


APOLLO 15	
LM TIMELINE BOOK	
PART NO.	S/N
SKB32100115-388	1001



UNDOCK & SEPARATION TO REV 12 LS TCA

100:04

PREP FOR UNDOCKING

USE ACTIVATION & C.0.

C/L TO 10 MIN BEFORE UNDOCK

CHECK ATT (0,286,060)

V48 21012 LM WT _____

PRO, V34 VO6N20 COPY LM AND CSM ANGLES

P47

UNDOCK & SEPARATION

100 : 13 : 56 : (100:13:56)

V77E TRIM TO .1 FPS

POO, V60 YAW LT 60°

PITCH UP 90°

*SEQUENCE CAMERA - ON (1 MIN) *

*FDI (0, 016, 0) *VHF ANT - FWD

*SEQUENCE CAMERA - OFF HELMETS & GLOVES - OFF (OPT)

REVERSE HOSES *SUIT GAS DIVERTER - EGRESS

*CABIN GAS RETURN - EGRESS

PGA DIVERTER - IV

*S-BD ANT - AFT, VERIFY COMM

*/S-BD P (+41) Y (-55)

*S-BD ANT - SLEW (>3.0)

*TRACK MODE - AUTO

*VHF B XMTR - OFF

*BIOMED - LEFT, PCM - HI

*S-BD FUNCTIONS - CWEA ENABLE

*UPLINK SQUELCH - OFF

VOICE N20 ANGLES TO MSFN

*COPY REV 12 LS TCA : : * * * * *

*UPDATA LINK - DATA

UPLINK CSM S.V., PIPA BIAS,

GYRO DRIFT COMP

*UPDATA LINK - OFF

100:25

*CAMERA SETTINGS FOR REV 12/13 TCA
 *LM3/DAC/10/CEX-ULC (f2.8, 250, ∞)
 * 1 FPS, 0.5 MAG, (5 MIN)
 *LM/DC/60/HBW-(f5.6, 250, ∞)5

Open door of ?

Window hatches - off

DPS THROTTLE CHECK
 +18 *CB(16) STAB/CONT: ENG ARM - CLOSE *
 THROT CONT - MAN/CDR
 TTCA (BOTH) - THROTTLE (MIN)
 *VERIFY MSFN CONTACT

ENG STOP - PUSH
 ENG ARM - DES (DES REG LT - ON)
 TTCA MIN (6.6% - 13.4%)
 THEN SOFT STOP (46.2% - 59.2%)
 THEN MAX (93.6% - 100+%)

THEN MIN
 ADJUST FRICTION
 MAN THROT - LMP
 *REPEAT TEST FOR LMP TTCA

ENG ARM - OFF
 *CYCLE CWEA (DES REG LT - OFF)
 ENG STOP - RESET
 THROT CONT - AUTO/CDR
 TTCA (BOTH) - JETS

APPROACH TO LANDING SITE

V83, SET ORDEAL ON CDR FDAI
 PITCH TO OBSERVE LS
 FDAI (0, 340/346, 0)

*SEQUENCE CAMERA - ON (5 MIN) *
 +28 *REV 12 LANDING SITE TCA : : (100:46)
 +32

100:46

POST DOCKING

INSERTION
THRU TPIPDI THRU
TD+3 MINAGS ACTIVATION
TO BACKSIDEUNDOCK TO
REV 12 LS TCA

101:20

AGS ACTIVATION TO BACKSIDE

*COPY AGS K FACTOR : : * 101:35 CSM CIRCULARIZATION : : (101:34:55)

*V47E P76 (UPDATE CSM S.V.), PRO *LN* *LN*
*V25E LOAD AGS K FACTOR UPDATE V82, N12-00002, PRO *65.2* *65.2*
*414+1 *PCM - HI
*400+3 (AFTER 50 16) *V47, 414+1
*V83, 317R, 440R PCM - LO
/CSM HA/HP *VHF A/V T-AFT

CONFIGURE COMM FOR LOS

-13 *S-BD FUNCTIONS - RANGE
*MATCH INDICATED ANGLES
*TRACK MODE - SLEW
*S-BD ANT - AFT
*SET P $\frac{(+166)}{Y}$ $\frac{(-38)}{Y}$
*VHF B XMTR - DATA, PCM - LO
*UPLINK SQUELCH - ENABLE
*S-BD ANT - FWD (AFTER LOS)

MNVR TO AGS CAL ATT

LOS 101 +23 V49, +33750 OGA ROLL + 24
+02250 IGA PITCH + 14 } FDAI
+02250 MGA YAW + 21 }

AGS ACTIVATION CONT'

*412R+1 SELF TEST SATISFACTORY
* +3 LOGIC TEST FAILURE
* +4 MEMORY TEST FAILURE
* +7 LOGIC & MEMORY TEST FAILURE
*574R DESCENT STAGE (+ NOT STAGED)
*604R LUNAR SURFACE FLAG
* (+ NOT ON LUNAR SURFACE)
*612R STAGING COUNTER (+0 NOM)
*232R +00600
*233R +00250
*464R +00500
*465R +00195
*623R +00000
*514R -53334
*515R -47371
*516R +00000
*000 +888888 (OPR ERR LT - ON)
*123 -45679 (DO NOT ENTR)

101:35 POST DOCKING INSERTION THRU TPI MANUAL ABORT PDI 0 TO BACKSIDE TD+3 MIN

POST DOCKING INSERTION THRU TPI MANUAL ABORT PDI 0 TO BACKSIDE TD+3 MIN

PDI THRU TD MIN

PDI 0 TO BACKSIDE

AGS ACTIVATION TO BACKSIDE CONFIGURE FOR LM JETT

101:55 GUID CONT - PGNS, MODE CONT (PGNS) AUTO
V49, 000.00(0G), 310.00(1G), 000.00(MG)
FDI (0, XXX/310, 0)

BACKSIDE TO PDI 0

102:20

RDR TEST - LDG
POWER SIGNAL LIGHT OUT
TEST MON - ALT/VEL XMTR (2.1 - 5.0), AGC
X-PNTRS PEGGED UP, LT
TM - H (8000 ± 100), H (-480 ± 2)
V63 N12 OPT 2, PRO
N66 8286 ± 10, ANT POS 1 (00001), PRO
N67 V_X (-00495 ± 2), V_y (+01862 ± 2),
V_Z (+01331 ± 2)
V34, RDR TEST OFF (ALT - 0, POWER SIGNAL
LIGHT ON, X-PNTRS - CENTERED)
CB(11) PGNS: LDG RDR - OPEN

UPDATE FROM MSFN

*UPDATE LINK - DATA
UPLINK CSM/LM S.V., PIPA BIAS,
DESCENT TARGETTING, LPD BIAS

*COPY PADS FOR

* NO PDI + 12 ABORT

* PDI
* PDI EARLY ABORT
* PDI LATE ABORT

* T2 ABORT

* T3 TIG

*UPDATA LINK - OFF
*V47, 414+1, 400+3

V83, SET ORDEAL
*317R, 440R, 277R

ALT CHECK

-10 MODE CONT (AGS) - ATT HOLD
GUID CONT - AGS
MNVR TO AND MAINTAIN FDAO (0, 295/XXX, 0)

-15 LANDING RADAR CHECKOUT

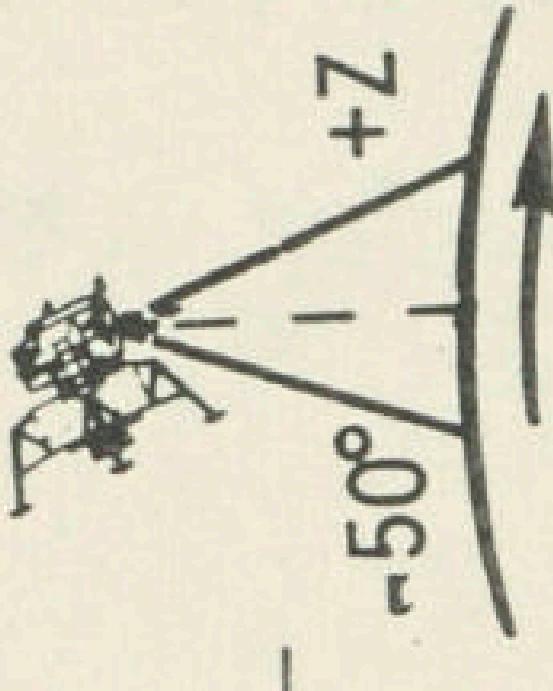
CB(11) PGNS: LDG RDR - CLOSE
CK TEMP (60° - 95°)
X-PNTRS - HI MULT

MODE SEL - LR
TM SW - H/H
LDG ANT - AUTO

102:34

*SEQUENCE CAMERA - ON (5 MIN) *
PITCH TO OBSERVE LS

102:35



PDI₀ TO BACKSIDE

102:35

LANDING SITE OBSERVATION

*SEQUENCE CAMERA - OFF

*CAMERA SETTINGS (PDI)
 *LM3/DAC/10/CEX-
 *(f2.8, 500, ∞) 12 FPS,
 * 0.75 MAG, (6 MIN)
 *LM3/DC/60/HGEX-(f5.6, 250, ∞)10
 *RELOCATE CAMERA → H/B/W
 GUID CONT - PGNS

IMU FINE ALIGN

SS 102 +50 V76 P52 OPT3
 CB AOT LAMP CLOSE
 AOT - DETENT F/0.0°
 PGNS MODE CONT - AUTO
 1ST STAR DABIH (241)
 PRO, RCD GET 102:54:
 2ND STAR ALPHERATZ (201)

N05 ANG DIFF 10000 /

PRO N93 TORQUING (MAX)
 X {0.900}(0.730) ← 0/0
 Y {0.900}(0.730) ↑ 023
 Z (2.750) ← 034
 PRO N25 102 - 59 - 30

COAS CALIBRATION

PRO, ENTR N70, ENTR 044 (ENIF), PRO
 N87, (+00000,+00000)PRO, PRO
 DETENT CL
 CB AOT LAMP - OPEN
 P00 *400+3

103:10

PDI₀ TO BACKSIDE

103:10

P63 IGNITION ALGORITHM TEST

*

PGNS MODE CONT - AUTO
 N18 R, P, Y (0, 111, 310) PRO
 YAW LEFT 50°
 P00

V48, 22112, 00011, PRO, V34

CONFIGURE COMM FOR LOS

*MATCH INDICATED ANGLES
 *TRACK MODE - SLEW
 *S-BD ANT - AFT
 *SET P (-3)
 *Y (+39)
 *VHF B XMTR - DATA
 *PCM - LO
 *UPLINK SQUELCH - ENABLE
 *S-BD ANT-FWD (AFTER LOS)
 COAS TO OVERHEAD WINDOW
 VERIFY LOOSE GEAR STOWED
 RESTRAINTS ATTACHED
 VERIFY FDAI'S INERTIAL

PRE-PDI ECS CHECKOUT

CONNECT HOSES NORMALLY
 HELMETS AND GLOVES ON
 *CABIN REPRESS - CLOSE
 *SUIT GAS DIVERTER - EGRESS
 *CABIN GAS RETURN - EGRESS
 *PRESS REGS A&B - EGRESS
 *RESET DET TO COUNT DN TO PDI

PRE-PDI SWITCH SETTING CHECK

*VHF ANT & FS FWD
 CB(11) AC BUS B; INV 1 - CLOSE
 *SELECT INV 1

SR 103 -55
 +34 → 102 - 59 - 30
 → 102 - 59 - 30

103:35

PDI₀ TO BACKSIDE

103:10

P63 IGNITION ALGORITHM TEST

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 N18 R, P, Y (0, 111, 310) PRO
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V48, 22112, 00011, PRO, V34

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PDI₀ TO BACKSIDE

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103:35

PDI₀ TO BACKSIDE

103:10

PDI₀ TO BACKSIDE

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 CB(11) AC BUS B; INV 1 - CLOSE
 *SELECT INV 1

SR 103 -55
 +34 → 102 - 59 - 30
 → 102 - 59 - 30

103:35

PDI₀ TO BACKSIDE

103:10

PDI₀ TO BACKSIDE

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 N18 R, P, Y (0, 111, 310) PRO
 YAW LEFT 50°
 P00

V48, 22112, 00011, PRO, V34

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 *CABIN GAS RETURN - EGRESS
 *PRESS REGS A&B - EGRESS
 *RESET DET TO COUNT DN TO PDI

MAG KK PR 13

BACKSIDE TO PDI

103:35 -54 CB(11) STAB/CONT: AEID - CLOSE
CB(11) STAB/CONT: ABORT STAGE - CLOSE
RESET ENG STOP PB
SET WINDOW BARS

-40 *CB(16) STAB/CONT: AEID - CLOSE
CB(16) STAB/CONT: ABORT STAGE - CLOSE

*CYCLE CWEA CB
*BATS 5 & 6 NORM FEED - ON
*RECORD GET 103 : 45

AOS -25 *S-BD ANT - FWD, VERIFY COMM
*/S-BD P (-3)
Y (+39)

*S-BD ANT - SLEW (>3.0)
*TRACK MODE - AUTO
*VHF B XMTR - OFF
*VHF A XMTR - VOICE/RNG
*BIOMED - LEFT, PCM - HI
*UPLINK SQUELCH - OFF

*VOICE ASC BATT ON TIME TO MSFN
*✓*ED BATT & REPORT*

THROT CONT - AUTO
CDR TTCA - THROTTLE - MIN
*LMP TTCA - THROTTLE - SOFT STOP

RATE SCALE - 25°/SEC
ATT/TRANSL - 4 JETS
CHECK DPS, APS, RCS, ECS, EPS

UPDATE FROM MSFN

*UPDATA LINK - DATA
UPLINK LM S.V., RLS²
MSFN GYRO DRIFT COMP

*UPDATA LINK - VOICE BU
*COPY AGS RLS (231)

POWERED DESCENT INITIATION

-10 V25 N69E (IF NO UPLINK)
PGNS MODE CONT - AUTO
AGS MODE CONT - AUTO
P63

AUDIO MODE (BOTH) - VOX
PRPLNT QTY MON - DES 1
✓DPS CONFIG CARD

*RESET DET
N18, R, P, Y (0, 111, 310)
VERIFY FDAI

*V40N20E, 400+3, 410+0
*400+1, 433R VI

CB(11) PGNS: LDG RDR - CLOSE
✓ALT XMTR
PRO - FINAL TRIM
ENTR, ✓DET
GO/NO-GO FOR PDI
COMM CHECK WITH CSM
RESET WATCH

-5 MASTER ARM - ON
MODE SEL - PGNS

-4 *367R

-1:00 ENG ARM - DES

-0:30 ULLAGE
-0:07.5 PRO

0:00 PDI (NO IGN) - START PB - PUSH
+0:02 DES ENG CMD OVRD - ON
+0:05 MASTER ARM - OFF

BURN ABORT RULES

DATE 6/14/71
7/3/71

PDI THRU TD+3 MIN

		TFI	θ	ΔH_{MAX}	(\dot{H}_{MAX}) -HDOT	H	DPS	SBD	
-1 : 00	MASTER ARM-ON MODE SEL-PGNS 367R								
- : 30	ENG ARM-DES	0:00	111		5.0	50100	95	-3/39	
- : 07.5	ULLAGE	0:30	110		6.0	50000	95		
- : 05	PRO								
+ : 00	PDI	1:00	103		25.0	49500	95	4/36	
+ : 02	(NO IGN) ----	1:30	98		38.0	48500	92		
+ : 05	START PB-PUSH DES ENG OVRD-ON MASTER ARM-OFF	2:00	93		47.0	47200	87	13/30	
+ : 26	THROTTLE UP $\sqrt{T/W} > 1.6$	2:30	89		54.0	45700	82		
+2	V21 N69E (DN RNG) +3 YAW FACE UP +4 ✓ ED BATTs	3:00	85		59.0	44000	77	19/24	
+5	V24 N69E (DN RNG, LR DATA X-RNG)	3:30	82		63.0	42200	71		
					66.0	40300	66	-13/-15	
		4:00	79		70.0	38500	61		
		4:30	77		77.0	37000	56	-10/-18	MODE CONT (PGNS)-ATT HOLD
		5:00	76	+17000					
		5:30	74	+17000	84.0	33900	51		
		6:00	72	+16000	90.0	30900	45	-8/-20	X-PNTR - LO MULT
		6:30	71	+14000	(494.0)	99.0	28200	40	
		7:00	68	+12400	(464.0)	97.0	25200	35	-4/-23
					(435.0)				
	EVAL MAN CONT	7:30	63	+10000	(401.0)	22300	30		
+8	V23 N69E (ALT)	8:00	60	+ 8200	120.0	19300	27	1/-28	ENG STOP - PUSH ENG ARM - OFF
	223+00120 (E @ 12K)	8:30	57	+ 6900	(352.0)	141.0	15200	24	
	360-0XXXOE SEQ CAMERA - ON	9:00	57	+ 4500	(291.0)	155.0	10900	21	4/-30

P64 + 15 SEC:
NO THROTTLE DN
- ABORT

BINGO FUEL
DES QTY LT+1+3]

TOUCHDOWN

ABORT STAGE - PUSH
ENG ARM - ASC

ENG STOP - RESET
ENG START - PUSH
CALL P71
MODE CONT (BOTH) - AUTO

413+1
RECYCLE PARKER VALVES

POST DOCKING B INSERTION
THRU TPI MANUAL ABORT

PDI THRU
TD+3 MIN

B MANUAL ABORT
SECTION

TRANSFER LIST
CONFIGURE FOR
LM JETT

TD+3 THRU
T2 ABORT

BACKSIDE
TO PDI

BACKSIDE
REV 12 LS TCA
TO PDI₀ TO AGS ACTIVATION

PAGE 8

DATE 6/14/71

TD +3 THRU T2 ABORT

*RECYCLE PARKER VALVES
PRPLNT TEMP PRESS MON - ASC, THEN DES
ASC He MON - CYCLE
*02/H20 QTY MON - ASC 1, 2, THEN DES 2, 1 *

*SEQUENCE CAMERA - OFF
CB(11) PGNS: LDG RDR - OPEN
*VHF A XMTR - VOICE

N76 5515.8 V HORIZ
19.5 V VERT
CROSS RNG (<8.1)

N74 TFI, YAW, PITCH

* IF AGS ALIGNMENT NO GO
*V47E, 414+1
*V40N20E, 400+3

*

18:45 T2 STAY/NO STAY

-2:00 ASC He SEL - BOTH
MASTER ARM - ON
ASC He PRESS - FIRE
ASC He REGS 1, 2 - OPEN
*A ASC FEED 2-OPEN { UNLESS CDR } *
*A MAIN SOV - CLOSE } BUSS LOSS } *
*B ASC FEED 2-OPEN { UNLESS LMP } *
*B MAIN SOV - CLOSE } BUSS LOSS } *
*CRSFID - CLOSED *.
*BAT 1,3 - OFF
*BAT 2,4 - OFF
*CB(16) EPS:ASC ECA CONT-CLOSE *
*DES BAT - DEADFACE
*SELECT ASC H20 TANK
*DES 02 - CLOSE
*ASC 1 02 - OPEN
*DES H20 - CLOSE
*ASC H20 - OPEN
*400+1, 367R
- :10 ABORT STAGE - PUSH (AT T=0 FOR AGS)
ENG ARM - ASC PRO

15:00 T1 STAY/NO STAY

[NO STAY] ABORT STAGE-PUSH
ENG ARM-ASC
ENG STOP-RESET
ENG START-PUSH
CALL P71

[STAY] *414+2
*400+4

P68 ENG STOP-RESET
PRO P12 MODE CONT (PGNS) - AUTO
N33 T-2 (104:50:21)

:00 *DET - RESET, RELEASE *
T2 : (104:50:21)
+ :01 ENG START - PUSH (IF AUTO IGN) *
[STAY] *TAPE RECORDER - OFF
AUDIO MODE - ICS/PTT
P00

FDAI AND OVERHEAD WINDOW ANGLES FOR MANUAL DESCENT ABORT

DPS/APS

1:00	250/0	4:30	0/LV	8:00	0/LV	ALL PITCH RATES 5°/SEC
2:26	SD(FDAI)	4:44	300/36	8:14	300/36	
2:36	SD(OHW)	6:26	270/5	10:16	270/15	
		7:32	250/0	14:30	250/0	
		8:19	SD	14:43	SD	
1:30	0/0	5:00	0/LV	8:30	0/LV	
1:44	300/0	5:14	300/36	8:44	300/36	
2:30	250/0	6:58	270/5	11:12	270/15	
3:20	SD	8:20	250/0	15:18	250/0	
		9:03	SD	15:31	SD	
2:00	0/LV	5:30	0/LV	9:00	0/LV	
2:14	300/36	5:44	300/36	9:14	300/36	
3:00	300/0	7:34	270/10	12:10	270/16	
3:18	250/0	9:04	250/0	16:04	250/0	
4:16	SD	9:46	SD	16:18	SD	
2:30	0/LV	6:00	0/LV	9:30	0/LV	
2:44	300/36	6:14	300/36	9:44	300/36	
3:46	300/0	8:04	270/11	12:56	270/16	
4:02	250/0	9:50	250/0	16:44	250/0	
5:12	SD	10:39	SD	16:58	SD	
3:00	0/LV	6:30	0/LV	10:00	0/LV	
3:14	300/36	6:44	300/36	10:14	300/36	
4:34	270/0	8:34	270/11	13:16	270/16	
5:10	250/0	11:04	250/0	17:32	SD	
5:57	SD(FDAI)	11:47	SD			
6:06	SD(OHW)					
3:30	0/LV	7:00	0/LV	10:30	0/LV	
3:44	300/36	7:14	300/36	10:44	300/36	
5:24	270/0	9:06	270/14	13:48	270/16	
5:54	250/0	12:26	250/0	18:05	SD	
6:50	SD(FDAI)	12:53	SD			
7:02	SD(OHW)					
4:00	0/LV	7:30	0/LV	11:00	*	
4:14	300/36	7:44	300/36			
5:56	270/0	9:38	270/14			
6:38	250/0	13:38	250/0			
7:34	SD(FDAI)	13:53	SD			
7:40	SD(OHW)					

* ESTABLISH POSITIVE HDOT, THEN ABORT STAGE TO USE MANUAL ASCENT ANGLES

APS

ALL PITCH RATES
5°/SEC

1:00	250/0	4:30	0/LV	8:00	0/LV	8:00	0/LV
2:24	SD(FDAI)	5:10	300/36	8:40	300/36		
2:36	SD(OHW)	6:22	270/10	12:06	270/14		
		8:26	250/0	14:26	250/0		
		8:51	SD	15:05	SD		
1:30	0/LV	5:00	0/LV	5:00	0/LV	8:30	0/LV
2:10	250/0	5:40	300/36	9:10	300/36		
3:32	SD(FDAI)	7:08	270/10	13:00	270/14		
3:52	SD(OHW)	9:20	250/0	15:02	250/0		
		9:46	SD	15:50	SD		
2:00	0/LV	5:30	0/LV	5:30	0/LV	9:00	0/LV
2:40	300/0	6:10	300/36	9:40	300/36		
3:10	250/0	7:54	270/12	13:54	270/14		
4:24	SD(FDAI)	10:14	250/0	15:34	250/0		
4:34	SD(OHW)	10:42	SD	16:31	SD		
2:30	0/LV	6:00	0/LV	6:00	0/LV	9:30	0/LV
3:10	300/0	6:40	300/36	10:10	300/36		
4:00	250/0	8:44	270/14	14:30	270/14		
5:18	SD	11:08	250/0	16:12	250/0		
		11:37	SD	17:07	SD		
3:00	0/LV	6:30	0/LV	6:30	0/LV	10:00	0/LV
3:40	300/36	7:10	300/36	10:40	300/36		
4:22	270/0	9:34	270/14	14:30	270/14		
5:28	250/0	12:02	250/0	17:00	250/0		
6:09	SD	12:33	SD	17:37	SD		
3:30	0/LV	7:00	0/LV	7:00	0/LV	10:30	0/LV
4:10	300/36	7:40	300/36	11:10	300/36		
5:00	270/5	10:24	270/14	14:48	270/14		
6:30	250/0	12:56	250/0	17:50	250/0		
7:02	SD	13:28	SD	18:09	SD		
3:30	0/LV	7:30	0/LV	7:30	0/LV	11:00	*
4:40	300/36	8:10	300/36	11:12	270/14		
5:40	270/5	11:12	270/14	13:48	250/0		
7:28	250/0	13:48	250/0	14:19	SD		
7:56	SD						

* ESTABLISH POSITIVE HDOT, THEN ABORT STAGE TO USE MANUAL ASCENT ANGLES

MANUAL ABORT

INSERTION THRU TPI

POST DOCKING

CONFIGURE FOR LM JETT TRANSFER LIST ABORT SECTION

ASCENT MONITOR

TD+3 THRU
T2 ABORT

BACKSIDE
TO PDI

BACKSIDE
TO AGS ACTIVATION

TIG-2 AUDIO MODE (BOTH) - VOX
400+1E GUID STEERING

RESET WATCH
MASTER ARM - ON

367R START CAMERA

ABORT STAGE - PUSH(AT T=0
FOR AGS)

PRO
- :05 ENG START-PUSH (IF AUTO IGN)

+ :01 CHECK S-BD ANT
YAW RIGHT 40°

623+1 N76E (VH, VV, ΔR)
V16 N77E (Tgo, VY, VI)

KEY RLSE

+5:00 STOP CAMERA

CB(11) PGNS:RNDZ RDR - CLOSE

AGC > .7, AUTO TRK

TM R/R, 317R, V83E

COMPARE RR, AGS, CSM, PGNS

PRO, 500R

500 FPS MAIN SOV (2) - OPEN↑

ASC FEED 2 (2) - CLOSE↓

200 FPS ENG ARM-OFF(IF IGN WAS AUTO)

0 FPS ABORT STAGE-RESET

ENG STOP - PUSH

PRO, NULL RESIDUALS (<2FPS)

PRO

STOP DET, RESET WATCH

COPY GET

ENG STOP - RESET

P00

\MCC FOR TWEAK

	ASCENT							
	TFI	θ	OHW (0° YAW)	VGX	H DOT	H	SBD	He
0:00				1030.0	0.0	0	77/-66	3050
0:10				890.0	53.0	300		2970
0:30	308	40	4810.0	91.0	1800			2830
1:00	305	38	4650.0	124.0	5100	144/-18	2640	
1:30	302	36	4470.0	151.0	9200			2470
2:00	299	34	4250.0	170.0	14000	147/-13	2300	
2:30	296	32	4000.0	183.0	19400			2140
3:00	292	29	3710.0	189.0	25000	150/-8	1980	
3:30	289	27	3390.0	190.0	30700			1820
4:00	285	25	3040.0	184.0	36300	154/-2	1670	
4:30	281	22	2650.0	173.0	41700			1520
5:00	278	19	2240.0	156.0	46600	158 / 4	1380	
5:30	273	17	1800.0	135.0	51000			1240
6:00	269	14	1330.0	109.0	54700	163/10	1100	
6:30	265	11	820.0	81.0	57500			970
7:00	260	8	290.0	50.0	59500	169/16	840	
7:15	257	6	0.0	32.0	60100	171/18	770	

	TFI	FDAI	OHW
0:00	0:00	0	305
0:15	0:15	2:00	295
2:00	2:00	3:00	290
4:00	4:00	4:00	285
5:00	5:00	5:00	275
6:00	6:00	6:00	265
7:00	7:00	7:00	260

MANUAL ASCENT (WILL NOMINALLY BE TARGETED 9 MIN LATE)
CONFIGURATION NOMINAL EXCEPT:
MODE CONT - ATT HOLD
PROFILE NOMINAL EXCEPT:
7-STEP FOR DIRECT MODE

MSFN WILL CALL 2° PITCH AND ROLL BIAS COMMANDS FROM GROUND TRACKING AT ABOUT 7 MIN.

ASC QTY LITE-MAIN SOV(2)-OPEN↑
ASC FEED 2 (2) - CLOSE↓

SHUTDOWN

ENGINE ARM OFF

STANDBY TO RESET ABORT STAGE

Pb AND DEPRESS ENGINE STOP
Pb ON CALL FROM MSFN

NO AUTO IGNITION
WITHIN 10 SEC:
1. GUID CONT-AGS
STILL NO IGNITION
1. GUID CONT-PGNS
2. ENG START-PUSH

FOR NO VOICE
PGNS,AGS DIFFER <10 FPS,
TRIM ACTIVE SYSTEM
PGNS,AGS DIFFER >10 FPS,
TRIM SYSTEM THAT AGREES
WITH RR
(10° IN OHW) (0° YAW)

DATE 6/14/71

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MISSION APOLLO 15, MAY 29, 1971

TIME	RANGE	RDOT
L0+5	140	1660
L0+6	152	813
L0+7	155	-175
INS	155	-446
1+00	150	-443
2+00	146	-439
3+00	142	-435
4+00	137	-430
5+00	133	-425
6+00	129	-420
7+00	125	-414
8+00	121	-407
9+00	117	-400
0+00	113	-393

* VHF ANT - FWD
* 400+2 Z-AXIS STEER
* 410+4 TPI EXEC
* 616+00005 ULLAGE
* 623+0

* COPY AGS DATA
AUDIO MODE(2)-ICS/PTT
✓ INV 2, CB INV 1-OPEN
CB(11) & (16) ED: LOGIC PWR-OPEN
CB(11) ECS CABIN FAN1-CLOSE
+1 GO/NO-GO FOR TWEAK
+1 -P47 TDAI-70,257,40)
* 404+0, 405+0, 406+0
* MONITOR 470, 471, 472
+2 TWEAK 171:46:39

● INSERTION THRU TPI
 P47 FDAI (0,242,0) OR 10° OHW *
 *404+0, 405+0, 406+0 *
 *MONITOR 470, 471, 472 *
 40 LM BAILOUT @ L.0.+12:10

TIG	171:49:39
ΔVX	41.5

LOS

P20, AUTO MNVR
 V80, MAX N49(2.00,12.0)

P34 TGT TPI PGNS WITH MSFN *|
 |*V47, 414+1, 400+3 *|
 |*400+2 Z-AXIS STEER --- *|
 |*417+1 (417+0) *|
 *411+1 START AUTO
 *310R SET DET
 *303R 0 TPI

RR-AUTO TRACK

V82
V83 SET ORDEAL (35NM)
~~*317R, 440R, 277R~~

V48, 12012
LM.WT —

CSM BAILOUT GET P76 PA
~~*EXT LTG-TRACK~~

R
RDOT R
RDOT *
RR *
RDOT R

RDOT *

INSERTION THREE TPI

POST DOCKING

RANGE RATE

TRANSFER LIST CONFIGURE FOR LM JETT

TPI THRU DOCKING	ASCENT MONITOR	TD+3 THRU T2 ABORT	BACKSIDE TO PDI	BACKSIDE TO PDI	REV 12 LS TCA TO PDI ₀	TO AGS ACTIVATION
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DATE 6/14/71

MISSION APOLLO 15, MAY 29, 1971

TPI THRU DOCKING		MISSION APOLLO 15, MAY 29, 1971					
0 TPI	172:29:39	V76 P35 TGT MCC 2 V93	[*VERIFY PGNS (PCM-HI) *V47, 414+1, 400+3 *400+2 Z-AXIS STEER *400+2 Z-AXIS STEER *417+1 (/621+0) *411+1 START AUTO	ATT CONT-PULSE MODE CONT-AUTO AOS	P00- P20, V83 until R=2 n.m., Then P00 V48, 11002 P47, V63, RATE FTR Now - Rate Rde *404+0, 405+0, 406+0	*S-BD ANT-AFT, VERIFY COMM* *V/S-BD P (105) Y (67) *S-BD ANT-SLEW (>3.0) *TRACK MODE-AUTO *BIOMED-LEFT, PCM-HI *UPLINK SQUELCH-OFF TPI BURN REPORT	
2		SR	[*] [*]	[R]			
4	Engr Arm Off	17	[R]	[R]	[40 INITIATE BRAKING] *410+4 TPI EXEC *373+TPI TIME +30 MIN *307+013.00	30 FPS - 6000 FT 20 FPS - 3000 FT 10 FPS - 1500 FT 5 FPS - 600 FT *SETUP CAMERA FOR	
6	64.2 38.2	19	[RDOT] R	[RDOT] R	[RDOT] R		
8		21	[RDOT] R	[RDOT] R	[RDOT] R		
10	18 km. visual by CDR 40 lbs. gbs.	23	[RDOT] R	[RDOT] R	[RDOT] R		
12	PRO FINAL COMP						
13	CHART R/RDOT/0 *411+0 STOP AUTO						
14	370R TOTAL VEL MCC1 371R ΔV TPF						
15							
16							
17							
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21							
22							
23							
24	CHART 0						
25							
26							
27	PRO-FINAL COMP						
28	CHART R/RDOT/0 *411+0 STOP AUTO						
29	370R TOTAL VEL MCC2 371R ΔV TPF						
30							
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41	P41, V77						
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171							

POST DOCKINGCONFIGURE PGNS

- 1 Verify FWD Dump VLV - AUTO
- 2 V48, 12021, PRO
N47 LM WT
PRO CSM WT (From MSFN)
- 3 UPDATA LINK - DATA
MSFN Uplinks LM State Vector (TIG-10),
P30 EXT Δ V Load and P99 Erassable Loads (3)
Copy Burn Pad
CB(11): ECS CABIN FAN 1 - OPEN
TAPE RECORDER - OFF

173:40PREP FOR TRANSFER

- 1 Window Shades (3) - Close
Install Crash Bars
Verify Tunnel Pressurized From CSM
OVHD Dump VLV - OPEN
- 2 Doff Helmets and Gloves
Empty UCTA's (Use Urine Bags)
Disconnect Lower ISA Hooks
- 3 Unstow Purse (ISA Bottom Pkt), Install
Remove From LHSSC; Stow In Purse:
Lt Wt Hdst (2)
CWG Adapter (2)
Purge VLV (1)
~~Utility Straps (3)~~
Stow in Purse: Waist Tethers (2-RHSSC),
~~Inflight Retainer Straps (4-Umbilicals)~~,
Neck Ring Dust Covers (2-AFT RHSSC)
~~Stow LHSSC Collection Bag Aft off Engine~~
Cover

SS
173
+57

LOS
174
+14

SR
174
+44

- 4 When Tunnel/LM Pressures Equal,
OVHD DUMP VLV - AUTO
Verify PRESS REGS A&B - EGRESS ✓
Place LEVA Bags On Floor, Right Side-Fwd ✓

- 5 Open Hatch
Receive Probe From CMP, And Stow On Left ✓
Hand Side Using Outboard (Double)
Restraint Cable
Receive Drogue From CMP and Stow Over
Probe Using Inboard (Single) Restraint
Cables Through Drogue Handles

- 6 Receive Vacuum Cleaner Assembly From CMP

- 7 Vacuum PGA's
Empty PGA Pockets Into Purse

- 8 CB(11) AC BUS A: TAPE RCDR - Open ✓
COMM: CDR AUDIO - Open
CB(16) COMM: DISP - Open
: S.E. AUDIO - Open
- 9 Transfer LEVA Bags to CMP
Disconnect DSEA & Place In Purse ✓
- 10 Stow 16mm Mag BB (RH Window SEQ Camera)
in ISA Top Pocket (Bag) []

POST DOCKING CSI THRU CDH BOOST THRU HAM

RANGE
RANGE RATE

TRANSFER LIST
SECTION

CONFIGURE FOR
LM JETT

- AOS 11 Receive Decontamination Bags From CSM
- +00 12 Unstow, Vacuum/Wet Wipe & Transfer To CSM:
 70mm Magazines (RHSSC, 4 in Bag, 3 in Bag;
 Bottom Boot Compartment, 3 in Bag, 3 in Bag)
 16mm Magazines (RHSSC, 6 in Bag; Bottom Boot
 Compartment, 2 in Bag)
 Collection Bag - Aft of Engine Cover in Core
 Tube Container
- 13 Unstow, Vacuum/Wet Wipe, Bag & Transfer To CSM:
 ISA (A2)
 BSLSS/Rock Bag (+Z27) (A7)
- Collection Bags:
 1 Bottom LHSSC (A1)
 1 Bottom RHSSC (A1)
 1 PLSS Recharge Station (PGA Bag)
 Penetrometer (Top Boot Compartment)
- 14 Unstow SRC's, Vacuum and Transfer to CSM
- 15 Receive B5 & B6 From CMP And Stow In SRC Rack
- 16 Transfer Vacuum Cleaner to CSM (Leave Bag
 in LM)
- SS 17 Unstow OPS With Highest Source Pressure,
 +56 Perform Checkout Per Decal, Transfer to CMP
- 18 Audio CB - Close
 CB(16) COMM: DISP - Close
- 176:00
- CONFIGURE S-BAND
- 1 Verify: Jettison Attitude (048, XXX/174,067)
 CSM In Narrow Deadband, Attitude Hold

- 2 S-BAND - PM, SEC, PRIM, VOICE, PCM, RANGE, OFF, HI
 VHF A: XMTR - VOICE/RANGE
 : RCVR - OFF
 VHF B: XMTR - OFF
 : RCVR - ON
 S-BD ANT FWD, VERIFY COMM
 TRACK MODE - SLEW
 S-BD P (+205)
 Y (+ 70)
- S-BD ANT - SLEW "Peak Until >3.9"
 (DO NOT PLACE TRACK MODE - AUTO)
- 3 Copy TIG Update To Burn Pad (N33 : : :)
- ✓ 4 V47E, 414+1
- 5 400+3
176:05
- TARGET PGNS
- ✓ 10
- 1 P30 Target Impact Burn
 N45 VOICE TFI TO CSM
 PRO, POO
- CONFIGURE AGS
- 1 MCC-H GO/NO-GO For LM Closeout
- 1 404+0
 405+0
 406+0
 470R
- 2 MCC-H GO/NO-GO For LM Closeout
- 3 Verify All Items in LM TO CM TRANSFER
 LIST (Pg 18) Have Been Transferred or
 With Be Transferred "ON CREW."
176
+13

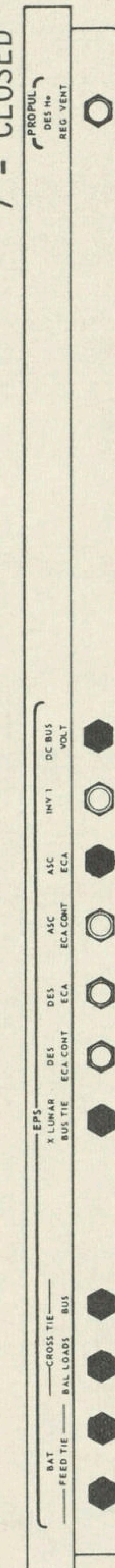
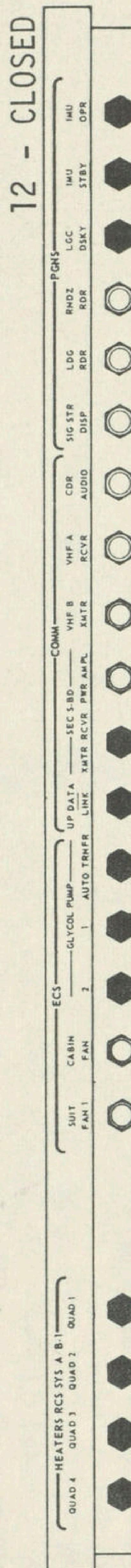
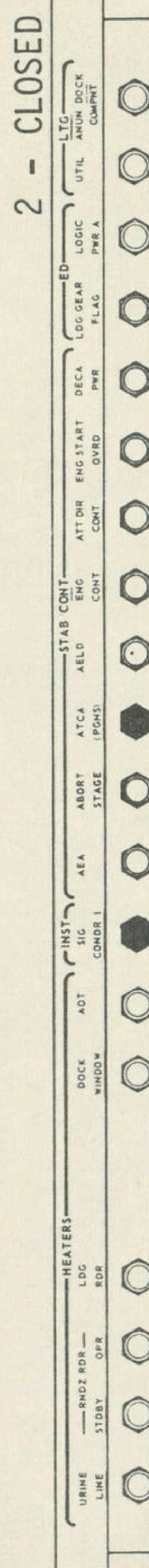
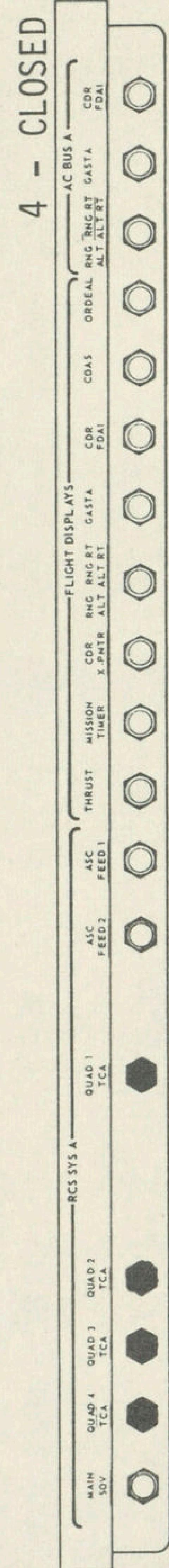
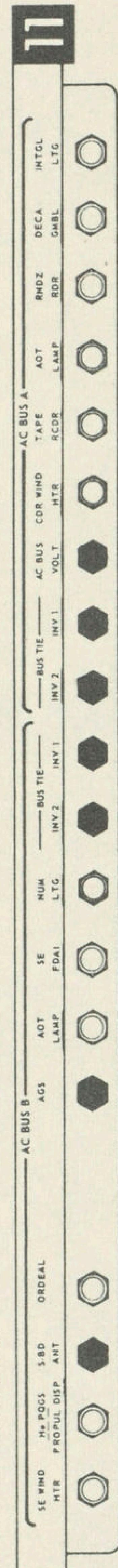
176:20CONFIGURE LM FOR JETTISON

- 1 VERIFY CSM MIN DB/ATT HOLD
GUID CONT - PGNS
PGNS MODE CONT: - AUTO (NO DAP Lt - OFF) ✓
AGS MODE CONT: - ATT HOLD ✓
ATT CONT (3): MODE CONT ✓
V62E
Verify INV-2 ✓
- 2 ASC FEED (4) - tb-bp ✓
SYS A&B QUADS (8) - tb-gray ✓
CRSF D - tb-bp
SYS A&B MAIN SOV (2) - tb-gray ✓
- 3 SUIT CIRCUIT RELIEF - AUTO
Suit ISOL VLV (Both) - Suit Disc ✓
CB(11) COMM: CDR AUDIO - Open ✓
CB(16) COMM: SE AUDIO - Open ✓
ECS: LCG PUMP - Open ✓
Both Disconnect LM Hoses & Stow
- 4 S-BAND VOICE - OFF
- 5 Verify UPDATE LINK - DATA
- 6 Configure CB's Per Chart

TPI THRU
DOCKINGCSI THRU CDH
BOOST THRU HAMRANGE
RANGE RATEABORT
SECTIONTRANSFER LIST
CONFIGURE FOR
LM JETT

POST DOCKING

7 - CLOSED



176:30IVT TO CSM

- 1 Stow CSM Jet Bag Behind LMP Restraint Cables
- 2 EXTERIOR LTG - TRACK
BAT 5&6 BACK UP FEED-ON, tb(2) Gray
FL00D LT - OFF
Verify OVHD Dump VLV-AUTO
- 3 Transfer To CSM

LM TO CM TRANSFER LIST

Suits and Ancillary Eqpt:

- IV Gloves
- Helmets
- Comm Carriers
- Lightweight Headsets
- LCG Plugs
- PGA ELECT Conn Covers (2)
- Watches (2)
- Sunglasses In Pouch
- Pens & Pencil
- Penlights
- Scissors (Data File)
- CWG Adapters With Caps
- FCS's
- UCTA's
- NECK Ring Dust Covers (2)
- Biobelts
- Purge VLV
- OPS
- EV Gloves
- LEVA's

SR
+42

- Waist Tethers (2) ✓
- EMU Maintenance Kit ✓

177:30:27
LM JETTISON

RENDEZVOUS TIMELINES
RELATIVE MOTION TRAJECTORIES
INERTIAL PLOTS
AND
ABORT CHARTS

TPI THRU DOCKING	CSI THRU CDH	BOOST THRU HAM	RANGE RANGE RATE	ABORT SECTION
A-4	A-4	A-4	A-2	A-2

4/30/71 Basic
Revision 1

PDI SUMMARY DATA

PAGE	ABORT	INS		BOOST	HAN	CSI		CDH		TPI	AIM		
		TIME PDI+	TIME INS+			TIME INS+	TIME INS+	TIME INS+	TIME INS+		TIME PDI+	TIME PDI+	
A-3	PDIO	NA	NA	NA	NA	1+00+31Δ	48.6	2+02+37Δ	-121.7	26.5	2+46+19Δ	NA	
A-1	NO 1+12	NA	NA	1+07+00*	3+07+00*	36.1	4+09+24*	-129.7	-4.3	4+49+41	12+00	112.8	
A-2	1+00	2+07	5672.7	145.6/53004.	1+00+00	3+00+00	38.0	4+02+24	-129.0	-12.4	4+49+47	NA	
	2+00	4+02	5666.1	144.4/60016.			35.8	4+02+19	-126.7	-10.9		NA	
	3+00	5+44	5663.7	142.5/60020.			35.4	4+02+14	-124.2	-6.4			
	4+00	7+21	5660.2	139.6/60025.			35.1	4+02+05	-120.5	.7			
	5+00	8+52	5655.6	135.8/60033.			34.9	4+01+55	-115.6	10.4			
	6+00	10+16	5649.5	130.9/60042.			34.6	4+01+41	-109.3	21.9			
A-3	7+00	12+35	5660.1	142.8/65668.	NA	0+55+00	41.3	1+57+09	-121.6	-64.3	2+51+20	NA	
	8+00	14+36	5634.8	125.6/71201.			41.1	1+56+24	-101.6	-38.9		NA	
	9+00	16+13	5611.6	108.7/73761.			41.3	1+55+40	-81.2	-17.1			
A-4	10+00	17+24	5595.2	95.0/72046.	NA	0+55+00	42.2	1+55+04	-64.0	-1.7	2+51+20	NA	
	11+00	18+25	5584.4	83.2/65533.			44.0	1+54+33	-48.9	9.6		NA	
	12+00	19+27	5571.2	71.0/61463.			45.1	1+53+60	-32.8	19.5			
	13+00	20+29	5553.1	57.0/60268.			45.4	1+53+22	-14.0	28.8			
	14+00	21+28	5538.0	46.0/60265.			45.4	1+52+53	1.2	34.4			
	15+00	22+27	5522.8	35.1/60261.			45.3	1+52+23	16.5	38.1			
A-5	T2-1	7+21Ω	5515.8	30.2/60244.	50+00	1+50+00	2+40+00	38.2	3+37+15	20.2	22.9	4+49+42	NA
A-1	NO 2+12	NA	NA	NA	1+12+00*	2+12+00*	3+12+00*	35.0	4+15+33*	-159.0	3.3	4+54+30	12+00
	1+00	2+10	5701.3	169.4/52994.	1+00+00	2+00+00	3+00+00	34.9	4+03+23	-153.9	-92.0	4+52+35	NA
A-6	2+00	4+05	5694.6	168.0/60019.			32.8	4+03+18	-151.9	-89.2			
	3+00	5+46	5692.4	166.2/60021.			32.6	4+03+13	-150.0	-83.1			
	4+00	7+23	5688.9	163.3/60026.			32.9	4+03+06	-146.7	-73.0			
	5+00	8+53	5684.3	159.4/60034.			33.3	4+02+56	-142.5	-59.9			
	6+00	10+18	5678.3	154.5/60043.			33.8	4+02+44	-137.2	-43.8			
A-7	7+00	12+36	5665.9	147.6/65694.	1+00+00	2+00+00	3+00+00	32.8	4+02+25	-129.1	-25.1	4+52+35	NA
	8+00	14+38	5651.0	138.7/71250.			31.7	4+02+01	-118.6	-2.4			
	9+00	16+15	5638.7	130.2/73801.			31.1	4+01+38	-108.2	17.6			
A-3	10+00	17+27	5656.7	143.8/72131.	NA	0+55+00	39.6	1+57+12	-122.8	-66.4	2+56+08	NA	
	11+00	18+29	5646.8	131.9/65587.			42.1	1+56+41	-109.2	-48.4			
	12+00	19+31	5634.4	119.7/61523.			43.8	1+56+09	-94.8	-31.5			
	13+00	20+32	5617.6	105.8/60282.	NA	0+55+00	44.8	1+55+33	-77.8	-14.0	2+56+08	NA	
	14+00	21+31	5603.6	94.9/60279.			45.2	1+55+04	-64.1	-1.9			
	15+00	22+31	5589.3	84.1/60276.			45.4	1+54+35	-50.2	8.5			
A-4	T2-2	7+21Ω	5515.8	30.2/60244.	NA	0+50+00	47.7	1+47+14	20.9	26.8	2+56+02	NA	NA

Ω INDICATES TIME IS REFERENCED TO LIFT-OFF.

*INDICATES TIME IS REFERENCED TO PDI.

△ INDICATES TIME IS REFERENCED TO AIM.

RANGE AND RANGE RATE AT INS AND 10 MINUTES PRIOR TO SUBSEQUENT BURNS

4/30/71 Basic
Revision 1

PAGE	ABORT	TIME PDI+	INS	BOOST	HAM	CSI	CDH
		RANGE	RANGE RATE				
A-3	PDI0	NA	NA	NA	NA	NA	NA
A-1	NO 1+12	NA	NA	377.5	-700.9	149.9	445.8
	01+00	371.5	595.6	368.5	-689.3	137.9	451.5
	02+00	368.2	582.9	364.3	-678.0	138.2	440.9
A-2	03+00	354.0	570.6	349.3	-662.7	131.6	434.8
	04+00	328.4	562.6	324.7	-642.4	119.9	435.9
	05+00	290.1	552.1	288.4	-611.6	103.1	437.5
	06+00	237.2	537.3	238.8	-567.7	80.5	432.9
	07+00	169.4	533.0	NA	NA	NA	NA
A-3	08+00	91.4	442.8	NA	NA	NA	NA
	09+00	46.7	-39.7	NA	NA	NA	NA
	10+00	77.6	-423.2	NA	NA	NA	NA
A-4	11+00	123.7	-459.9	NA	NA	NA	NA
	12+00	174.5	-455.1	NA	NA	NA	NA
	13+00	223.8	-441.4	NA	NA	NA	NA
	14+00	274.4	-424.4	NA	NA	NA	NA
	15+00	325.2	-406.0	NA	NA	NA	NA
A-5	T2-1	625.5	-366.3	544.0	-214.7	364.2	-359.7
A-1	NO 2+12	NA	NA	560.3	-908.5	272.5	465.6
	01+00	594.0	622.7	586.2	-814.8	246.9	372.8
	02+00	591.1	609.7	581.7	-804.5	247.8	364.2
A-6	03+00	577.5	599.8	566.5	-794.0	240.4	362.6
	04+00	552.7	594.1	541.4	-779.3	227.8	369.6
	05+00	515.2	587.3	504.4	-757.0	209.7	381.5
	06+00	463.1	579.0	453.6	-725.4	184.5	397.6
	07+00	395.1	568.3	388.1	-682.2	152.1	416.1
A-7	08+00	312.9	553.7	309.9	-625.6	113.9	432.1
	09+00	236.8	536.3	238.3	-566.8	80.1	432.0
A-3	10+00	176.6	537.2	NA	NA	NA	NA
	11+00	126.9	498.5	NA	NA	NA	NA
	12+00	79.5	408.3	NA	NA	NA	NA
A-4	13+00	48.7	100.6	NA	NA	NA	NA
	14+00	60.6	-355.3	NA	NA	NA	NA
	15+00	101.8	-453.3	NA	NA	NA	NA
A-4	T2-2	340.6	-395.3	NA	NA	NA	NA

TPI THRU
DOCKINGCSI THRU CDH
BOOST THRU HAM
RANGE RANGE RATE

A-6

A-2

CONFIGURE FOR
LM JETT

TRANSFER LIST

PDI DATA
SUMMARYINSERTION
THRU BOOSTASCENT
MONITORTPI THRU
DOCKING

POST DOCKING

60 INSERTION

V82 AGS MODE CONT-ATT HOLD
 SS SHFT/TRUN ± 5
 RATE SCALE 5° / SEC
 RNG/ALT MON-RNG/RNG RT
 *VHF ANT-FWD
 *EXT LTG-TRACK
 *SEQUENCE CAMERA-OFF
 *400+2
 *616+00005 ULLAGE
 *623+0
 *RATE/ERR MON-RNDZ RDR
 AUDIO MODE(2)-ICS/PTT
 ✓INV 2, CB INV 1-OPEN
 ✓CB(11) & (16) ED: LOGIC PWR-OPEN
 CB PGNS LDG RDR-OPEN
 CB RR(2)-CLOSE

V48, 1 (2) 1002

V41N72 (+000, +283)
 CB RR(2)-OPEN, V44
 RATE/ERR MON-LDG RDR/CMPTR

P52 OPT 3
 CB AOT LAMP-CLOSE
 AOT DETENT F/0°

V76 1st STAR _____
 2nd STAR _____

N05 ANG DIFF _____

PRO N93 TORQUING ANG
 X _____
 Y _____

Z _____

PRO N25(R1=14) GET
 PRO N25(R1=15)
 PRO TO PICPAIR
 DETENT CL
 CB AOT LAMP-OPEN

MISSION APOLLO 15, MAY 3, 1971

20

40 V34
 P00 [*VERIFY PGNS WITH MSFN *]
 [*V47, 414+1, 400+3 *]
 [*400+2 ----- *]
 18 *CHECK RCS, EPS, ECS *

10

[*VERIFY PGNS (PCM-HI) *]
 [*V47, 414+1, 400+3 *]
 [*400+2 ----- *]
 SR *EXT LTG-OFF
 *VX = +10.0 (HORZ)

P30 N33 TIG BOOST (INS + ΔT)
 *373 + _____ TIG BOOST *

P41, V77
 V48, 12022 (IF STAGING @ BOOST)
 [*404+0, 405+0, 406+0 *]
 *400+1 GUID STEER
 *410+5 LOAD ΔV
 *500R _____

:05 [*STAGE AT BOOST IGNITION]
 [0 BOOST] *A/H

20

PAGE 24

DATE 6/14/71

CONFIGURE FOR TRANSFER LIST IMJETT

PDI DATA SUMMARY

INSERTION THRU BOOST

INSERTION THRU CSI

TPI THRU
DOCKING

POST DOCKING

INS/HAM THRU CSI		
TIME	RANGE	RDOT
INS	283	-451
1+00	278	-447
2+00	274	-444
3+00	270	-438
4+00	265	-432
5+00	261	-426
6+00	257	-419
7+00	253	-412
8+00	249	-404
9+00	245	-396
10+00	241	-388
NOM COELLIPTIC/ONE REV ABORTS		
INSERTION		
V82	AGS MODE CONT-ATT HOLD RR MODE-LGC SHFT/TRUN ± 5 RATE SCALE $5^\circ/\text{SEC}$ RNG/ALT MON-RNG/RNG RT *VHF ANT-FWD *SEQUENCE CAMERA-OFF *616+00005 ULLAGE *605+00777 COT *RATE/ERR MON-RNDZ RDR AUDIO MODE (2)-ICS/PTT *INV 2, CB INV 1-OPEN CB(11) & (16) ED: LOGIC PWR-OPEN CB(11) ECS CABIN FAN1-CLOSE CB RR(2)-CLOSE	
39	N05 ANG DIFF PRO N93 TORQUING ANG X Y Z	
42		
45		
V48, 11002	CB RR(2)-OPEN, V44 RATE/ERR MON-LDG RDR/CMP P52 OPT 3 CB AOT LAMP-CLOSE AOT DETENT F/0°	
V76	1st STAR ALPHERATZ (1) 2nd STAR FORMALHAUT (45)	
V48, 12012	CB RR(2)-CLOSE RATE/ERR MON-RNDZ RDR P20, AUTO MNVR V80, MAX N49(2.00,12.0)	
P32, TGT CSI *VERIFY PGNS WITH MSFN	*V47, 414+1, 400+3 *400±2 $\sqrt{417+0,621+0}$ *417+1 START AUTO *411+1 SET ORDEAL (35NM) *317R, 440R, 277R	
V83 SET DET		
*COPY AGS DATA(450R)		

MISSION APOLLO 15, MAY 29, 1971

CSI THRU CDH

58 CSI
V76 TGT CDH
P33 MAX N49(0.80,5.0)
V67 (+02000,+000020,+000005)
ATT CONT-PULSE
MODE CONT-AUTO

*417+1 (/621+0) *
*410+2 TGT CDH *
*373R TM CDH *
*310R SET DET *
*COPY AGS DATA *
*411+1 START AUTO *

V82 AOS

V83 SET ORDEAL (45NM)
*317R, 440R, 277R *

54

51 M=7, V32

SR

48 V90, LOAD CDH-30
*COMPARE CMC,AGS,VHF/RR *

45 M=15, V32

42

39 V34, P30 (PC ONLY)
*411+0 STOP AUTO

V90 LOAD CDH-30
OBTAIN CMC LM YDOT

36 CHART RDOT

P41, V77

*373+ TIG PC
*410+5 LOAD ΔV
*263R _____
*501R _____

S-BD ANT-FWD, VERIFY COMM
*√S-BD P _____ (+12) *
Y _____ (-42) *
*S-BD ANT-SLEW (>3.0) *
*TRACK MODE-AUTO *
*BIOMED-LEFT, PCM-HI *
*UPLINK SQUELCH-OFF *

V83 SET ORDEAL

V90 OBTAIN CMC LM YDOT

TO CHART RDOT
PRO-FINAL COMP
N81 LOAD CMC LM YDOT

V90 BURN REPORT
TIG,ΔV'S, RESIDUALS

:05 *270R/501R
30 PLANE CHANGE

V76 P33 TGT CDH
V93 *VERIFY PGNS WITH MSFN
*V47, 414+1, 400+3
*400+2 Z-AXIS STEER
*410+2 TGT CDH
*373+ YDOT
451+0 TIG CDH IF PC
*COPY AGS DATA
*411+1 START AUTO

*411+0 STOP AUTO
*VERIFY PGNS (PCM-HI)
*V47, 414+1, 400+3
*400+2 Z-AXIS STEER
*COPY AGS DATA
*317R, 440R, 277R

P41, V77, N86

ATT CONT-PULSE
MODE CONT-AUTO

*410+5
*370R TOT ΔV
*500R
*502R

:05 *500R/502R
:00 CDH
NULL RESIDUALS

*A/H

*A/H

MISSION APOLLO 15, MAY 29, 1971

MISSION APOLLO 15, MAY 29, 1971	
TPI THRU DOCKING	
0 TPI V76	
*507+0 Z-AXIS TRACT * P35 TGT MCC 1 [ATT CONT-PULSE MAX N49(0.80,5.0) MODE CONT-AUTO]	V76 TGT MCC 2 [ATT CONT-PULSE MODE CONT-AUTO] V93 [*VERIFY PGNS (PCM-HI)] * [*V47,414+1,400+3 *400+2 Z-AXIS STEER *411+1 START AUTO *EXT LTG-OFF]
2	*410+4 TPI EXEC * *373+TPI TIME +15 MIN * *307+028.00
4	RDOT JR
6	RDOT JR
8	RDOT JR
9 CHART 0	*
10	RDOT JR
12 PRO FINAL COMP	RDOT JR
13 CHART R/RDOT/0	[*411+0 STOP AUTO 370R TOTAL VEL MCC1 371R ΔV TPF]
P41, V77	*404+0, 405+0, 406+0 *
*410+5 *502R	[ATT CONT-MODE CONT *A/H]
15 MCC1	:05 *472R/502R NULL RESIDUALS
05	*472R/502R NULL RESIDUALS
0 TPI THRU DOCKING	LM BAILOUT REL TRAJECTORY
1 HAM CHART	A-6
2 HAM CHART	A-4
3 CONFIRM CAPTURE FROM CSM MODE CONT (BOTH)-OFF POST DOCKING PROCEDURES	A-2

CONFIGURE FOR LM JETT

TRANSFER LIST

DDI DATA SUMMARY

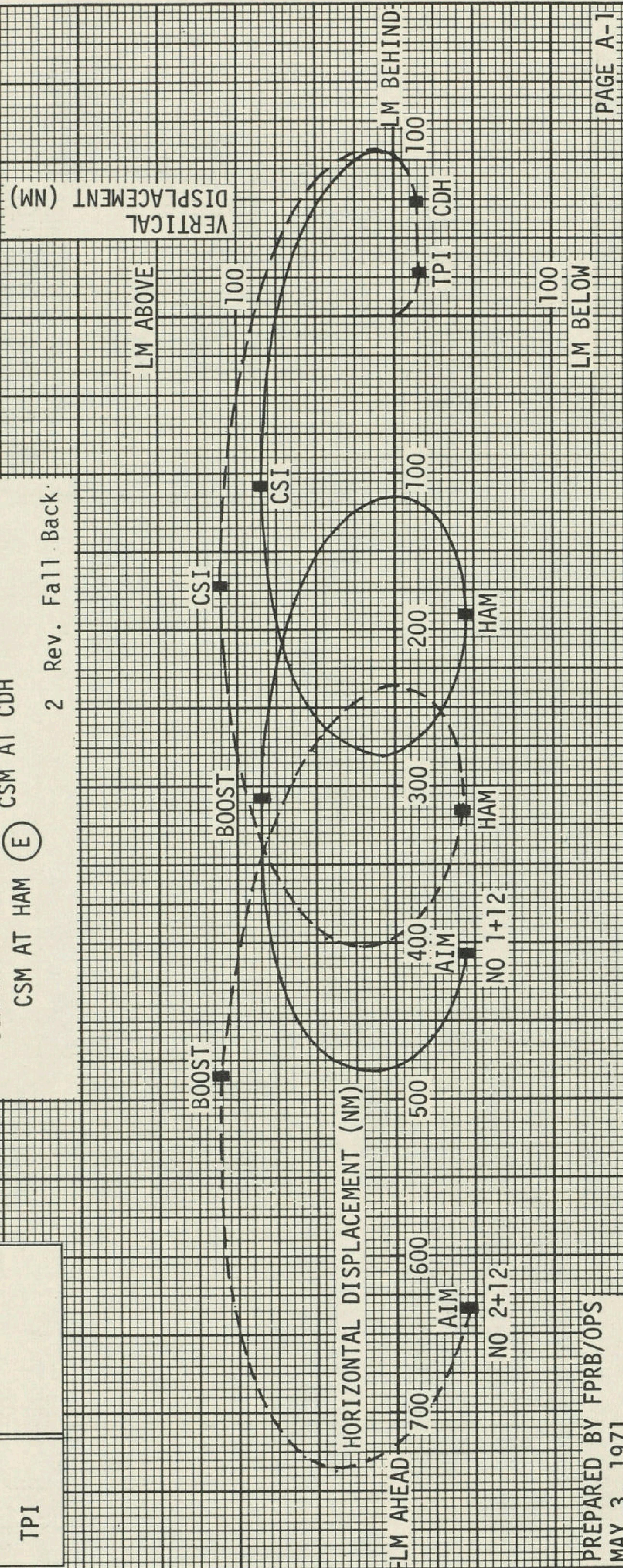
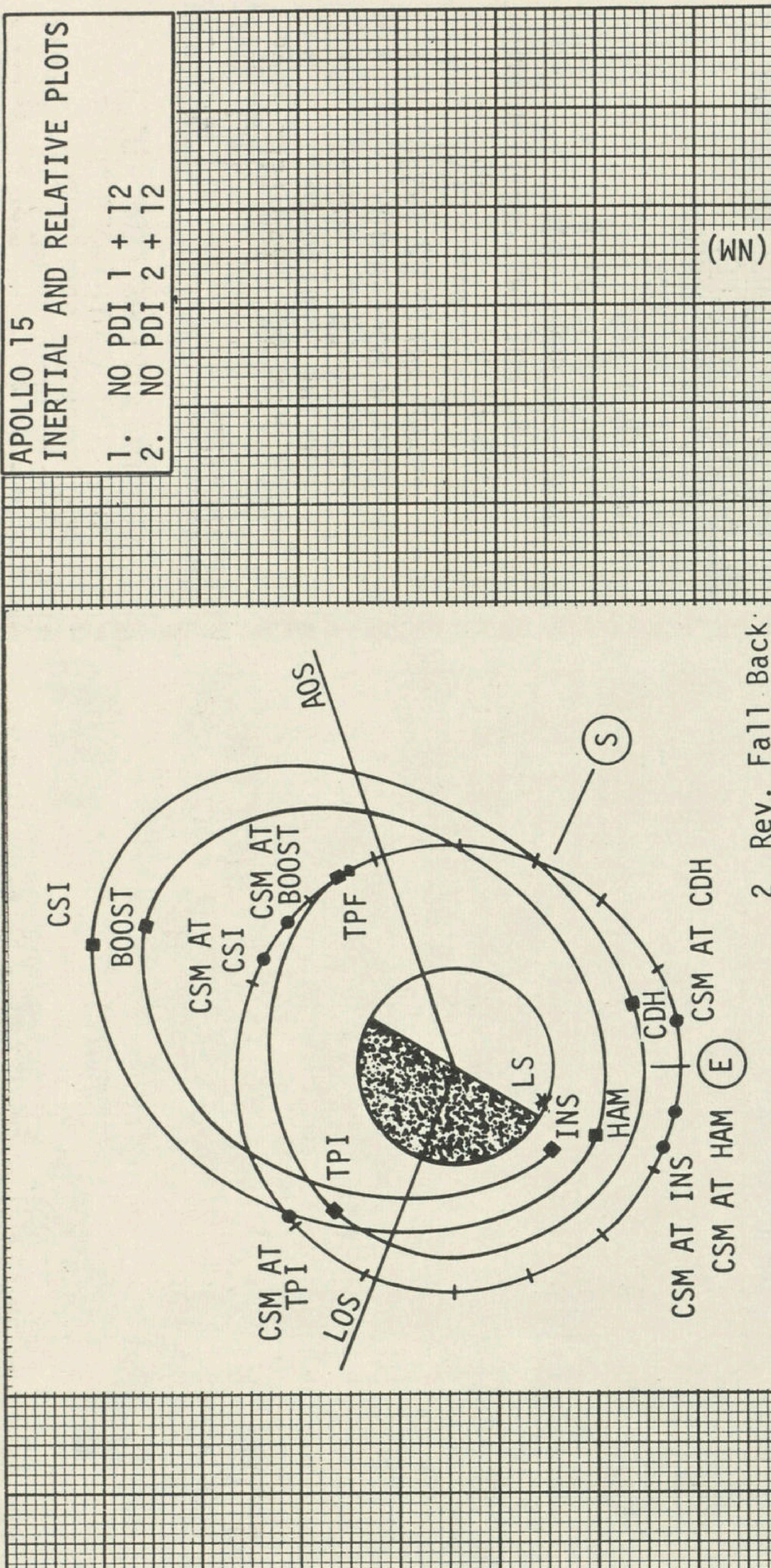
INSERTION THRU BOOST

INSERTION THRU CSI

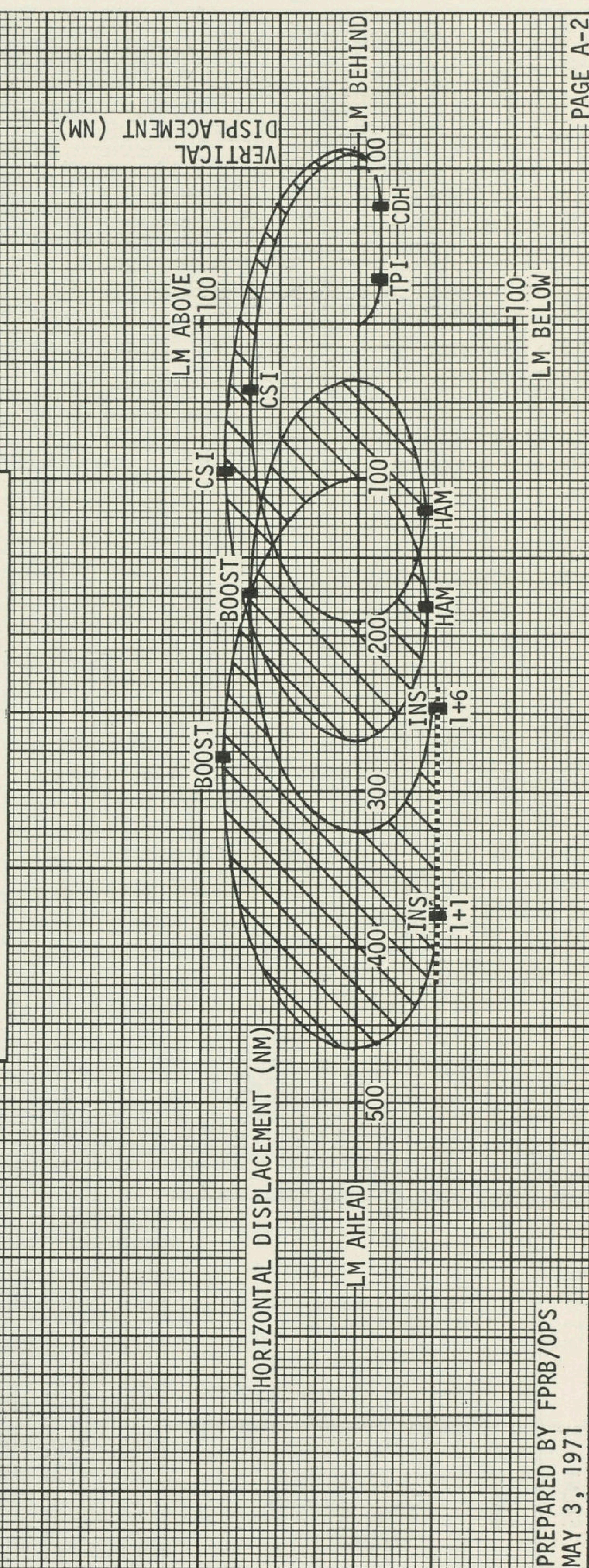
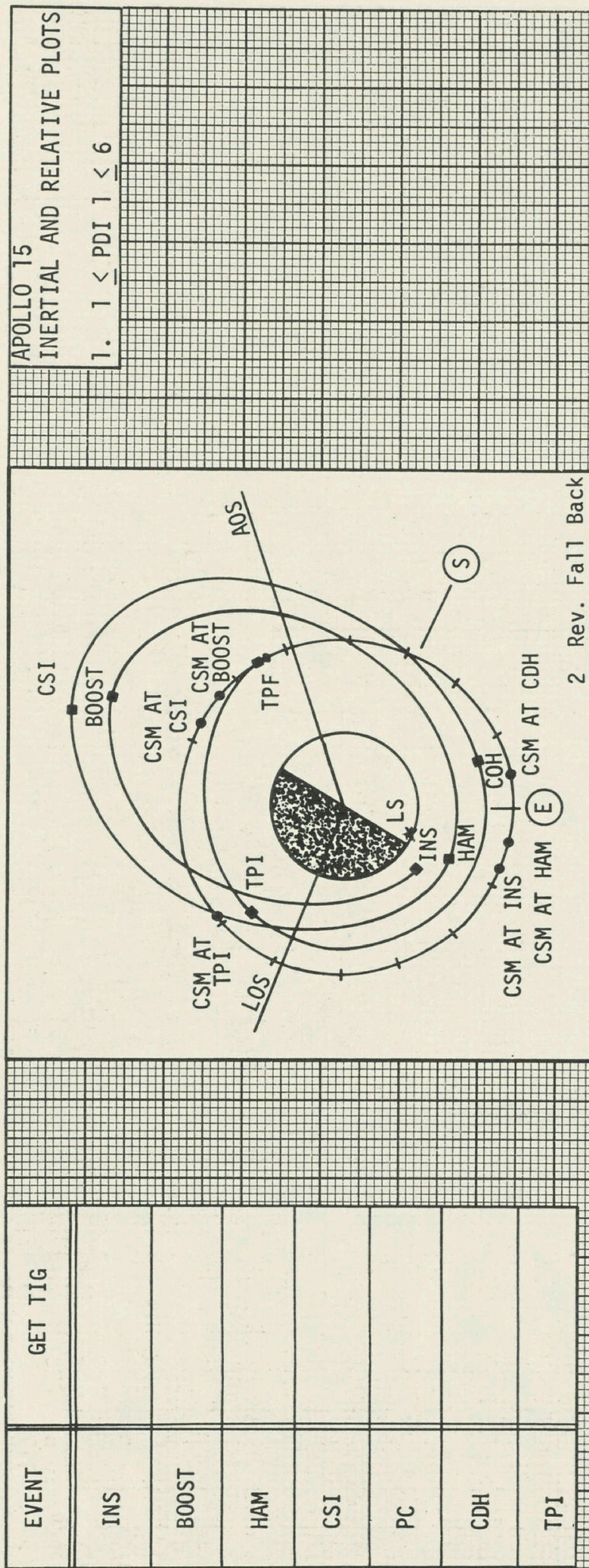
CDH THRU TPI

A-1

EVENT	GET TIG
INS	
BOOST	
HAM	
CSI	
PC	
CDH	
TPI	



**PREPARED BY FPRB/OPS
MAY 3, 1971**



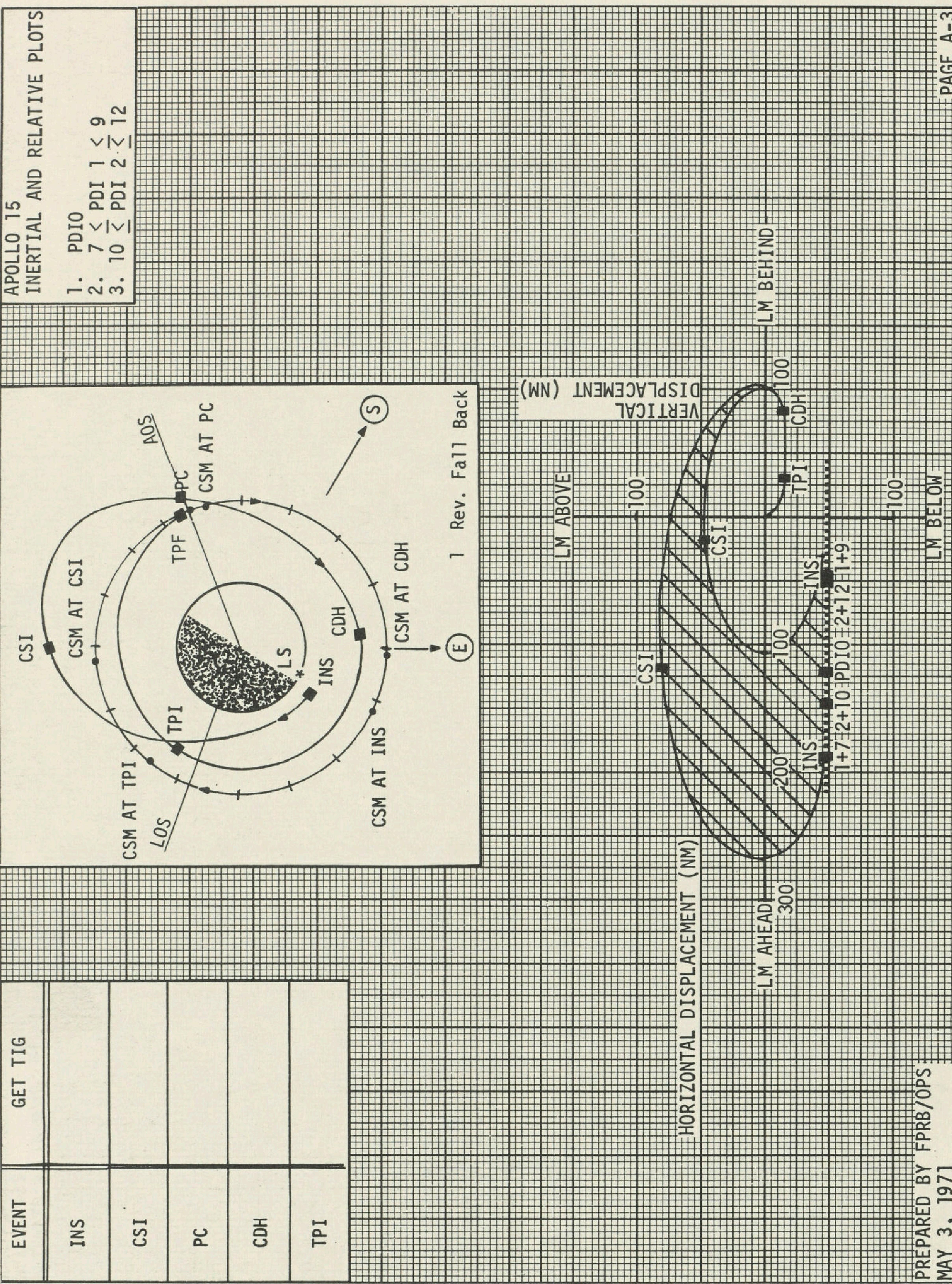
PREPARED BY FPRB/OPS
MAY 3, 1971

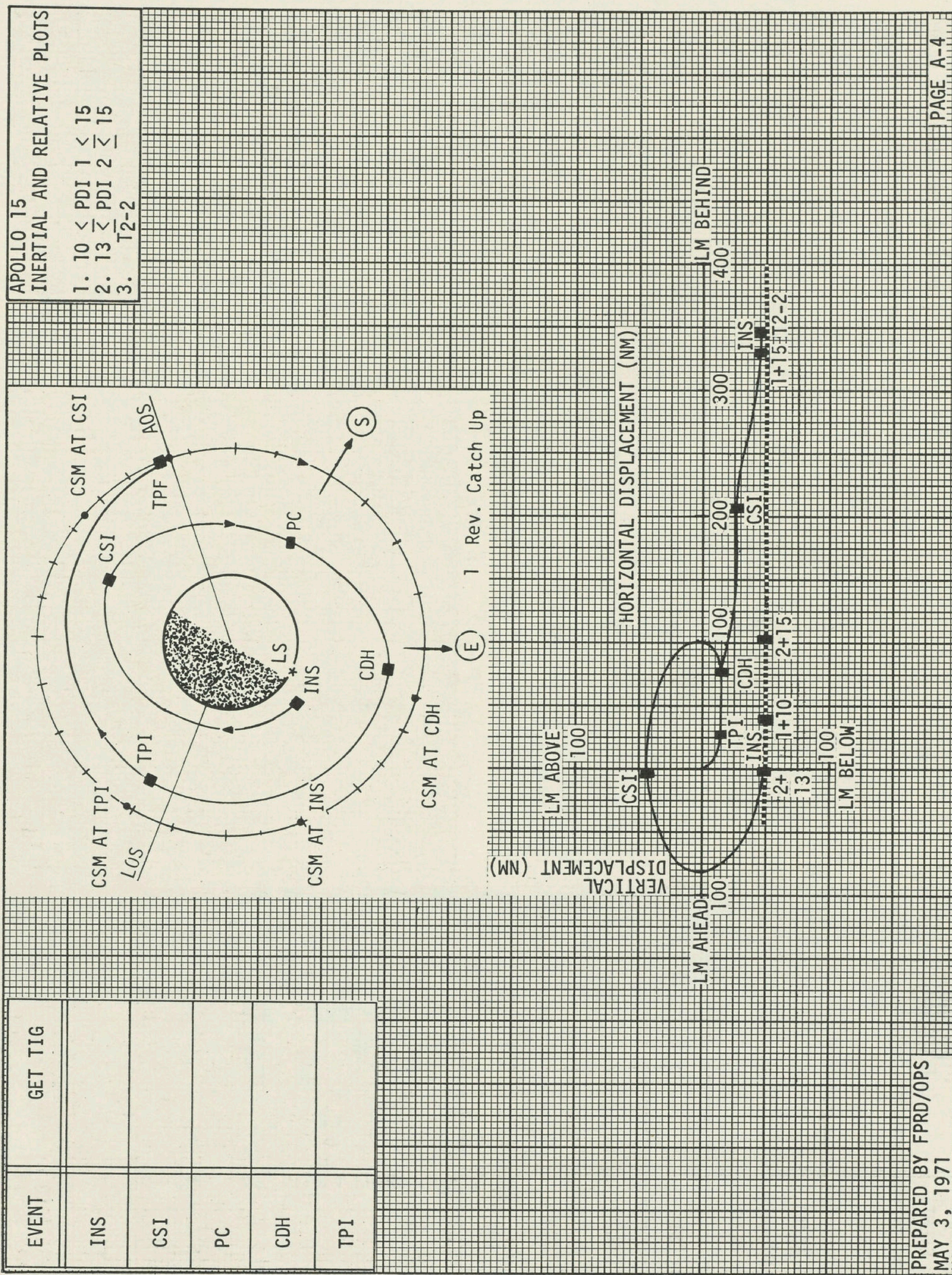
LM BAILOUT REL
TRAJECTORY
HAM CHART

A-6

PAGE A-2

A-2





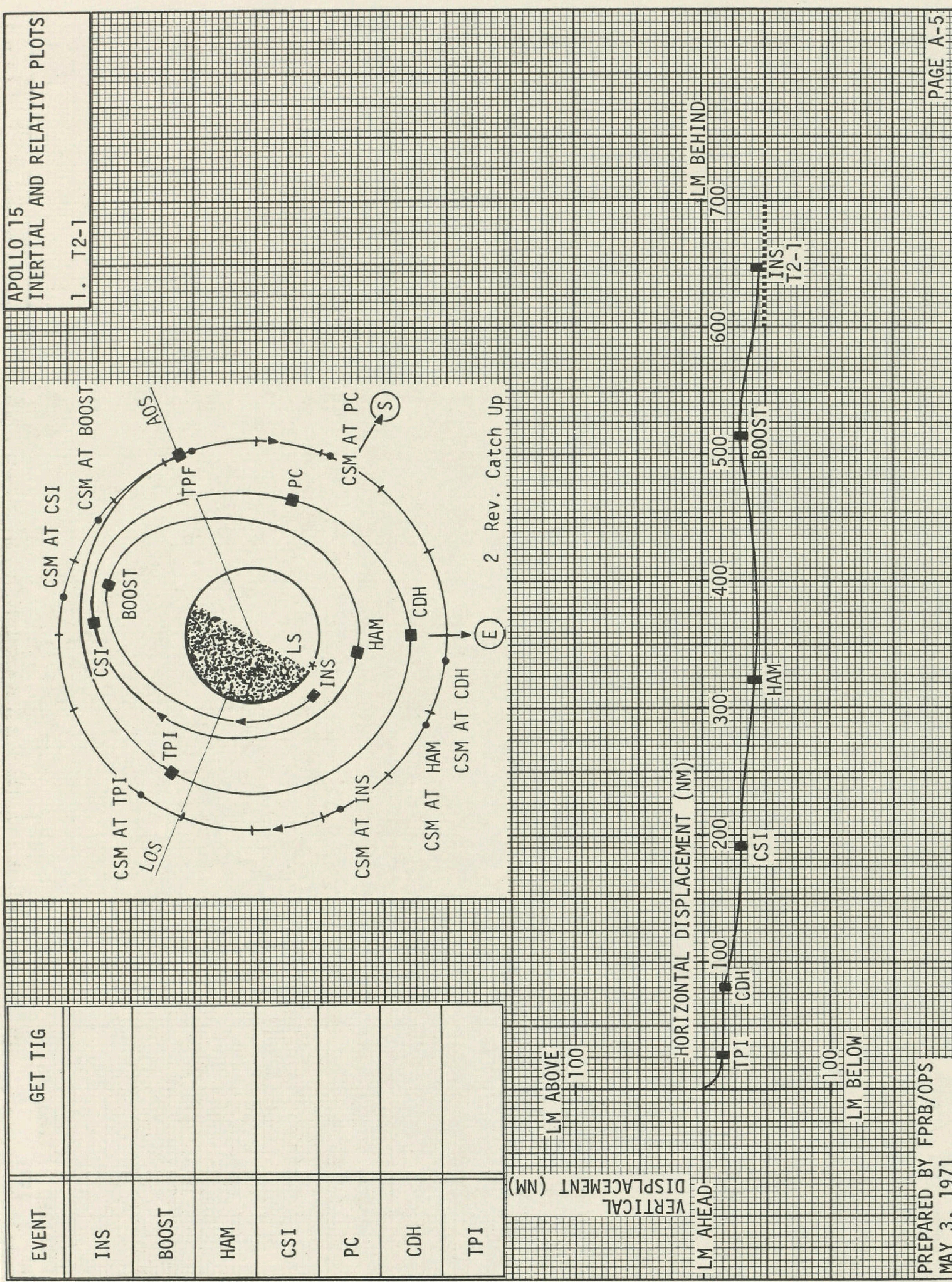
LM BAILOUT REL
TRAJECTORY
HAM CHART

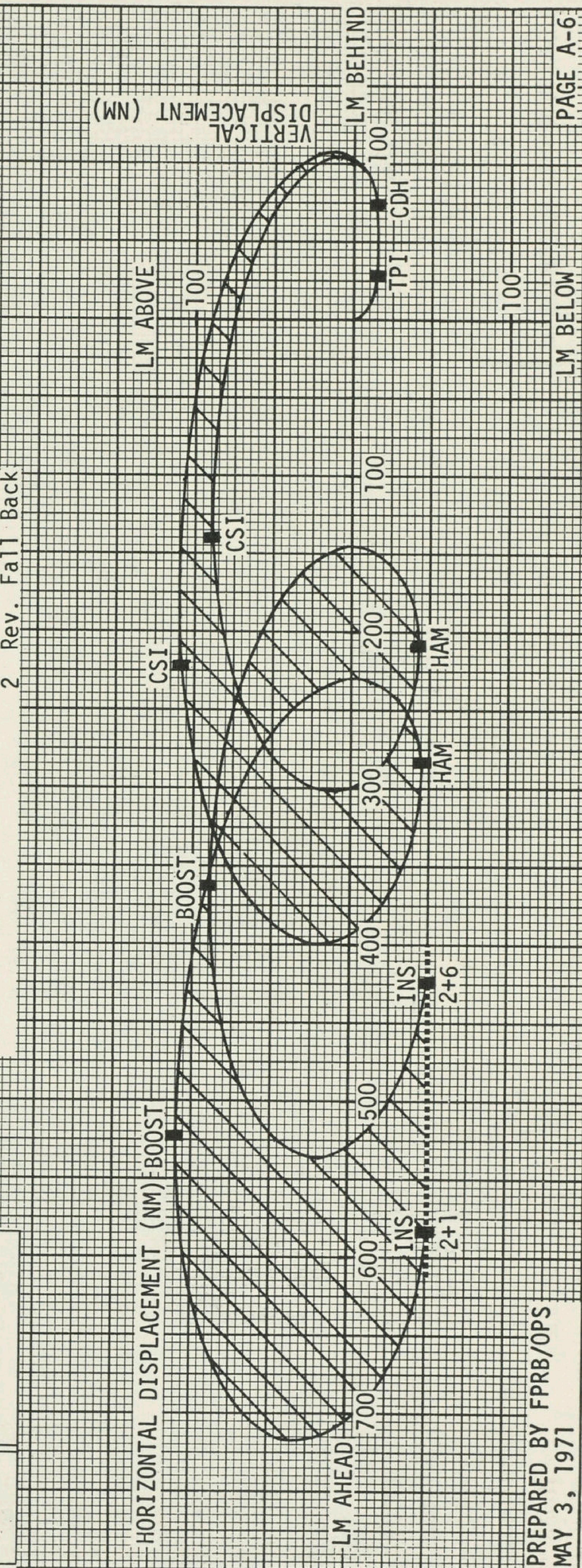
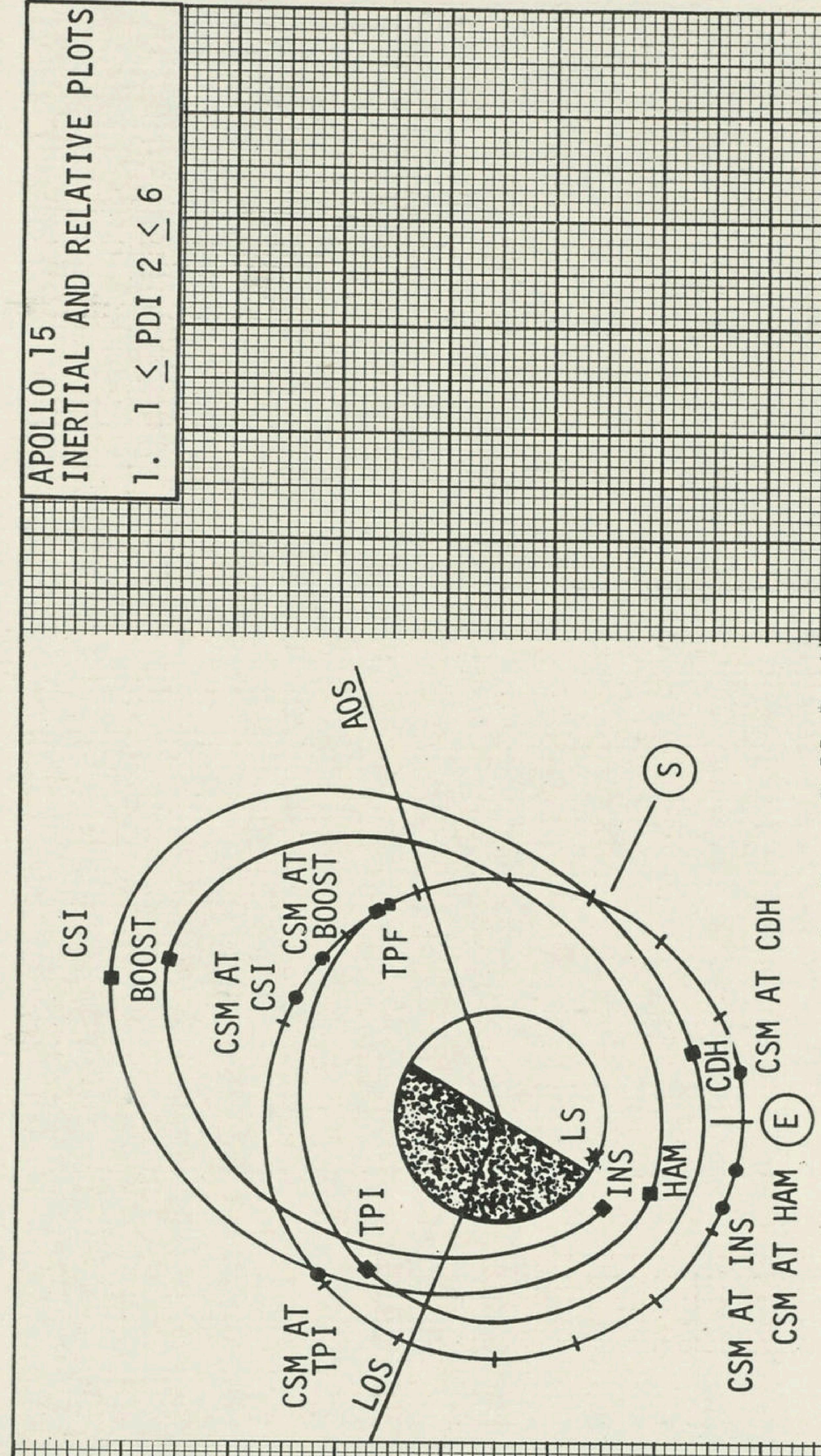
A-6

LM BAILOUT REL
TRAJECTORY

HAM CHART

A-4





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A-3

A-5

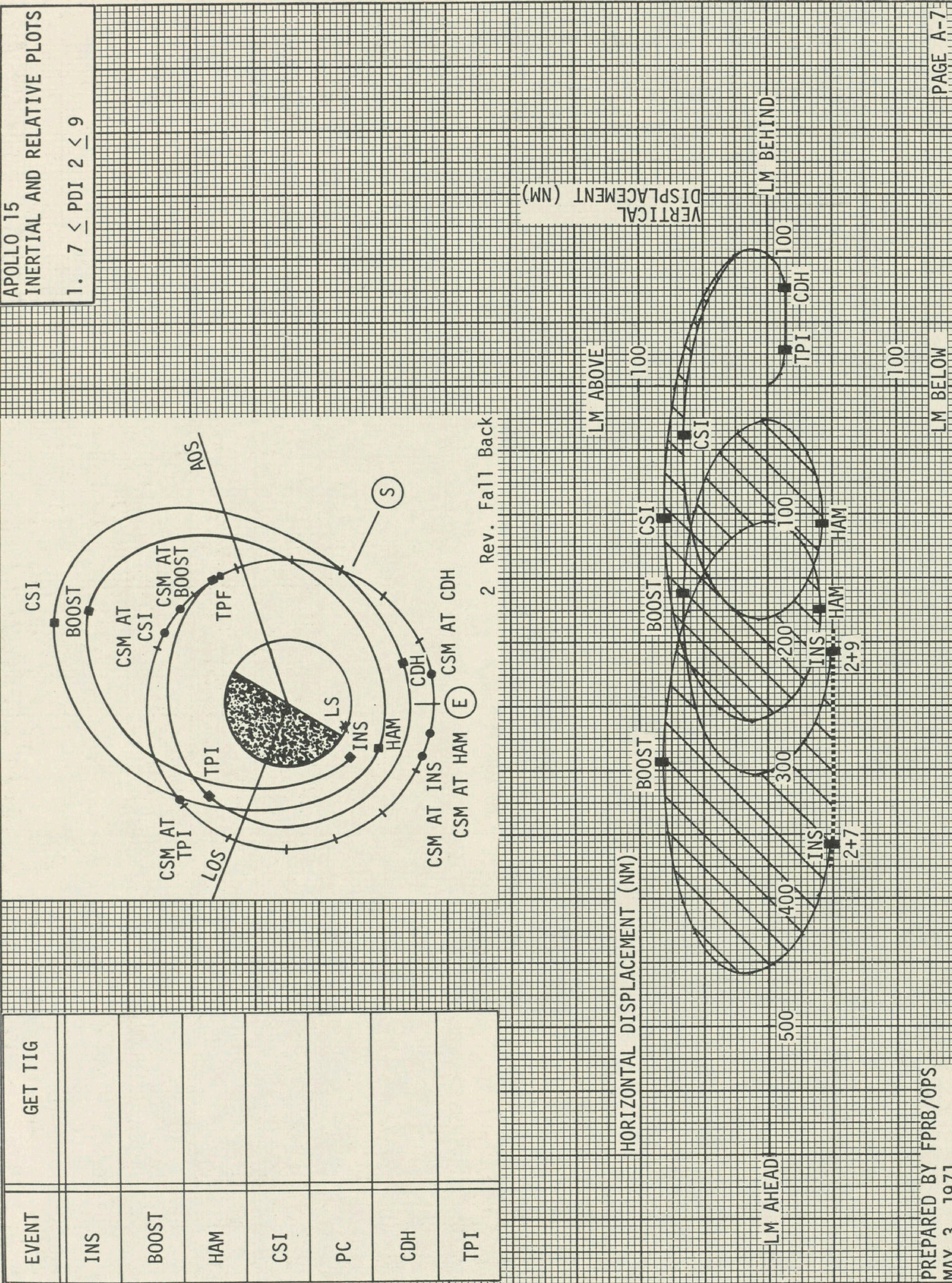
A-7

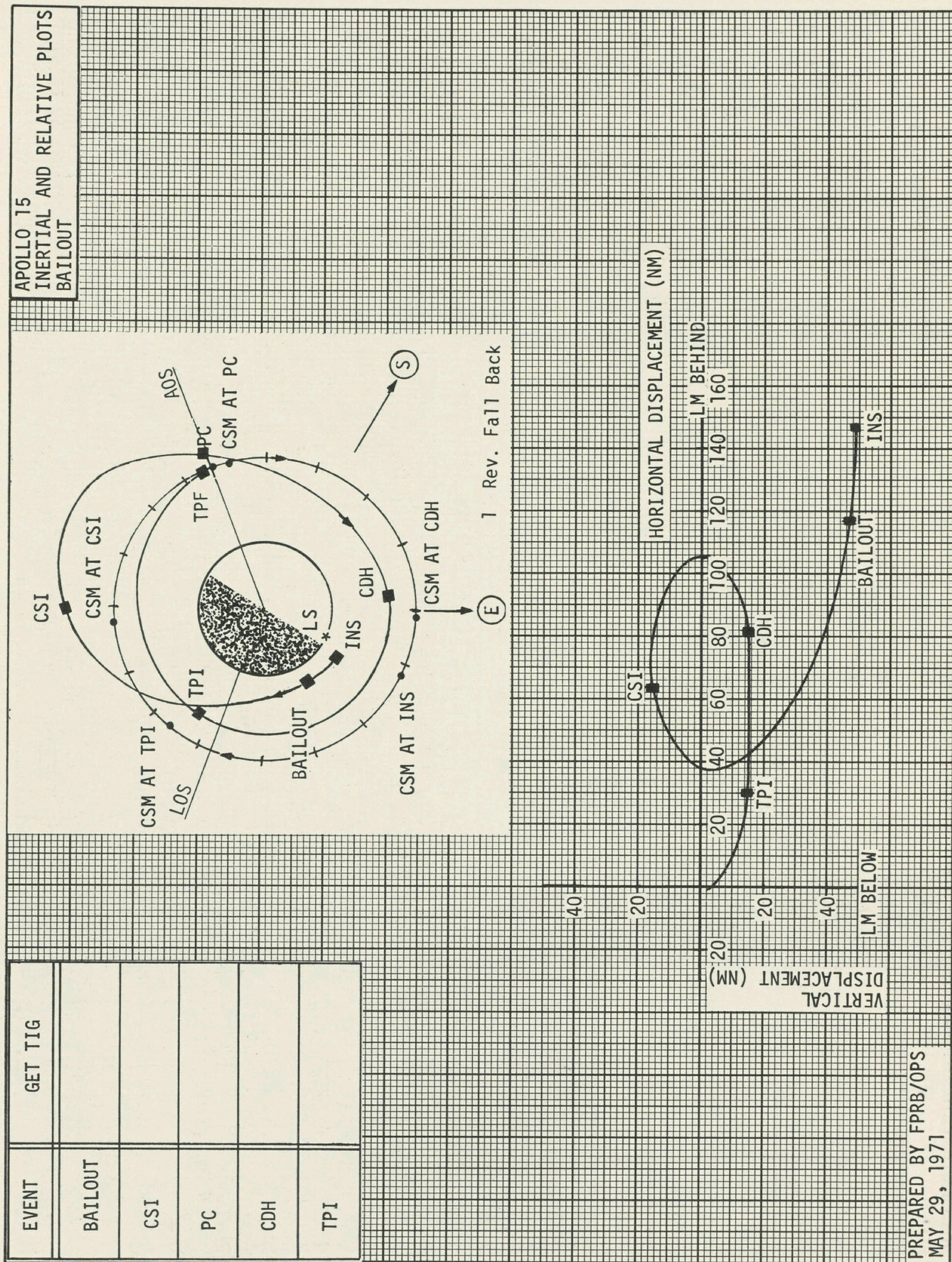
INSERTION
THRU BOOSTINSERTION
THRU CSI

CDH THRU TPI

A-1

EVENT	GET TIG
INS	
BOOST	
HAM	
CSI	
PC	
CDH	
TPI	





A-3

RELATIVE TRAJ
NOM COEL
RNDZINSERTION
THRU CSI

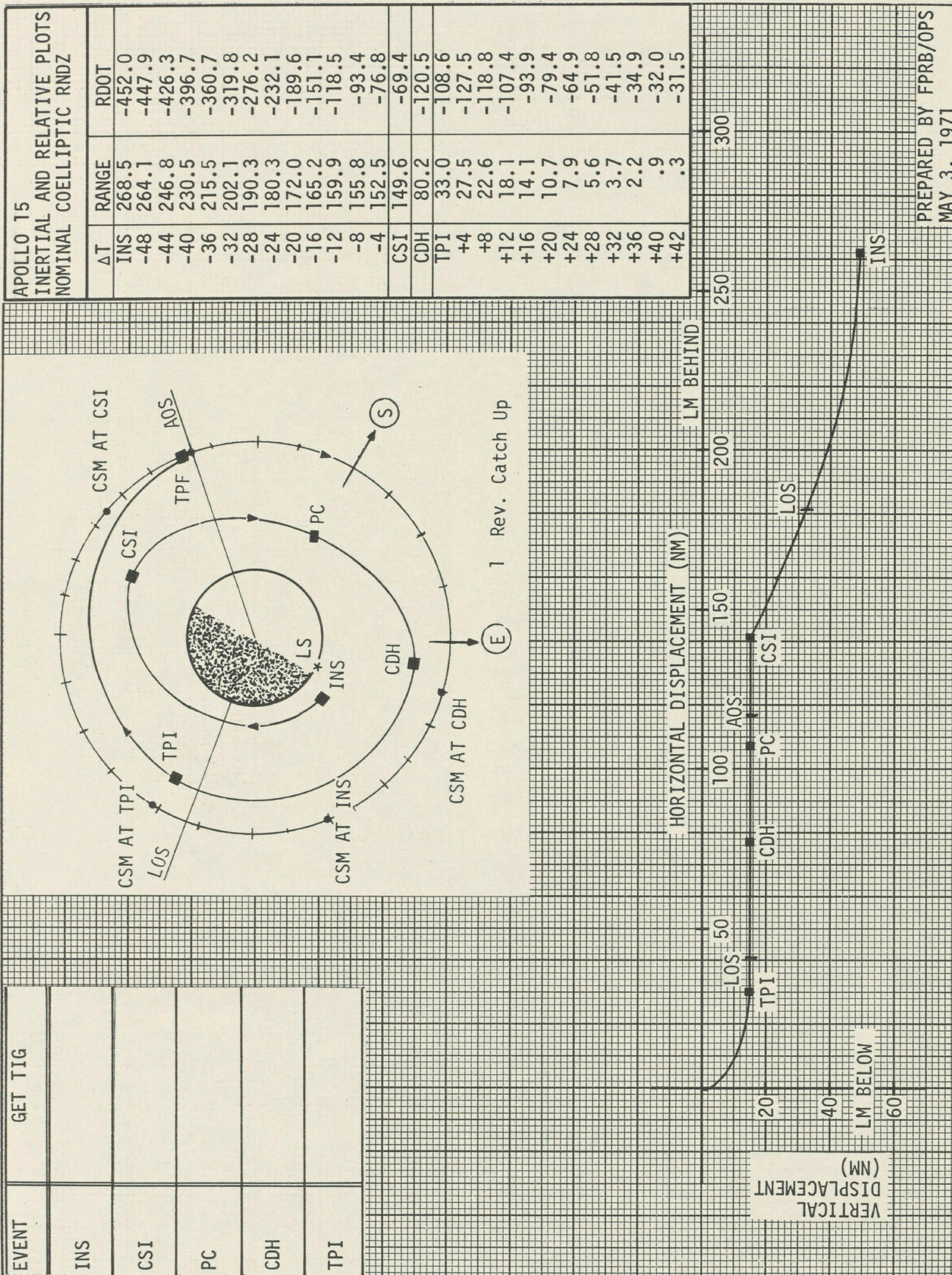
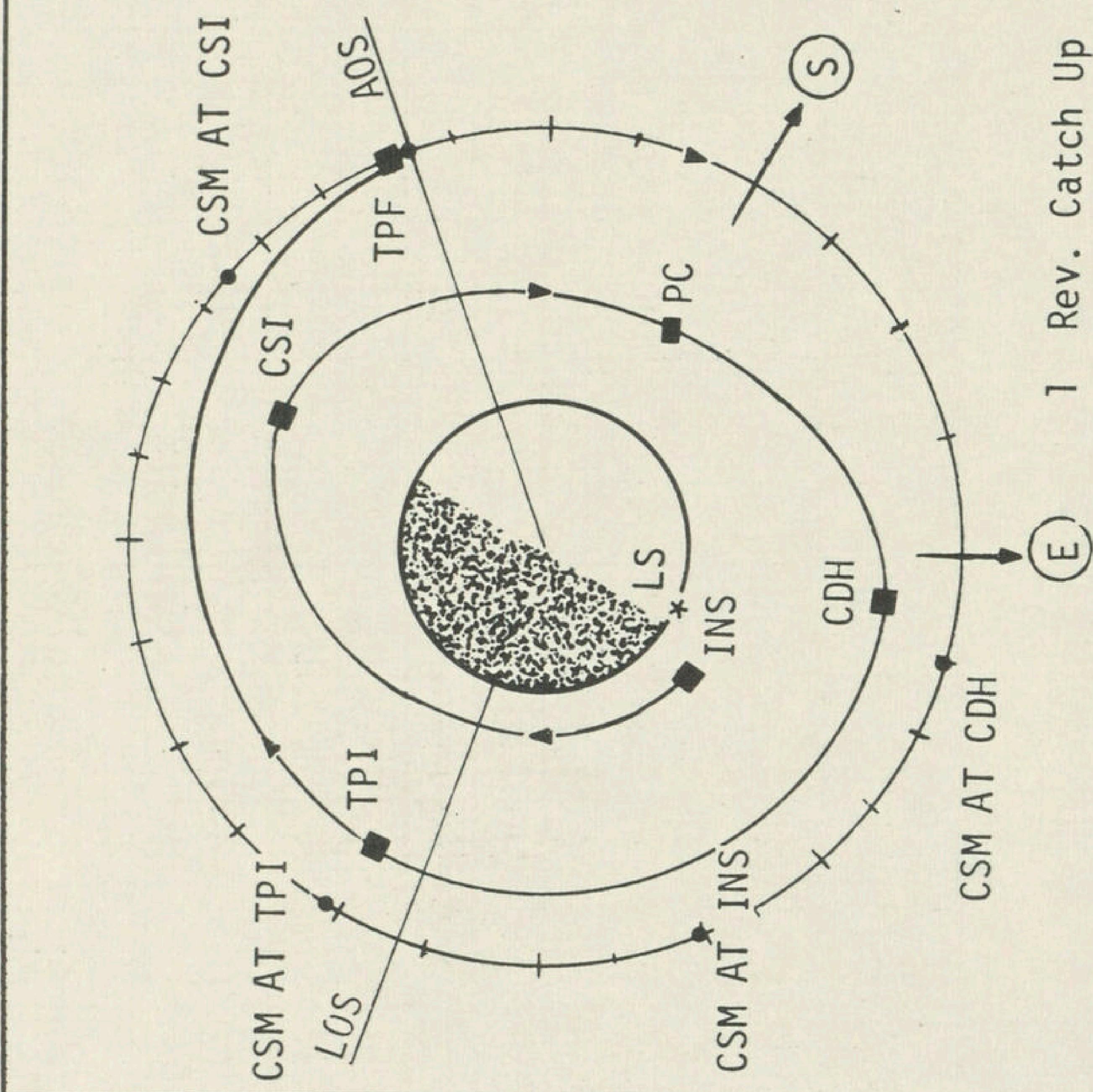
CDH THRU TPI

A-1

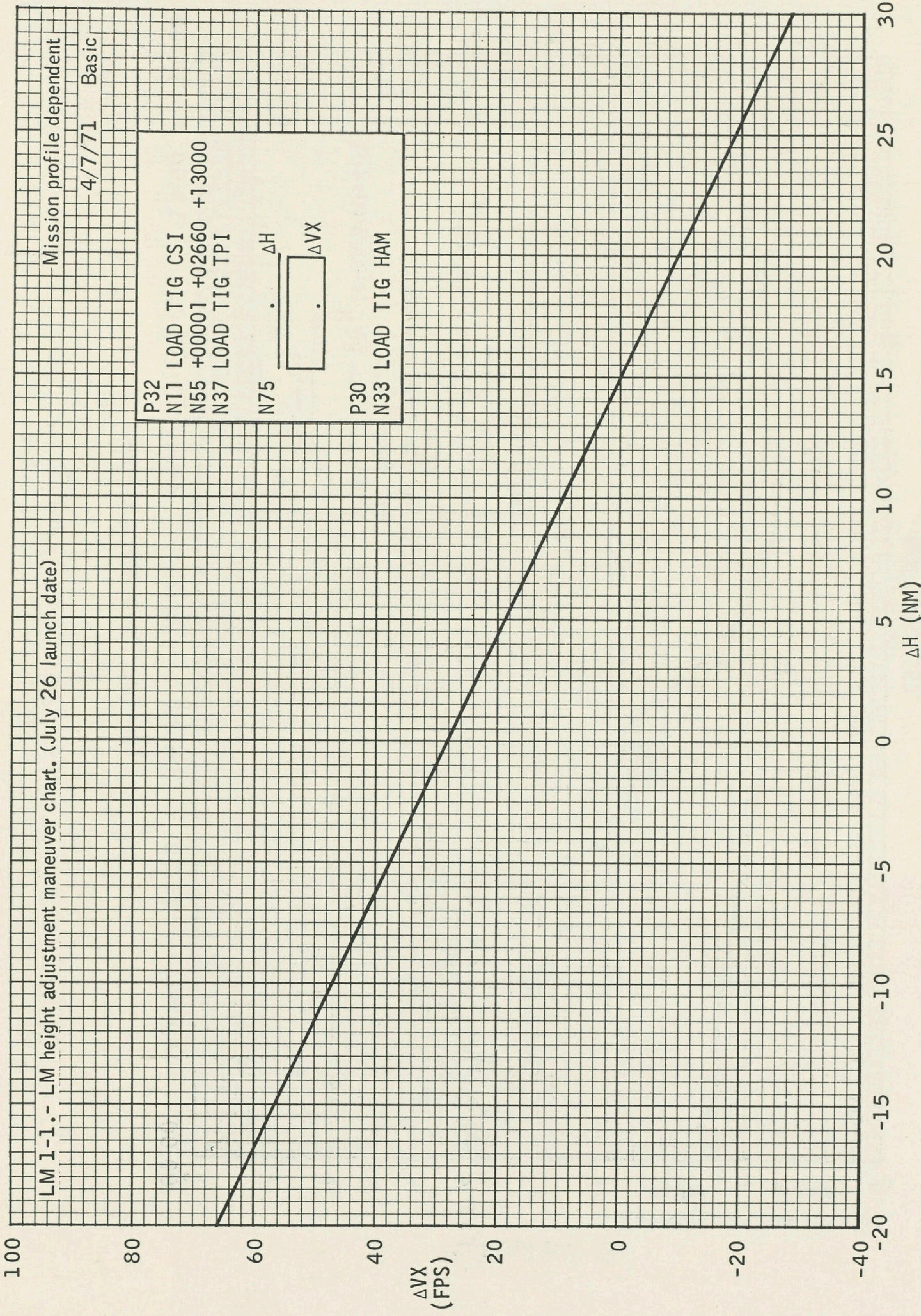
A-5

A-7

EVENT	GET TIG
INS	
CSI	
PC	
CDH	
TPI	



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HAM CHART

HAM CHART

CSI BIAS CHART

