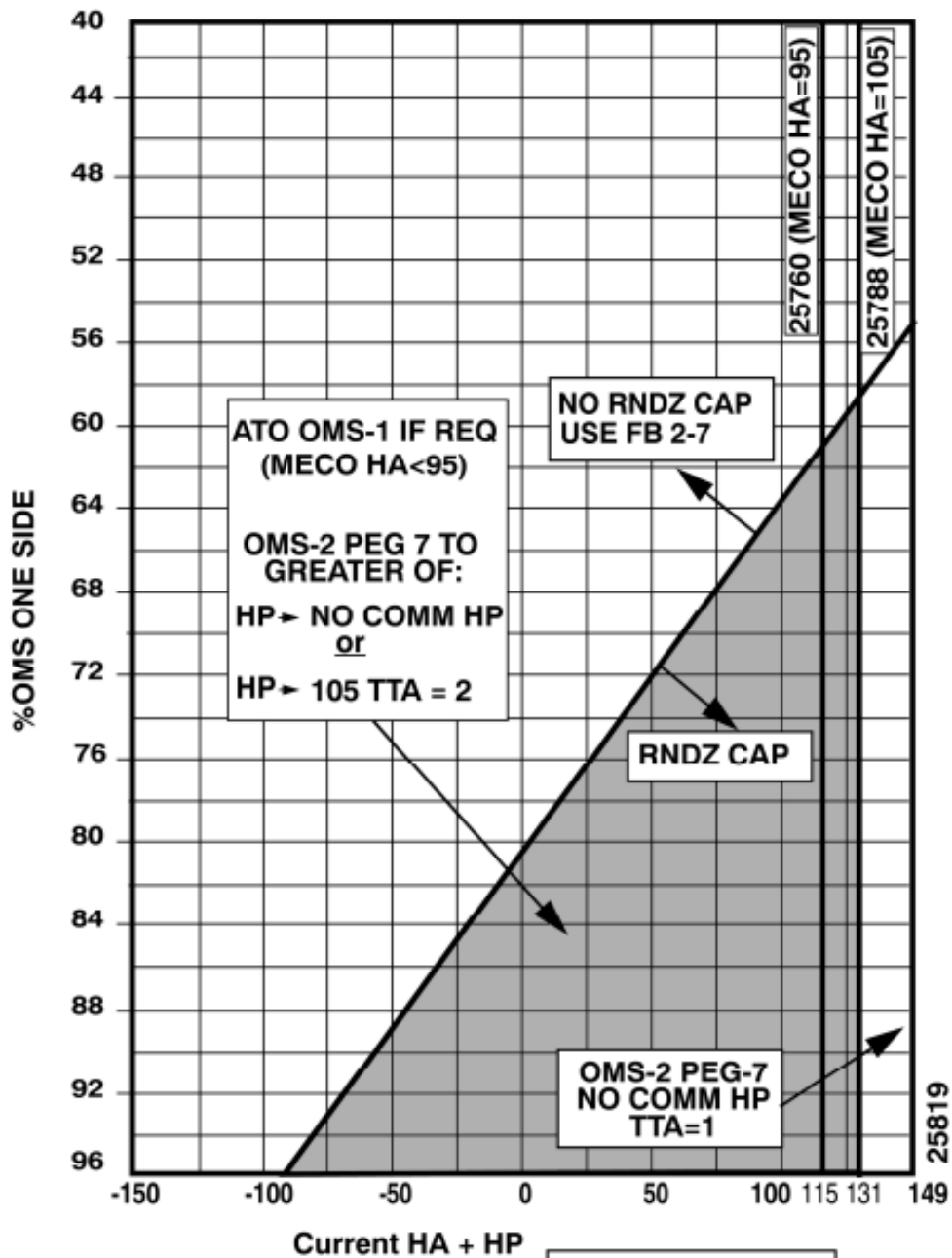
NEG RETURN (104)	8000	2 ENG ZZA (104)	6100
PRESS TO ATO (104)	11500	ABORT TAL ZZA (4)	
SE OPS 3 (109)	12100	EO VI	<input type="text"/>
SE ZZA (104)	14300	SE OPS 3 ZZA (109) (4)	<input type="text"/>
PRESS TO MECO (104)	19000	SE ZZA (104) (4)	<input type="text"/>
SE PRESS (104)	19600	2 ENG MRN (104)	
NEG MRN (2 @ 67)	20000	ABORT TAL MRN (3)	
LAST PRE MECO TAL	23000	EO VI	<input type="text"/>
LAST TAL		SE OPS 3 MRN (109) (3)	<input type="text"/>
YJT	19900	SE MRN (104) (3)	<input type="text"/>
YYT	20200	2 ENG FMI (104)	
YQX	21900	ABORT TAL FMI (29)	
IKF	23700	EO VI	<input type="text"/>
INN	23900	SE OPS 3 FMI (109) (29)	<input type="text"/>
FFA	24200	SE FMI (104) (29)	<input type="text"/>
BEJ	24300		
MRN,KBO	24400		
ESN	24900		
ZZA	25000		
FMI,KKI	25100		
JDG	25300		

ASCENT PROCEDURES

R180	LVLH
.84M	$\sqrt{P_c} \rightarrow 72\%$
1.17M	$\sqrt{P_c} \rightarrow 104\%$
$P_c < 50+5$ s	$\sqrt{\text{SRB SEP (Backup AUTO SEP 2:21)}}$
	$\sqrt{\text{TMECO}}$

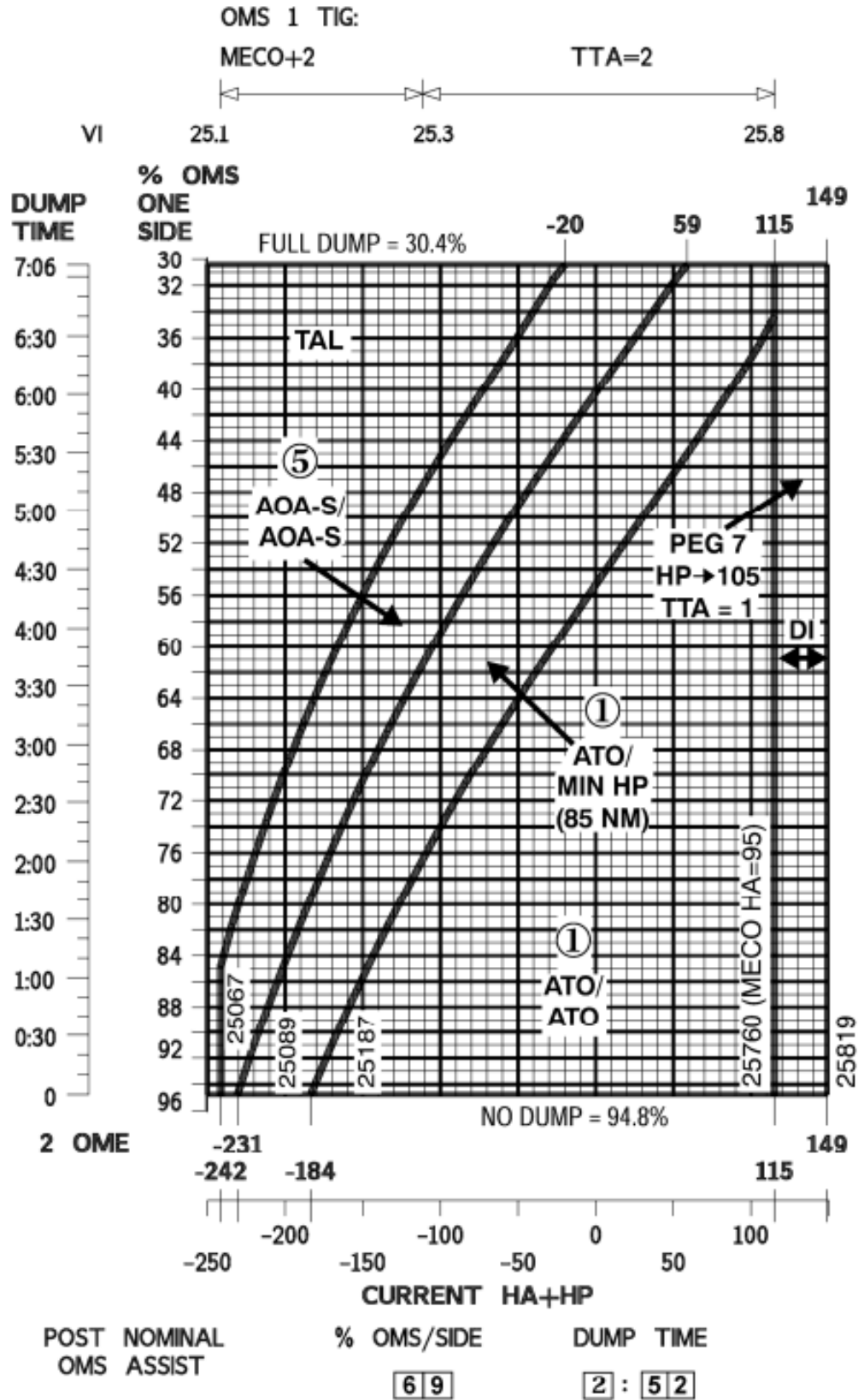
- * If NOT STABLE (10 sec):
- * NO COMM – CSS & MAN THROT
- MM103+10 s $\sqrt{\text{OMS assist}}$
Close suit O2, open visor
- 3:00 $\sqrt{\text{EVAP OUT (T < 60)}}$
 - * If Systems ABORT reqd:
 - * RTLS at 3:40 or
 - * TAL Select prior to 23000
 - * Otherwise Manual MECO 23700
- $V_I = \text{13.2K}$ $\sqrt{\text{Roll Heads Up}}$
 - * If Man Throttle (3 eng):
 - * Man Shutdn at 25700
 - * If 1 eng:
 - * TRAJ $\sqrt{\text{SERC ON}}$
 - * When MPS PRPLT = 5%:
 - * MAN THROT
 - * When MPS PRPLT = 2%:
 - * MIN THROT ($P_c \rightarrow 67\%$)
 - * AUTO THROT
- MECO $\sqrt{V_I = \text{25819}}$
- MECO+20 s $\sqrt{\text{ET SEP}}$
 - * If 'SEP INH':
 - * ET SEP – MAN
 - * If Rates > .7,.7,.7:
 - * MPS PRPLT DUMP SEQ – STOP
 - * Null rates
 - * ET SEP – SEP
 - * Post ET Sep -Z xlation:
 - * MPS PRPLT DUMP SEQ – GPC
 - * If Rates < .7,.7,.7:
 - * Assume Feedline Fail
 - * If $V_I < \text{25760}$:
 - * OPS 104 – PRO ($\sqrt{\text{BFS 104}}$)
 - * NOTE: Expect – 'Illegal Entry' (PASS)
 - * 'Illegal TIG' (BFS)
- MM104+2 s If ET Sep complete and HA > 72:
+X xlation for 11 sec
- $\sqrt{\text{TGTS}}$
- $\sqrt{\text{ASC PKT for failures}}$
- If OMS 1 not reqd:
- OMS ENG (two) – OFF
- Go to POST OMS 1

STS OCFR2 CY OMS 1/2 TARGETING RENDEZVOUS RECOVERY



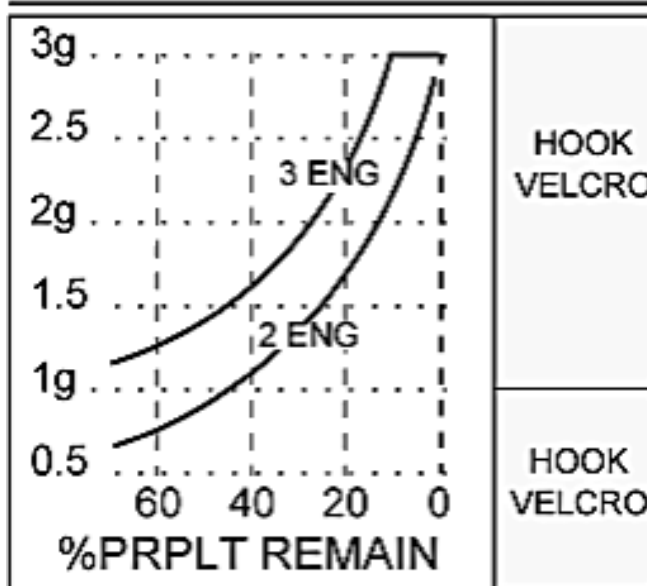
	PLANAR WINDOW	
	1	2
NOMINAL OMS-2 HT		
NO COMM OMS-2 HP		

STS OCFR2 CY OMS 1/2 TGTING



ASCENT ADI - NOMINAL

TIME	θ	H	\dot{H}	(335 OCFR3 CY)
0:30	69	9K	665	
0:50	61	26K	1001	
1:10	52	51K	1439	
1:30	39	84K	1900	
1:50	30	126K	2198	



-STAGING-

V_I	θ	H	\dot{H}	ASC-14a/335/A/A
6	19	219K	1701	
7	16	276	1253	
8	13	311	906	
9	12	333	625	
10	9	346	396	
12	6	356	58	
14	9	355	-149	
16	25	350	-232	
18	23	344	-267	
20	21	339	-217	
22	19	337	-104	
24	17	337	66	
25819	13	345	272	

OMS 1 TARGETING

APU shutdn (if time permits)

Burn good OMS + THC +X at TIG

DAP – AUTO/DISC

GNC OPS 104 PRO (OMS 1 MNVR EXEC)

LOAD TGT DATA

Select TIG – ITEM 10 + ____ / ____ : ____ : ____

- ARM/PRESS

TIG; start watch ($\sqrt{P_c}$, ΔV_{TOT} , ENG VLVs)

Trim inplane X,Y residuals < 2 fps

POST OMS 1 BURN PROCEDURES

ET PHOTO MANEUVER/MPS DUMP

If OMS 1 Burn performed, go to

POST BURN STATUS

+X and Pitch Mnvr:

At MECO + 6 min: (14:23 Nom)

ET SEP – SEP

At MM104 + 2 sec

+X xlation for 11 sec

At OMS 1 TIG: (16:05 Nom)

Pitch up at 2°/sec until ET in O/H
window (P ~110°)

Go to **MPS DUMP complete**

If NO-GO for Photo Pitch Mnvr, go to MPS DUMP
complete; do not pitch

MPS DUMP start (MECO + 2:03)

At OMS 1 TIG + 30 sec: (MECO + 2:33)
(10:56 Nom)

C3 DAP – INRTL: R (DISC), P (PULSE), Y (DISC),
Orbiter pitches up
Control pitch rate 2°/sec to 3°/sec
If no pitch rate, go to MPS DUMP complete

When ET in O/H window (MS call or P ~90°):

P – DISC

Adjust pitch photo att as reqd for MS

MPS DUMP complete

√BDY FLP pb – It off (MECO + 4 min) (12:24 Nom)

If no pitch rate,

P – DISC

Pitch up at 2°/sec until ET
in O/H window (P ~85°)

POST BURN STATUS

ALPHA MANAGEMENT (if reqd)

If underspeed (ATO or AOA-S) OMS 1
and Post OMS 1 HP <75 nm:

Maneuver to LVLH R000, P340, Y000
(maintain LVLH P = 0 +/-20)

After 10 min:

Maneuver to LVLH P = 340

After 10 min:

Maneuver to Burn Attitude

F6,F8	When MPS dump complete:	
C3	FLT CNTLR PWR (two)	– OFF
	DAP	– AUTO

APU/HYD SHUTDN

R2	√APU AUTO SHTDN (three)	– ENA
	BLR PWR (three)	– OFF
	BLR N2 SPLY (three)	– OFF
	APU OPER (1,2,3; 5 sec interval)	– OFF (MA)
	APU FU TK VLV (three)	– CL
	√Shutdn (HYD PRESS < 200)	
	APU CNTLR PWR (three)	– OFF
	√HYD MN PUMP PRESS (three)	– NORM

FES & HEATER ACTIVATION

R1	O2 TK1,2 HTRS B (two)	– AUTO
	H2 TK1,2 HTRS B (two)	– AUTO

AC BUS SNSR

R1	AC BUS SNSR (three)	– OFF (1 sec), then AUTO TRIP
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MAJOR MODE CHANGE

CRT1/2	GNC OPS 105 PRO (OMS 2 MNVR EXEC)
--------	-----------------------------------

OMS 2 BURN

OMS 2 BURN SETUP

CRT1 TRIM LOAD – ITEM 6 +0.4 -5.7 +5.7 EXEC

For single eng burn (good eng):

TRIM LOAD LY – ITEM 7 +5.2 EXEC

TRIM LOAD RY – ITEM 8 -5.2 EXEC

OMS L – ITEM 2 EXEC

OMS R – ITEM 3 EXEC

For RCS burn:

RCS SEL – ITEM 4 EXEC

√Targets, **OMS TARGETS**

LOAD – ITEM 22 EXEC

TIMER – ITEM 23 EXEC

MPS ISOL

R2	MPS He ISOL (six)	– GPC
	MPS PNEU He ISOL	– GPC
	√He I'CNCT (three)	– GPC

25:00

MPS PWRDN

R2	MPS ENG PWR L (two)	– OFF
	MPS ENG PWR CTR (two)	– OFF
	MPS ENG PWR R (two)	– OFF

ET UMBILICAL DOOR CLOSURE

R2	ET UMB DR MODE	– GPC/MAN
	CTRLINE LAT	– STO
	√After 6 sec, CTRLINE LAT tb	– STO
	CTRLINE LAT	– STOP
	L,R DR (two)	– CL (tb-bp)
	√After 24 sec, L,R DR tb (two)	– CL
	L,R LAT (two)	– LAT (tb-bp)
	√After 6 sec, L,R LAT tb (two)	– LAT
	L,R DR (two)	– OFF
	L,R LAT (two)	– OFF
	MODE	– GPC

If FRCS reqd,

Go to **OPS 1 RCS BURN**

OMS 2 BURN ATTITUDE MANEUVER

F6,F8	√ADI ATT (two)	– INRTL
	ATT RATE (two)	– 1

CRT1 MNVR – ITEM 27 EXEC (*)

CRT3 BFS GNC SYS SUMM 2

TIG-5 Go to **OMS 2/ORBIT OMS BURN** Cuecard

OMS 2/ORBIT OMS BURN

1.LOAD TGT DATA

CRT1 GNC OPS 105 PRO (OMS 2 MNVR EXEC)

TV ROLL

If Posi Heads Up – ITEM 5 + 0 EXEC

If Posi Heads Dwn – ITEM 5 + 180 EXEC

Trim Load (*1 eng)

P – ITEM 6 = + 0.4 *(+ 0.4)

LY – ITEM 7 = - 5.7 *(+ 5.2)

RY – ITEM 8 = + 5.7 *(- 5.2)

2.PERFORM OMS BURN

CRT1 √ENG SEL

C3 √DAP AUTO (PASS)/DISC

TIG-4 F6/F8 ADI RATE (two) – MED (1 deg/sec)
FLT CNTLR PWR (two) – ON
√DAP – AUTO(PASS)/DISC
√GMBL TRIM

TIG-2 C3 SEL OMS ENG(s) – ARM PRESS (√P VLVs OP)
If P VLV CL: Aff OMS ENG – OFF

TIG-00:15 CRT1 EXEC

00:00 TIG: start watch (√Pc, ΔVTOT, ENG VLVs)

CUTOFF

+00:02 C3 OMS ENG(s) – OFF

OPS 1 RCS BURN

AFT RCS

√RCS BURN CONFIG:

OMS TK ISOL (all)	– OP
L(R) OMS XFEED (two)	– OP switch at
R(L) OMS XFEED (two)	– CL $\frac{1}{2}$ Δ VTOT
AFT L,R RCS XFEED (four)	– OP
AFT L,R RCS TK ISOL (six)	– CL

TIG-2	L,R OMS He PRESS/VAP ISOL A	– OP
	Wait 2 sec	
	L,R OMS He PRESS/VAP ISOL B	– OP

CRT √MM105

F6/F7	CTRL PWR (two)	- ON
	√BURN ATT (INRTL) then REF, pb	– push
	√RCS SEL	

C3 DAP: INRTL/DISC

00:00	+X
	Mainatain PITCH ATT ERR +/- 3°
	Monitor OMS data
	Monitor Δ VTOT

CUTOFF	Release THC	
	CTRL PWR (two)	– OFF

FWD RCS

```

FRCS BURN PREP
Load DUMMY target for FRCS attitude
RCS SEL – ITEM 4 EXEC
TIG @ TTA = 2:00 or as reqd
ΔVX = -2.1 (ITEM 19)
ΔVY = 0 (ITEM 20)
ΔVZ = +1.0 (ITEM 21)
LOAD – ITEM 22 EXEC
TIMER – ITEM 23 EXEC
TIG-10 Auto Mnvr to ATT
When in attitude:
ADI ATT – REF (push)
Load External ΔV Burn Target
ΔVX = +80
ΔVY = 0
ΔVZ = 0
LOAD – ITEM 22 EXEC
TIMER – ITEM 23 EXEC
√VGOX = negative
√VGOY = 0
√VGOZ = +21 ± 2
√REF ball – 0,0,0
  
```

-00:30

F6,F8 CTRL PWR

- ON

C3 DAP: INRTL/DISC

00:00

-X (THC)

CUTOFF

CUR HP = TGT HP _____, release THC

F6,F8 CNTRL PWR (two)

– OFF

POST OMS 2 BURN PROCEDURE

F6/F8	FLT CNTLR PWR (two)	– OFF
C3	OMS ENG(two)	– OFF
	√DAP: AUTO	

MAJOR MODE CHANGE

CRT1 GNC OPS 106 PRO (OMS 2 MNVR COAST)
Go to **POST INSERTION CHECKLIST**



**ASCENT
CHECKLIST**

**STS
ALL**

Flight Cover (trim bottom to expose tabs)