APOLLO 8	
FLIGHT PLAN VOL. I	
PART NO.	S / N
SKB 32100030-201	1006

FLIGHT PLAN

TIME	EVENT		REMARKS
-00:45	LMP:	FLT RCDR - RECORD	
-00:09	LCC:	IGNITION COMMAND	
-00:01		L/V ENGINE LTS (5) - OUT	
00:00	LCC:CDR:	REPORT LIFT-OFF	LIFT-OFF LT - ON, MET STARTS COUNT
		P11 AUTO	
00:02	CDR:	REPORT YAW MNVR	
00:11	CDR:	REPORT ROLL AND PITCH PROGRAM INITIATE	
00:28	CDR	REPORT ROLL COMPLETE	
00:42	MCC-H:CDR:	REPORT MARK MODE 1B	
00:50	LMP:	REPORT CABIN PRESS DECREASE	
01:17	CDR:	REPORT MAX Q	
01:50	MCC-H:CDR:	REPORT MARK MODE 1C	
02:00	MCC-H:CDR:	REPORT GO/NO GO FOR STAGING	
02:05	CDR:	REPORT INBOARD ENGINE CUTOFF	
02:31	CDR:	REPORT OUTBOARD ENGINE CUTOFF	LTS 1, 2, 3, & 4 - ON
02:32	CDR:	REPORT S-IC/S-II STAGING	LTS OFF

TIME	EVENT		REMARKS
03:00	CDR:	REPORT 2ND PLANE SEP	>65% THRUST-S-II SEP LIGHT OUT
03:07	CDR:	REPORT TWR JETT & MODE II	
03:25	CDR:	REPORT GUIDANCE INITIATE	
03:53	MCC-H:	REPORT TRAJECTORY AND GUID. GO/NO GO	
04:00	CMP:	REPORT S/C GO/NO GO	
05:00	LMP:	REPORT S/C GO/NO GO	
05:53	MCC-H:CDR:	REPORT S-IVB TO ORBIT CAPABILITY	
06:00	CDR:	REPORT S/C GO/NO GO	
06:15	LMP:	OMNI ANT-D	IF LAUNCH AZIMUTH <96°
07:00			
	CDR:	REPORT S/C GO/NO GO	
08:00			
08:20	MCC-H:CDR:	REPORT GO/NO GO FOR STAGING	
08:40	CDR:	REPORT S-II CUTOFF, S-II STAGING	

MSC FORM 2914C (JUL 67)

FLIGHT PLAN

TIME	EVENT		REMARKS
08:45	CDR:	REPORT S-IVB IGNITION	
09:00	CDR:	REPORT S/C GO/NO GO	
	MCC-H:	REPORT TRAJECTORY AND GUID. GO/NO GO	
09:50	MCC-H:CDR:	REPORT MARK MODE IV	
10:00	MCC-H:CDR:	REPORT GO/NO GO FOR ORBIT	
	MCC-H:	REPORT PREDICTED TIME OF SECO	
11:21	CDR:	REPORT SECO AND HP	
11:31	MCC-H:CDR:	REPORT ORBITAL GO/NO GO	
12:00	LMP:	FLT RCDR - OFF	

	CDR	CMP	LMP	MCC-H
00:00				
US	POST INSERTION CONFIG	POST INSERTION CONFIG SM RCS CK CM RCS CK C&W CK REMOVE HELMET & GLOVES	POST INSERTION CONFIG	
00:15	REMOVE HELMET & GLOVES		REMOVE HELMET & GLOVES	
TCYI	ECS POST INSERTION CONFIG		ECS POST INSERTION CONFIG	
	GDC ALIGN TO IMU	INGRESS LEB O_2 MAIN REG CK	EPS PERIODIC MONITOR ECS MONITOR CK SPS PERIODIC MONITOR	
00:30	MOUNT & INITIALIZE ORDEAL		~~PUGS TEST~~	
TCVI TTAN	INSTALL COAS	JETTISON OPTICS COVER	ECS REDUNDANT COMP CK	
	COAS HORIZON CK	RECORD ΔAZ CORRECTION	FC PURGE CK	VOICE UPDATE: ΔAZ CORRECTION
00:45				
TCRO		OPTICS CK IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID__ __, __ (cont'd)	BIOMFD Sw - CENTER	
01:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	00:00 - 01:00	1/LPO	2-1

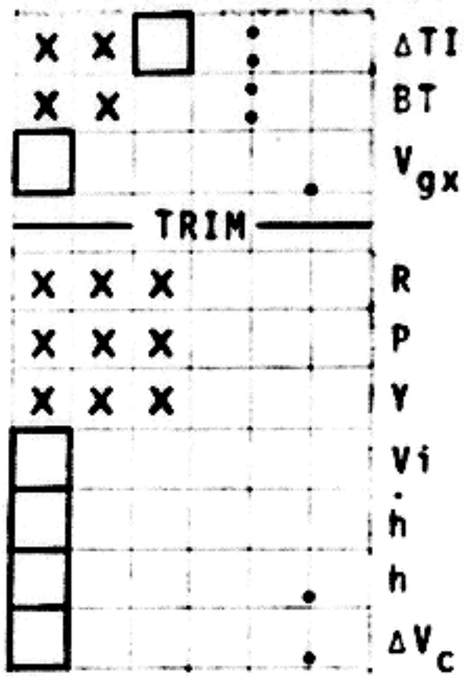
MSC Form 1910 (OT) (Oct 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
01:00		STAR ANGLE DIFF TORQUE ANGLES: X __ __.__ __ __ Y __ __.__ __ __ Z __ __.__ __ __		
HSK				
01:15				
01:30	SCS ATT REFERENCE COMPARISON CK	REPORT: GYRO TORQUE ANGLES	BACKUP COMM CK	GIVE GO FOR COMM CK
US		RECORD ABORT BLOCK PAD (TLI +90 MIN AND TLI +4 HOUR)		VOICE UPDATE: BLOCK DATA
01:45		RECORD TLI PAD		VOICE UPDATE: TLI PAD
CYI			BIOMED Sw - RIGHT	P27 UPDATE: STATE VECTORS
02:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

BURN STATUS REPORT



REMARKS:

TLI
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
TLI	10°/SEC SHUTDOWN	+45° SHUTDOWN	B/T+6 SEC & Vi=PAD VALUE	NO TRIM

TLI PREMATURE SHUTDOWN	
ha >60,000 nm	LUNAR ORBIT OR FLYBY (DEPENDING ON ΔV REQD
ha >22,000 nm	TWO PHASING MANEUVERS TO SEMI-SYNCHRONOUS ORBIT. DIRECT ENTRY
ha >4,000 nm	HIGH ALTITUDE ORBITS FOLLOWED BY DEBOOST TO 400 nm APOGEE
ha 100 - 4,000 nm	EITHER HI ALTITUDE (4,000 ha) OR LOW ALT. DEPENDING ON LANDMARKS

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
02:00		UNSTOW PHOTO EQUIP B3 16mm DAC 18mm LENS RT ANG MIRROR 16mm C-EX MAG PWR CABLE 70mm CAM 80mm LENS 70mm C-MAG		
TAN				
02:15	TLI PREP EMS ΔV TEST	TLI PREP TRANS TO COUCH	TLI PREP S-BAND XPONDER - SEC	
CRO	GO/NO-GO FOR PYRO ARM GO/NO-GO FOR TLI			GO/NO-GO
02:30	GDC ALIGN AND DRIFT CK		BIOMED Sw - LEFT	
	TB-6			
02:45 REDHAW	P47 BURN ATT CK TLI	GETI = 2:50:31	FLT RCDR - RECORD	
	SECO S-IVB INERTIAL SECO +20 SEC S-IVB TO LH,ORB RATE,HEADS DOWN		FLT RCDR - OFF INITIATE BATT B CHARGING (FOLLOWED BY BATT A)	
03:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

	CDR	CMP	LMP	MCC-H
03:00	TLI BURN STATUS REPORT	RECORD GET SEP MNVR INIT		VOICE UPDATE: GET OF SEP MNVR INIT
	S-IVB MNVR TO SEP ATT	TRANS CSM STATE VECTOR TO LM SLOT		
03:15	GO/NO-GO FOR 90-MIN ABORT			GO/NO-GO
	TRANSPOSITION FROM S-IVB +X FOR 1 fps, COAST FOR 1 MIN, -X FOR 0.5 fps, PITCH UP 4°/SEC		FLT RCDR - RECORD	
		R13 SPOTMETER	FLT RCDR - OFF NONESS BUS - OFF PHOTOGRAPH S-IVB 16/18/C-EX, 1/250, f11, 6 fps (1 MAG) 2/80/C, 1/250, SPOT (10 EXP)	
03:30	FLY FORMATION	DOFF & STOW PGA		
	MNVR TO LOCAL VERTICAL -X RADIALLY UPWARD 1.5 fps			
03:45		REINITIALIZE W MATRIX R_1 + 00094 R_2 + 00057 R_3 + .00003	TERMINATE WATER BOILER EVAP	
		TRANS CSM STATE VECTOR TO LM SLOT		
04:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,196	03:00 - 04:00	1/TLC	2-4

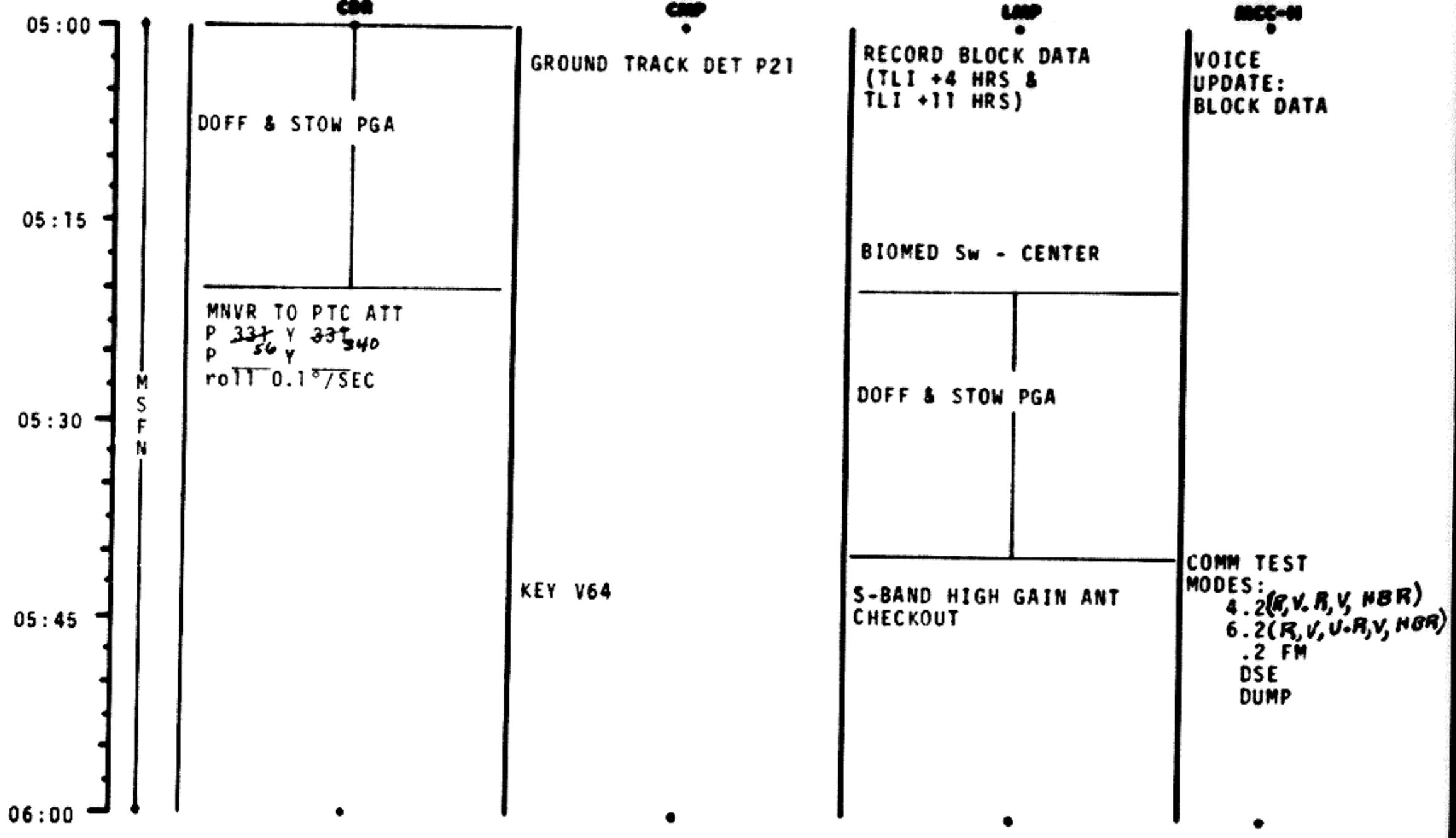
MSC Form 1010 (OT) (Oct 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
04:00		IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID__ __,__ — STAR ANGLE DIFF __ __.__ — TORQUE ANGLES: X __ __.__ __ — Y __ __.__ __ — Z __ __.__ __ —	REPORT PERSONAL RADIATION DOSIMETER READINGS	
04:15	GDC ALIGN TO IMU	CISLUNAR NAVIGATION P23 TRN BIAS 1. STAR 14 ENH 00110 STAR__ __ E__H 1 SET - 3 MARKS EACH 2. STAR 15 EFH 00120 STAR__ __ E__H 2 SETS - 3 MARKS EACH 3. STAR 16 EFH 00120 STAR__ __ E__H 2 SETS - 3 MARKS EACH	Record Trunion Bias, ΔR, ΔV, ΔTA for all sightings.	
04:30				
04:45				
05:00				

MSFN

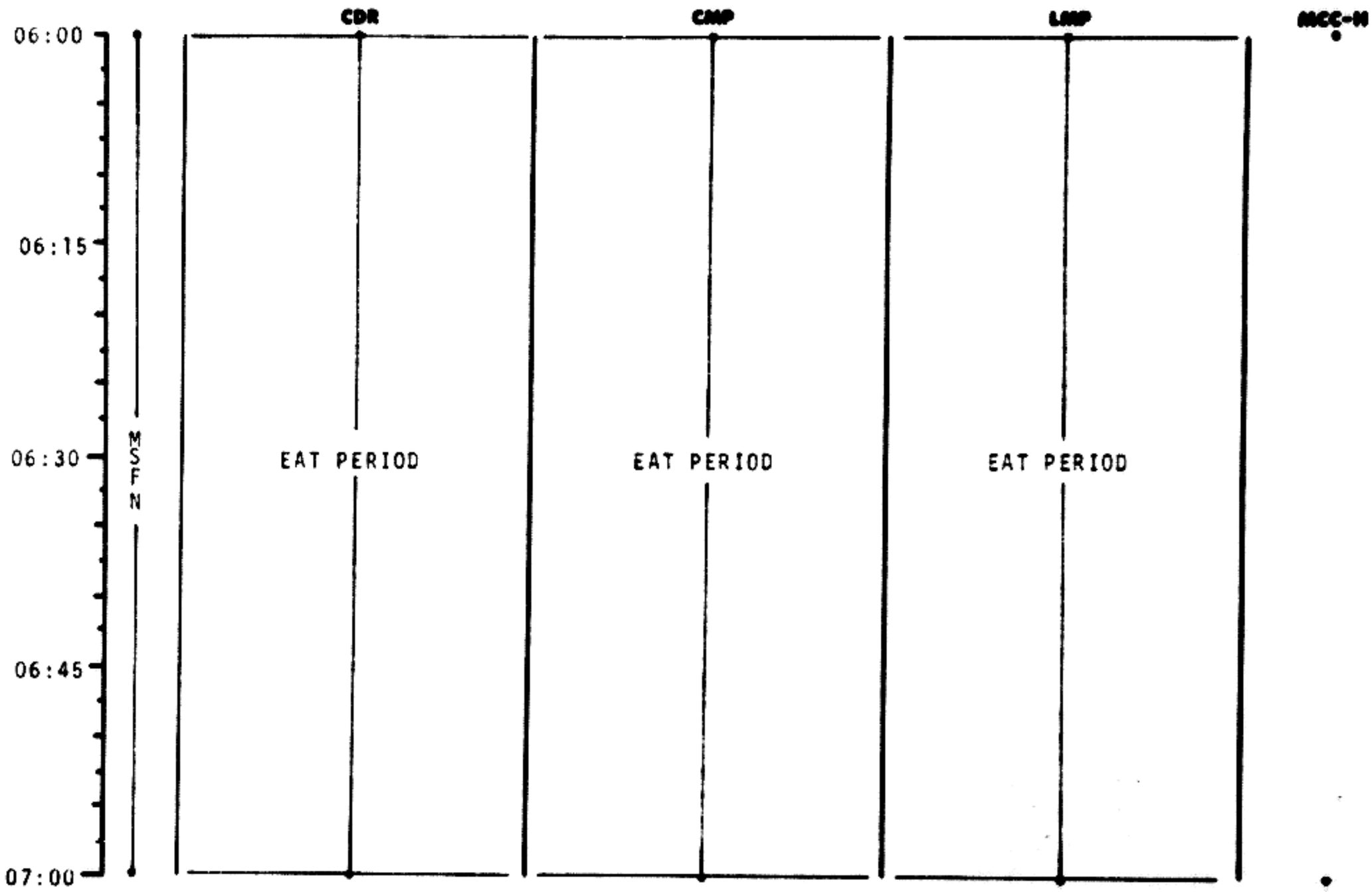
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	05:00 - 06:00	1/TLC	2-6

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	06:00 - 07:00	1/TLC	2-7

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

CDR	CMP	LMP	MCC-H
		(R,V. R, V, LBR) (R,V,U. R,V, LGR) (R, U. R, V, HBR) (UVB. R, V, HBR)	PERFORM COMM TESTS MODES: 4.3 6.3 5.2 8.2
07:00			
07:15			
07:30	MSFN	LiOH CANISTER CHANGE (CARTRIDGE NO. 3 FROM A3 B5 INTO CANISTER A)	
07:45		OPEN COOLANT CONTROL ATTENUATION PANEL EVAP WATER CONT SEC VLV - OFF CLOSE COOLANT CONTROL ATTENUATION PANEL WASTE STOWAGE VENT - CLOSED BAT VENT VLV - OPEN (UNTIL SERVICE METER = 0) BAT VENT VLV - CLOSED	
08:00			P27 UPDATE: STATE VECTOR TGT LOAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	07:00 - 08:00	1/TLC	2-8

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

BURN STATUS REPORT

X X ☐ : ΔTIG
X X : BT
☐ • V_{gx}

TRIM

X X X R
X X X P
X X X Y
☐ • V_{gx}
☐ • V_{gy}
☐ • V_{gz}
☐ • ΔV_c
X X X FUEL
X X X OX
X X X UNBALANCE

REMARKS:

MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

	CDR	CMP	LMP	MCC-H
08:00	MNVR TO P52 ATT	IMU REALIGN P52 OPTION 3 - REFSMMAT AND DRIFT CK STAR ID ___ . STAR ANGLE DIFF — — TORQUE ANGLES . X — — .— — — Y — — .— — — Z — — .— — —	RECORD MNVR PAD → TLI + 11 HR PAD	VOICE UPDATE: MNVR PAD + TLI + 11 HR PAD
08:15				
08:30	V47 TRANS LM STATE VECTOR TO CSM SLOT → EXT ΔV P30 SPS/RCS THRUST P40/P41 MNVR TO BURN ATT	SXT STAR CK	BIOMED Sw - RIGHT	PIPA BIAS CK
08:45	EMS ΔV TEST	TRANS TO COUCH		
TLI +6 HRS 09:00	GDC ALIGN To IMU MCC$_1$ ΔV=NOMINALLY ZERO	SM RCS MON CK		

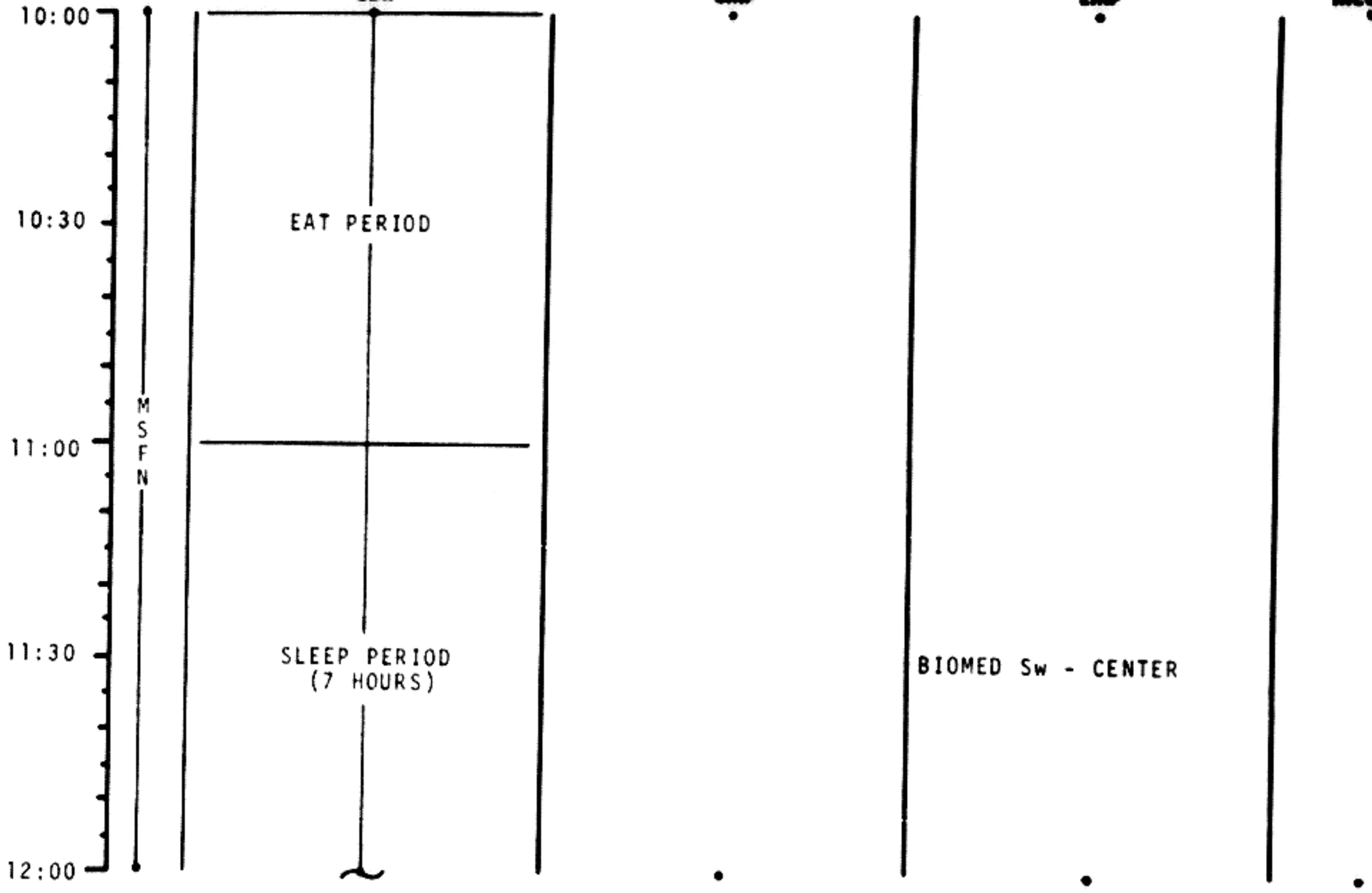
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	08:00 - 09:00	1/TLC	2-9

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
09:00	V66 TRANS CSM STATE VECTOR TO LM SLOT → MCC$_1$ BURN STATUS REPORT MNVR TO SIGHTING ATT	SM RCS MON CK TRN BIAS CISLUNAR NAVIGATION P23 1. STAR 15 ELDMK 10 LAT 28.876°N LONG/2 56.292°W ALT 000.01 STAR__ __ELDMK__ __ LAT — —.— — — LONG/2 — —.— — — ALT — —.— — — 2 SETS	SPS MONITOR CK ~~INITIATE BAT CHARGE~~	
09:30	MNVR TO PTC ATT P ~~331~~ 56 Y ~~331~~ 340 P ___ Y ___ ROLL 0.1°/SEC	2. STAR 16 ELDMK 10 LAT 28.876°N LONG/2 56.292°W ALT 000.01 STAR__ __ELDMK__ __ LAT — —.— — — LONG/2 — —.— — — ALT — —.— — — GROUND TRACK DET P21		
10:00				

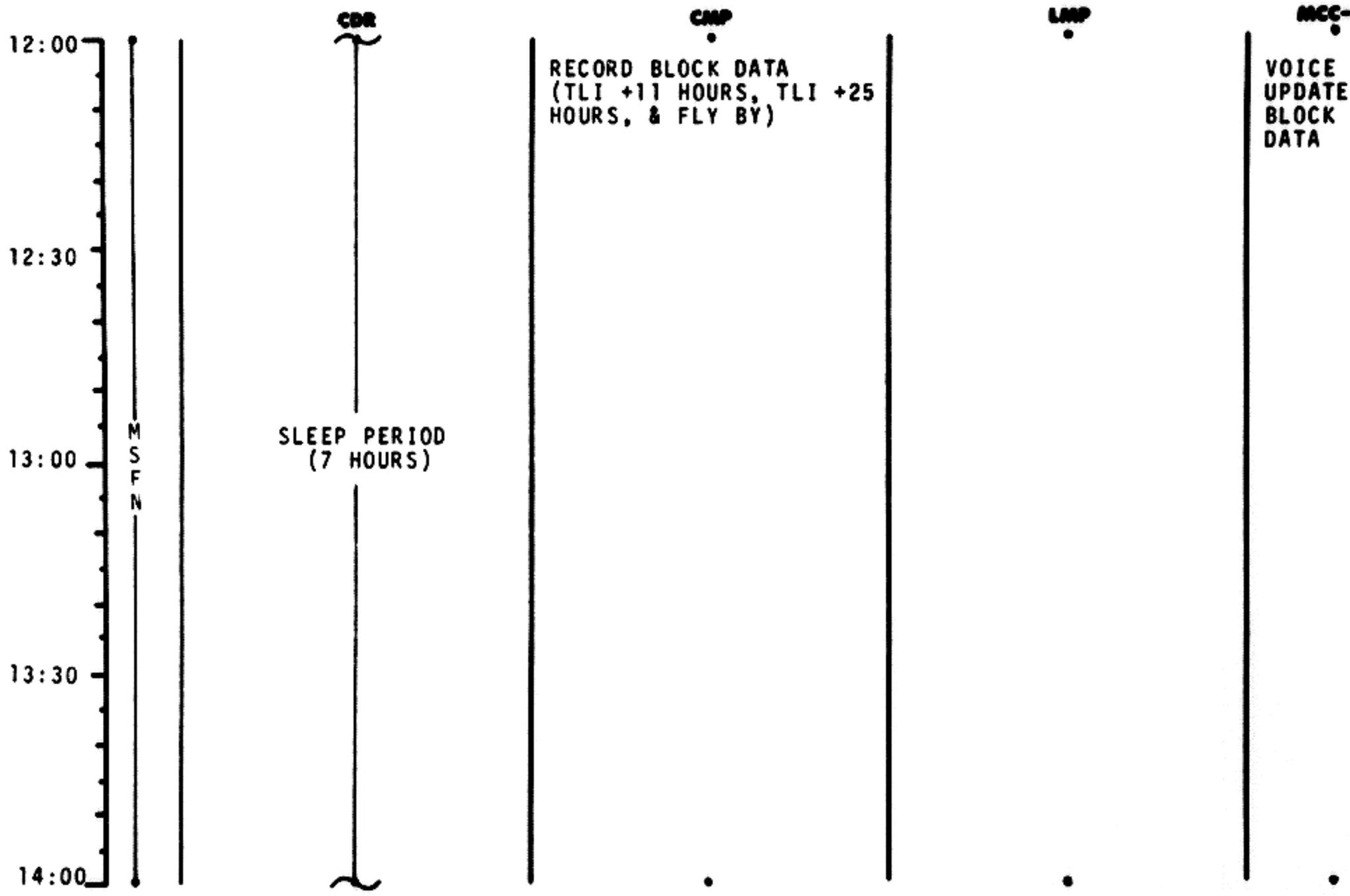
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



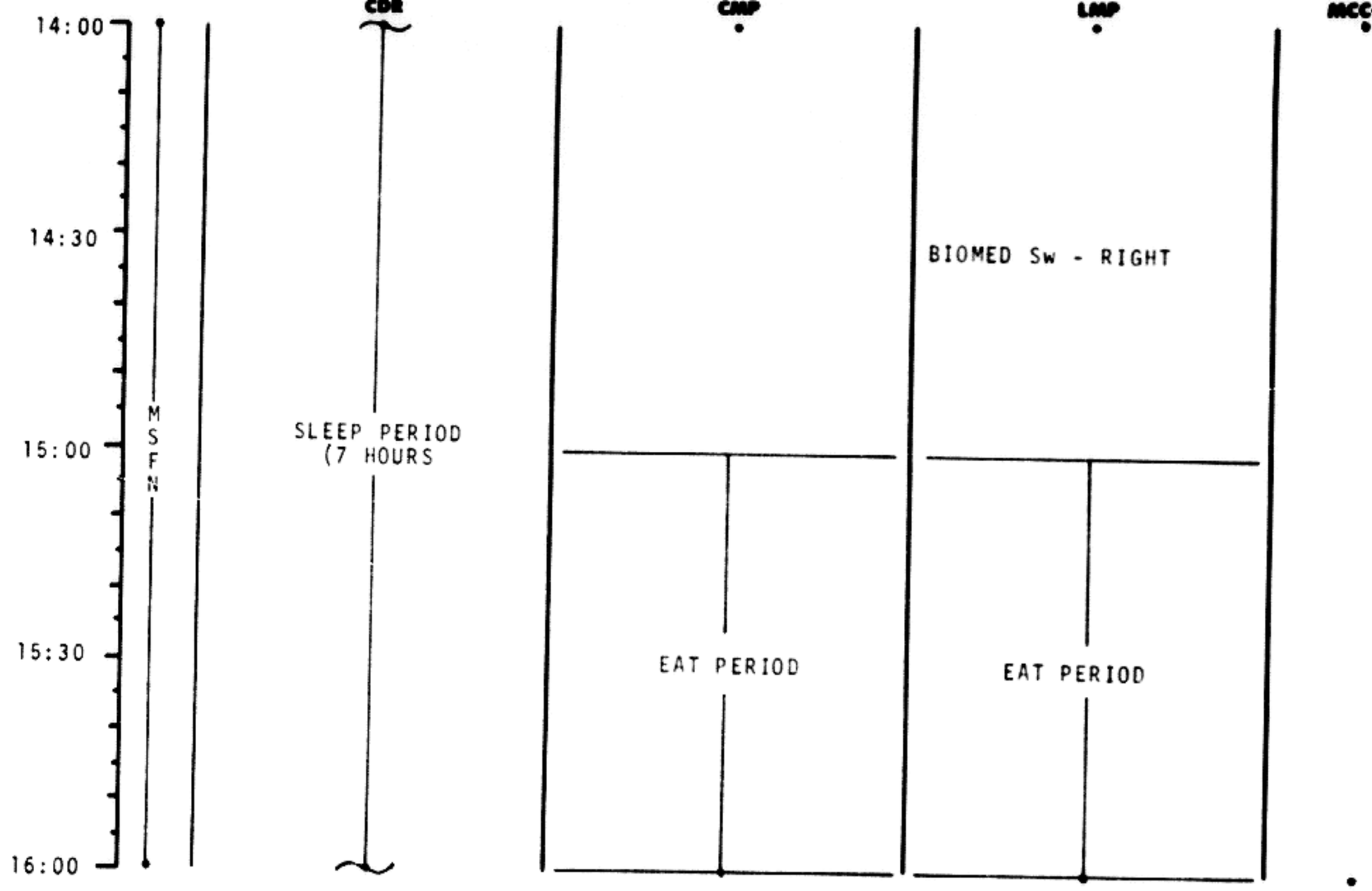
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	10:00 - 12:00	1/TLC	2-11

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



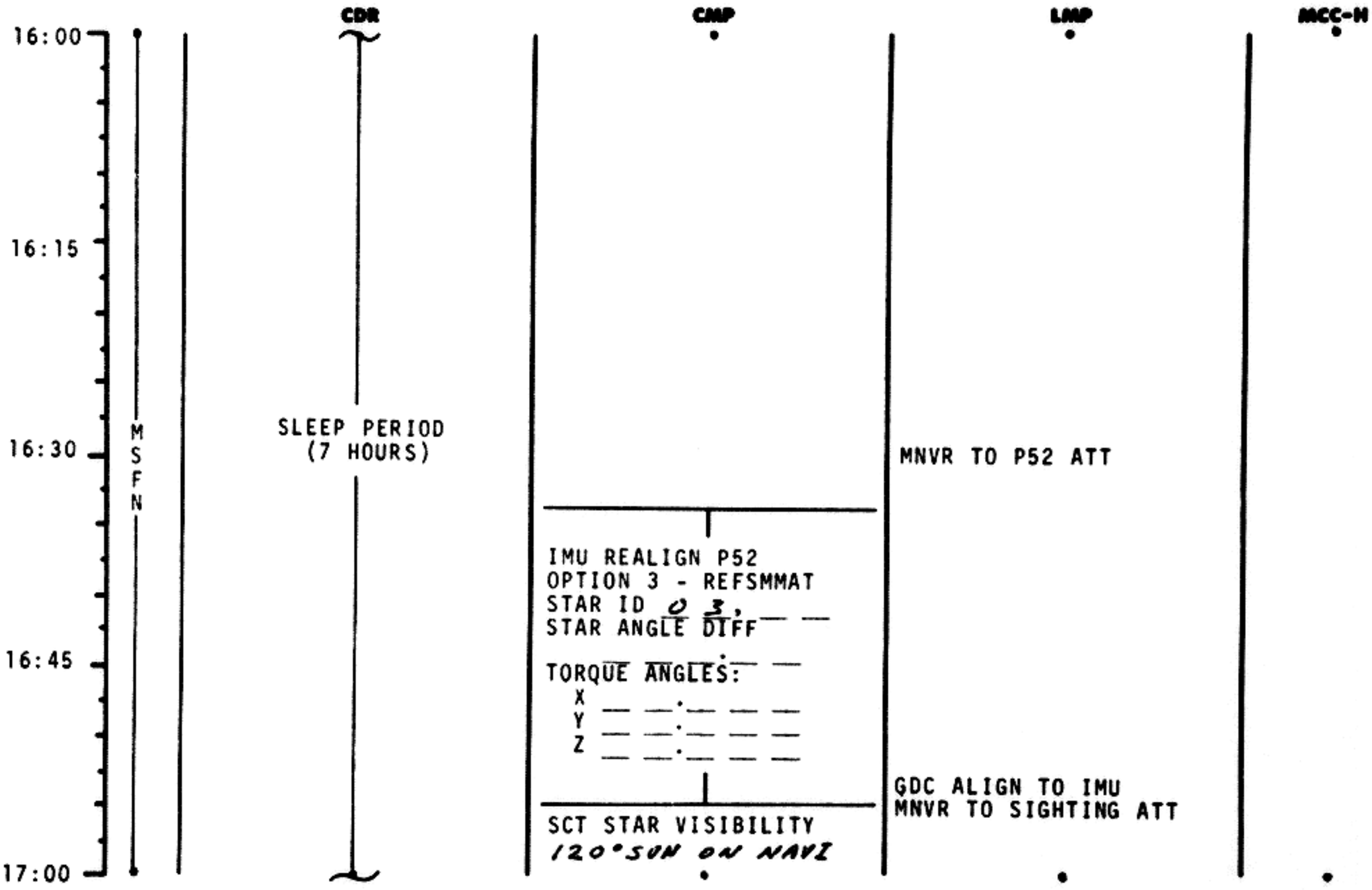
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	12:00 - 14:00	1/TLC	2-12



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	14:00 - 16:00	1/TLC	2-13

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

CDR | CMP | LMP | MCC-H

17:00

17:15

TRN BIAS

CISLUNAR NAVIGATION P23

1. STAR ~~22~~ 16 EFH 00120
   STAR__ __ E__H
   3 SETS

17:30

MSFN

SLEEP PERIOD
(7 HOURS)

2. STAR ~~16~~ 22 EFH 00120
   STAR__ __ E__H
   2 SETS

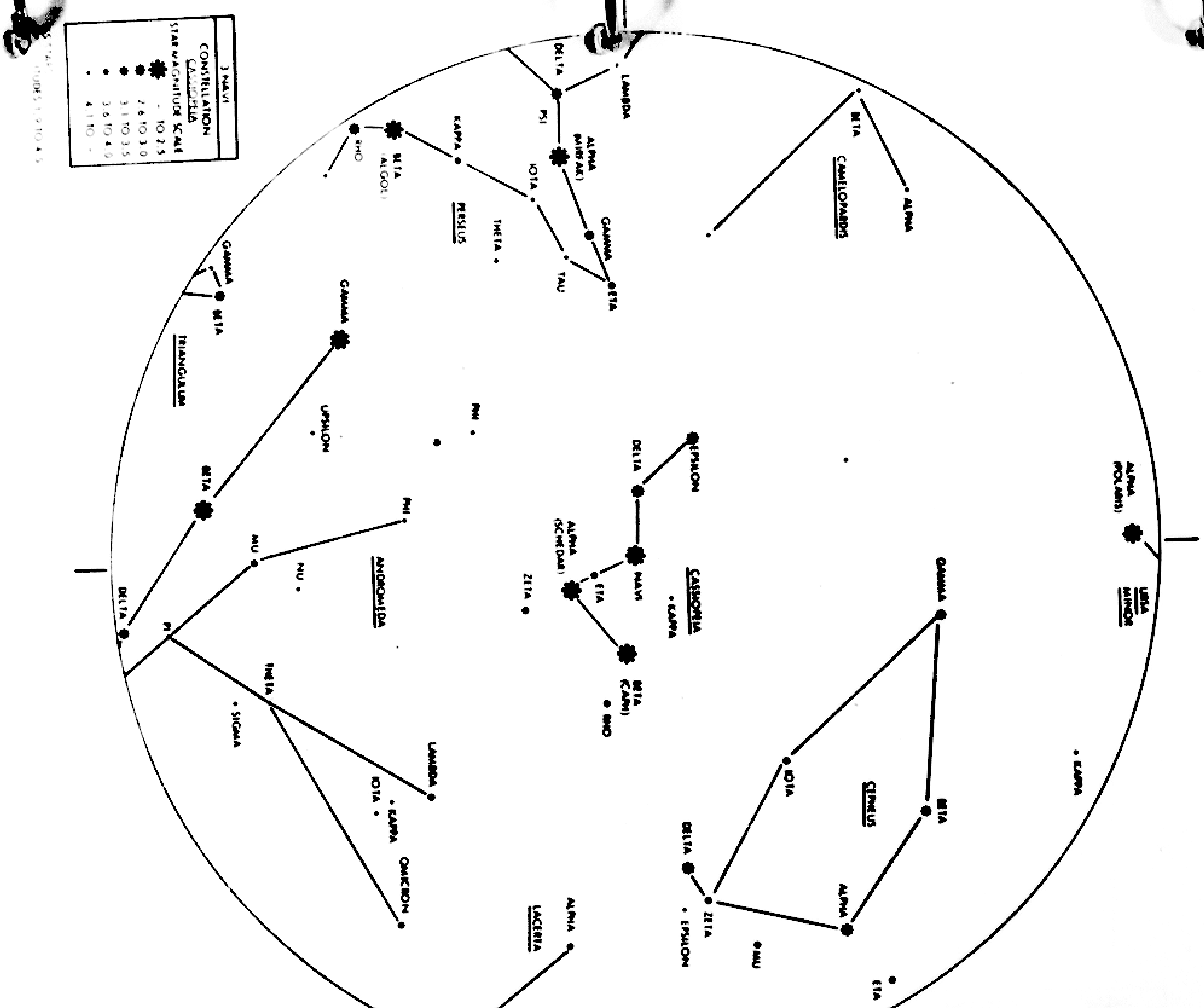
17:45

GROUND TRACK DET P21

18:00

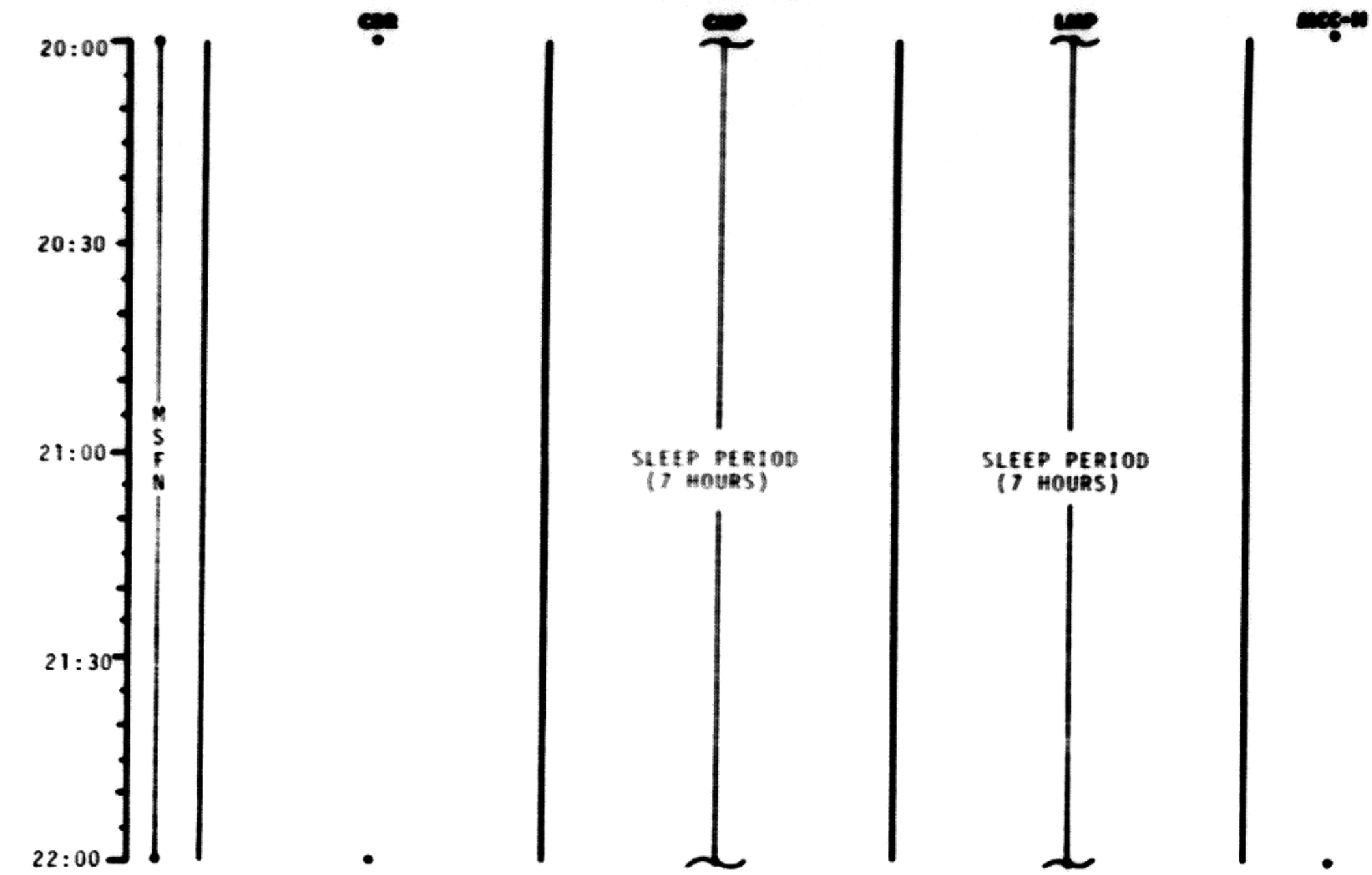
BIOMED Sw - LEFT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	17:00 - 18:00	1/TLC	2-15



FLIGHT PLAN

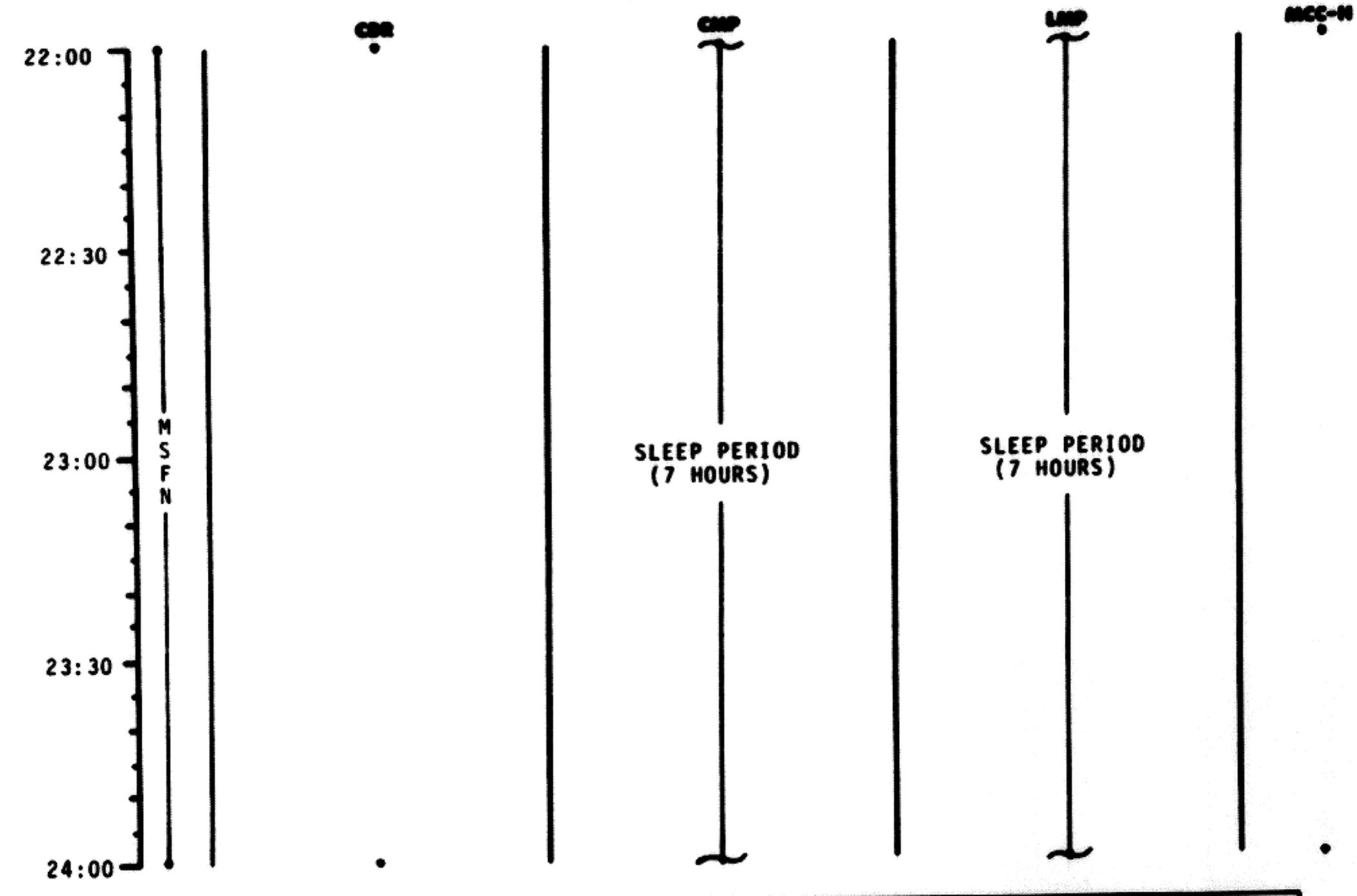
	CDR	CMP	LMP	MCC-H
18:00	MNVR TO PTC ATT P ~~331~~ 56 Y ~~331~~ 340 P _____ Y _____ ROLL 0.1°/SEC	LiOH CANISTER CHANGE (CARTRIDGE NO. 4 FROM ~~A3~~ INTO CANISTER B) ~~B5~~		
18:30				
MSFN				
19:00	EAT PERIOD	SLEEP PERIOD (7 HOURS)	SLEEP PERIOD (7 HOURS)	
19:30	CDR CREW STATUS REPORT			
20:00				

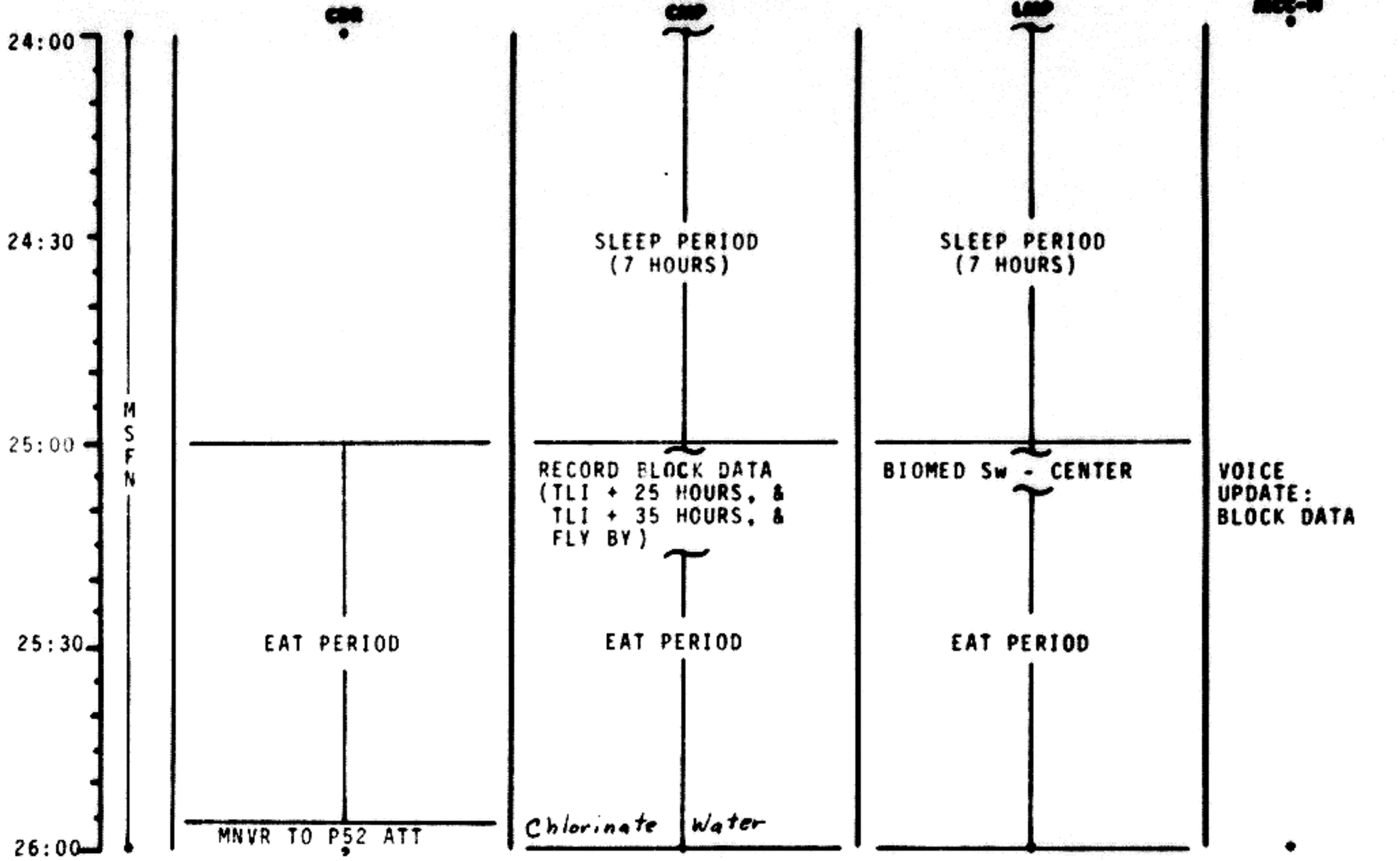


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	20:00 - 22:00	1/TLC	2-17

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

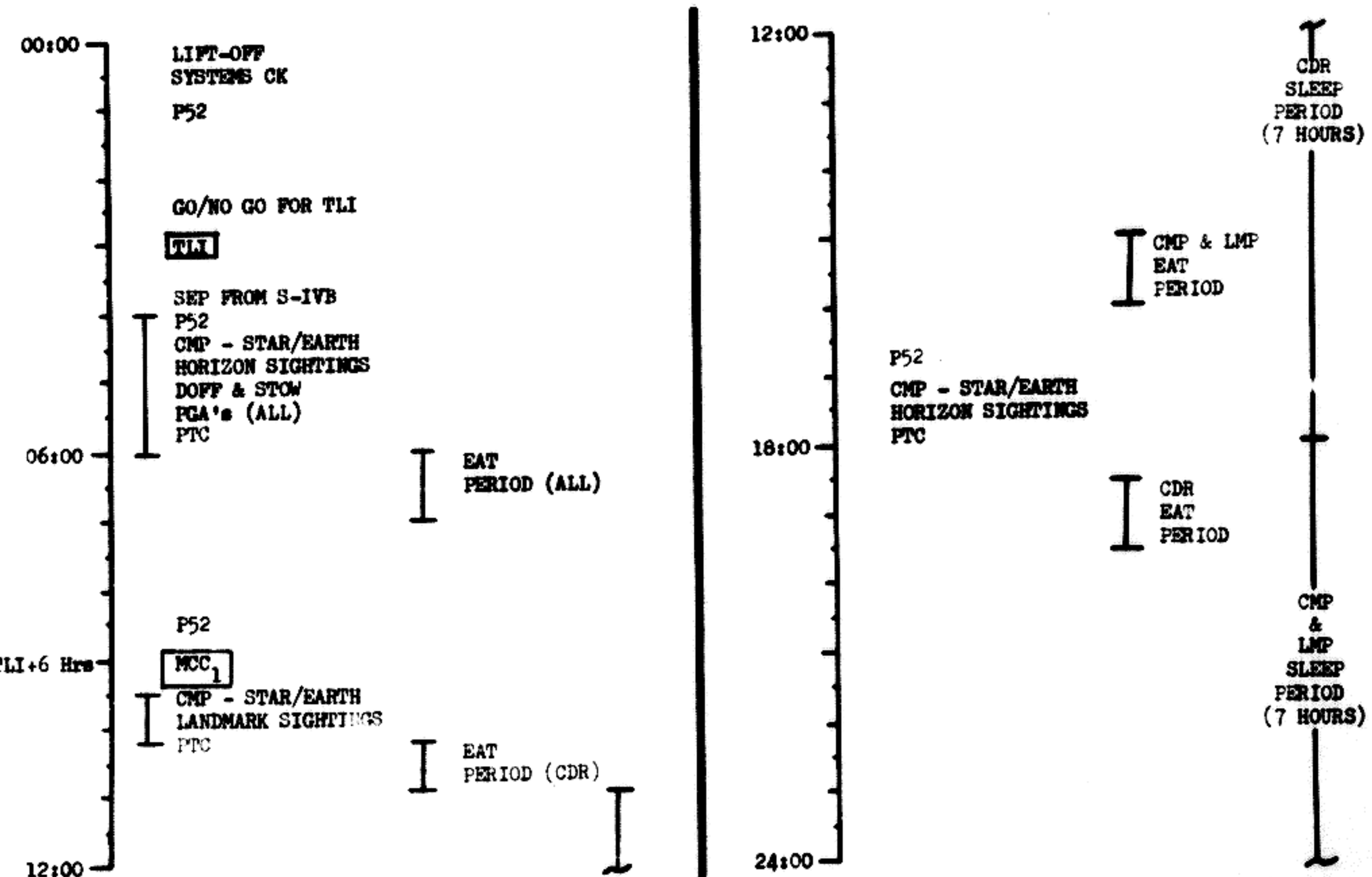




MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	24:00 - 26:00	2/TLC	2-19

NSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	00:00 - 24:00	1	5-1

FLIGHT PLAN

CDR

CMP

LMP

MCC-H

26:00

26:15

26:30

26:45

27:00

MSFN

GDC ALIGN TO IMU
MNVR TO SIGHTING
ATTITUDE

IMU REALIGN P52
OPTION 3 - REFSMMAT
STAR ID ___ ___
STAR ANGLE DIFF ___ ___

TORQUE ANGLES:
X ___ ___.___ ___ ___
Y ___ ___.___ ___ ___
Z ___ ___.___ ___ ___

TRN BIAS

CISLUNAR NAVIGATION P23

1. STAR 16 EFH 00120
   STAR__ __ E__H
   1 SET

2. STAR 22 EFH 00120
   STAR__ __ E__H
   1 SET

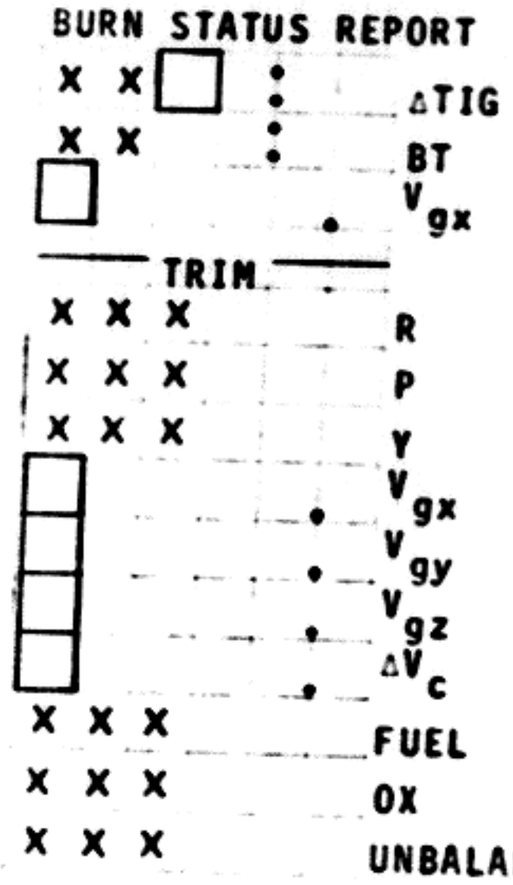
3. STAR 26 ENH 00110
   STAR__ __E__H
   1 SET

CMP/LMP CREW STATUS
REPORT

RECORD MNVR PAD

VOICE
UPDATE:
MNVR PAD

		DATE	TIME	DAY/REV	PAGE

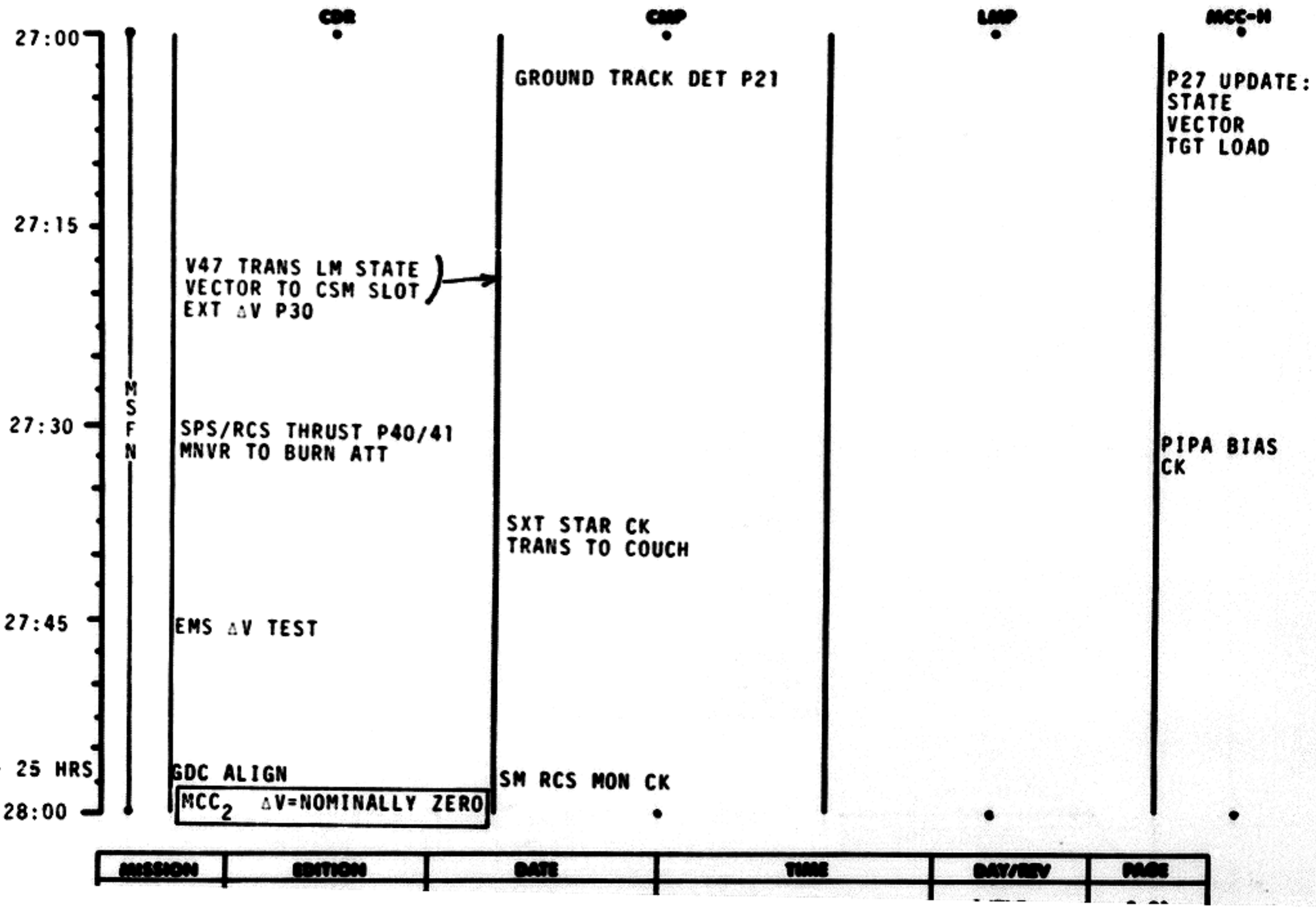


MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

28:00

28:15

28:30

28:45

29:00

MSFN

V66 TRANS CSM STATE VECTOR TO LM SLOT

MNVR TO SIGHTING ATT

MCC_2 BURN STATUS REPORT

CDR CREW STATUS REPORT

SM RCS MONITOR CK
TRN BIAS

CISLUNAR NAVIGATION P23

1. STAR 16 EFH 00120
   STAR__ __ E__H
   1 SET

2. STAR 22 EFH 00120
   STAR__ __ E__H
   1 SET

3. STAR 21 EFH 00120
   STAR__ __E__H
   1 SET

4. STAR 26 ENH 00110
   STAR__ __ E__H
   1 SET

GROUND TRACK DET P21

SPS MONITOR CK
~~INITIATE BAT CHARGE~~
BIOMED Sw - RIGHT

MNVR TO PTC ATT
P ~~331~~ 356 Y ~~331~~ 340
P ___ Y ___
ROLL 0.1°/SEC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	28:00 - 29:00	2/TLC	2-22

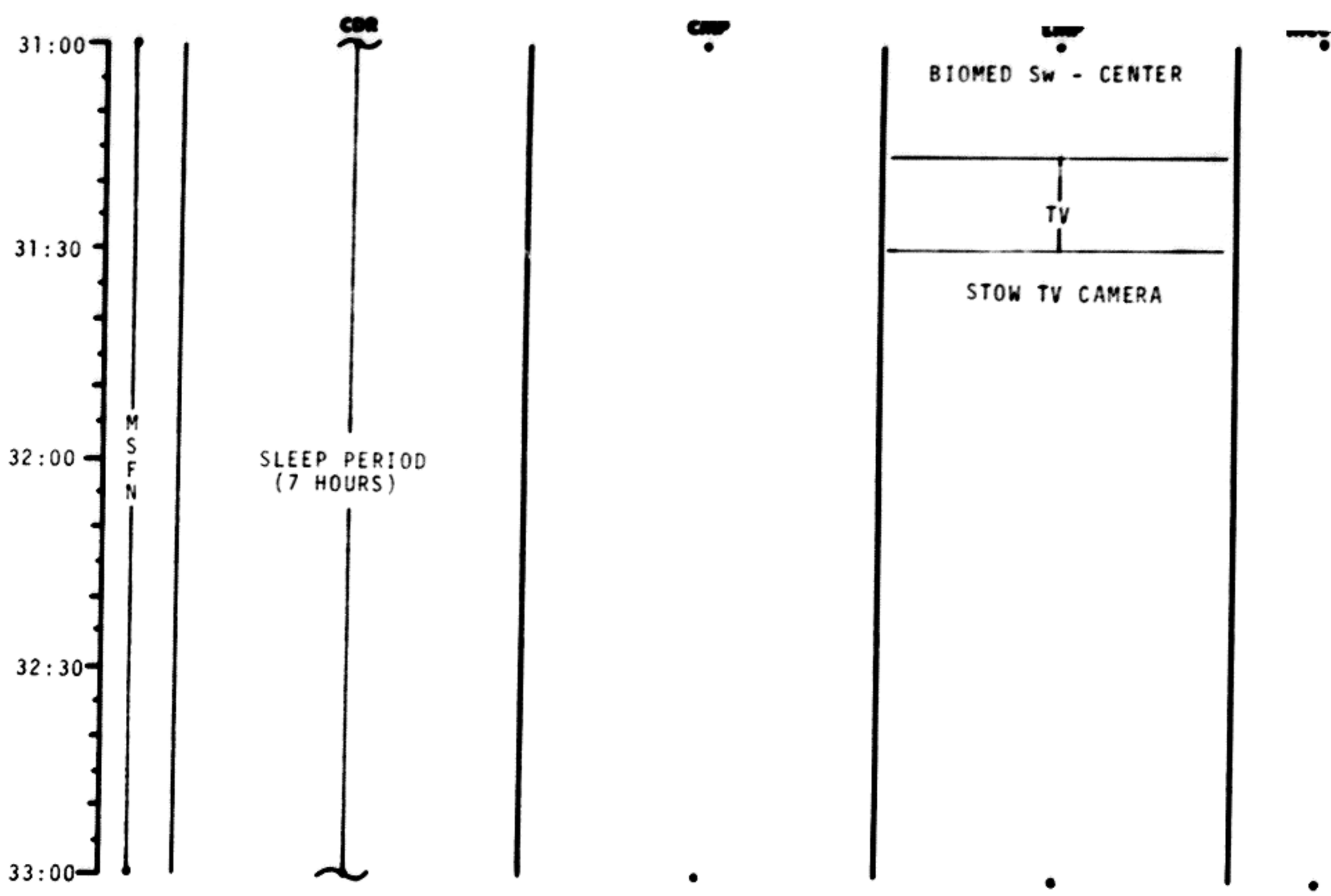
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
29:00		LiOH CANISTER CHG (CARTRIDGE NO. 5 FROM ~~A~~ B INTO CANISTER A)		COMM TEST MODE: ~~A~~ ~~B~~ ~~C~~ ~~D~~
			(R,V.R,V, HBR)	4.2
			(R,U. R,V, HBR)	5.2
			(R,V. R,U, LBR)	4.3
29:30			(UVB. R,V, HBR)	8.2 ~~1.0~~
			(V,U. LBR)	~~B~~.5 ~~0.6~~
			(R.R)	1.7
			(V,U. DVB,LBR)	~~B~~.8
			(V,U. DVB)	~~B~~.10
30:00	SLEEP PERIOD (7 HOURS)			
30:30		EAT PERIOD	EAT PERIOD	
			UNSTOW TV CAMERA	
31:00				

MSFN

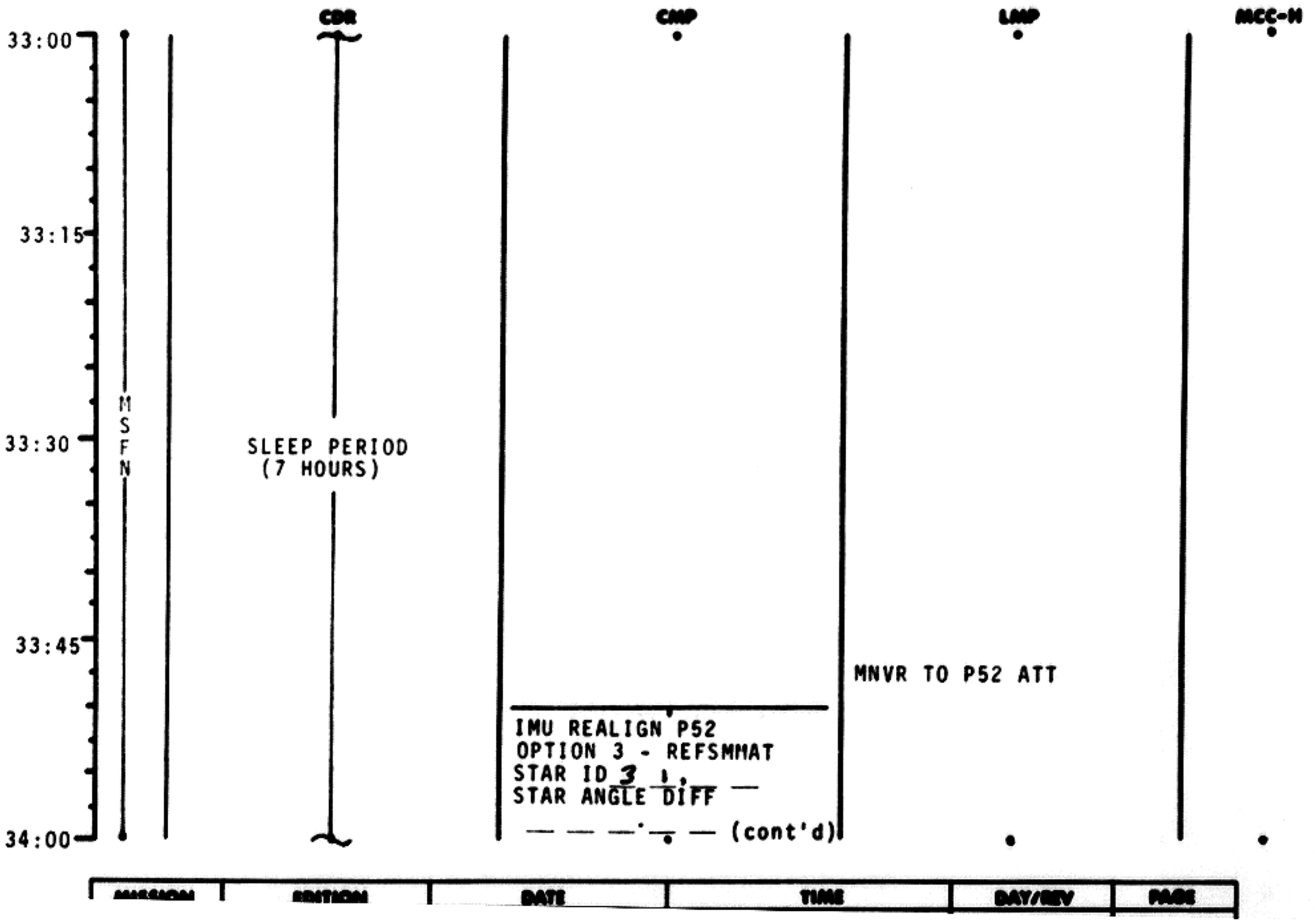
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	31:00 - 33:00	2/TLC	2-24

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



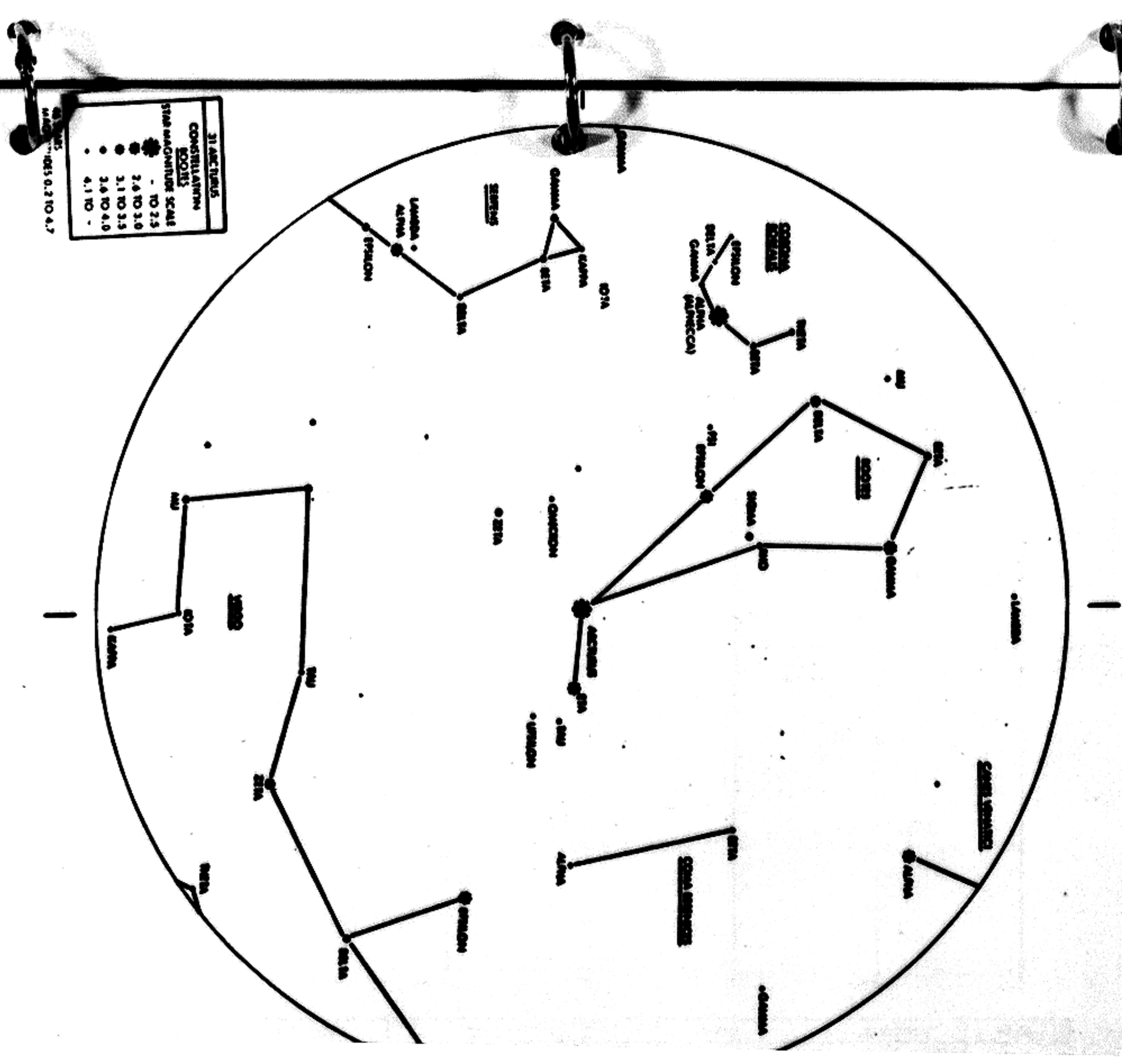
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

	CDR	CMP	LMP
34:00		TORQUE ANGLES: X ___ ___.___ ___ ___ Y ___ ___.___ ___ ___ Z ___ ___.___ ___ ___	BIOMED Sw - RIGHT
		SCT STAR VISIBILITY TRN BIAS (70° SUN ON ACTURUS)	MNVR TO SIGHTING ATT
34:15		**CISLUNAR NAVIGATION P23**	
		1. STAR 16 EFH 00120 STAR__ __ E__H 1 SET	
34:30	SLEEP PERIOD (7 HOURS)	2. STAR 22 EFH 00120 STAR__ __ E__H 1 SET	
34:45		3. STAR 26 ENH 00110 STAR__ __ E__H 1 SET GROUND TRACK DET P21	MNVR TO PTC ATT P ~~331~~ 56 Y ~~331~~ 340 P ___ Y ___ ROLL 0.1°/SEC
35:00		RECORD BLOCK DATA (TLI + 35 HOURS, TLI + 44 HOURS, AND FLY BY)	VOICE UPDATE: BLOCK DATA

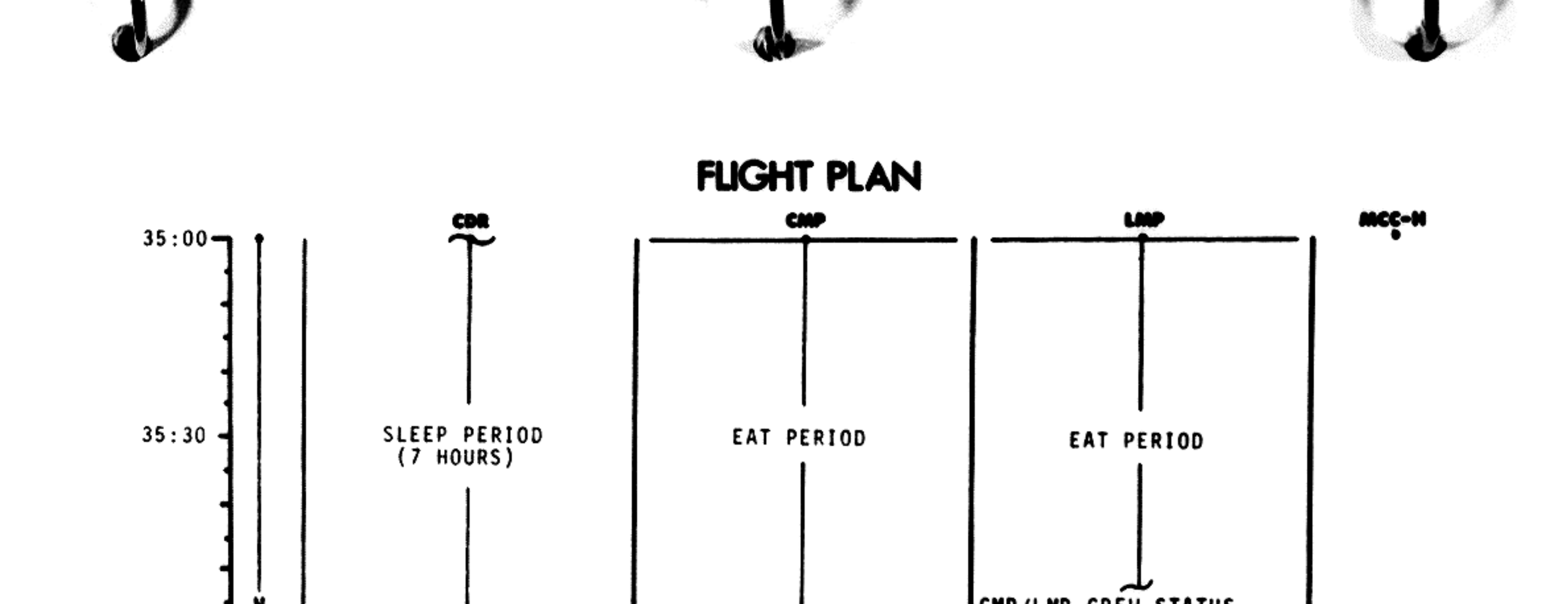
M S F N

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	34:00 - 35:00	2/TLC	2-26

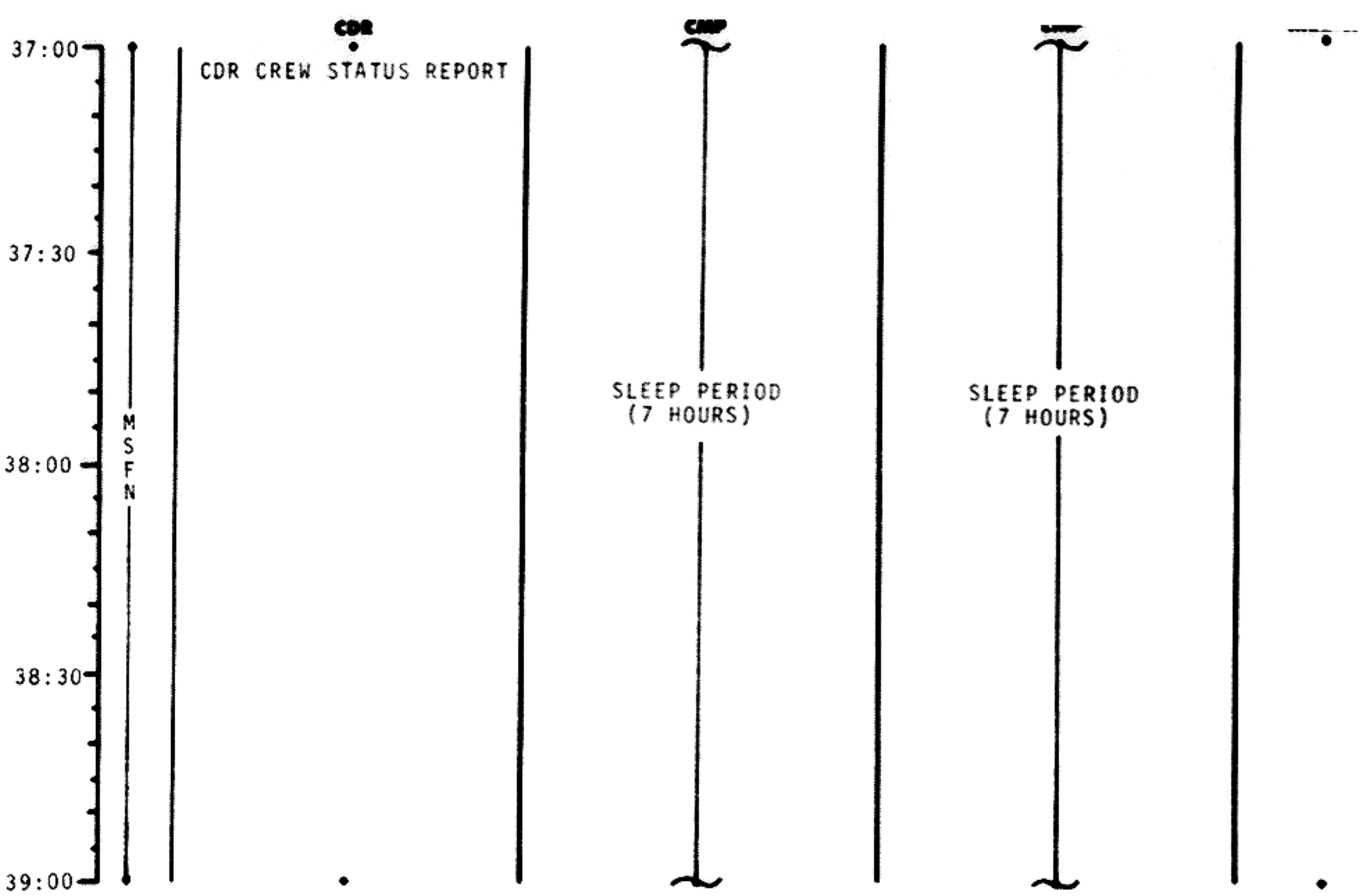
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH



FLIGHT PLAN



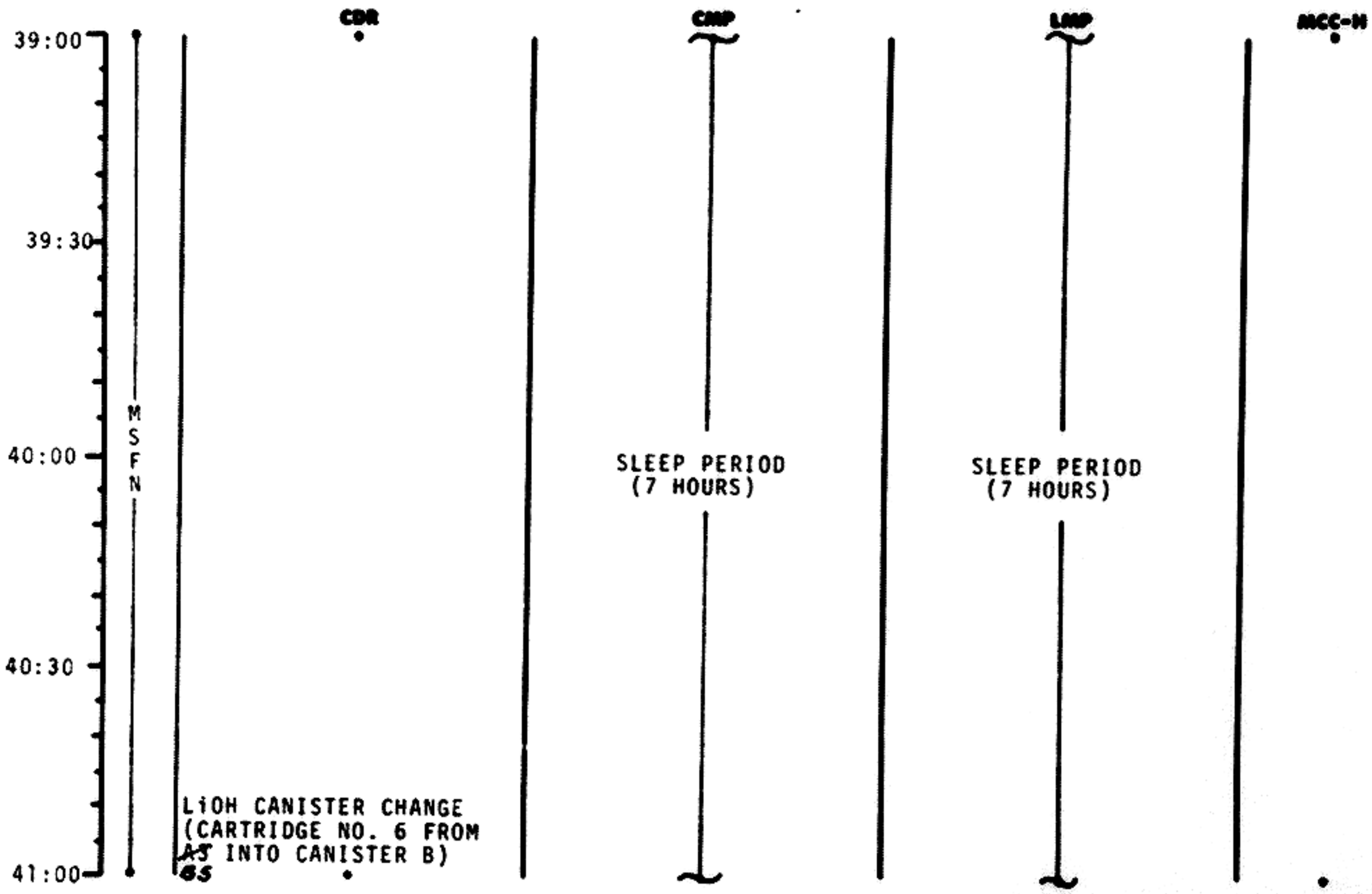
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



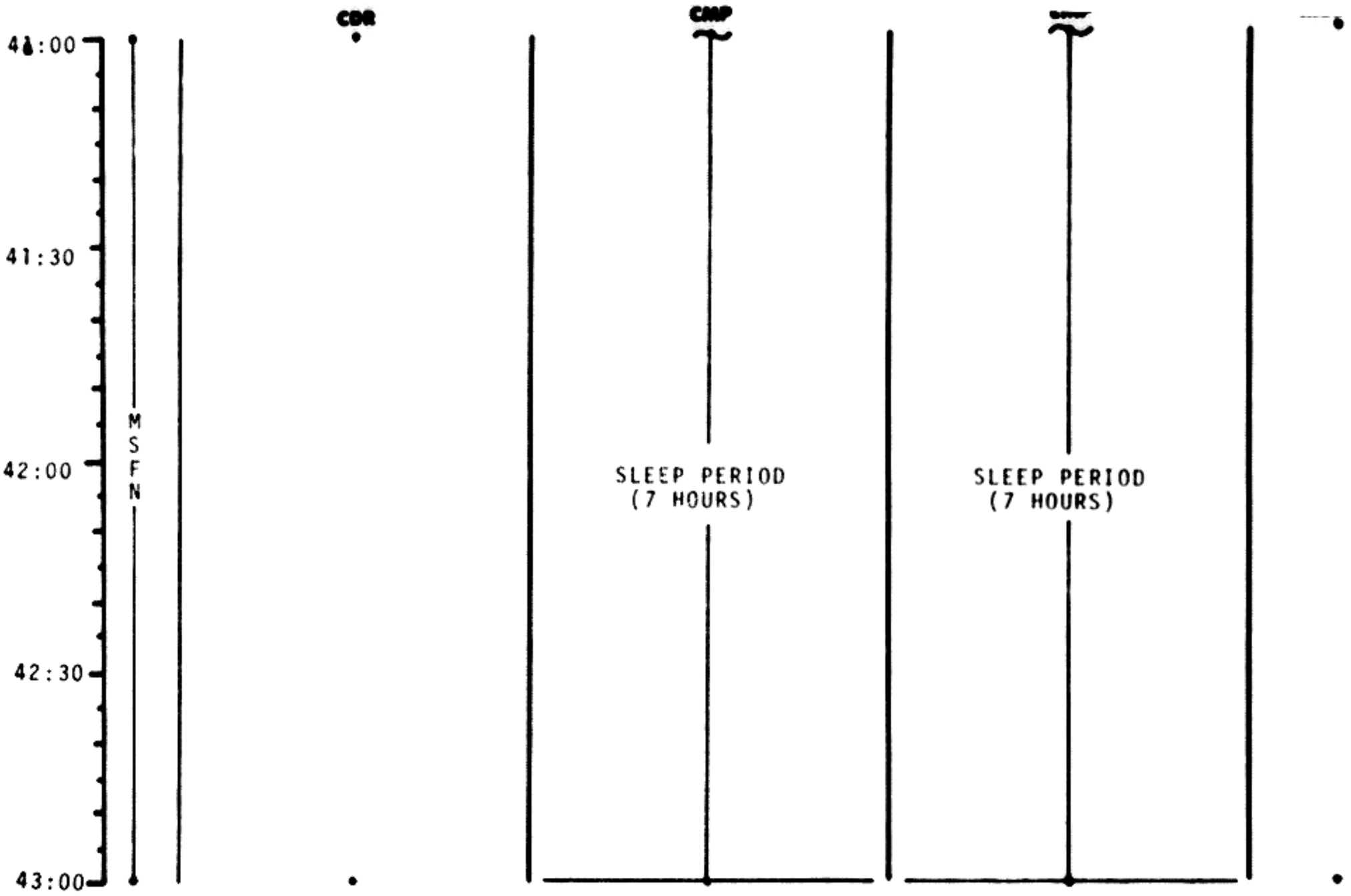
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	37:00 - 39:00	2/TLC	2-28

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



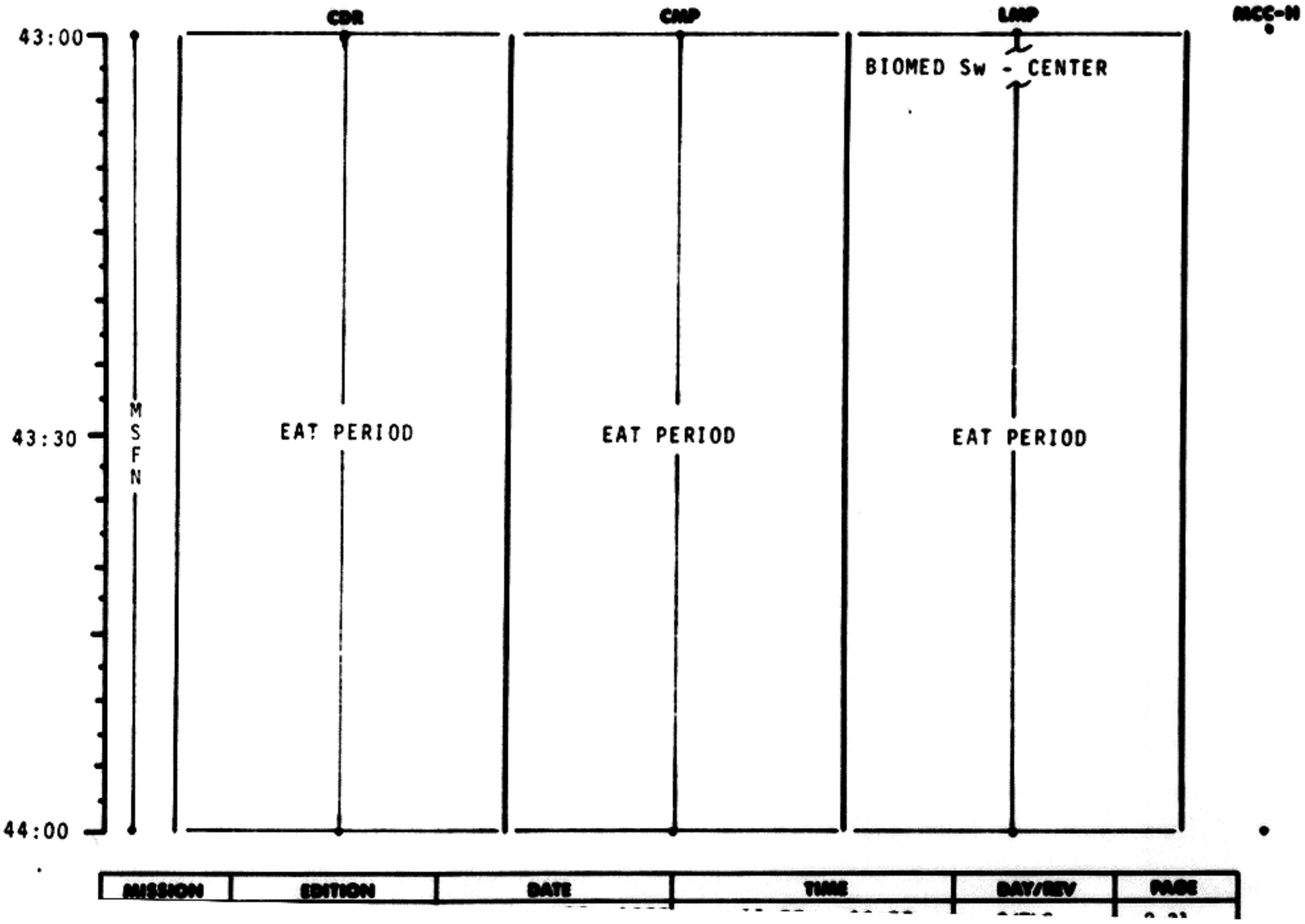
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	41:00 - 43:00	2/TLC	2-30

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

	CDR	CMP	LMP	MCC-H
44:00		RECORD BLOCK DATA (TLI + 44 HOURS, FLY BY, ~~PC + 2 (QUICK RETURN),~~ & PC + 2) ASSUMING FLYBY	CMP/LMP CREW STATUS REPORT	VOICE UPDATE: BLOCK DATA
44:30	MNVR TO P52 ATT	IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID ___ STAR ANGLE DIFF ___.___ TORQUE ANGLES: X ___.___ Y ___.___ Z ___.___		
45:00	GDC ALIGN TO IMU			

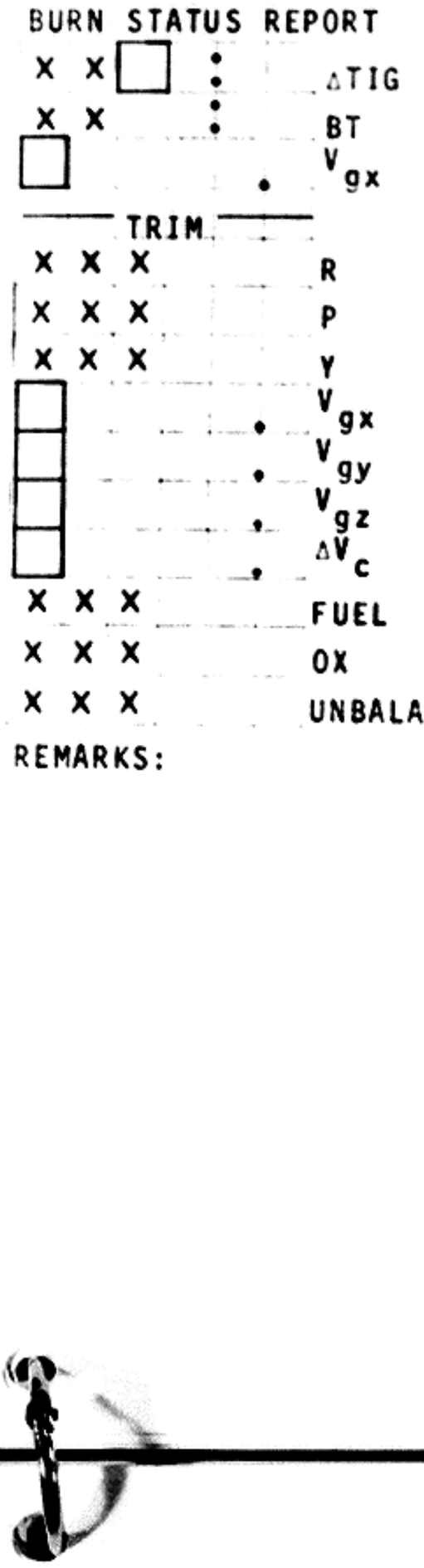
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	44:00 - 45:00	2/TLC	2-32

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
45:00	MNVR TO SIGHTING ATT	TRN BIAS CISLUNAR NAVIGATION P23 1. STAR 33 LNH 00210 STAR__ __ L__H 3 SETS		
45:30		2. STAR ~~37~~ 34 LNH 00280 STAR__ __ L__H 1 SET		
45:45		3. STAR ~~45~~ 40 LNH 00210 ~~00330~~ STAR__ __ L__H 1 SET		
46:00		~~4. STAR 42 LPH 00200~~ ~~STAR__ __ L__H~~ ~~1 SET~~		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
46:00		GROUND TRACK DET P21	BIOMED Sw - RIGHT RECORD MNVR PAD	P27 UPDATE: STATE VECTOR TGT LOAD VOICE UPDATE: MNVR PAD
46:15	V47 TRANS LM STATE VECTOR TO CSM SLOT EXT ΔV P30			
MSFN				
46:30	SPS/RCS THRUST P40/41			
	MNVR TO BURN ATT	SXT STAR CK TRANS TO COUCH		PIPA BIAS CK
46:45	EMS ΔV TEST			
	GDC ALIGN TO IMU	SM RCS MON CK		
LOI -22 HRS 47:00	MCC$_3$ ΔV=NOMINALLY ZERO			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

CDR	CMP	SPS MON CK
MNVR TO SIGHTING ATT	SM RCS MON CK	~~INITIATE BAT CHARGE~~
V66 TRANS CSM STATE VECTOR TO LM SLOT →		
MCC_3 BURN STATUS REPORT	TRN BIAS	
	CISLUNAR NAVIGATION P23	
	1. STAR 16 EFH 00120 STAR__ __ E__H	
	1 SET	
	2. STAR 22 EFH 00120 STAR__ __ E__H	
	1 SET	
	3. STAR 26 ENH 00440 STAR__ __ E__H	
	1 SET	
MNVR TO PTC ATT P ~~331~~ Y ~~331~~ P ~~36~~ Y ~~340~~ ROLL 0.1°/SEC	GROUND TRACK DET P21	

47:00 — 47:15 — 47:30 — 47:45 — 48:00

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	47:00 - 48:00	2/TLC	2-35

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

24:00 — TLI + 25 Hrs — 30:00 — 36:00

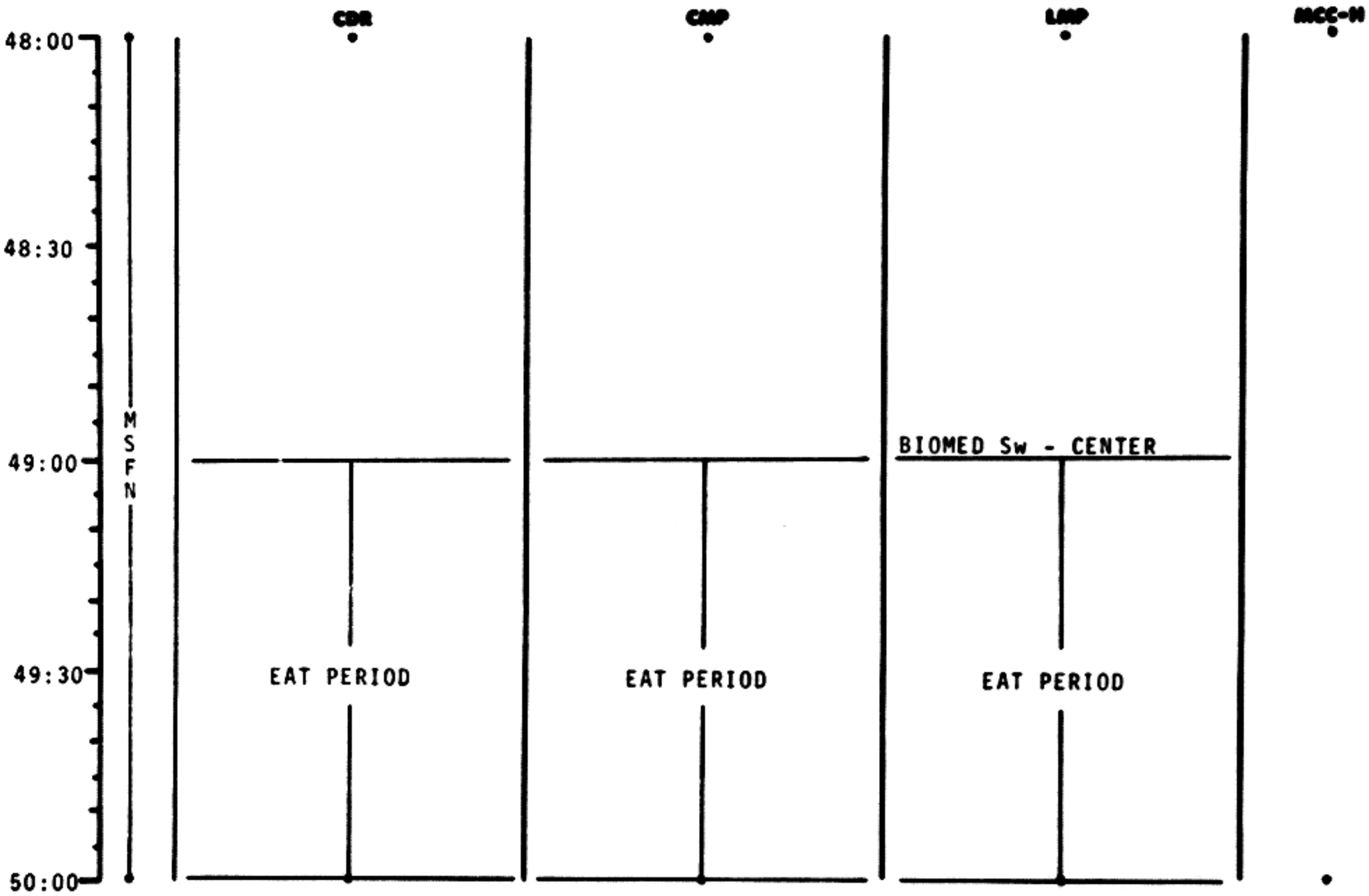
- P52 CMP - STAR/EARTH HORIZON SIGHTINGS
- MCC_2
- CMP - STAR/EARTH HORIZON SIGHTINGS PTC
- TV
- P52 CMP - STAR/EARTH HORIZON SIGHTINGS PTC
- EAT PERIOD (ALL)
- CMP & LMP EAT PERIOD
- CDR SLEEP PERIOD (7 HOURS)
- CMP & LMP EAT PERIOD

36:00 — LOI -22 Hr — 42:00 — 48:00

- CDR EAT PERIOD
- CMP & LMP SLEEP PERIOD (7 HOURS)
- EAT PERIOD (ALL)
- P52 CMP - STAR/LUNAR HORIZON SIGHTINGS
- MCC_3 CMP - STAR/EARTH HORIZON SIGHTINGS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			24:00 - 48:00	2	5-2

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

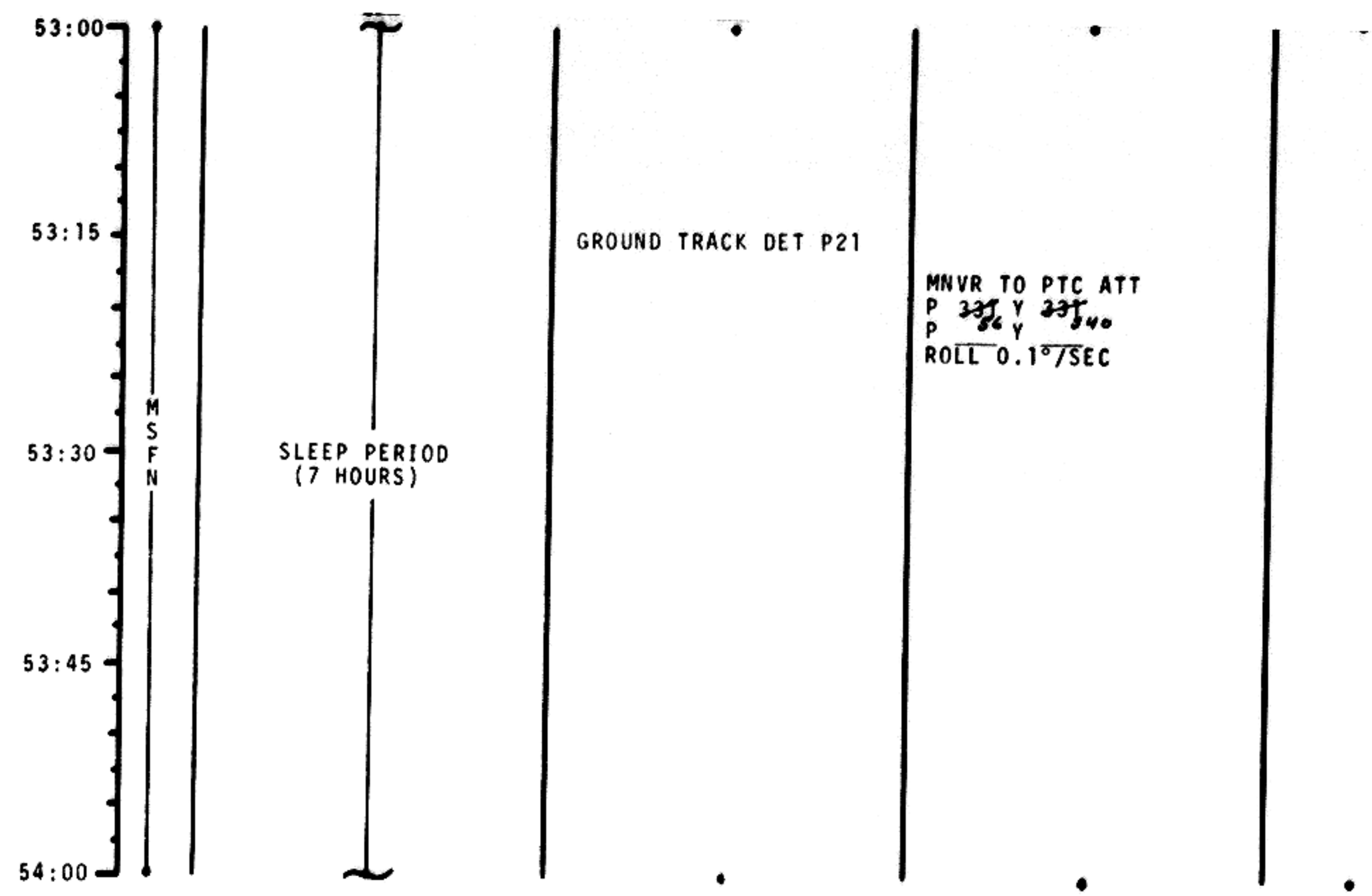
Time	MSFN	CDR	CMP	LMP	MCC-H
50:00	MSFN		CHLORINATE WATER		
50:30					
51:00			LiOH CANISTER CHANGE (CARTRIDGE NO.7 FROM B6 INTO CANISTER A)	RECORD BLOCK DATA (FLY BY & PC + 2 HOURS)	VOICE UPDATE: BLOCK DATA
51:30		MNVR TO P52 ATT	IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID __ __, __ __ STAR ANGLE DIFF __ __ __.__ __ (cont'd)		
52:00		CDR CREW STATUS REPORT			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	50:00 - 52:00	3/TLC	2-37

FLIGHT PLAN

Time	MSFN	CDR	CMP	LMP	MCC-H
52:00	MSFN	SLEEP PERIOD (7 HOURS)	TORQUE ANGLES: X __ __.__ __ __ Y __ __.__ __ __ Z __ __.__ __ __	BIOMED Sw - RIGHT TRANS TO LH COUCH MNVR TO SIGHTING ATT GDC ALIGN TO IMU	
52:15			TRN BIAS CISLUNAR NAVIGATION P23 1. STAR ~~37~~ 33 LNH 00210 STAR__ __ L__H ~~2~~ 3 SETS		
52:30					
52:45			2. STAR ~~35~~ 34 ~~LNH~~ LFH 00220 STAR__ __ L__H 1 ~~X~~ SET~~S~~ 3. STAR 40 LNH 00210 STAR __ __ L __ H 1 SET		
53:00					

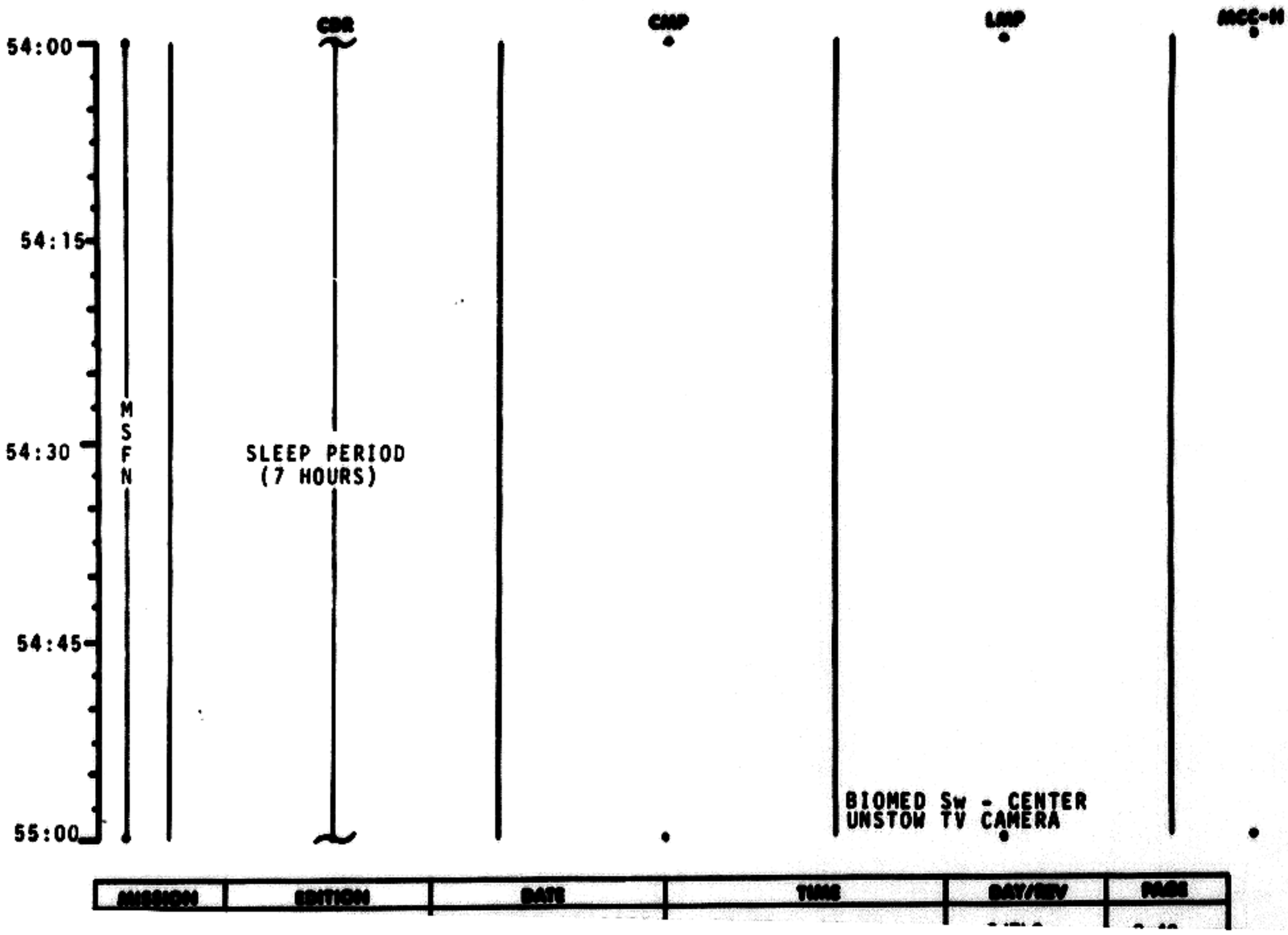
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



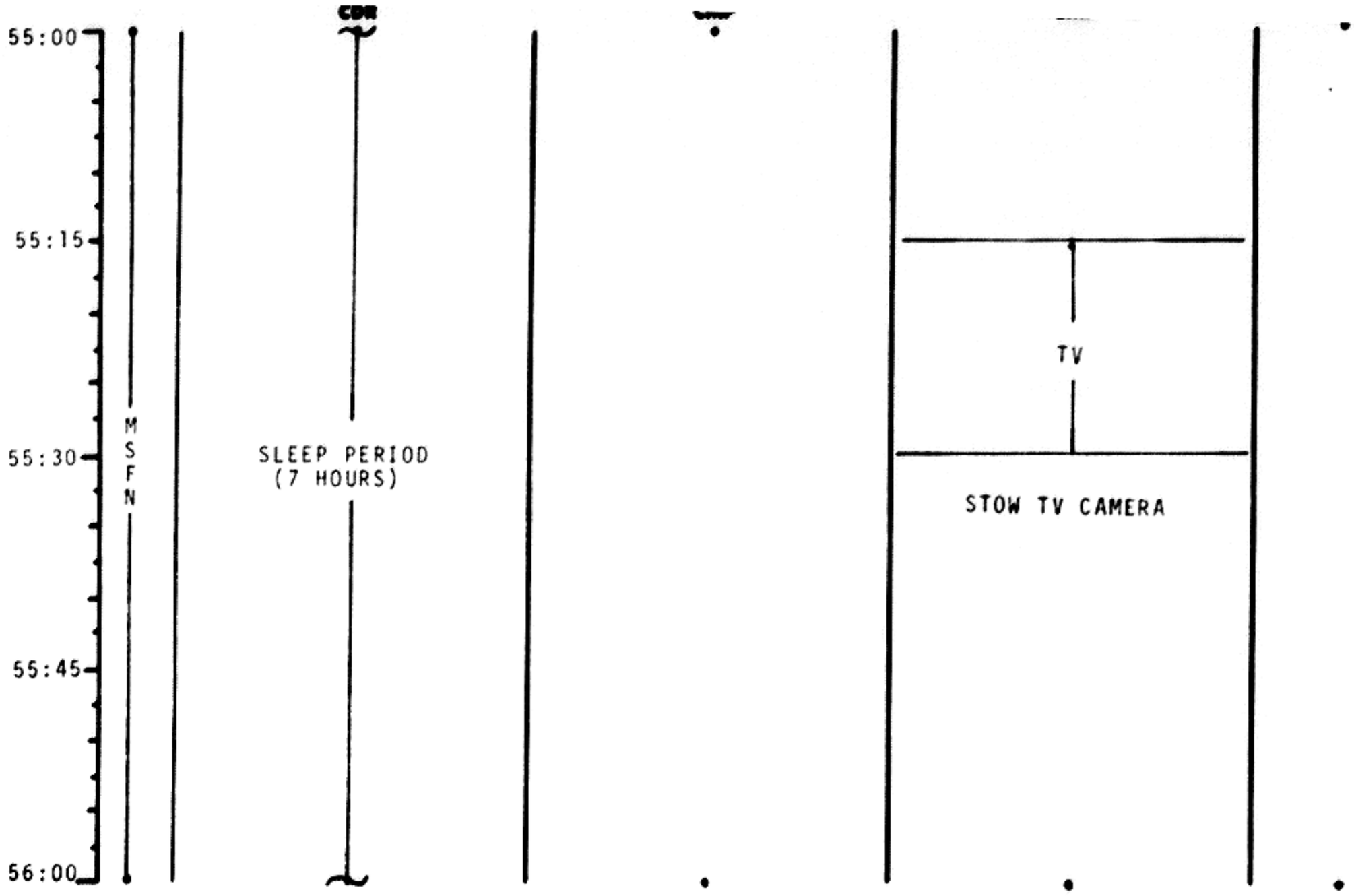
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	53:00 - 54:00	3/TLC	2-39

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



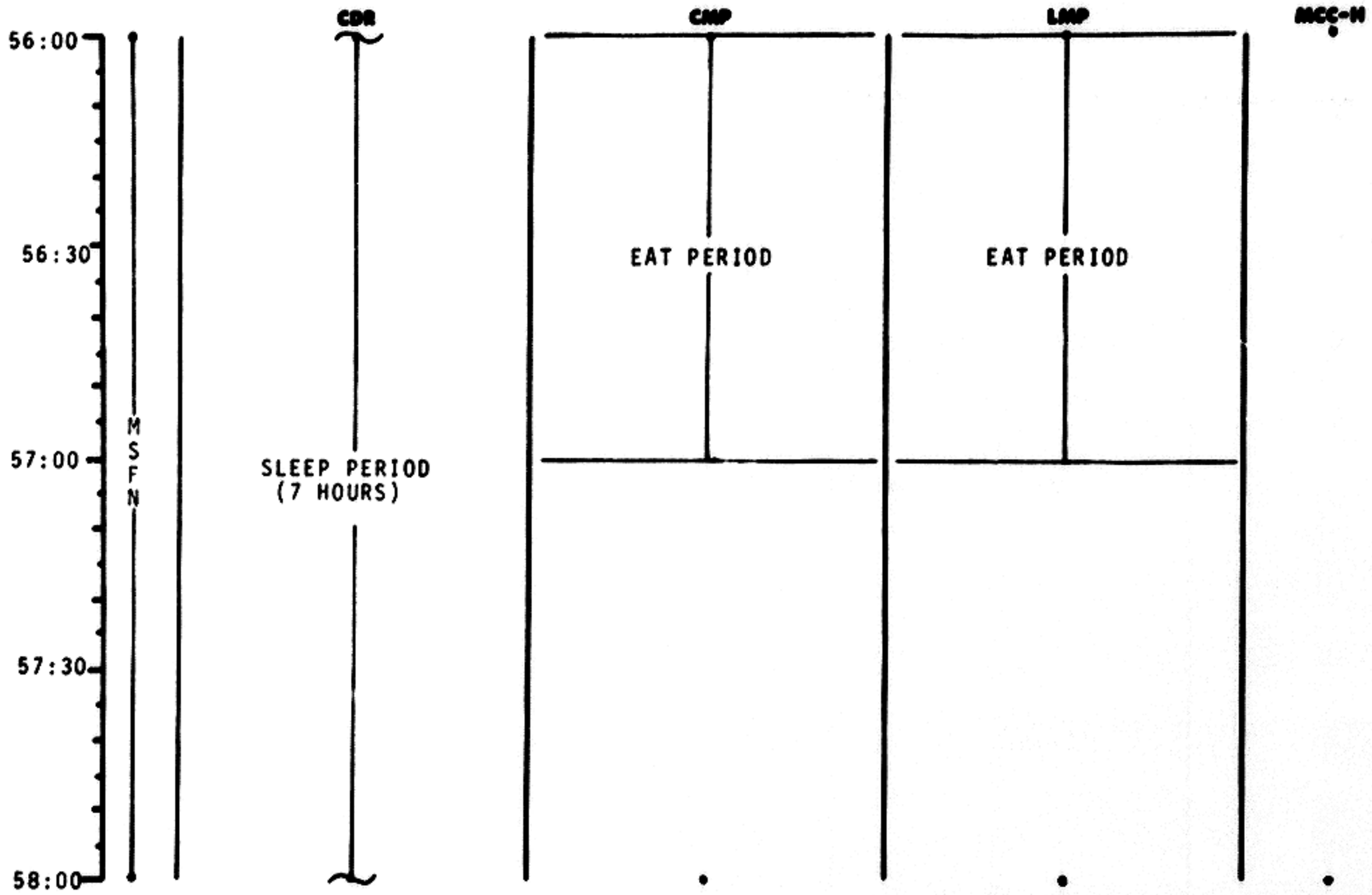
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



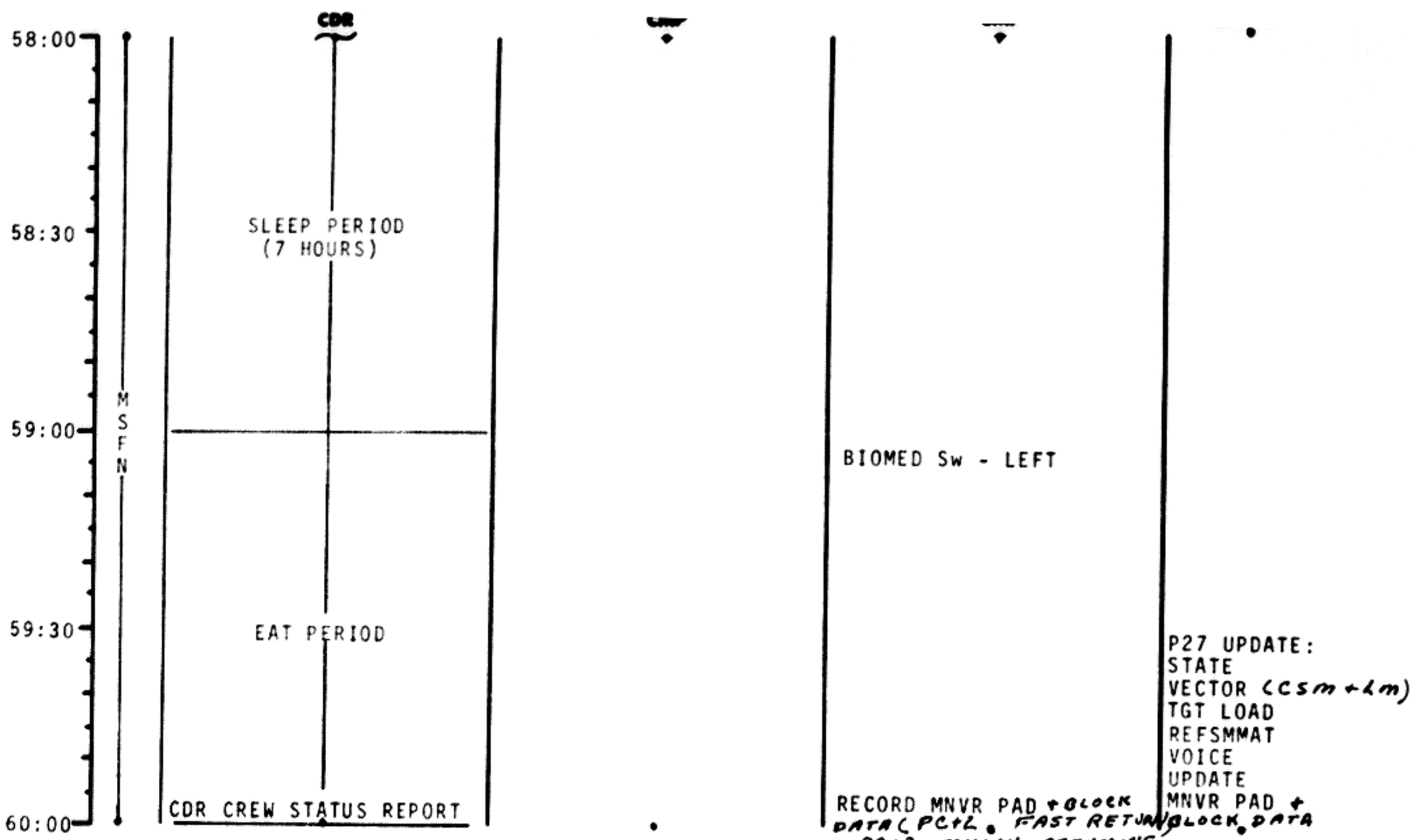
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	55:00 - 56:00	3/TLC	2-41

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
	FINAL	November 22,1968	56:00 - 58:00	3/TLC	2-42



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	58:00 - 60:00	3/TLC	2-43

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

BURN STATUS REPORT

X X ☐ : ΔTIG
X X : BT
☐ • V_{gx}
TRIM
X X X R
X X X P
X X X Y
☐ • V_{gx}
☐ • V_{gy}
☐ • V_{gz}
☐ • ΔV_c
X X X FUEL
X X X OX
X X X UNBALANCE

REMARKS:

MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

	CDR	CMP	LMP	MCC-H
60:00	MNVR TO P52 ATT	IMU REALIGN P52 OPTION 1 - PREFERRED STAR ID __ , __ STAR ANGLE DIFF __ . __ TORQUE ANGLES: X __ __ . __ __ __ Y __ __ . __ __ __ Z __ __ . __ __ __		
60:15				
60:30	EXT ΔV P30 SPS/RCS THRUST P40/41 MNVR TO BURN ATT	SXT STAR CK		PIPA BIAS CK
60:45	EMS ΔV TEST	TRANS TO COUCH		
61:00	GDC ALIGN TO IMU MCC$_4$ ΔV = NOMINALLY ZERO	SM RCS MON CK		

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	60:00 - 61:00	3/TLC	2-44

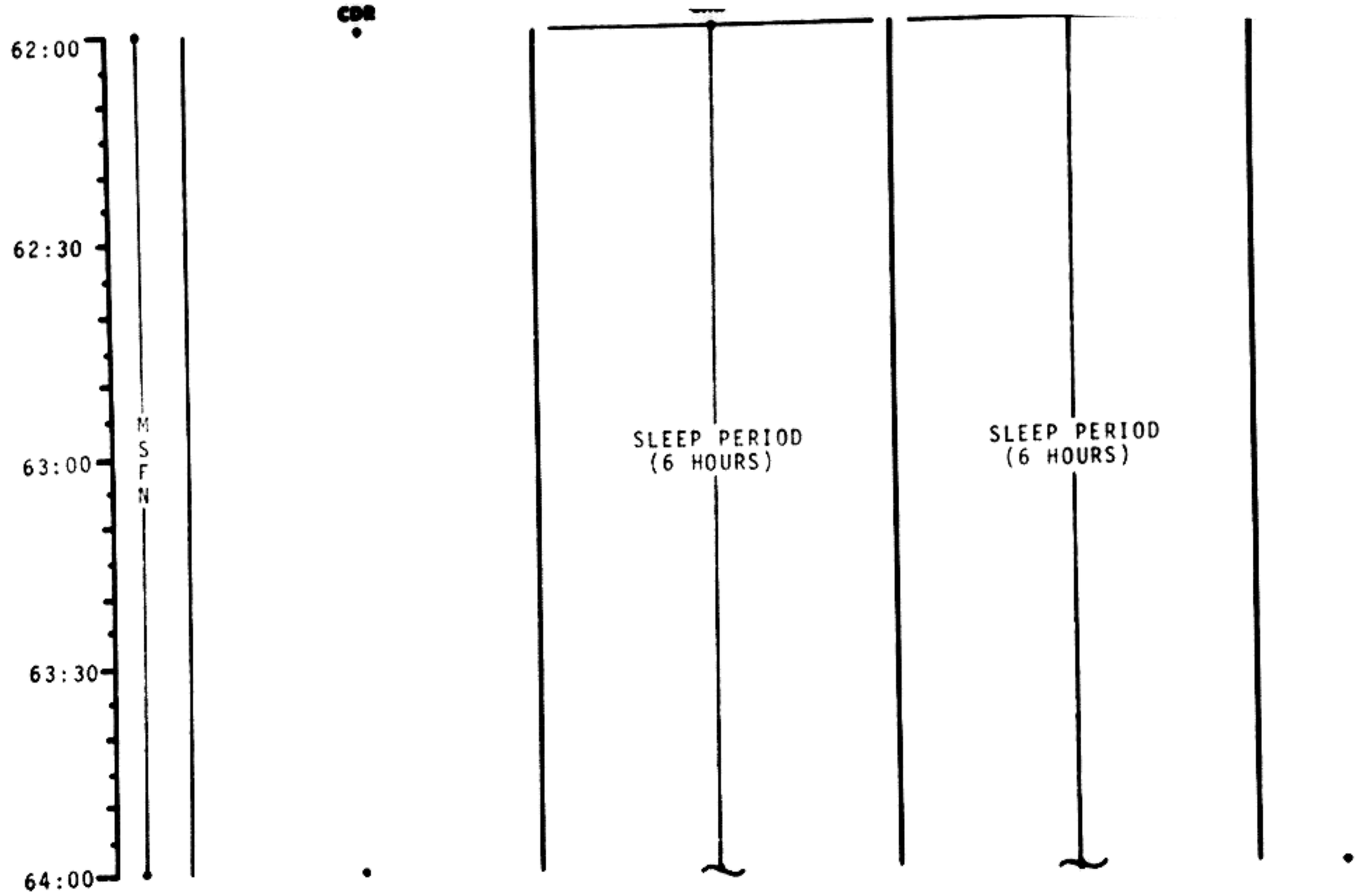
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
61:00	V66 TRANS CSM STATE VECTOR TO LM SLOT →	SM RCS MON CK GROUND TRACK DET P21 (STATE VECTOR CK)	SPS MON CK ~~INITIATE BAT CHARGE~~ ECS REDUNDANT COMP CK	
61:15	MNVR TO PTC ATT P 122 Y 315 P ___ Y ___ ROLL 0.1 °/SEC			
61:30				
61:45		L:OH CANISTER CHANGE (CARTRIDGE NO.8 FROM B6 INTO CANISTER B)	CMP/LMP CREW STATUS REPORT	
62:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

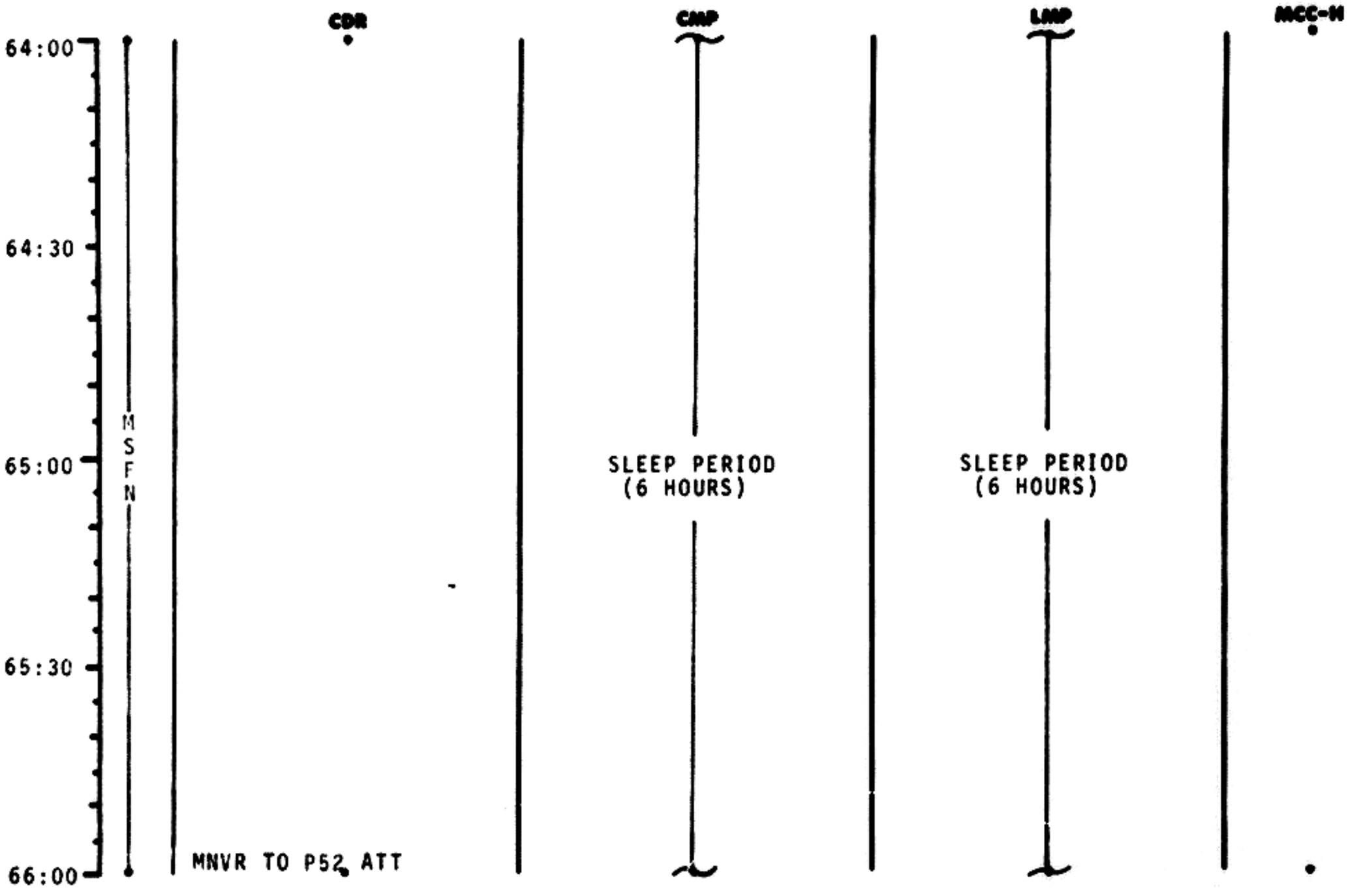


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	62:00 - 64:00	3/TLC	2-46

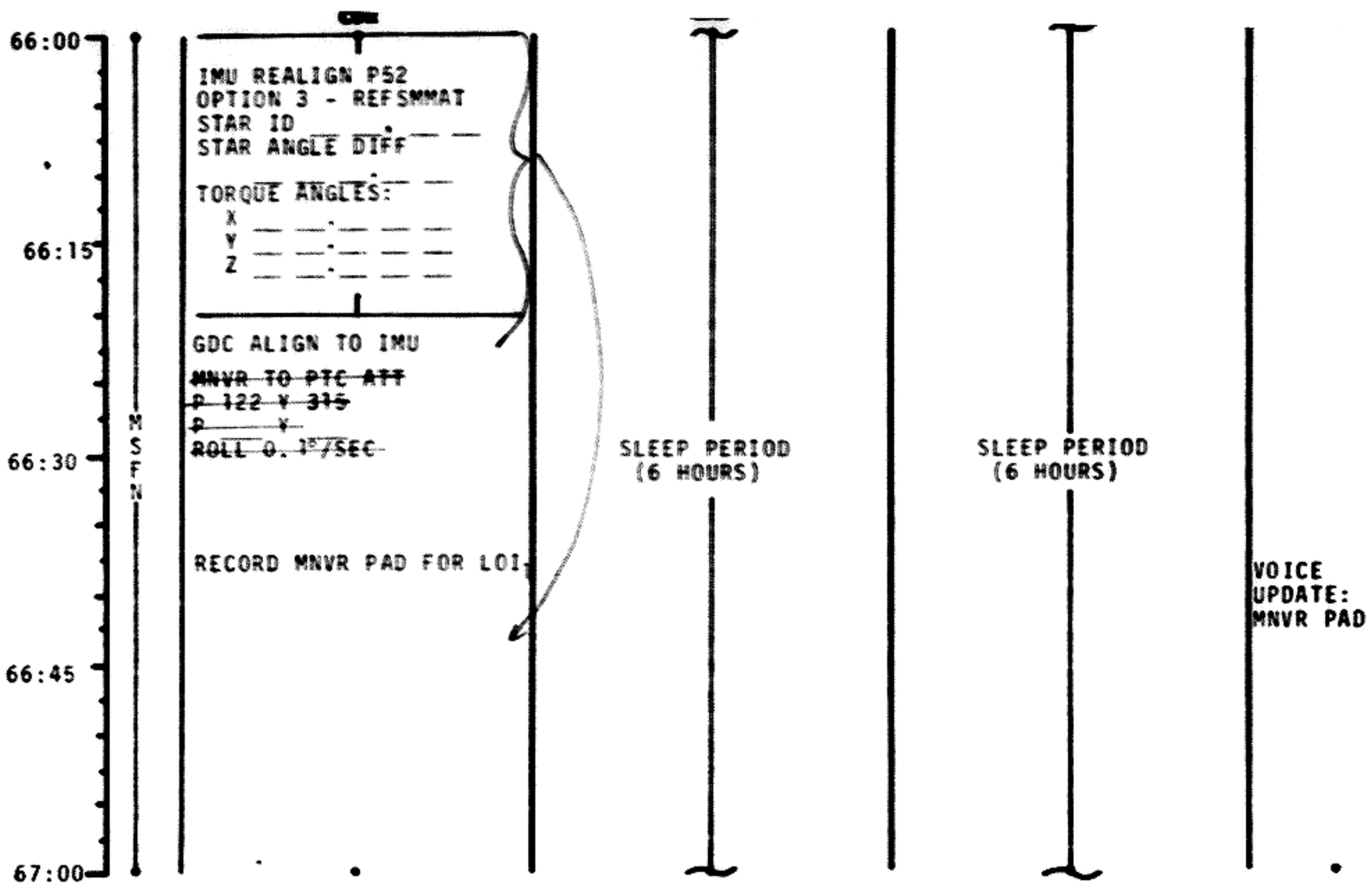
FLIGHT PLANNING BRANCH

MSC Form 1910 (Nov 68)

FLIGHT PLAN



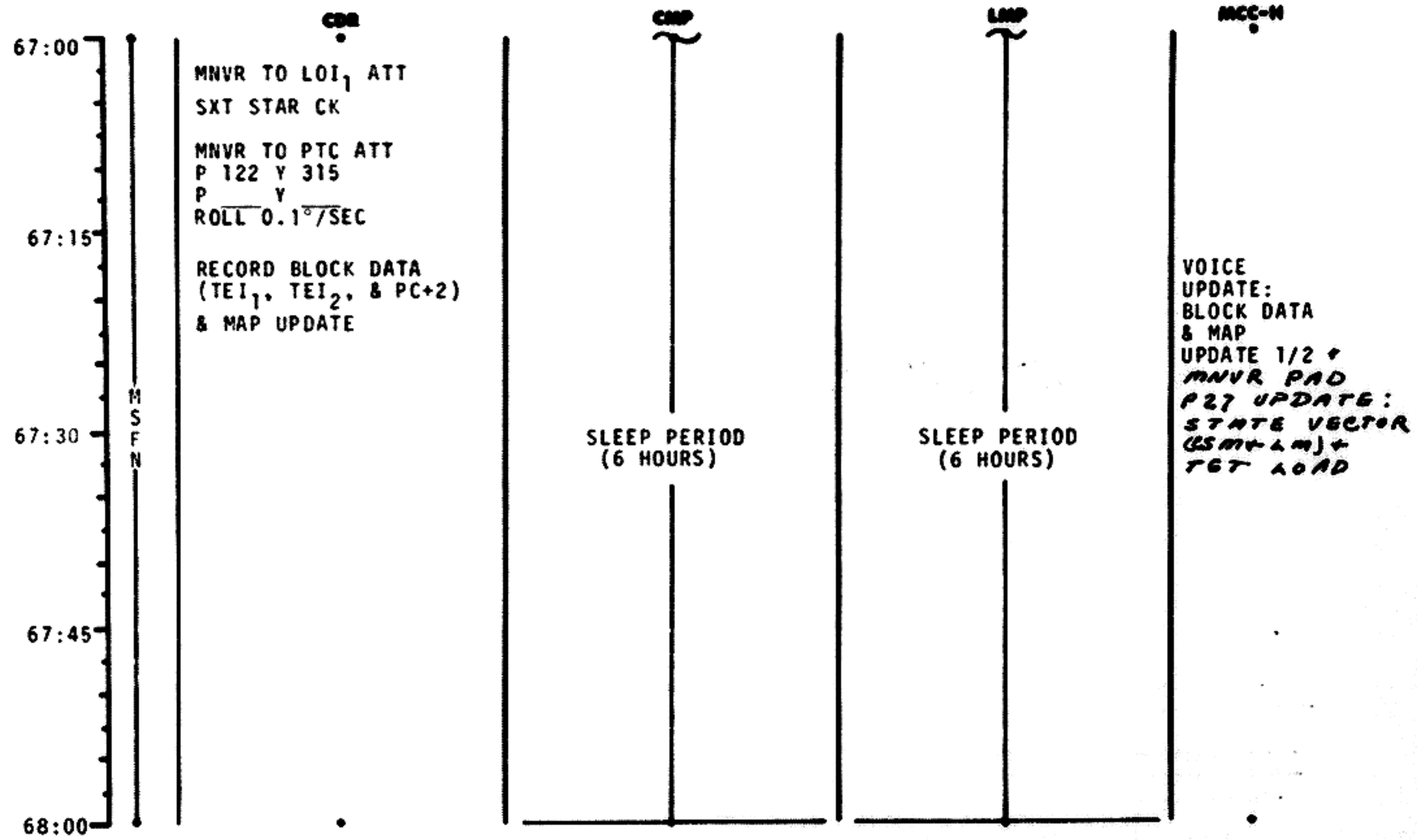
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	66:00 - 67:00	3/TLC	2-48

NSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
					2-49

	CDR	CMP	LMP	[illegible]
68:00	GO/NO GO FOR LOI_1	GROUND TRACK DET - P21 (LOI ALTITUDE DET)	CMP/LMP CREW STATUS REPORT	GO/NO GO
			~~RECORD MANEUVER PAD~~	~~P27 UPDATE:~~ ~~STATE VECTOR~~ ~~TARGET LOAD~~
	MNVR TO P52 ATT	IMU REALIGN P52 OPTION 3 - REFSMMAT AND GYRO DRIFT TEST STAR ID ___ , ___ STAR ANGLE DIFF ___ . ___ TORQUE ANGLES: X ___ ___ . ___ ___ ___ Y ___ ___ . ___ ___ ___ Z ___ ___ . ___ ___ ___	PRE LOI SYSTEMS CKS: C&W CK CM RCS CK SM RCS CK SPS PERIODIC MONITOR EPS PERIODIC MONITOR ECS PERIODIC MONITOR NON ESS BUS -MNB INITIATE WATER BOILER	~~VOICE UPDATE:~~ ~~MNVR PAD~~
68:30	EXTERNAL ΔV P30 EMS CK SPS THRUST P40 MNVR TO BURN ATT	SXT STAR CK TRANSFER TO COUCH		
	GDC ALIGN TO IMU			
68:57				
69:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	68:00 - 69:00	3/TLC	2-50

MSC Form 1910 (CT) (Oct 68) FLIGHT PLANNING BRANCH

BURN STATUS REPORT

X X □	:	ΔTIG
X X	:	BT
□	.	V_{gx}
—— TRIM ——		
X X X		R
X X X		P
X X X		Y
□	.	V_{gx}
□	.	V_{gy}
□	.	V_{gz}
□	.	ΔV_c
X X X		FUEL
X X X		OX
X X X		UNBALANCE

REMARKS:

LOI_1
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
LOI_1	10°/SEC TAKEOVER	10° TAKEOVER	B/T+6 SEC	NO TRIM

LOI_1 ABORT MODES			
LOI V_{go}	B/T	TRAJECTORY	ABORT MODE
3050-2100	0 -1:20	HYPERBOLIC	COAST OUT OF SPHERE-P37
2100-1650	1:20-2:00	UNSTABLE	5 HR COAST. MODE I ABORT
1650-0	2:00-4:06	LUNAR ORBIT	MODE III ABORT AFTER 1 REV

69:00

LOI$_1$

BEGIN REV 1

GDC ALIGN TO IMU/ORB RATE (115 nm)

GO INERTIAL

ROLL RIGHT 180° AT 2°/SEC, CONT INERTIAL ATT HOLD

69:30

LOI$_1$ BURN STATUS REPORT

16/18/NEW C EX, 1/250, SPOT, 1 FPS, (1 MAG)

MSFN

EAT PERIOD

SM RCS MONITOR CK

GETI = 69:07:30
ΔV = 2991 fps
BT = 4 MIN 5.8 SEC

V66 TRANS CSM STATE VECTOR TO LM SLOT

SM RCS MONITOR CK

2/80/B3 + 1/150/A8, R&B FILTER/U4, SPOT/R13, INT/U4, 2 B&W FILM PACKS +A8

UNSTOW ORBITAL CHARTS, 16/18/NEW C-EX/CABLE/BRKT/U3

~~2/80/NEW B&W~~

EAT PERIOD

BIOMED Sw - CENTER

SPS MONITOR CK

~~INITIATE BAT CHARGE~~

CAMERA PREP

V64 ACQUIRE MSFN ON HGA

2/150/NEW B&W 1/250

1/80/B&W, 1/250

EAT PERIOD

ACQUIRE S/C

DUMP DSE

PIPA BIAS CK

70:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	69:00 - 70:00	3/LPO	2-51

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

48:00 PTC

EAT PERIOD (ALL)

P52
CMP - STAR/LUNAR HORIZON SIGHTINGS

PTC

54:00

TV

CDR SLEEP PERIOD (7 HOURS)

CMP & LMP EAT PERIOD

CDR EAT PERIOD

60:00

60:00

LOI -8 Hrs

P52

NCC$_4$

PTC

CMP & LMP SLEEP PERIOD (6 HOURS)

66:00

P52
PTC

LOI$_1$ ATT CK
PTC

P52

Rev 1

LOI$_1$

EAT PERIOD (ALL)

LMK FAMILIARIZATION AND TV

Rev 2
72:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	48:00 - 72:00	3	5-3

BURN STATUS REPORT

X X	:	ΔTIG
X X	:	BT
	.	V_{gx}
——TRIM——		
X X X		R
X X X		P
X X X		Y
☐	.	V_{gx}
☐	.	V_{gy}
☐	.	V_{gz}
☐	.	ΔV_c
X X X		FUEL
X X X		OX
X X X		UNBALANCE

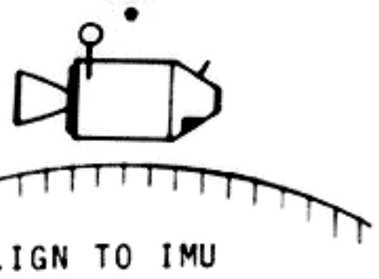
REMARKS:

TEI
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
TEI	10°/SEC TAKEOVER	10° TAKEOVER	B/T+2 SEC & ΔV_c=-40 fps	TRIM TO 2.0 fps

TEI ABORT MODES-SYSTEMS PROBLEMS:15-MIN ABORT CHART OTHERWISE

TEI V_{go}	B/T	TRAJECTORY	ABORT MODE
2850-950	0 -2:00	LUNAR ORBIT	MODE III AFTER 1 REV
950-600	2:00-2:20	UNSTABLE	5-HR COAST, MODE I
600-0	2:20-2:54	HYPERBOLIC	COAST OUT OF SPHERE - P37

	CDR	CMP	LMP	MCC-H
89:00	 GDC ALIGN TO IMU	SM RCS MON CK		
89:15	TEI PITCH UP TO VERTICAL (+Z FWD) TO ACQ MOON IN WINDOW CDR CREW STATUS REPORT	GETI = 89:15:07 ΔV = 3532 fps BT = 3 MIN 26 SEC SM RCS MON CK V66E TRANS CSM STATE VECTOR TO LM SLOT REINITIALIZE W MATRIX R_1 +00094 R_2 +~~00571~~ 00057 OK R_3 +00003	SPS MON CK ACQUIRE MSFN WITH HGA TEI BURN STATUS REPORT INITIATE BAT CHARGE BIOMED Sw - CENTER TERMINATE WATER BOILER EVAP	ACQUIRE S/C
89:30	MSFN SLEEP PERIOD (5 HOURS)			
89:45			1/80 (OR 250)/B+W, R+B SPOT, 4 STOPS WIDER SC EXT ATM (POST BURN) 1/80/NS F2.8 B 6 SEC, B 1 SEC, 1/60 90° FROM SUN	DUMP DSE UPDATE ENTRY REFSMMAT
90:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	89:00 - 90:00	4/TEC	2-71

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
90:00			MNVR TO P52 ATT	
90:15		IMU REALIGN P52 OPTION 1 - PREFERRED STAR ID __ __, __ __ STAR ANGLE DIFF __ __.__ __ TORQUE ANGLES: X __ __.__ __ __ Y __ __.__ __ __ Z __ __.__ __ __		
90:30	MSFN SLEEP PERIOD (5 HOURS)	TRN BIAS CISLUNAR NAVIGATION P23 1. STAR 01 LNH 00210 STAR__ __ L__H 2 SETS	MNVR TO SIGHTING ATT	
90:45		2. STAR 02 LNH 00210 STAR__ __ L__H		
91:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	90:00 - 91:00	4/TEC	2-72

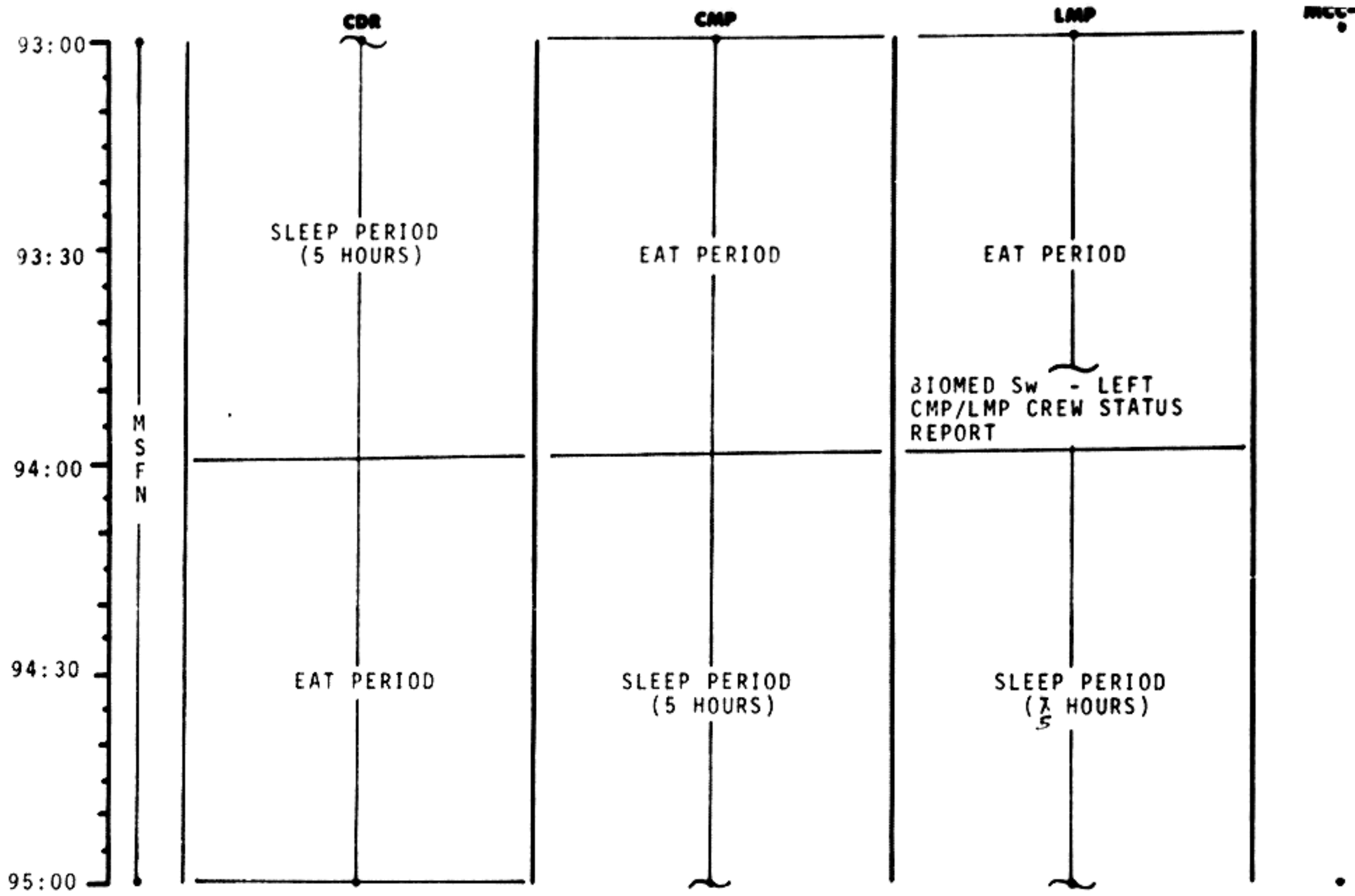
	CDR	CMP	LMP	MCC-H
91:00				
91:15		TRN BIAS	MNVR TO SIGHTING ATT	
91:30 MSFN	SLEEP PERIOD (5 HOURS)	3. STAR 10 LFH 00220 STAR__ __ L__H 2 SETS		
91:45		4. STAR 11 LFH 00220 STAR__ __ L__H 2 SETS		
92:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	91:00 - 92:00	4/TEC	2-73

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
92:00			MNVR TO PTC ATT P 029 Y 315 P__ Y__ ROLL 0.1°/SEC	
92:15				
92:30 MSFN	SLEEP PERIOD (5 HOURS)			
92:45				
93:00				

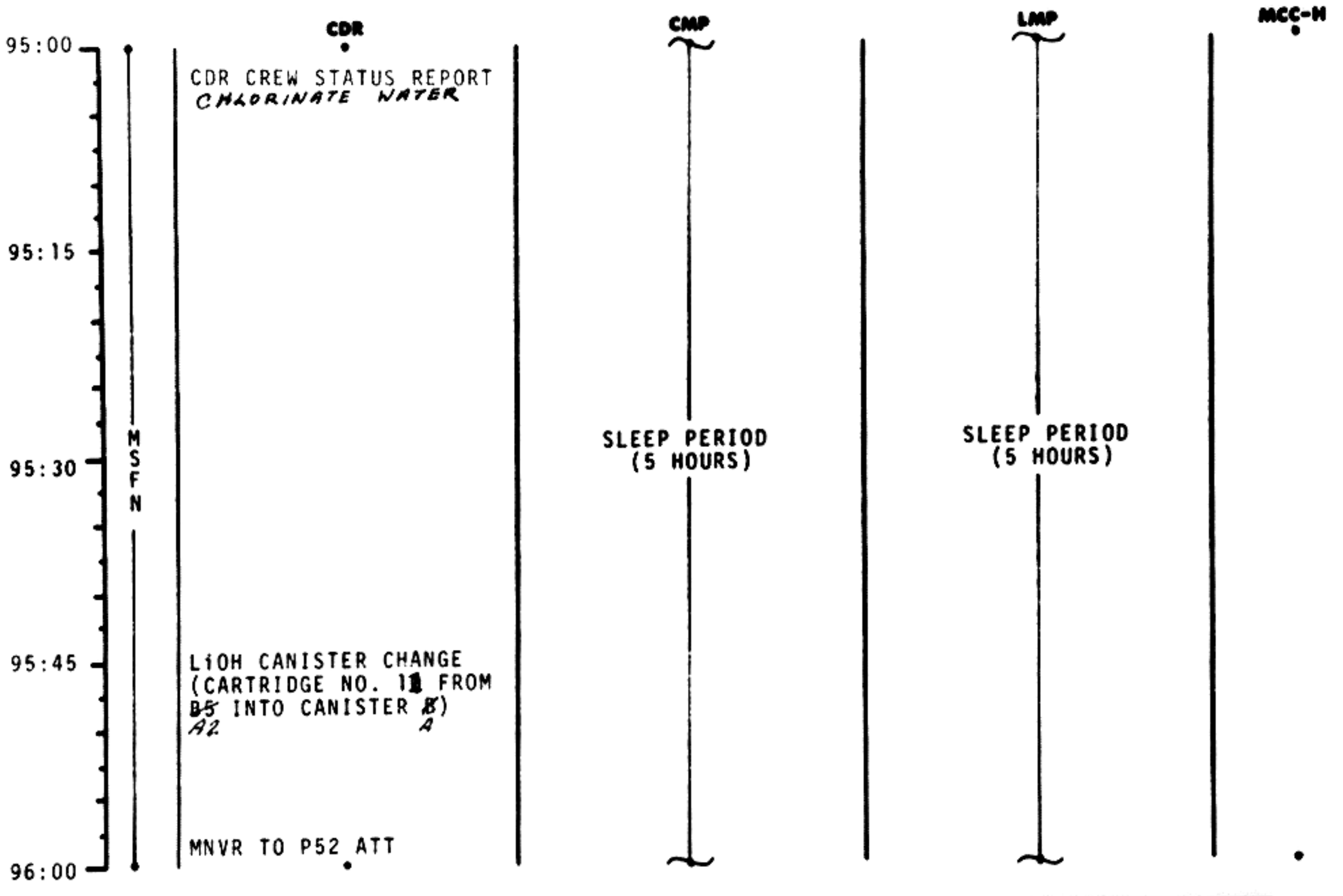
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	92:00 - 93:00	4/TEC	2-74



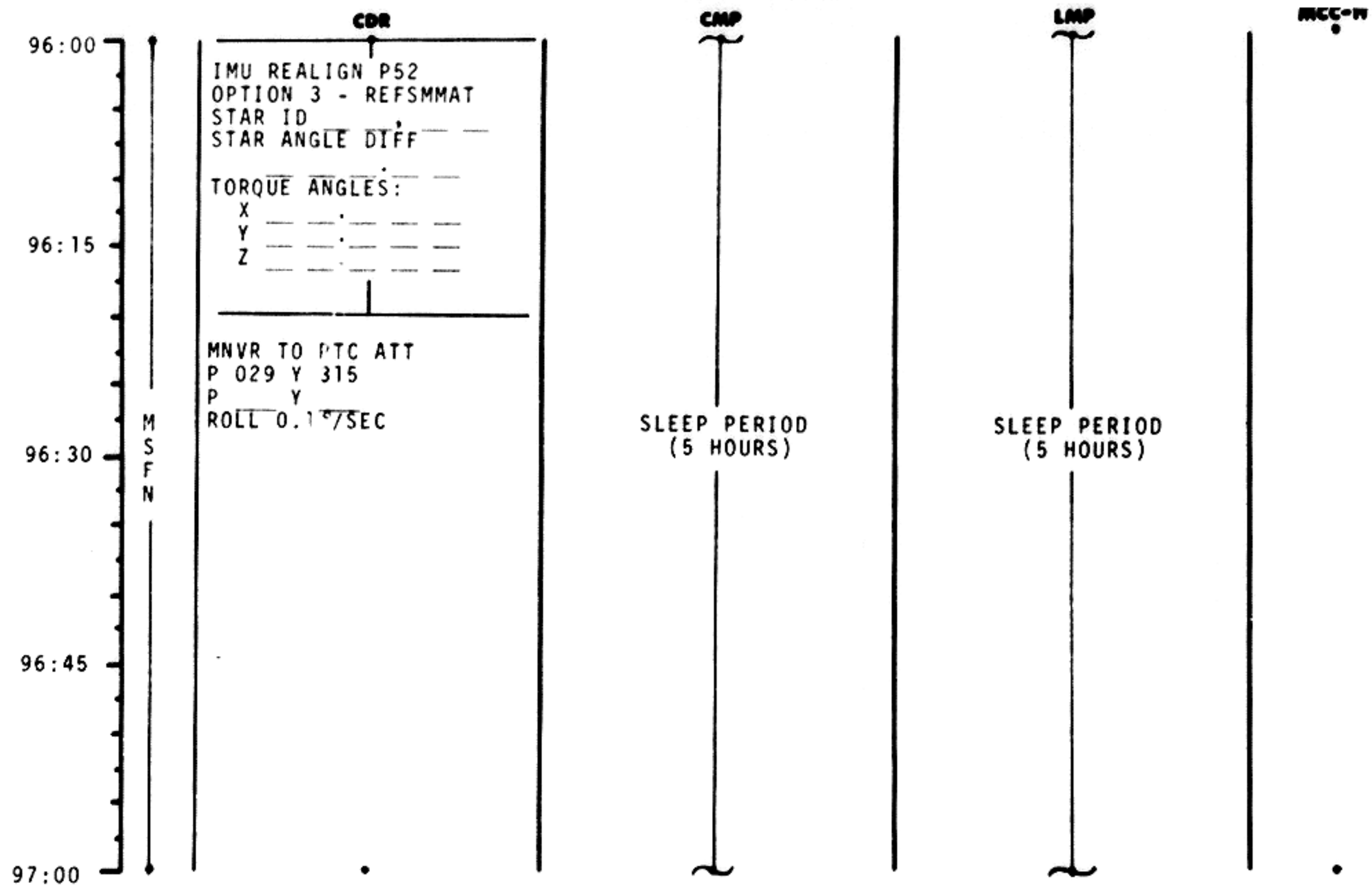
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	93:00 - 95:00	4/TEC	2-75

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



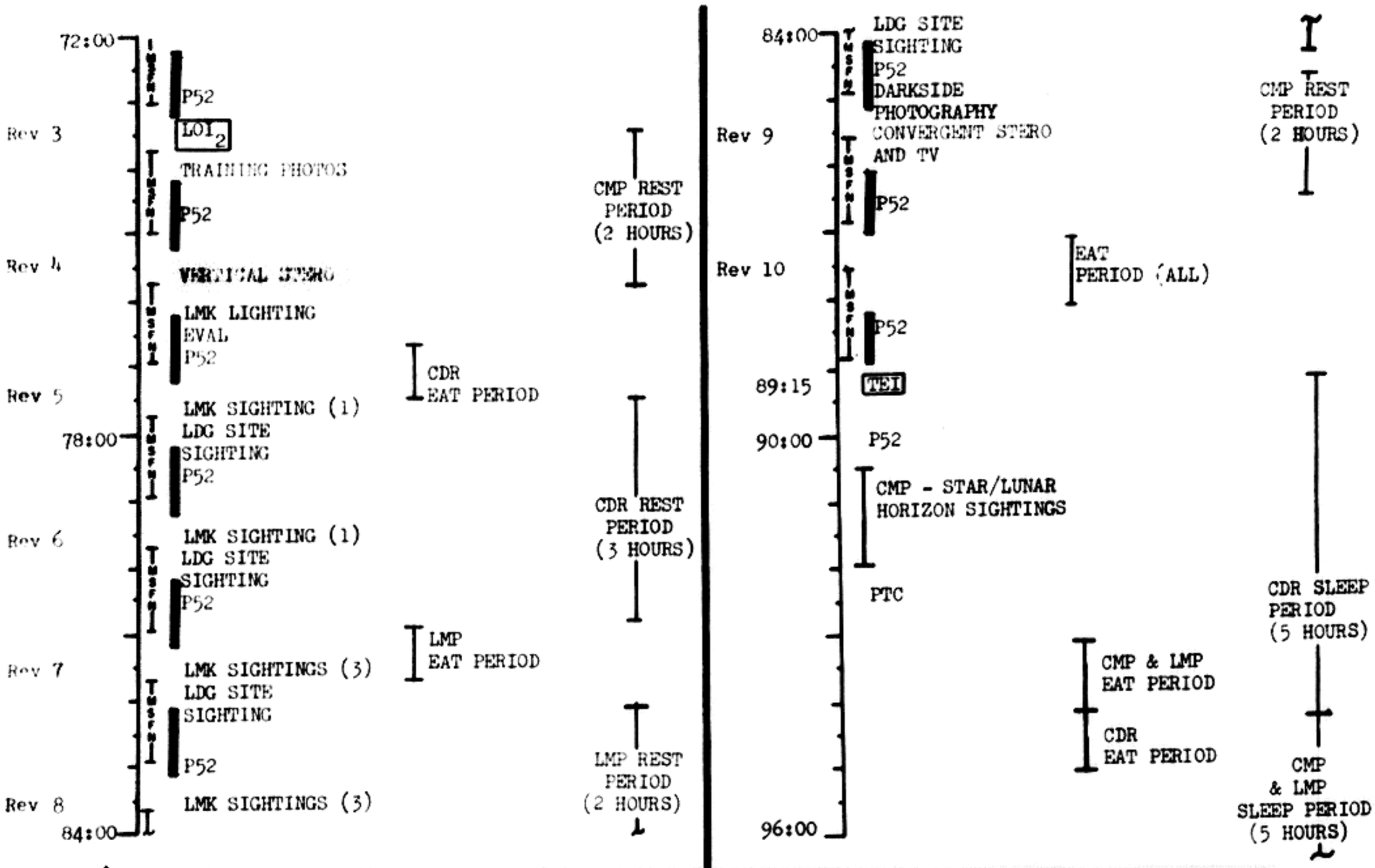
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	96:00 - 97:00	5/TEC	2-77

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

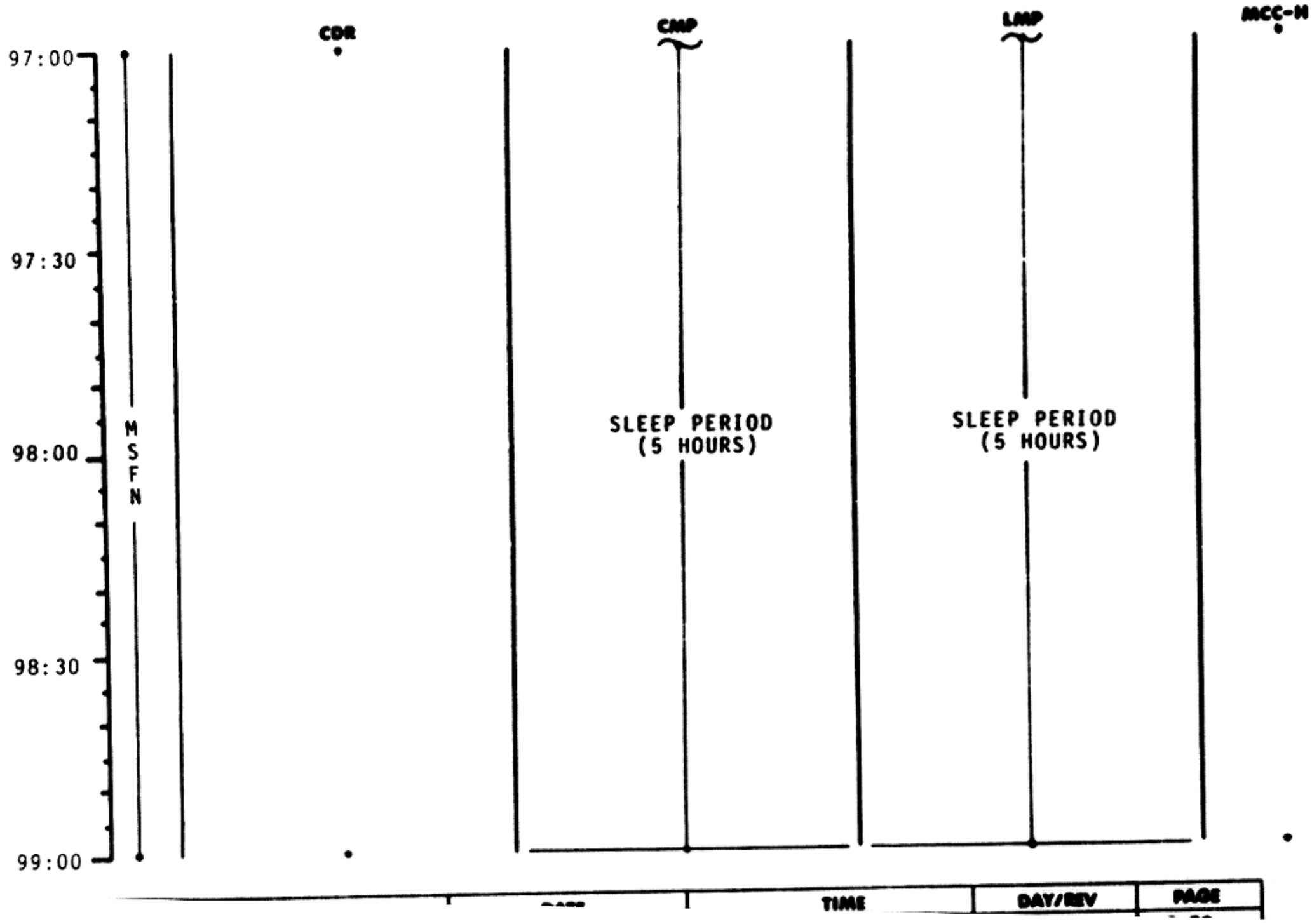
FLIGHT PLAN



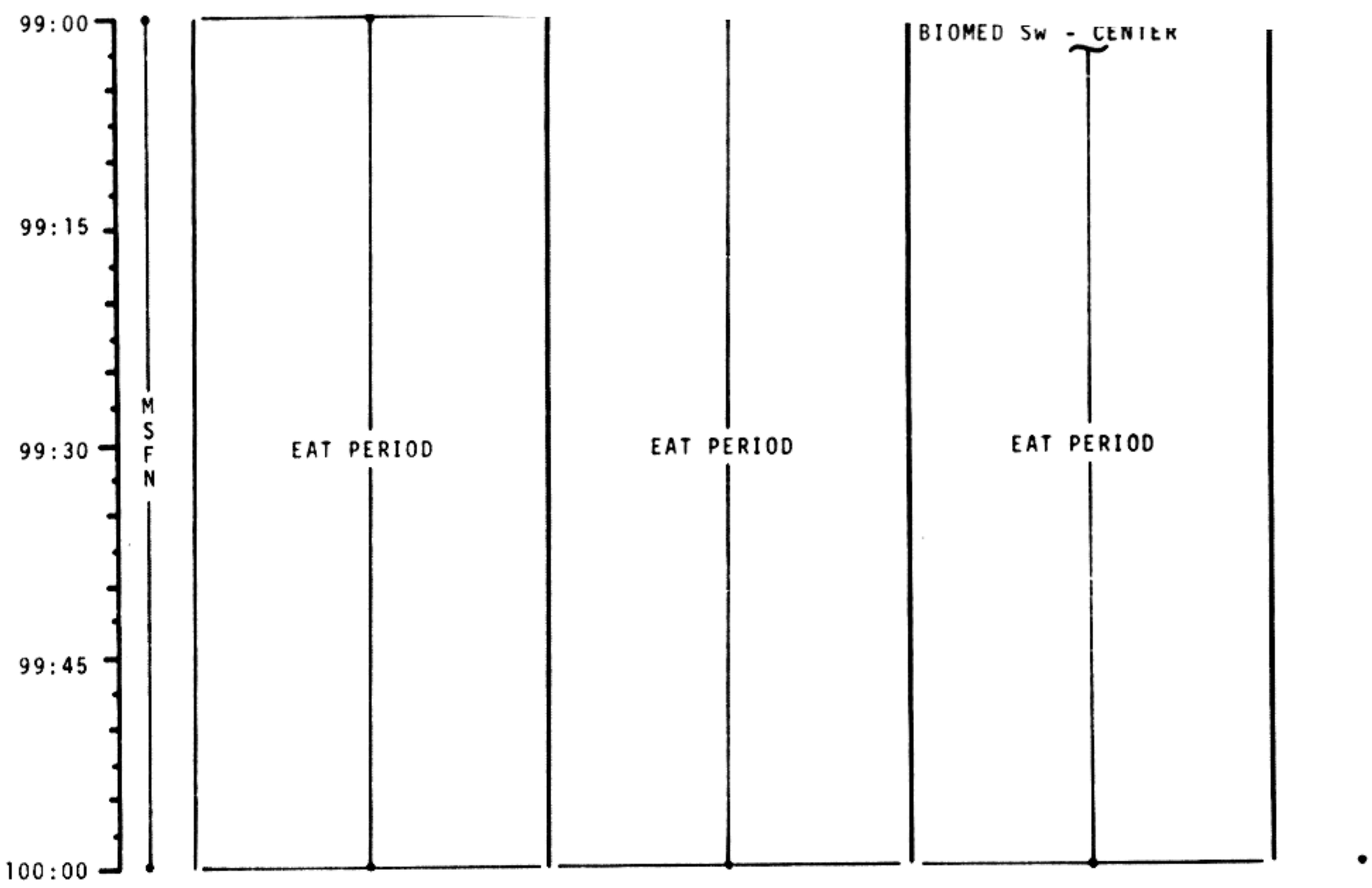
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	72:00 - 96:00	4	5-4

FLIGHT PLANNING BRANCH

FLIGHT PLAN



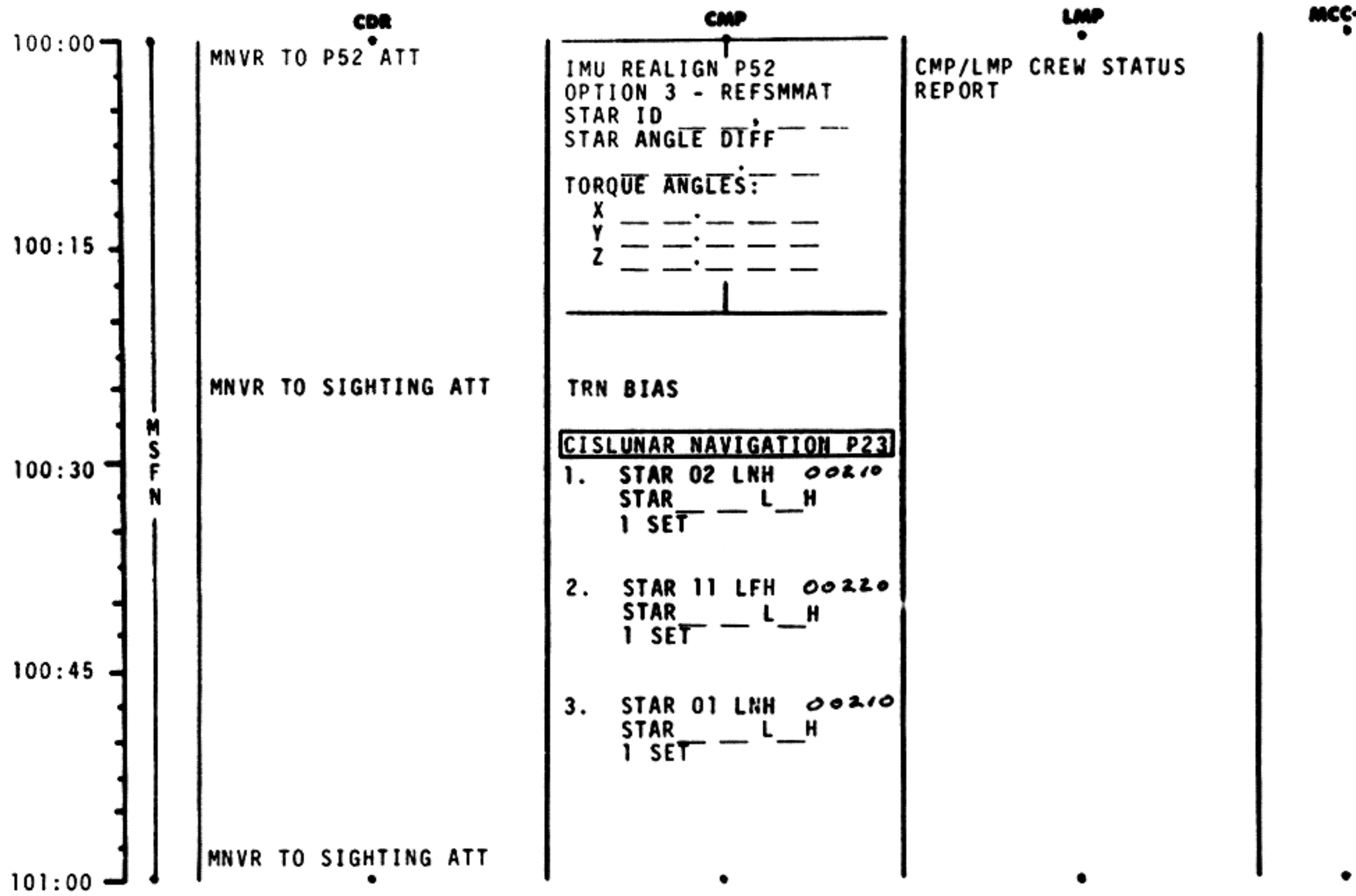
		TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	99:00 - 100:00	5/TEC	2-79

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	100:00 - 101:00	5/TEC	2-80

101:00

101:15

TRN BIAS

CISLUNAR NAVIGATION P23

1. STAR 22 EFH 00120
   STAR__ __ E__H
   2 SETS

101:30

M S F N

2. STAR 26 ENH 00110
   STAR__ __ E__H
   2 SETS

101:45

BIOMED Sw - RIGHT

102:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	101:00 - 102:00	5/TEC	2-81

FLIGHT PLAN

CDR | CMP | LMP | MCC-H

102:00

102:15

3. STAR 31 ENH 00110
   STAR__ __ E__H
   2 SETS

102:30

M S F N

P27 UPDATE
STATE
VECTOR
TGT LOAD
REFSMMAT

VOICE
UPDATE:
MNVR PAD

MNVR TO P52 ATT

RECORD MNVR PAD

102:45

IMU REALIGN P52
OPTION 3 - RESFMMAT
STAR ID __ __, __ __
STAR ANGLE DIFF __ __.__ __

TORQUE ANGLES:
X __ __.__ __ __
Y __ __.__ __ __
Z __ __.__ __ __

103:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			102:00 103:00	5/TEC	2-82

BURN STATUS REPORT

X X ☐ : ΔTIG
X X : BT
☐ • V_{gx}
TRIM
X X X R
X X X P
X X X Y
☐ V_{gx}
☐ V_{gy}
☐ V_{gz}
☐ ΔV_c
X X X FUEL
X X X OX
X X X UNBALANCE

REMARKS:

MCC'S

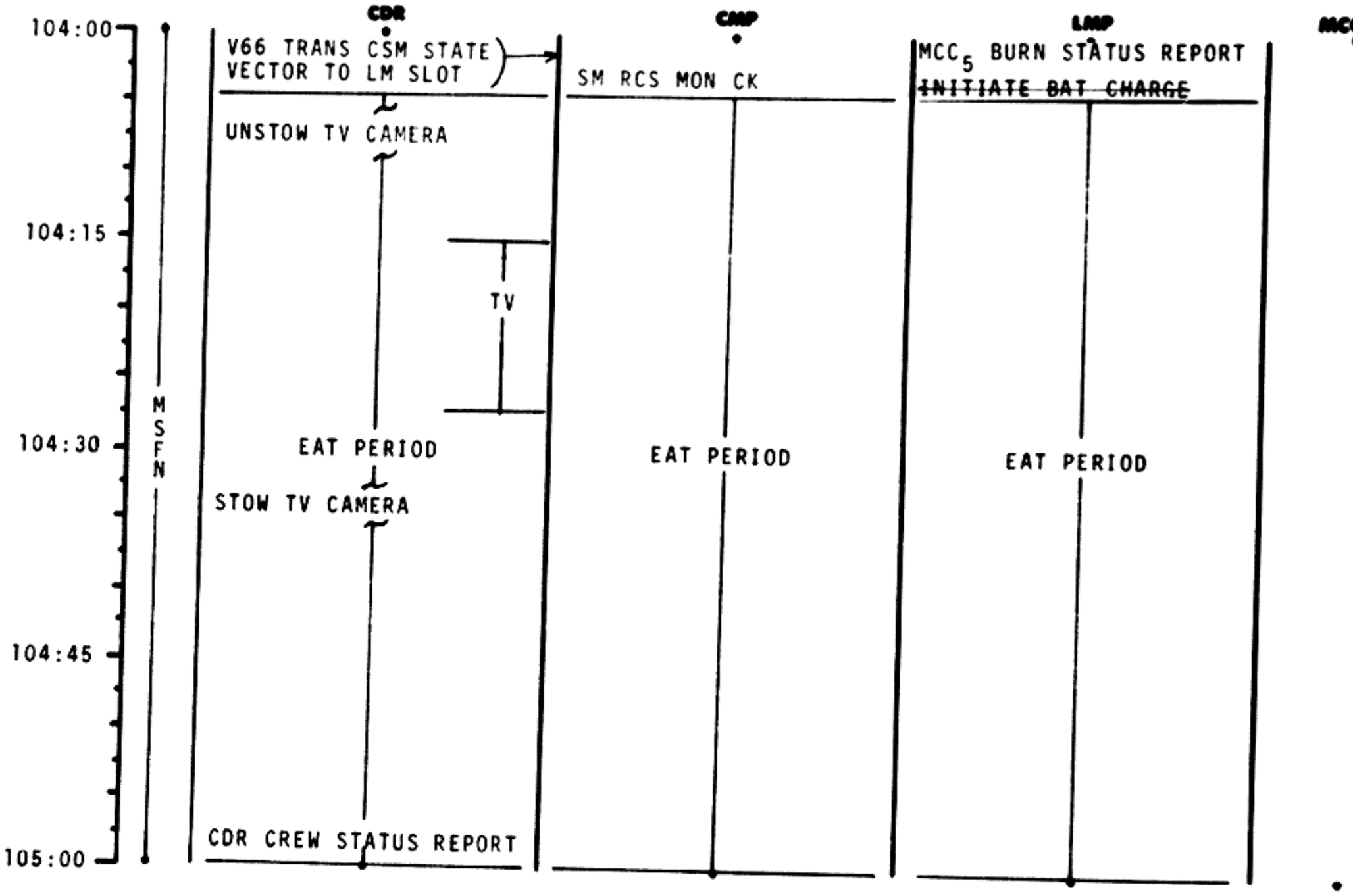
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

FLIGHT PLAN

	M MSFN	CDR	CMP	LMP	MCC-H
103:00					
103:15		V47 TRANS LM STATE VECTOR TO CSM SLOT →			
		EXT ΔV P30			
		SPS/RCS THRUST P40/41			
103:30		MNVR TO BURN ATT	SXT STAR CK		
103:45		EMS TEST	TRANS TO COUCH		PIPA BIAS CK
			SM RCS MON CK		
TEI+15		GDC ALIGN TO IMU			
104:00		MCC_5 ΔV=NOMINALLY ZERO	•	•	•

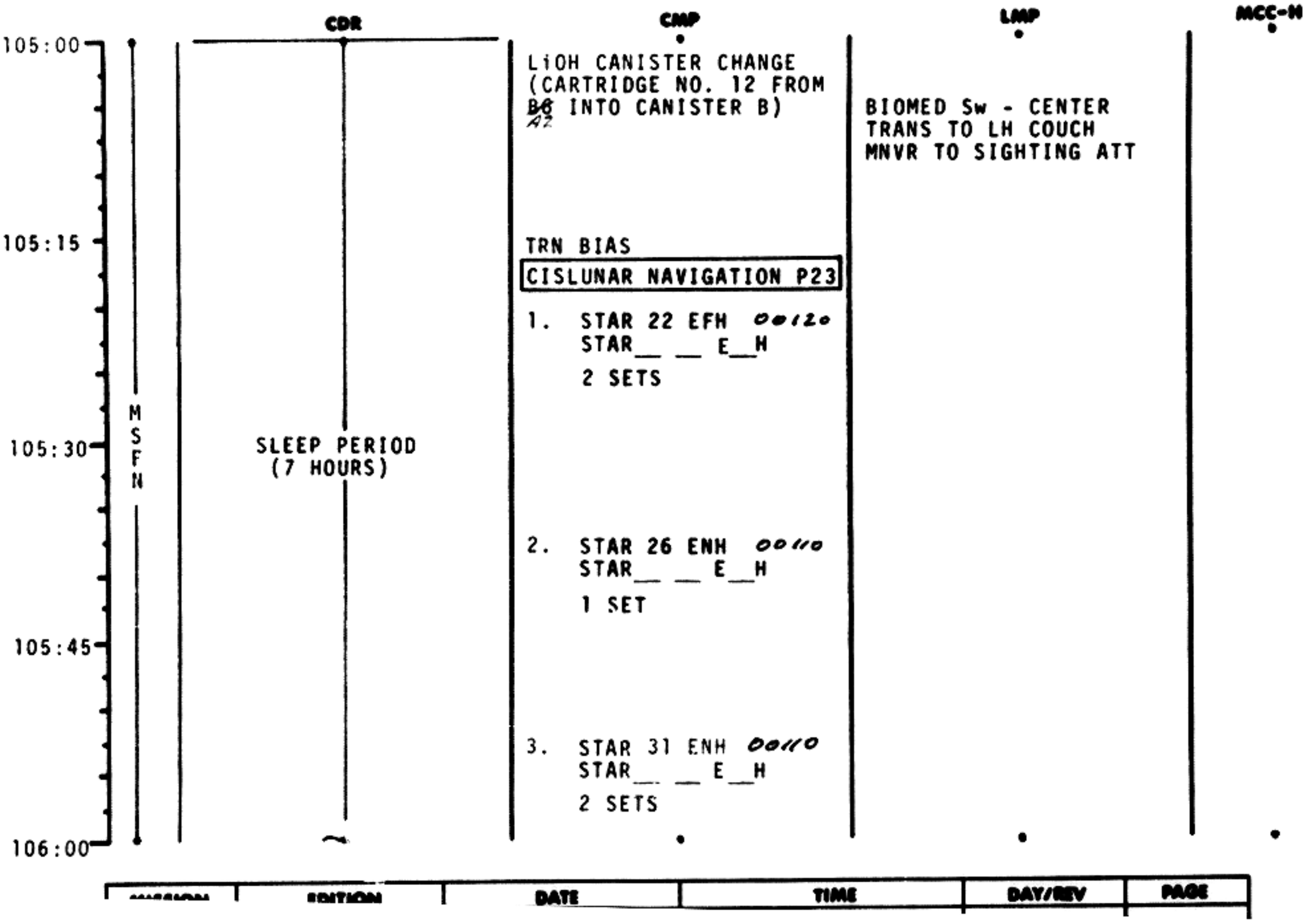
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				5/TEC	2-83



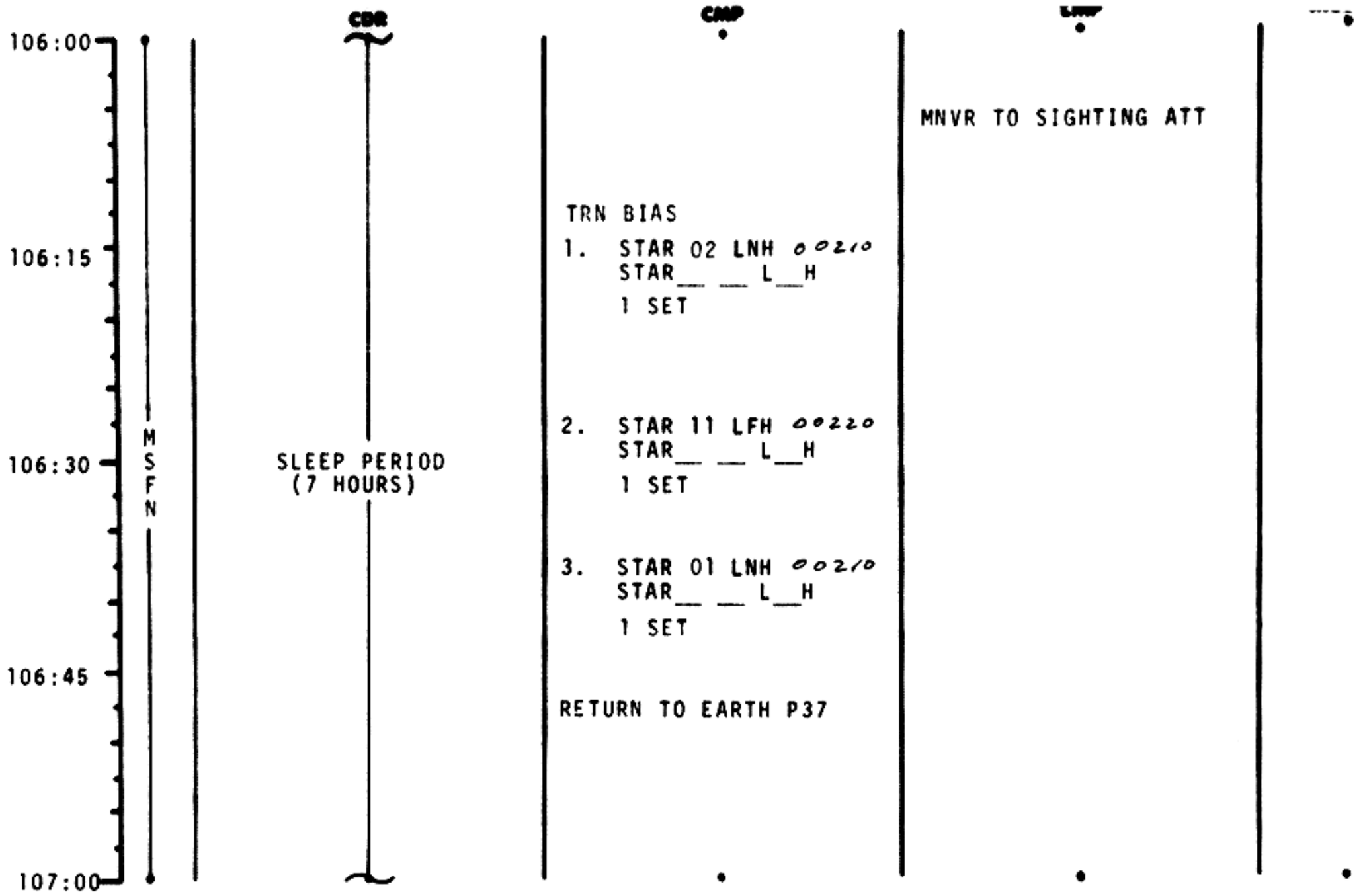
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	104:00 - 105:00	5/TEC	2-84

MSC Form 1910 (Nov 68) • FLIGHT PLANNING BRANCH

FLIGHT PLAN



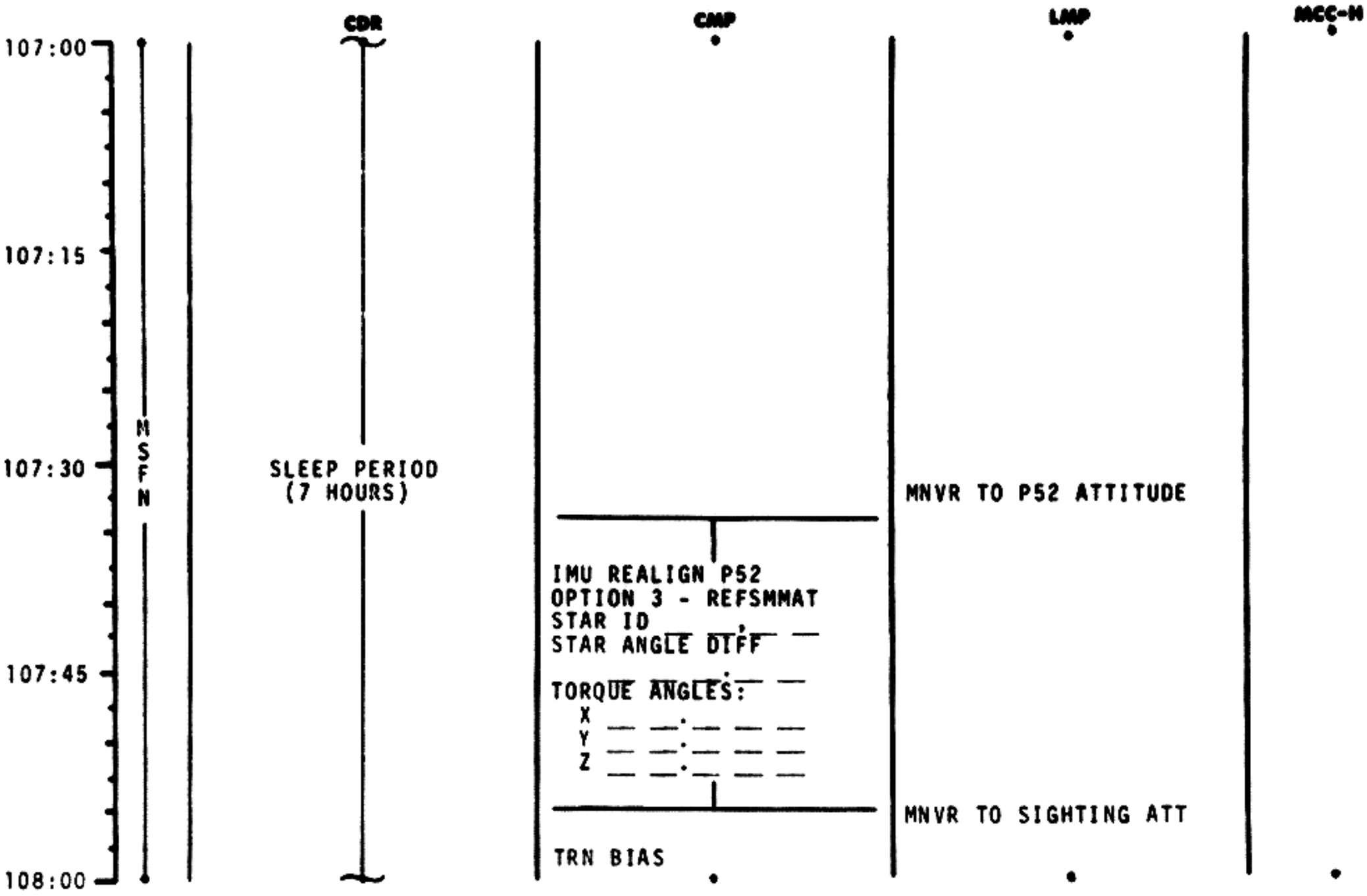
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	106:00 - 107:00	5/TEC	2-86

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	107:00 - 108:00	5/TEC	2-87

	CDR	CMP	LMP	MCC-H
108:00		CISLUNAR NAVIGATION P23	BIOMED Sw - RIGHT	
		1. STAR 22 EFH 00/20 STAR__ __ E__H 1 SET		
108:15				
		2. STAR 26 ENH 00//0 STAR__ __ E__H 2 SETS		
108:30	SLEEP PERIOD (7 HOURS)			
		3. STAR 31 ENH 00//0 STAR__ __ E__H 2 SETS		
108:45			MNVR TO PTC ATT P 029 Y 315 P___ Y___ ROLL 0.1°/SEC P&Y FREE REESTABLISH PTC AT +15° IN P OR Y AND RECORD GET	
		RETURN TO EARTH P37		
109:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	108:00 - 109:00	5/TEC	2-88

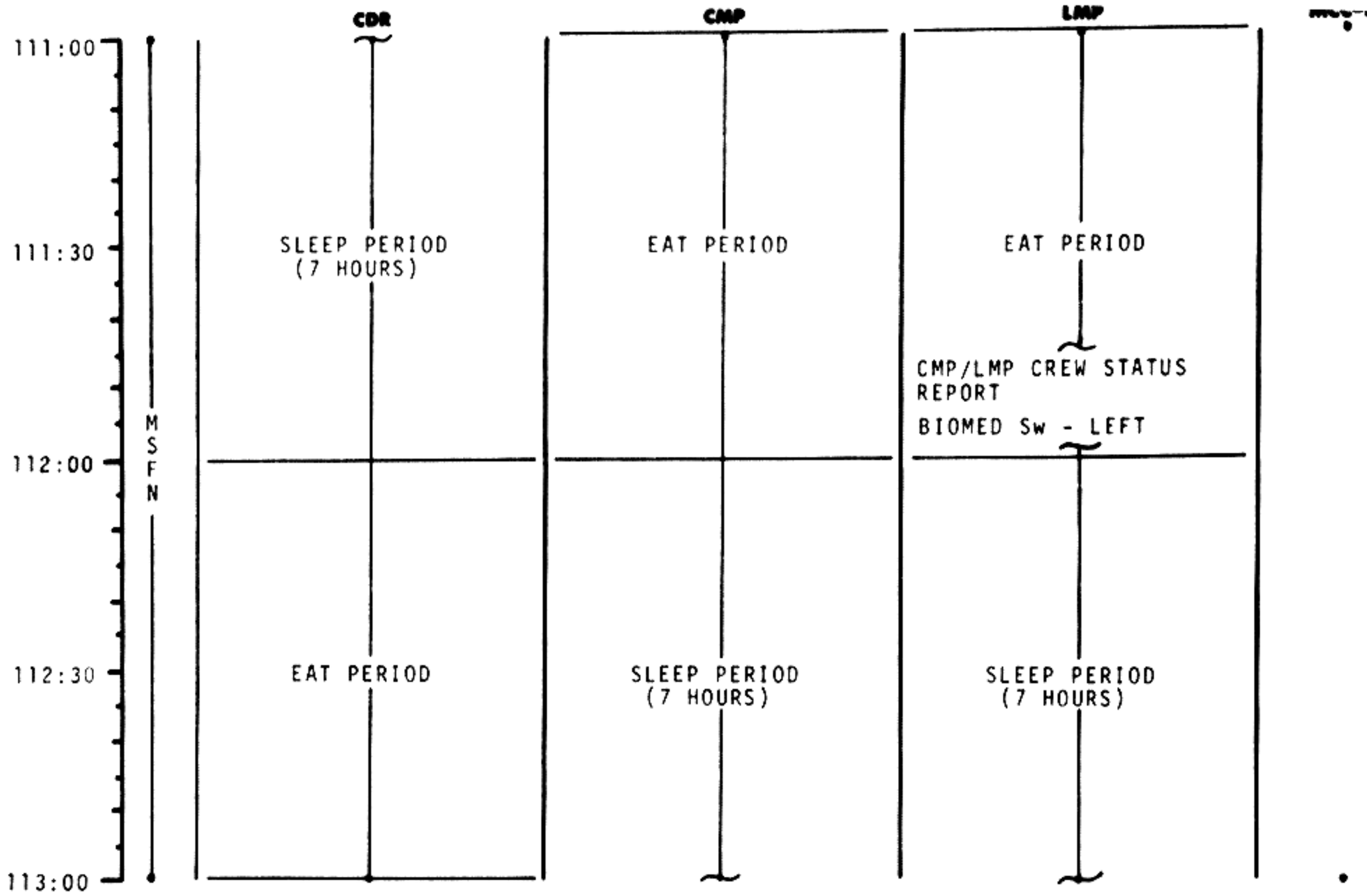
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
109:00				
109:30				
110:00	SLEEP PERIOD (7 HOURS)			
110:30				
111:00				

MSFN

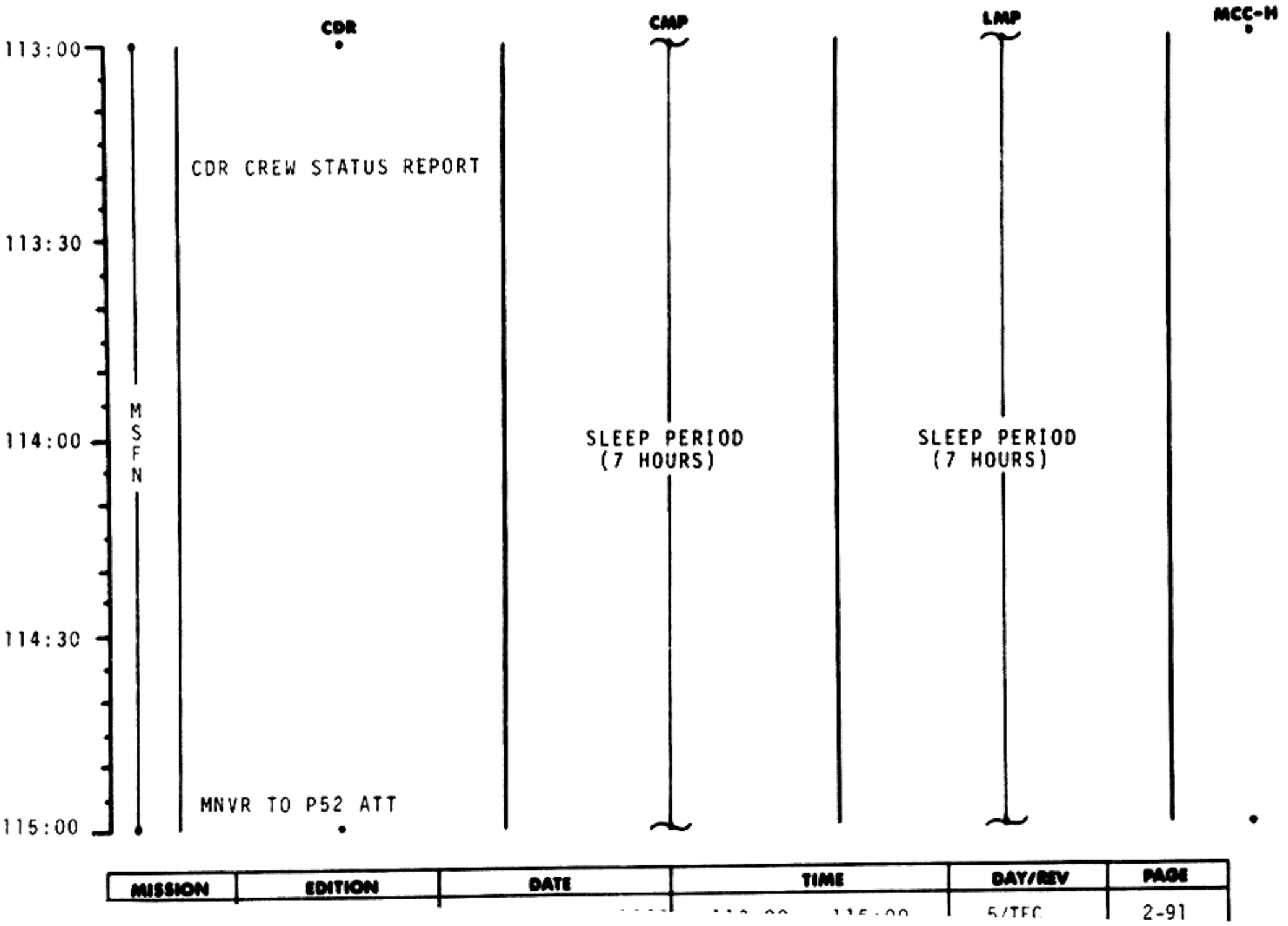
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22,1968	109:00 - 111:00	5/TEC	2-89



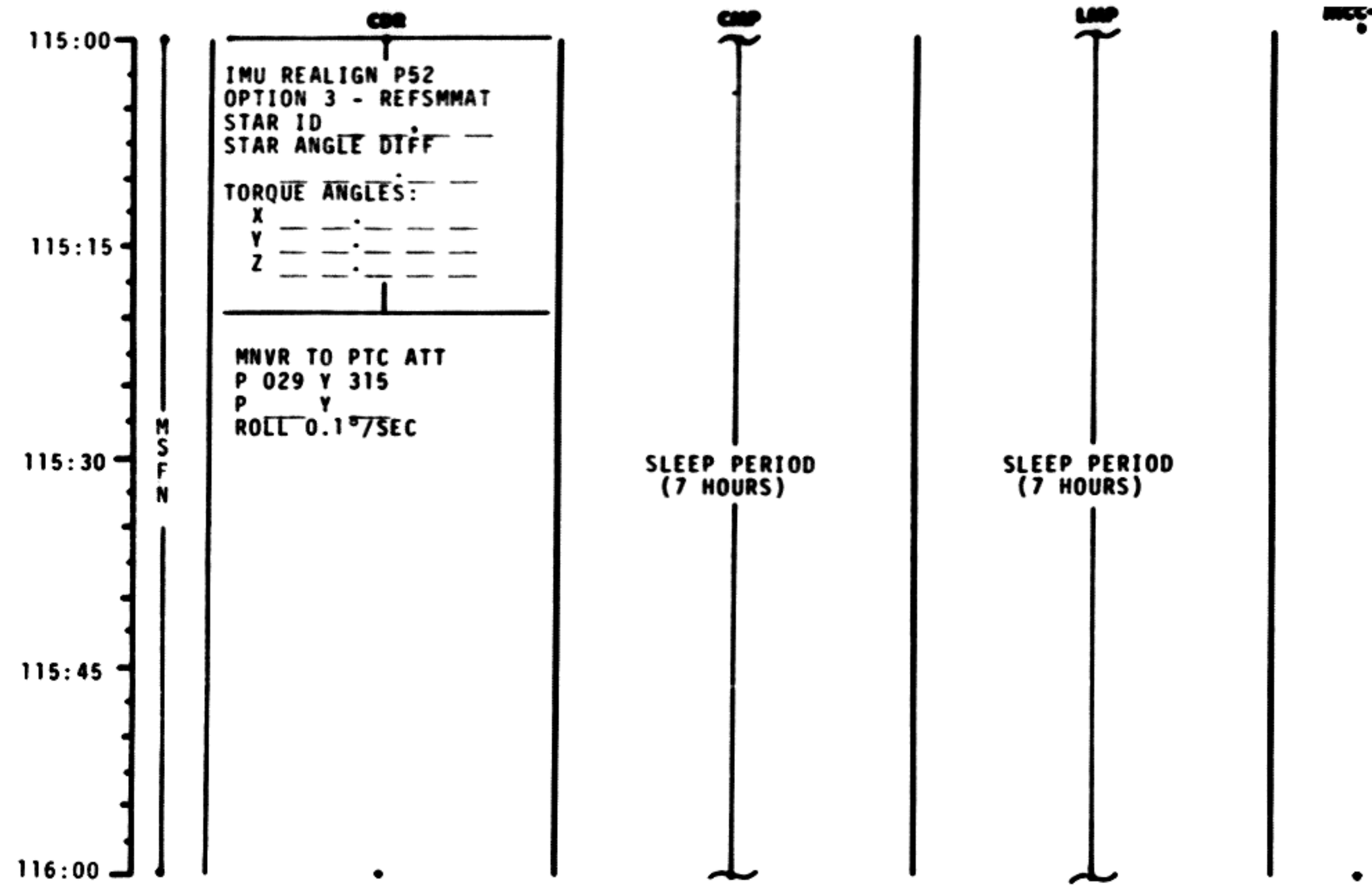
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	111:00 - 113:00	5/TEC	2-90

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



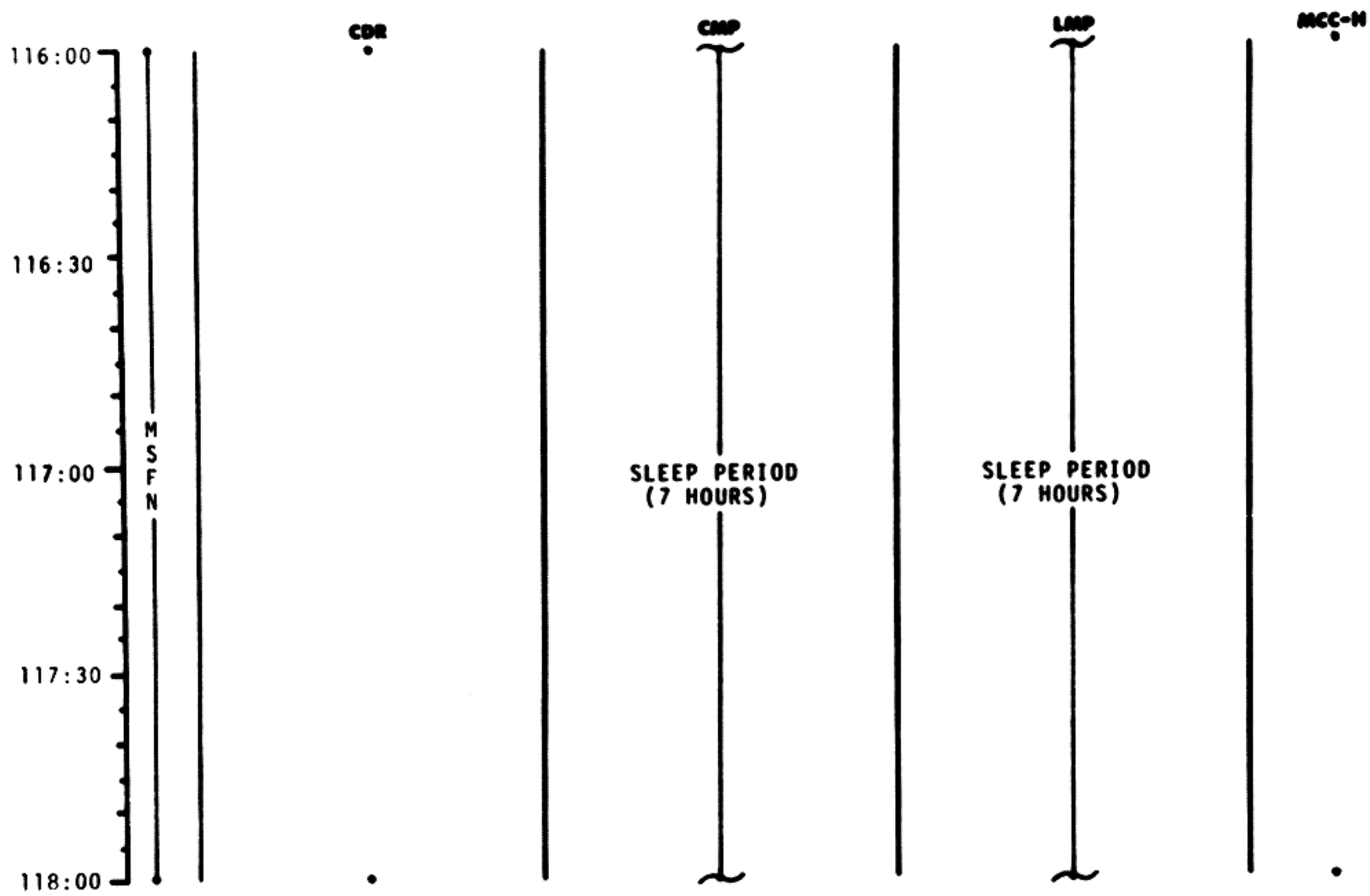
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				5/TEC	2-91



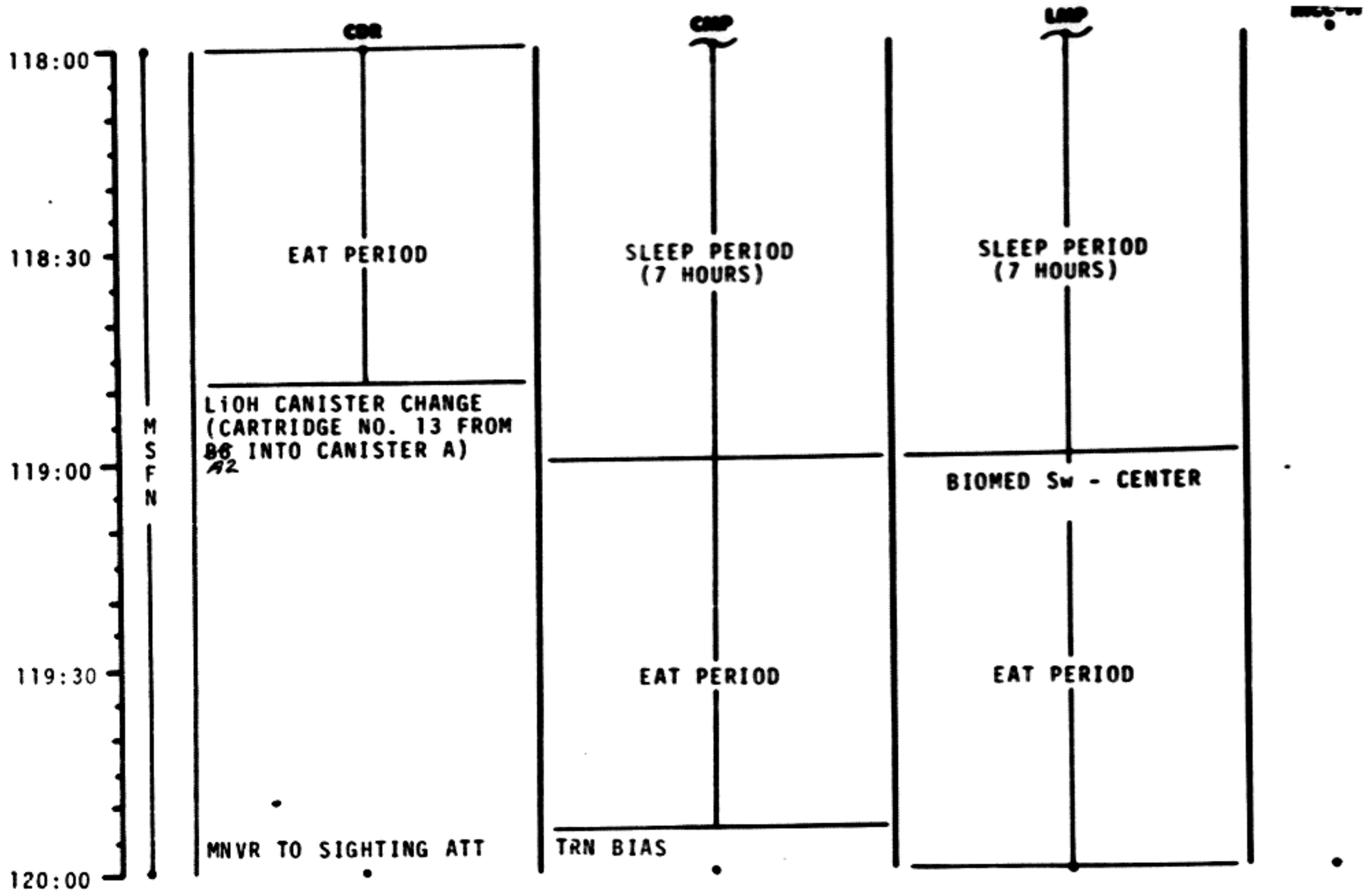
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	115:00 - 116:00	5/TEC	2-92

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



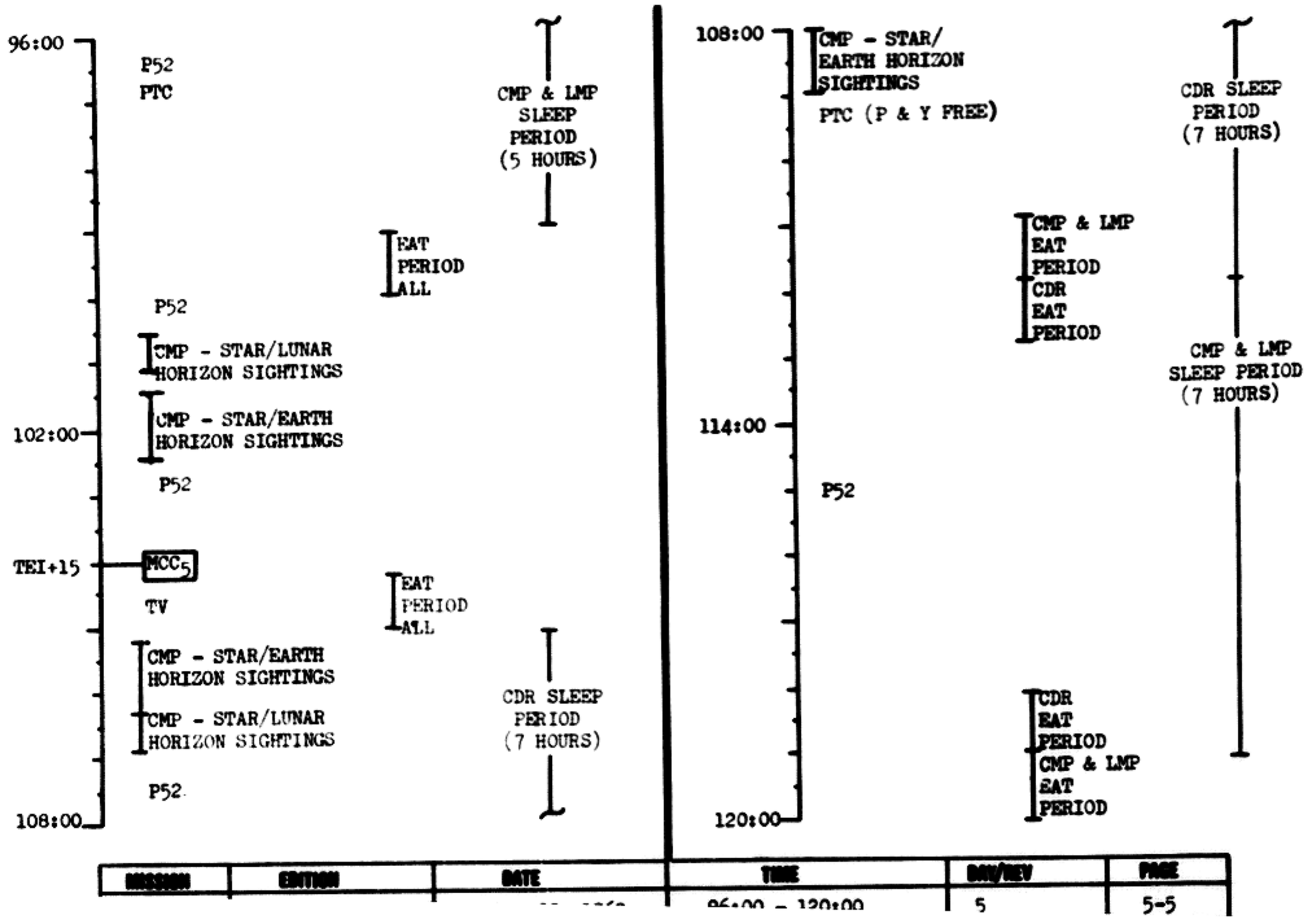
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	116:00 - 118:00	5/TEC	2-93



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	118:00 - 120:00	5/TEC	2-94

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			96:00 - 120:00	5	5-5

FLIGHT PLAN

CDR	CMP	LMP	MCC-H
120:00 120:15 120:30 120:45 121:00 M S F N	CISLUNAR NAVIGATION P23 1. STAR 22 EFH 00120 STAR__ __ E__H 1 SET 2. STAR 26 ENH 00000 STAR__ __ E__H 1 SET 3. STAR 31 ENH 00000 STAR__ __ E__H 1 SET RETURN TO EARTH P37 CHLORINATE WATER	CMP/LMP CREW STATUS REPORT RECORD MNVR PAD INITIATE BAT B CHARGE (FOLLOWED BY BAT A)	P27 UPDATE: STATE VECTOR TGT LOAD VOICE UPDATE: MNVR PAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
[illegible]	FINAL	November 22, 1968	120:00 - 121:00	6/TEC	2-95

BURN STATUS REPORT

X X ☐ : ΔTIG
X X : BT
☐ . V_{gx}

TRIM

X X X R
X X X P
X X X Y
☐ . V_{gx}
☐ . V_{gy}
☐ . V_{gz}
☐ . ΔV_c
X X X FUEL
X X X OX
X X X UNBALANCE

REMARKS:

MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

2-96a

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
121:00	MNVR TO P52 ATT			
		IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID ___ ___ STAR ANGLE DIFF ___.___ TORQUE ANGLES: X ___ ___.___ ___ ___ Y ___ ___.___ ___ ___ Z ___ ___.___ ___ ___		
121:15	V47 TRANS LM STATE VECTOR TO CSM SLOT EXT ΔV P30			
MSFN				
121:30	SPS/RCS THRUST P40/41 MNVR TO BURN ATT			
		SXT STAR CK		
121:45	EMS TEST	TRANS TO COUCH		PIPA BIAS CK
	GDC ALIGN	SM RCS MON CK		
TEI + 33 HRS	MCC$_6$ ΔV=NOMINALLY ZERO			
122:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				6/TEC	2-96

	CDR	CMP	LMP
122:00	V66 TRANS CSM STATE VECTOR TO LM SLOT	SM RCS MON CK	MCC_6 BURN STATUS REPORT ~~INITIATE BAT CHARGE~~ RIOMED Sw - RIGHT
122:15			
122:30	MNVR TO SIGHTING ATT		
		TRN BIAS CISLUNAR NAVIGATION P23 1. STAR 02 LNH 00210 STAR__ __ L__H 2 SETS	
122:45			
		2. STAR 01 LNH 00210 STAR__ __ L__H 1 SET	
123:00			

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	122:00 - 123:00	6/TEC	2-97

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
123:00		RETURN TO EARTH P37		
	MNVR TO SIGHTING ATT			
123:30				
		TRN BIAS CISLUNAR NAVIGATION P23 1. STAR 22 EFH 00120 STAR__ __ E__H 2 SETS		
123:45				
		2. STAR 26 ENH 00110 STAR__ __ E__H 1 SET		
124:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				6/TEC	2-98

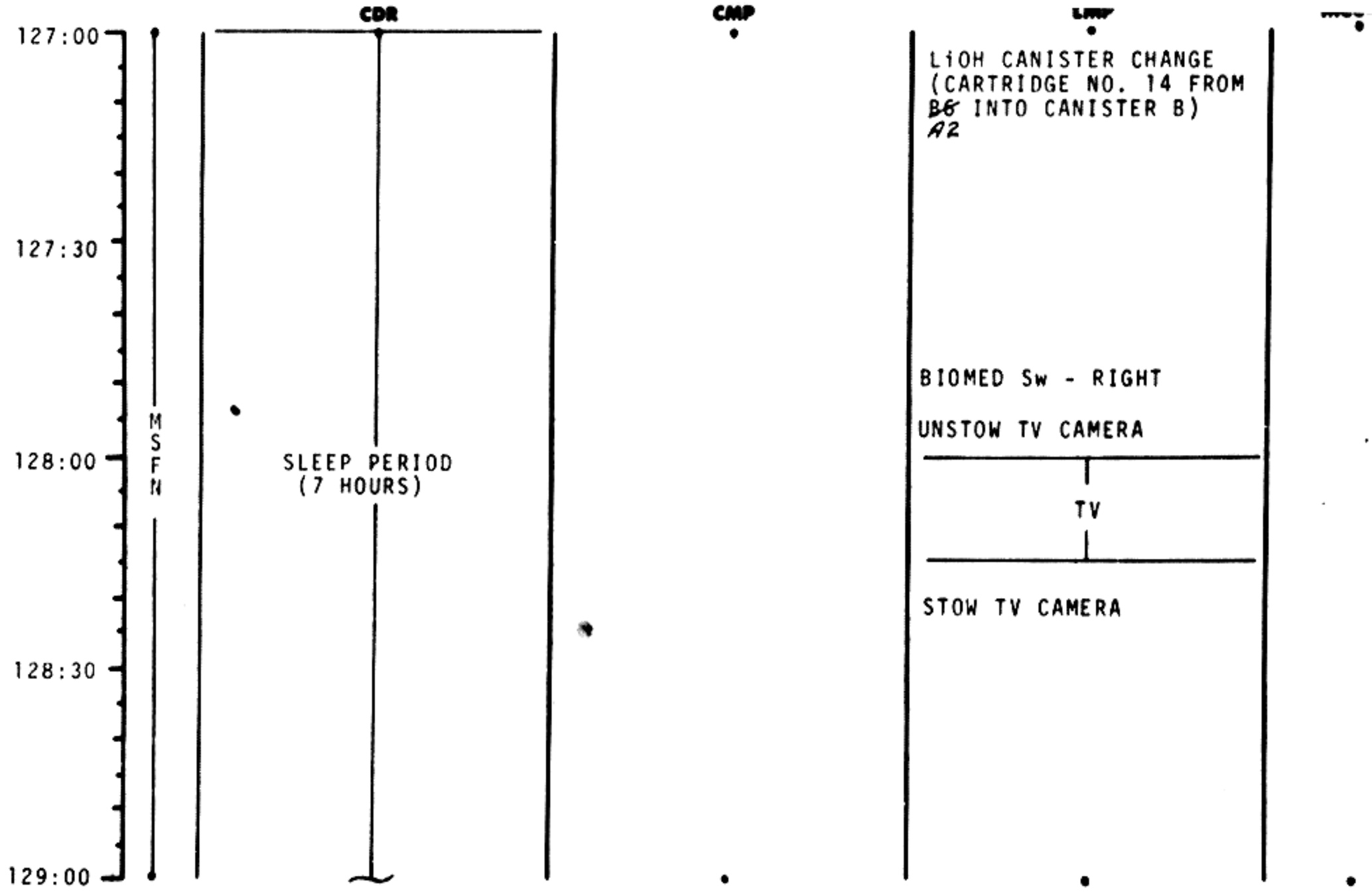
	CDR	CMP
124:00		3. STAR 31 ENH 00110 STAR__ __ E__H 2 SETS
124:15		
124:30 MSFN	MNVR TO PTC ATT P 029 Y 315 P___ Y___ ROLL 0.1°/SEC	RETURN TO EARTH P37
124:45		
125:00		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	124:00 - 125:00	6/TEC	2-99

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
125:00			BIOMED Sw - CENTER	
125:30				
126:00 MSFN				
126:30	EAT PERIOD	EAT PERIOD	EAT PERIOD	
127:00	CDR CREW STATUS REPORT			

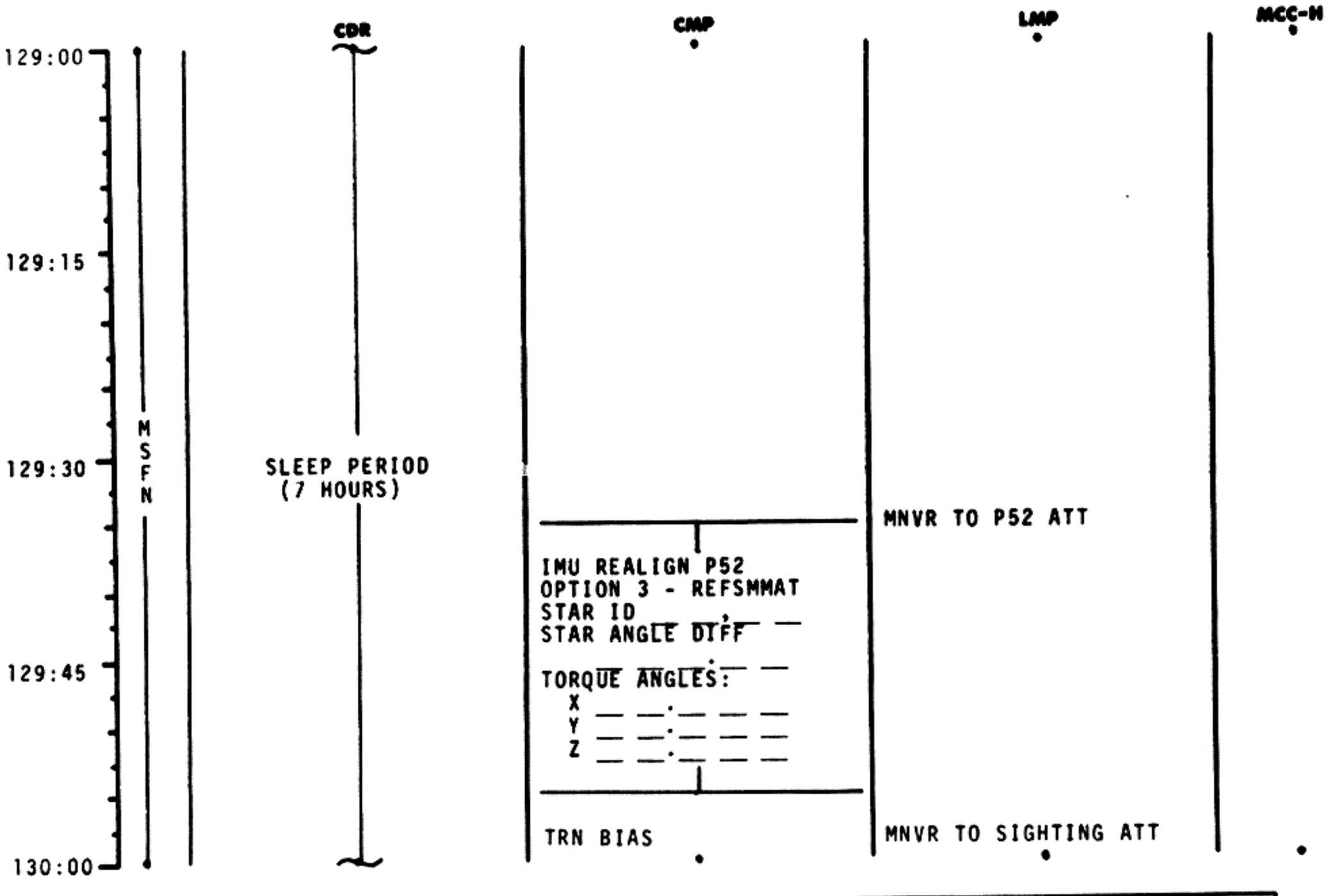
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			126:00 - 127:00	6/TEC	2-100



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	127:00 - 129:00	6/TEC	2-101

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	129:00 - 130:00	6/TEC	2-102

	CDR	CMP	LMP	MCC-H
130:00		CISLUNAR NAVIGATION P23 1. STAR 02 LNH 00210 STAR__ __ L__H 2 SETS		
130:15				
130:30	SLEEP PERIOD (7 HOURS)		MNVR TO SIGHTING ATT	
130:45		TRN BIAS 1. STAR 22 EFH 00120 STAR__ __ E__H 2 SETS		
131:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	130:00 - 131:00	6/TEC	2-103

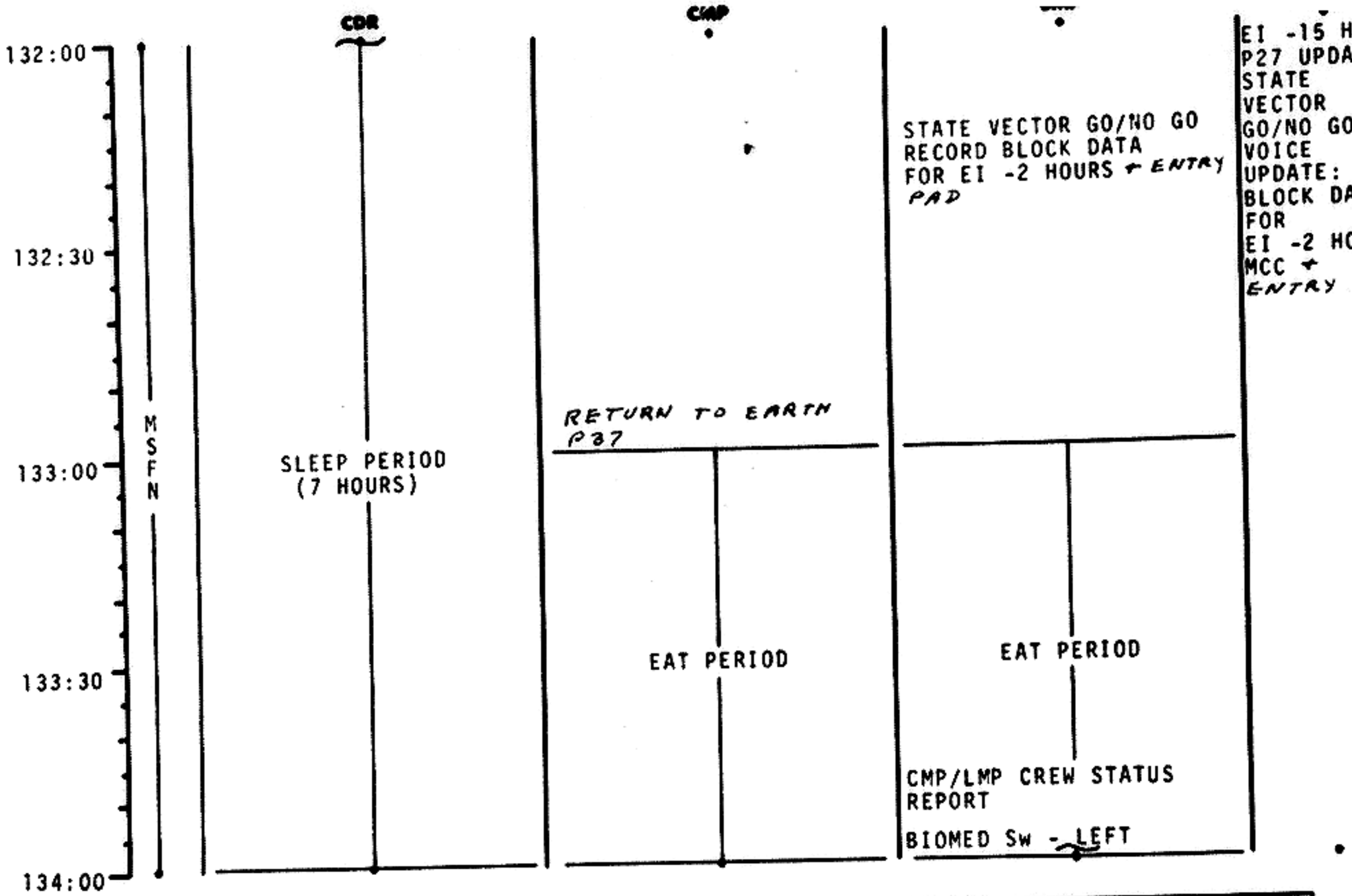
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
131:00			BIOMED Sw - CENTER	
131:15		2. STAR 26 ENH 00110 STAR__ __ E__H 2 SETS		
131:30	SLEEP PERIOD (7 HOURS)	3. STAR 31 ENH 00110 STAR__ __ E__H 2 SETS		
131:45		~~RETURN TO EARTH P37~~	MNVR TO PTC ATT P 029 Y 315 P__ Y__ ROLL 0.1°/SEC	
132:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			131:00 - 132:00	6/TEC	2-104

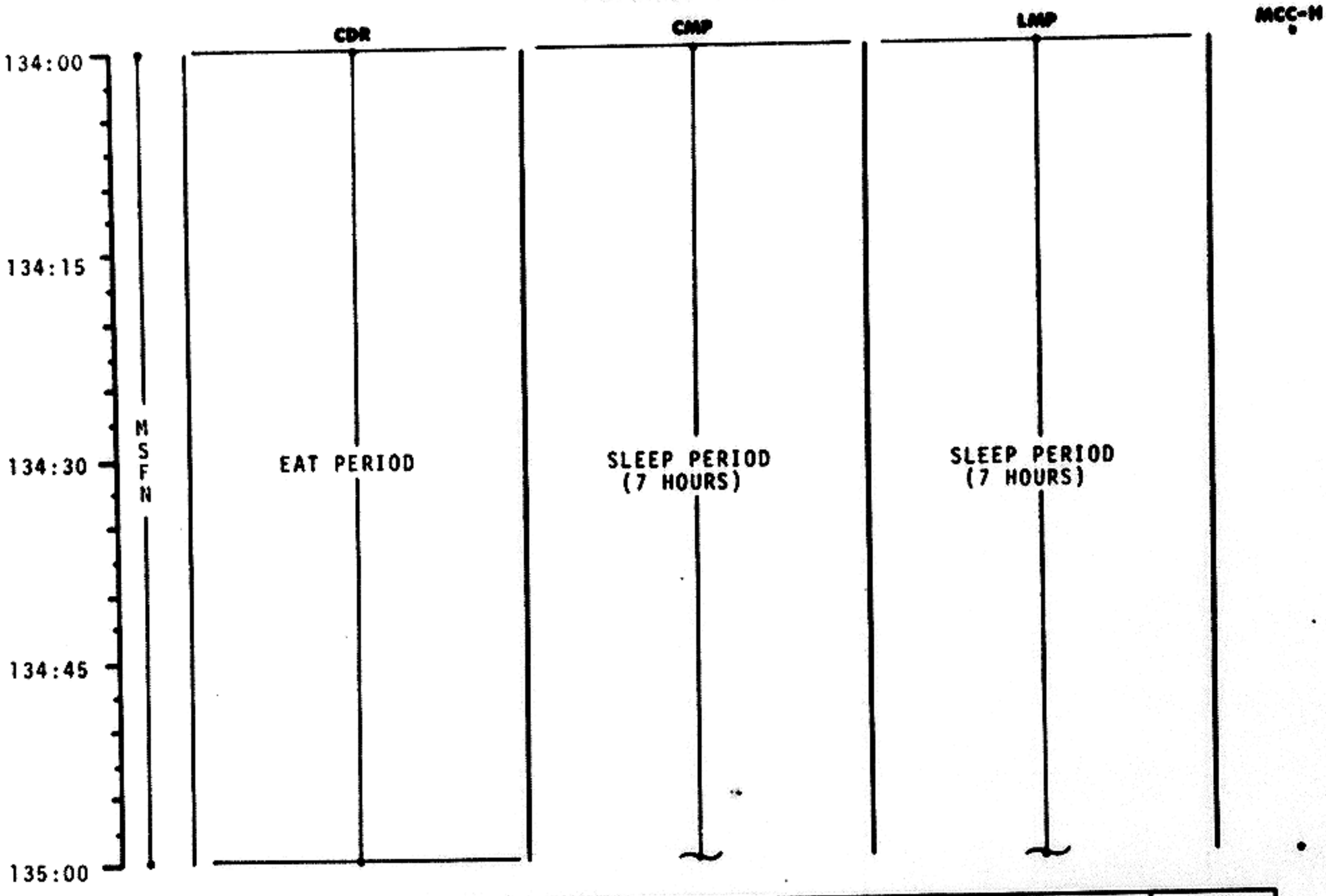


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	132:00 - 134:00	6/TEC	2-105

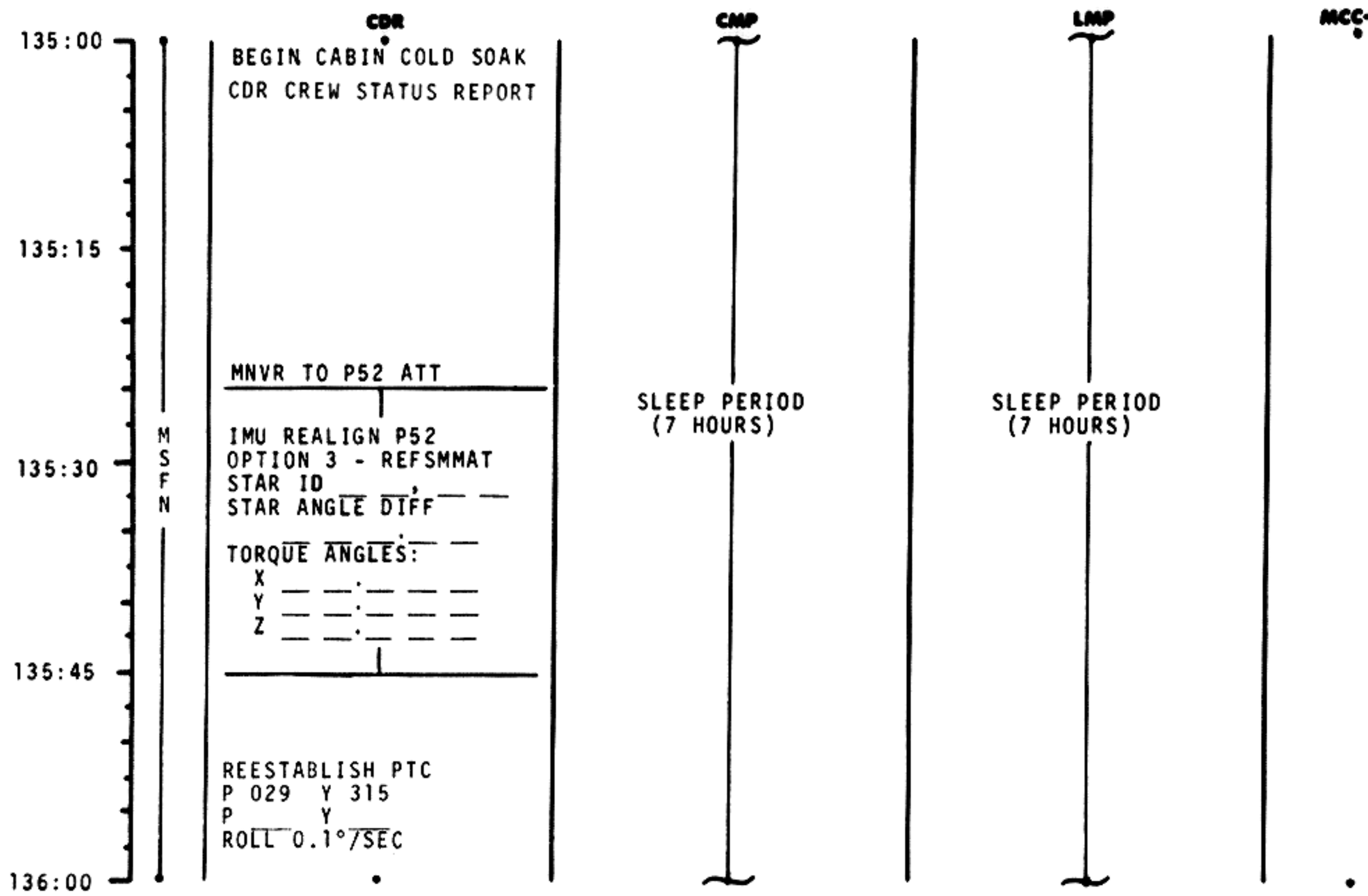
FLIGHT PLANNING BRANCH

MSC Form 1910 (Nov 68)

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				6/TEC	2-106

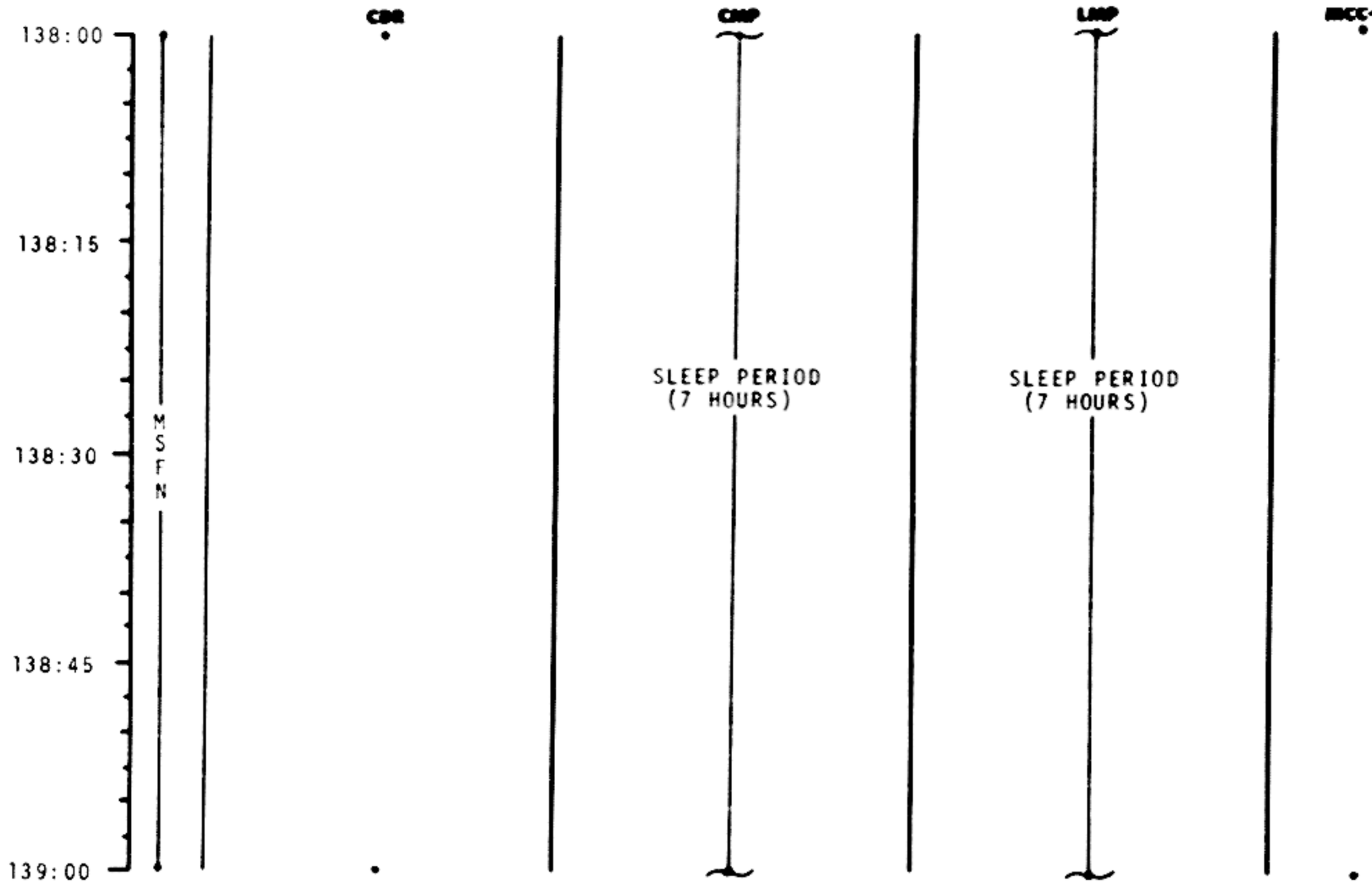


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	135:00 - 136:00	6/TEC	2-107

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN

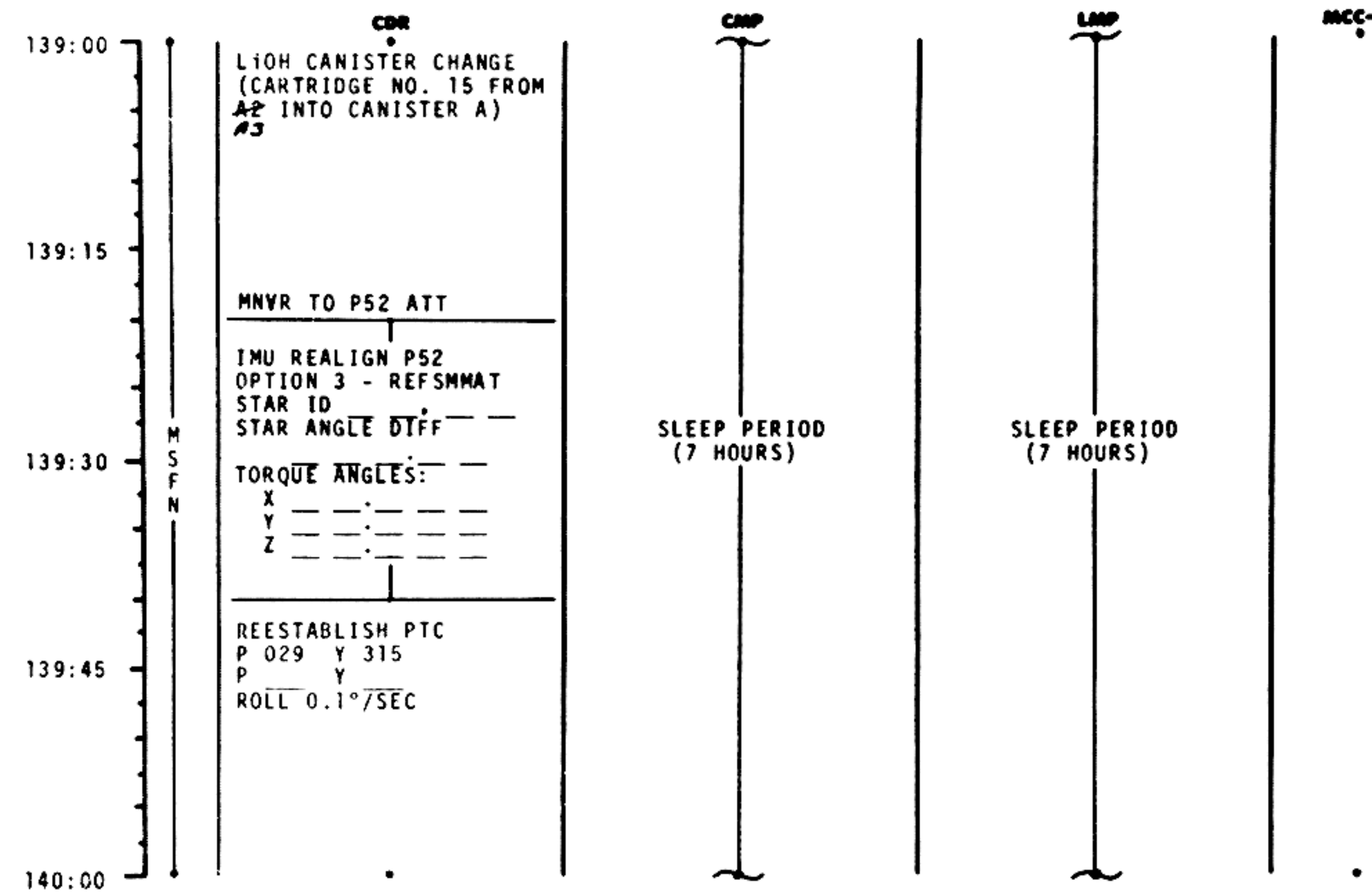
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	136:00 - 138:00	6/TEC	2-108



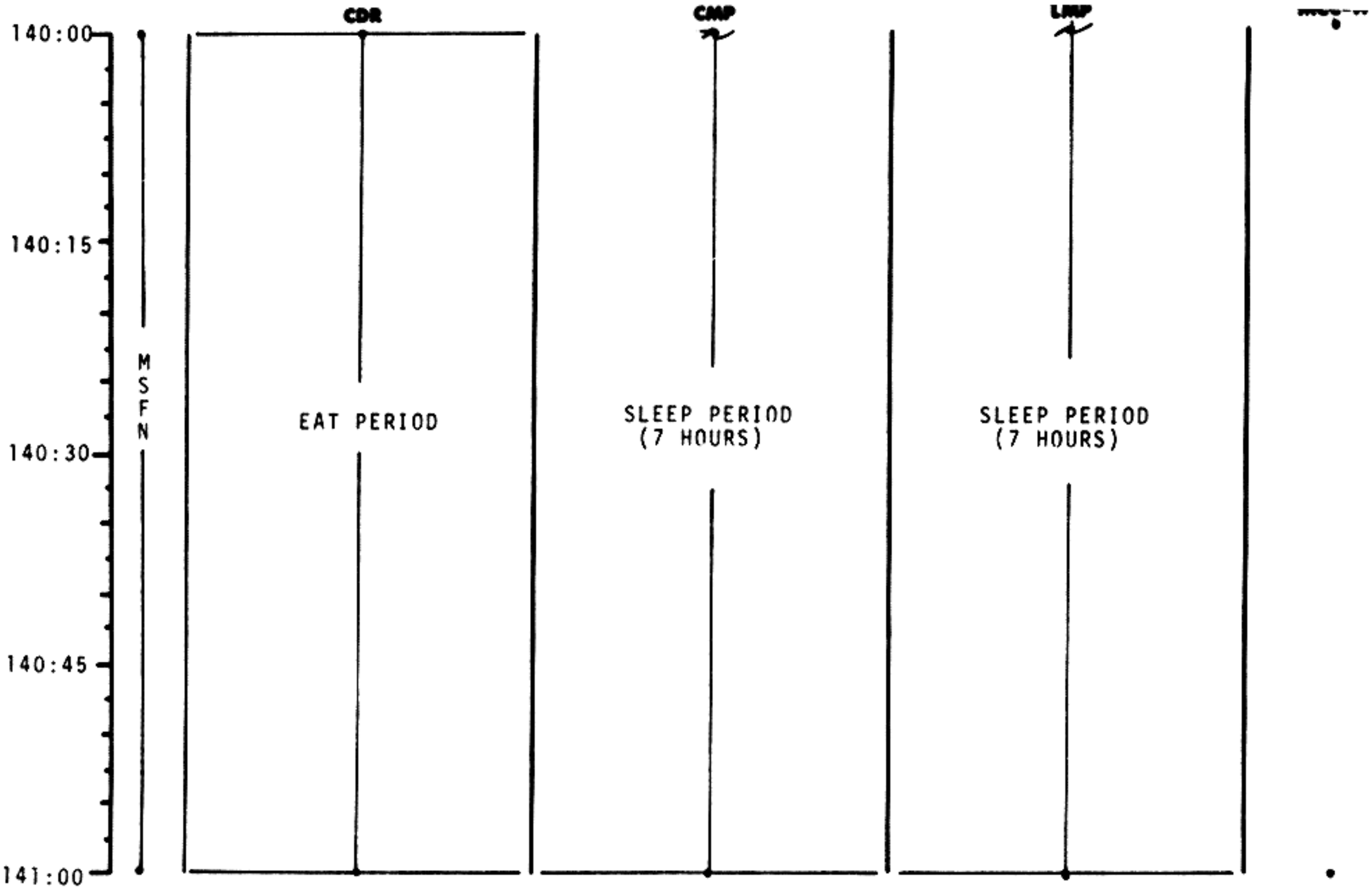
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	138:00 - 139:00	6/TEC	2-109

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



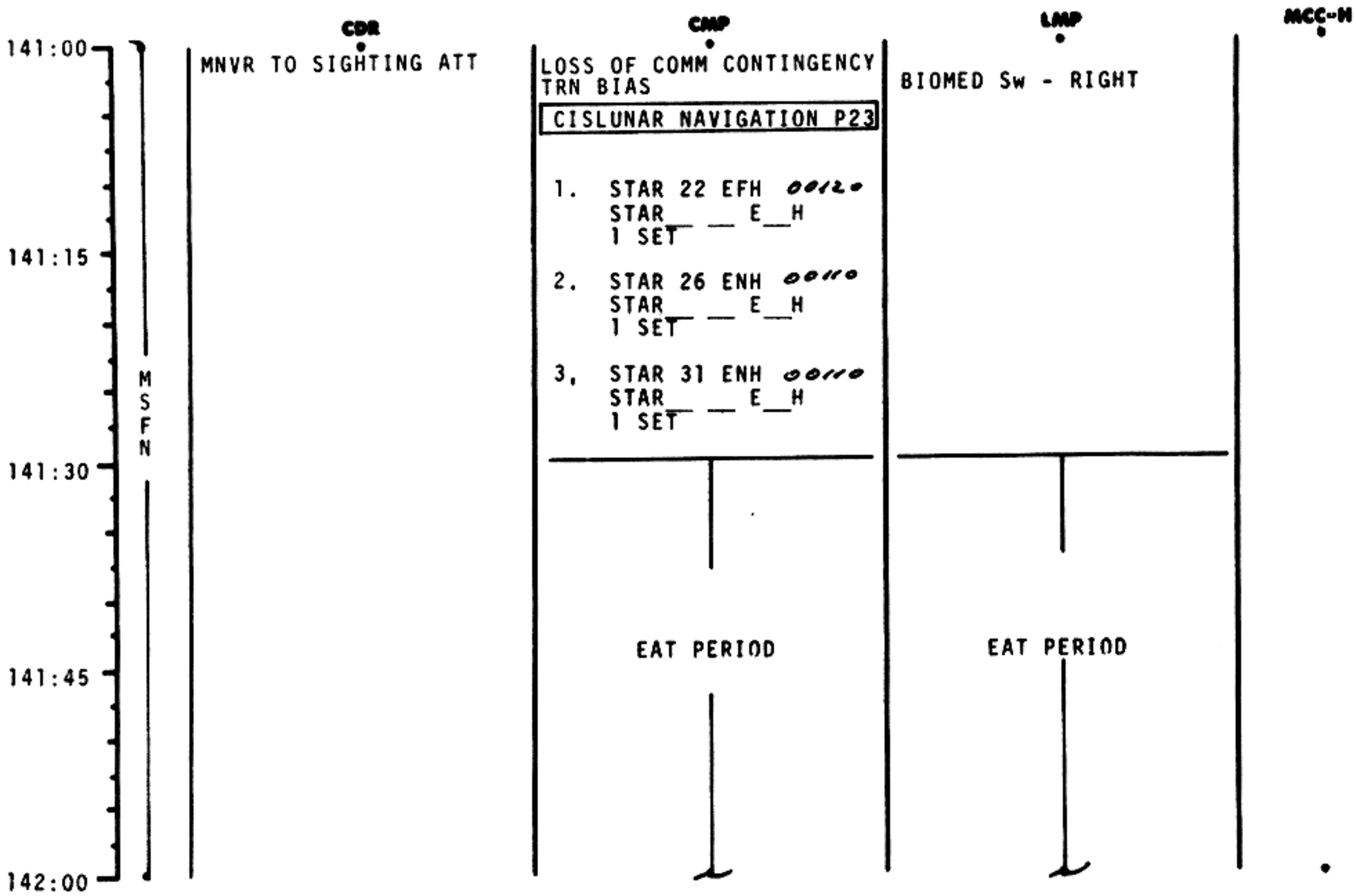
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			139:00 - 140:00	6/TEC	2-110



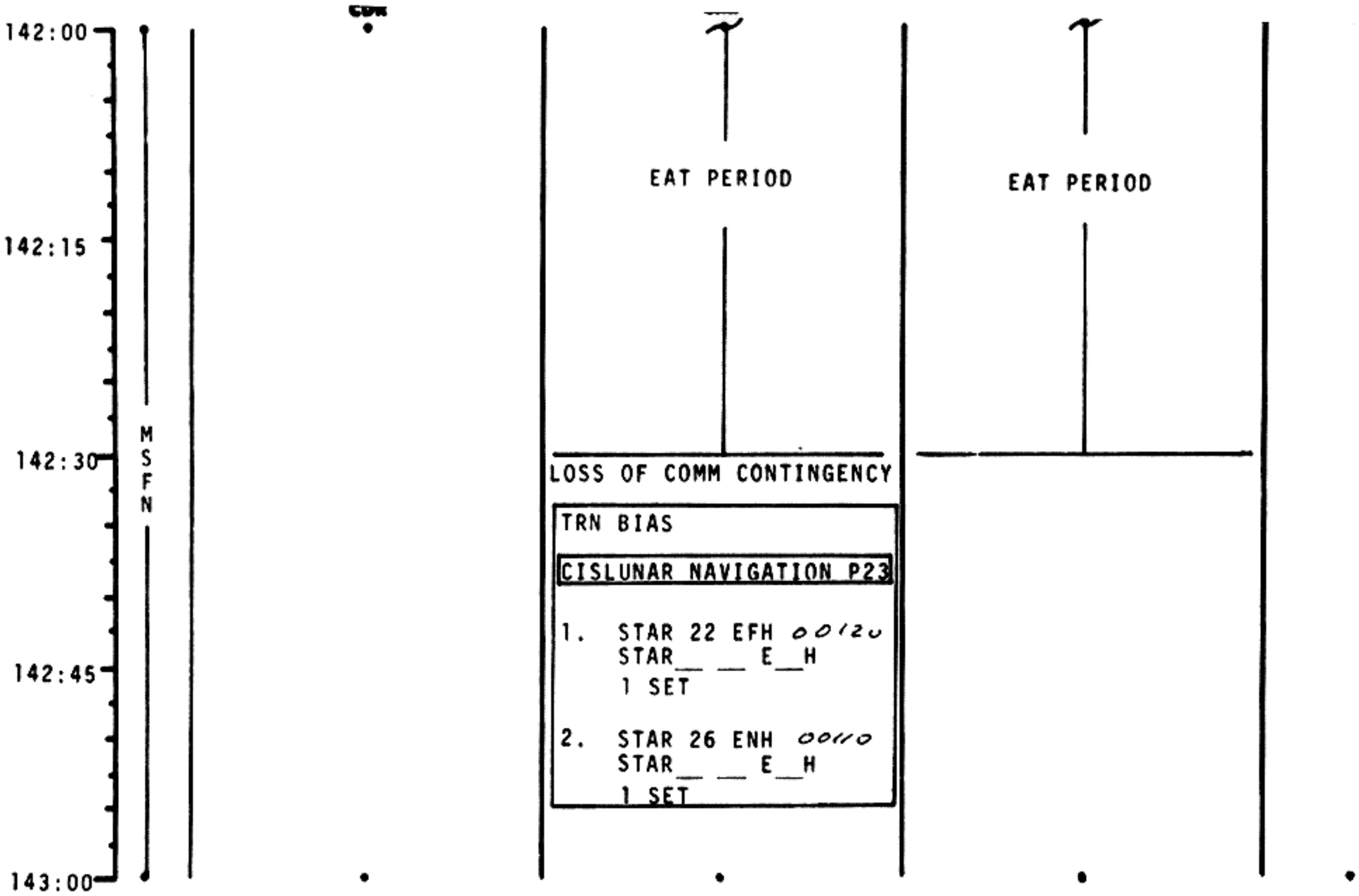
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	140:00 - 141:00		2-111

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



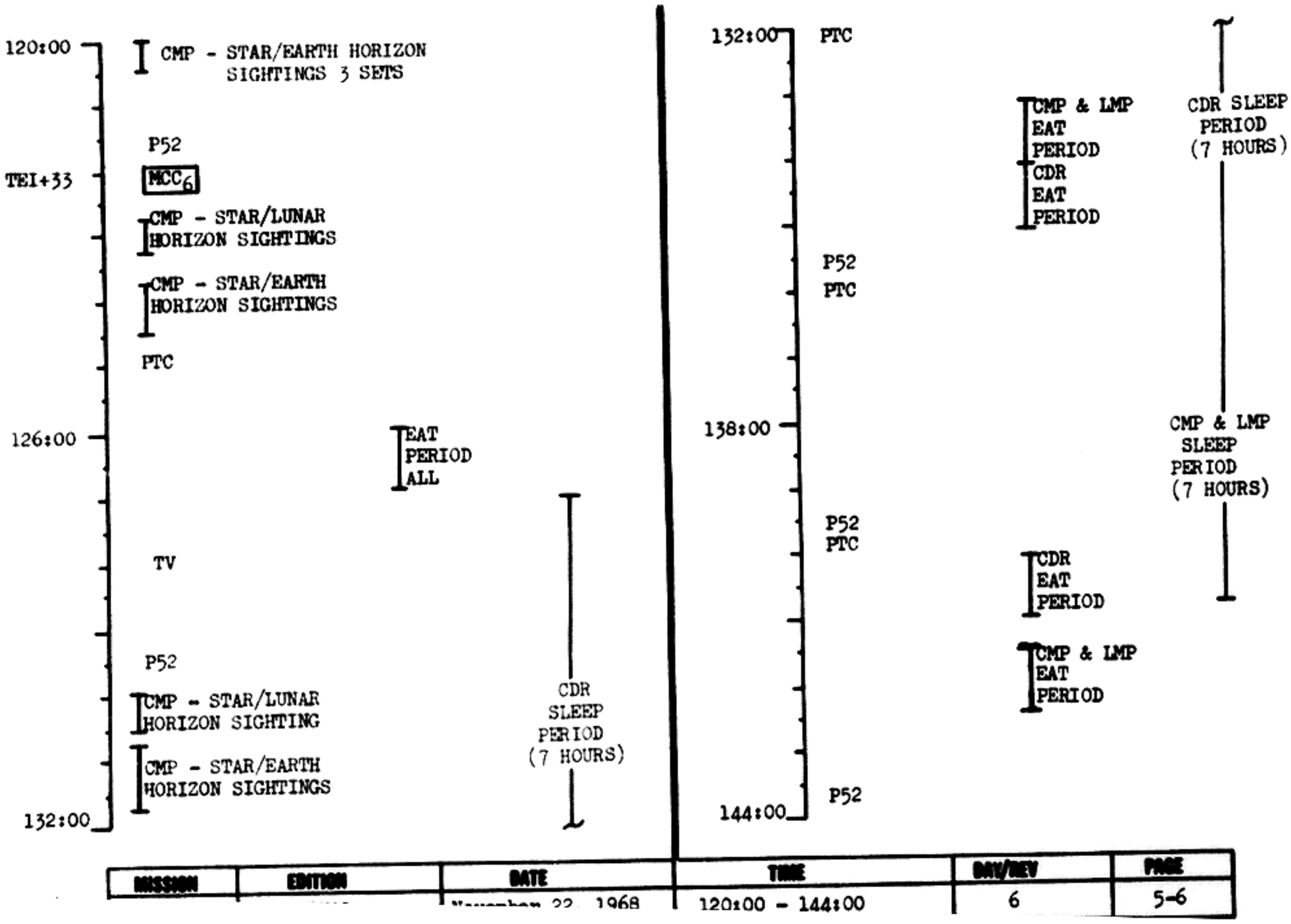
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22,1968	141:00 - 142:00		2-112



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22,1968	142:00 - 143:00		2-113

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	120:00 - 144:00	6	5-6

FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
143:00				P27 UPDATE: STATE VECTOR (LM & CSM SLOTS) REFSMMAT
EI-3.5 HRS			RECORD MNVR AND ENTRY PAD	VOICE UPDATE: MNVR PAD ENTRY PAD
143:30	MNVR TO P52 ATT	IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID ___.___ STAR ANGLE DIFF ___.___ TORQUE ANGLES: X ___.___ Y ___.___ Z ___.___	ECS CK EPS CK SPS CK SM/CM RCS CK C&W CK	
EI-3 HRS		CMC SELF CK DSKY COND LT TEST		
144:00				

M S F N

DATE	TIME	DAY/REV	PAGE

BURN STATUS REPORT

X X ΔTIG
X X BT
V_{gx}
TRIM
X X X R
X X X P
X X X Y
V_{gx}
V_{gy}
V_{gz}
ΔV_c
X X X FUEL
X X X OX
X X X UNBALANCE

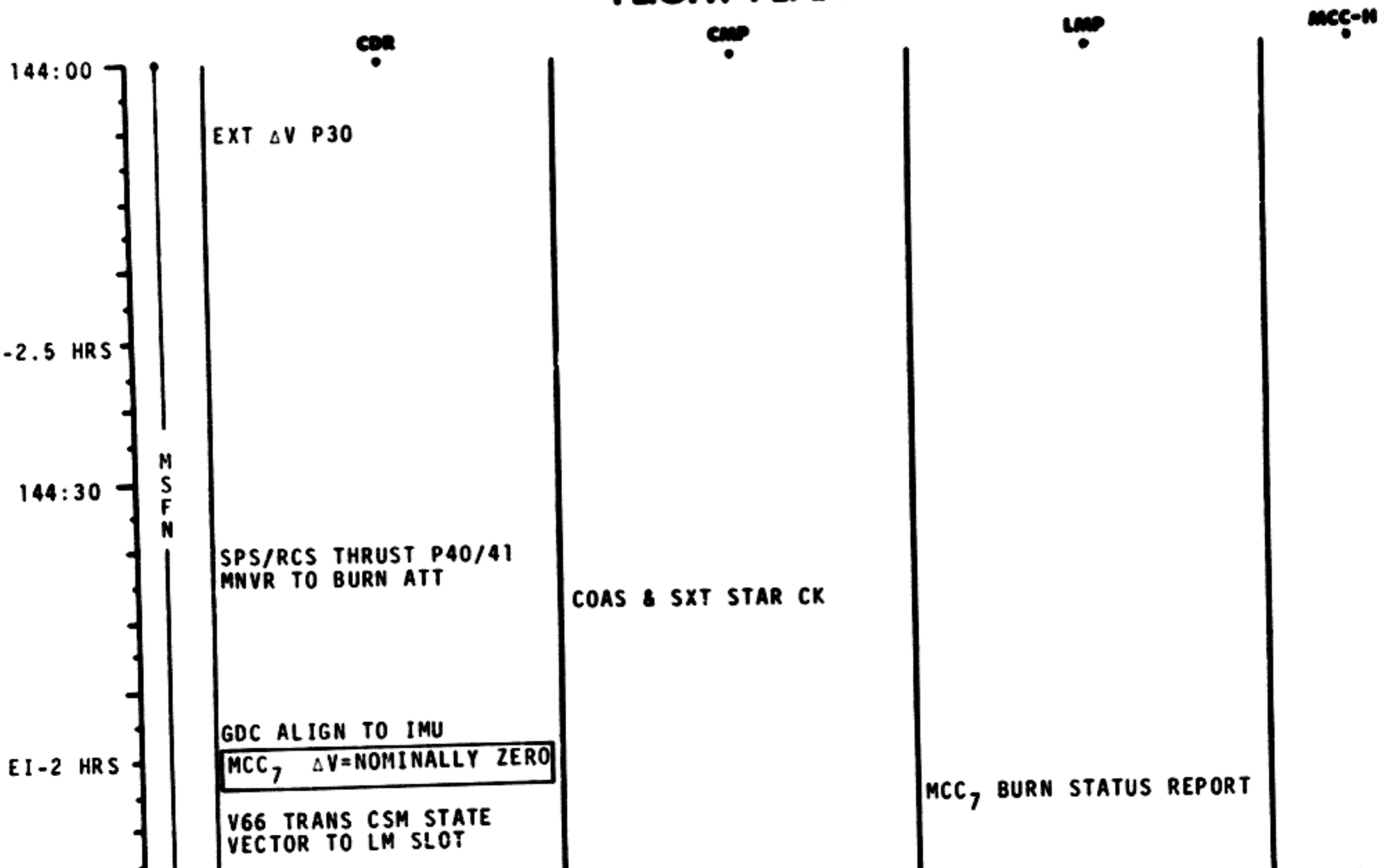
REMARKS:

MCC'S

BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fps

FLIGHT PLAN



	CDR	CMP	LMP	MCC-H
145:00		LOSS OF COMM CONTINGENCY CISLUNAR NAVIGATION P23 1. STAR 33 ENH 00110 STAR__ __ E__H 1 SET	BIOMED Sw - LEFT	
	MNVR TO ENTRY ATT COAS STAR CK	SXT STAR CK		
EI-1.5 HR		IMU REALIGN P52 OPTION 3 - REFSMMAT AND GYRO DRIFT TEST STAR ID __ __.__ __ STAR ANGLE DIFF __ __.__ __ TORQUE ANGLES: X __ __.__ __ __ Y __ __.__ __ __ Z __ __.__ __ __		PIPA BIAS CK
145:30	GDC ALIGN TO IMU			
	FINAL STOWAGE	FINAL STOWAGE INITIATE CM RCS PREHEAT WASTE H_2O DUMP - OFF UR DUMP HT - OFF	FINAL STOWAGE	
EI-1 HR	EMS CK			
146:00	FINAL GDC DRIFT CK			

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	145:00 - 146:00	7/TEC	2-116

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

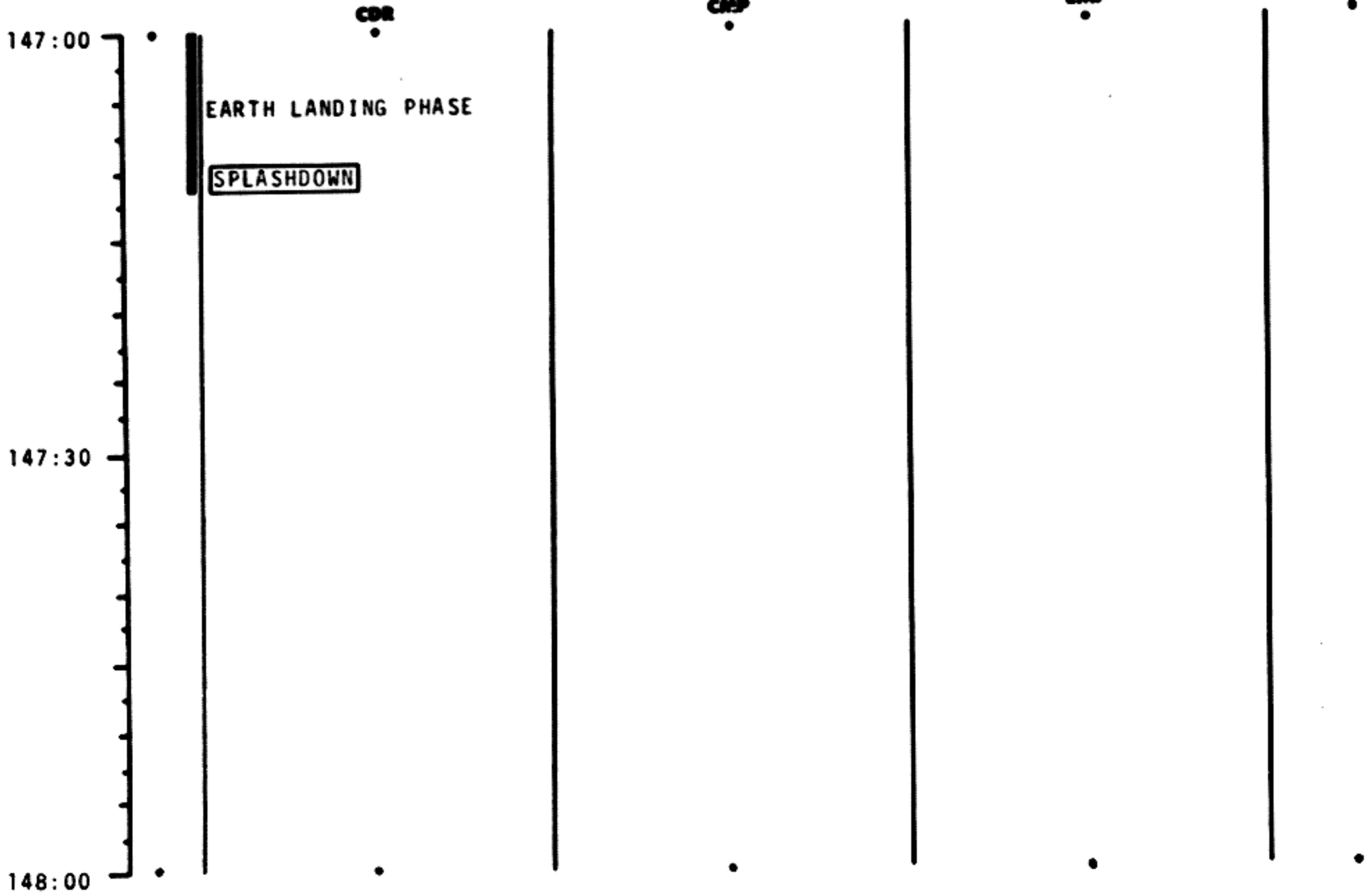
FLIGHT PLAN

	CDR	CMP	LMP	MCC-H
146:00	SET DET TO EI EMS INITIALIZATION RSI ALIGN TO GDC CM RCS CK	TERM CM RCS PREHEAT RECORD ENTRY PAD & RCVY INFO	PYRO BAT CK	P27 UPDATE: STATE VECTOR VOICE UPDATE: ENTRY PAD & RCVY INFO
EI-30 MIN			ENTRY BATS - ON	
	SEPARATION CK LIST	SEPARATION CK LIST	SEPARATION CK LIST	
146:30	MNVR TO CM/SM SEP ATT	P61 ENTRY PREP	GO FOR PYRO ARM	GO FOR PYRO ARM
EI-15 MIN	CM/SM SEP MNVR TO ENTRY ATT	P62 ENTRY ATTITUDE		
		P63 ENTRY INITIATE		
146:50	EI = 400K	P64 ENTRY POST .05G		
147:00				

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	146:00 - 147:00	7/TEC	2-117

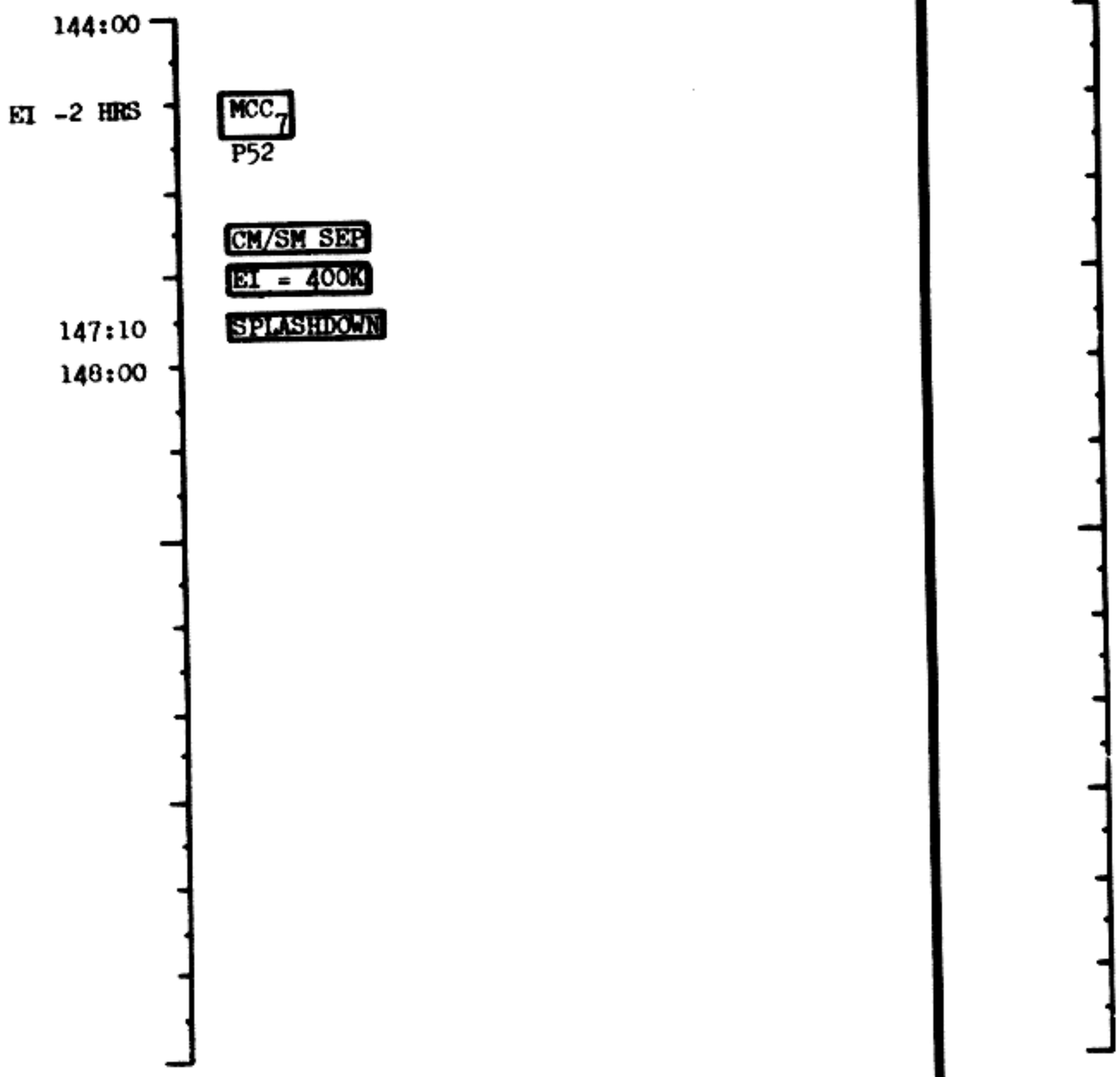
MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	147:00 - 148:00	7/TEC	2-118

MSC Form 1910 (Nov 68) FLIGHT PLANNING BRANCH

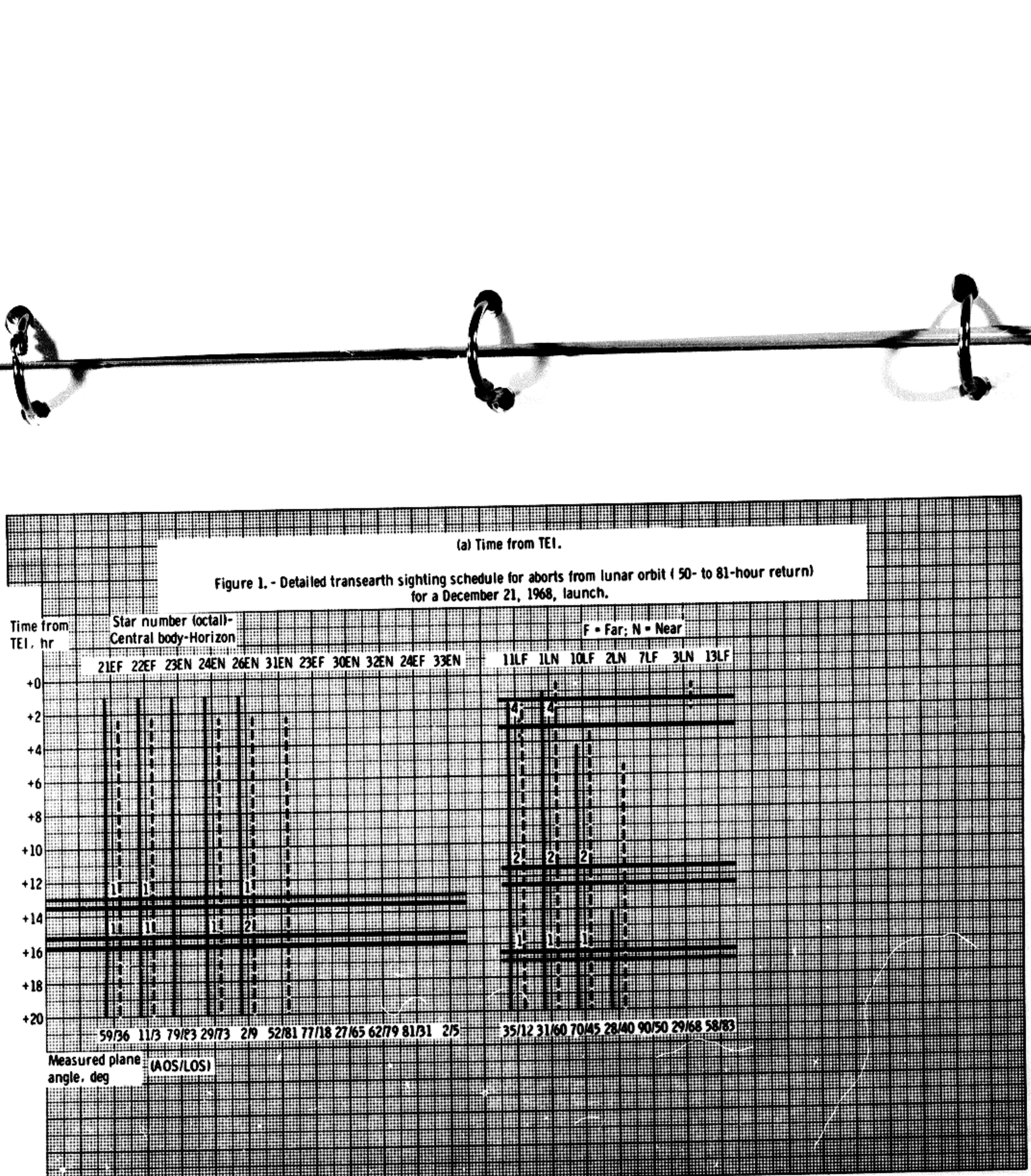
FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	144:00 to 146:50	6	5-7

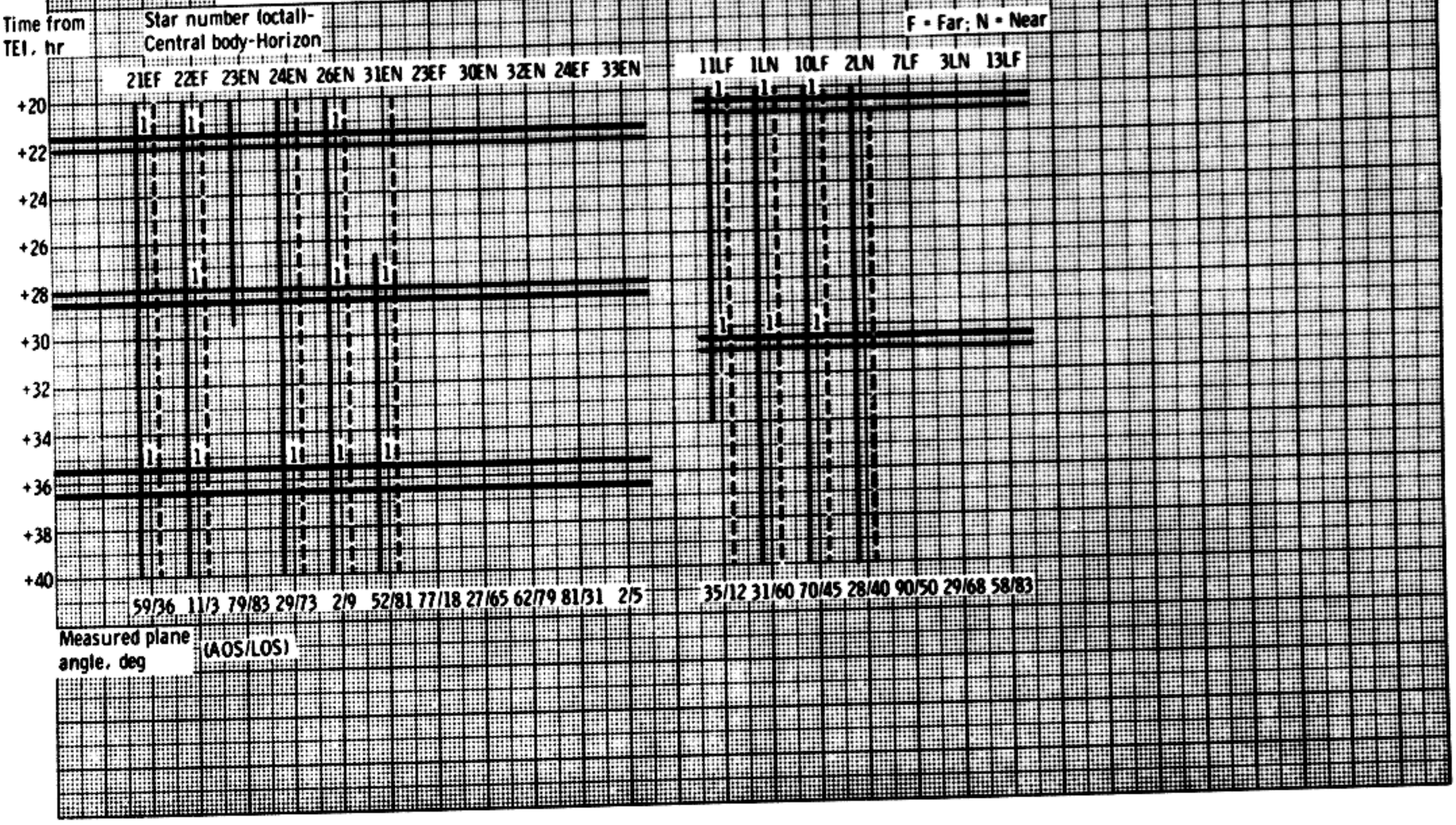
(a) Time from TEI.

Figure 1. - Detailed transearth sighting schedule for aborts from lunar orbit (50- to 81-hour return) for a December 21, 1968, launch.



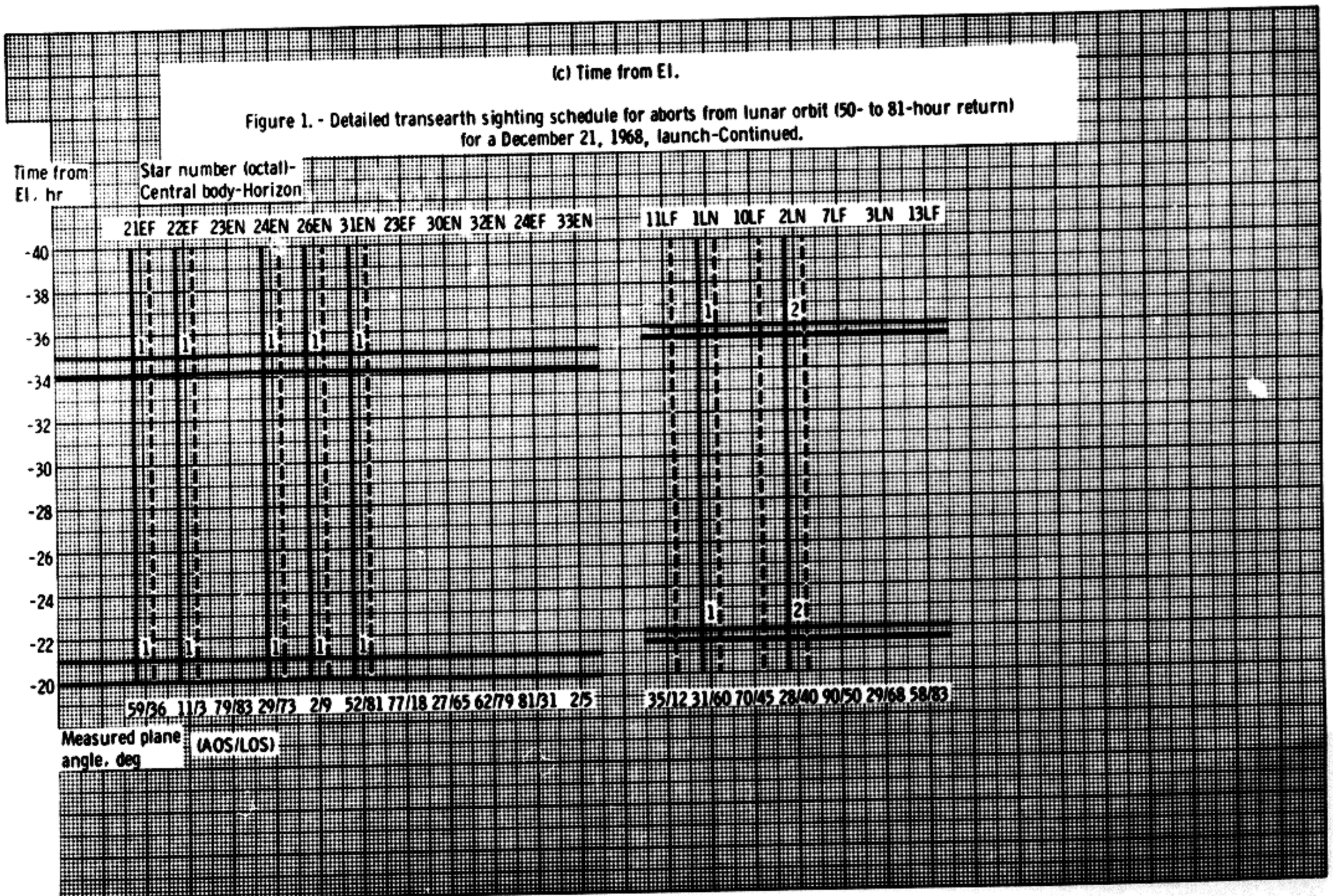
(b) Time from TEI-Concluded.

Figure 1. - Detailed transearth sighting schedule for aborts from lunar orbit (50- to 81-hour return) for a December 21, 1968, launch-Continued.



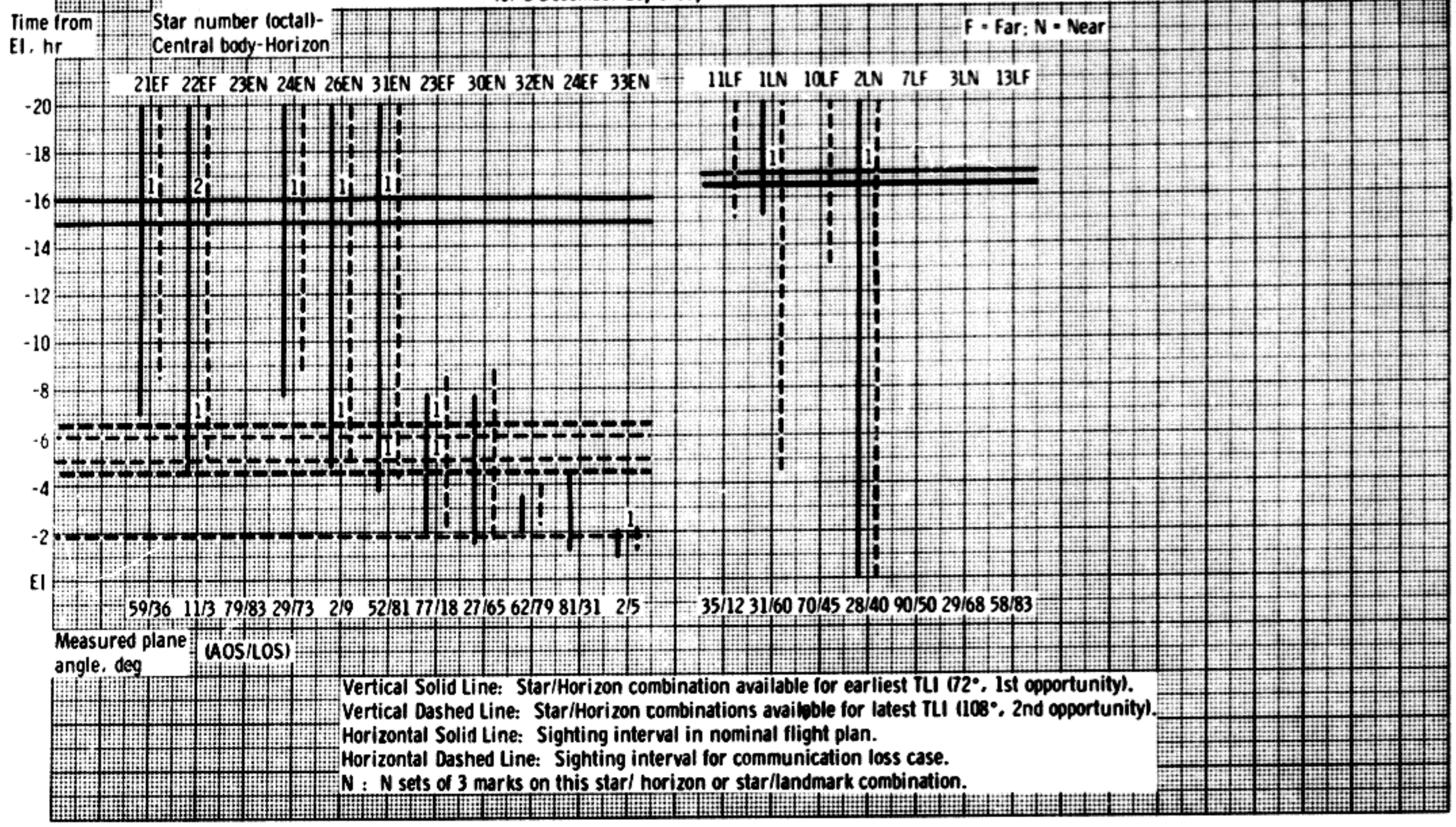
(c) Time from EI.

Figure 1. - Detailed transearth sighting schedule for aborts from lunar orbit (50- to 81-hour return) for a December 21, 1968, launch-Continued.



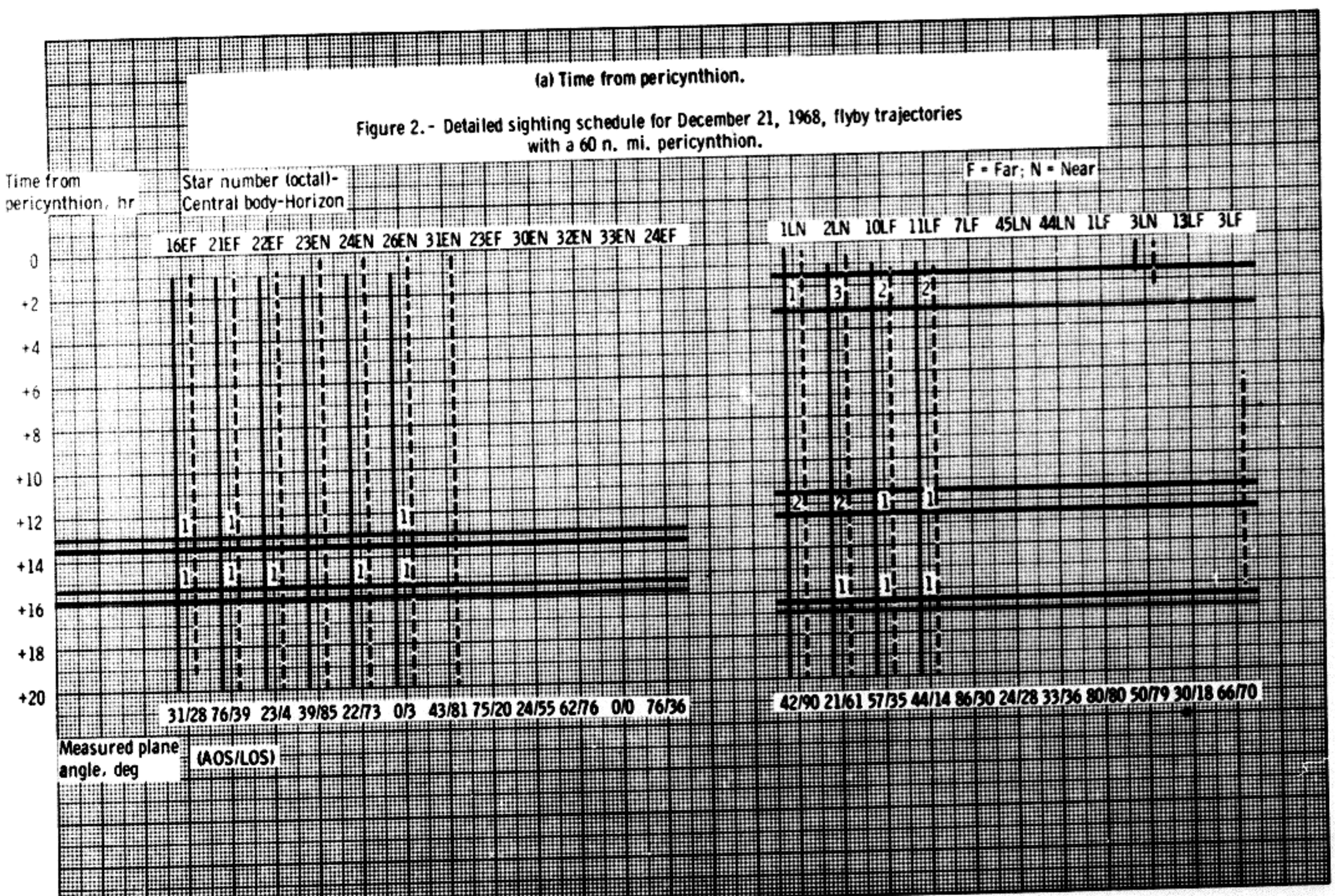
(d) Time from EI-Concluded.

Figure 1. - Detailed transearth sighting schedule for aborts from lunar orbit (50- to 81-hour return) for a December 21, 1968, launch-Concluded.



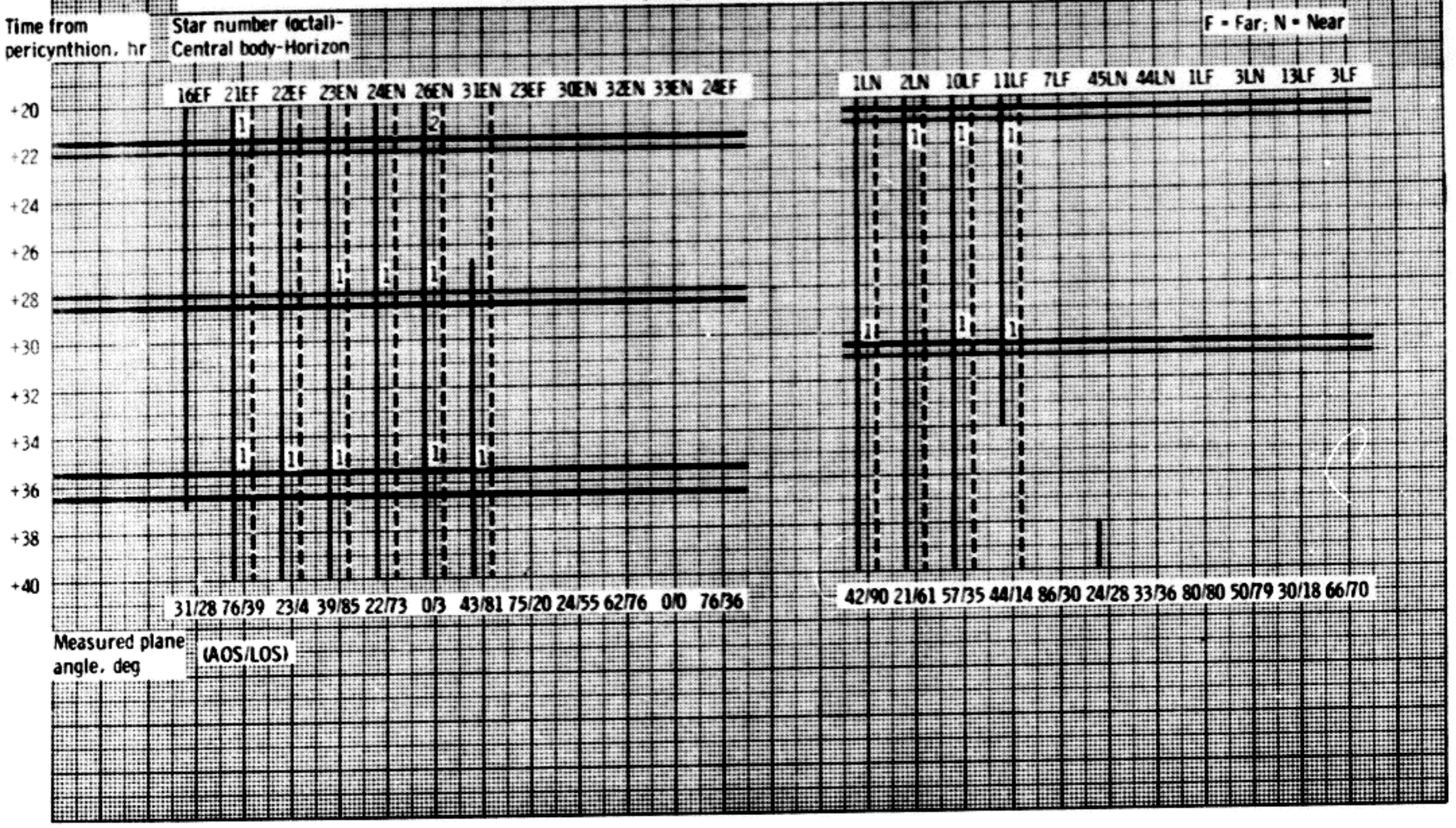
(a) Time from pericynthion.

Figure 2.- Detailed sighting schedule for December 21, 1968, flyby trajectories with a 60 n. mi. pericynthion.



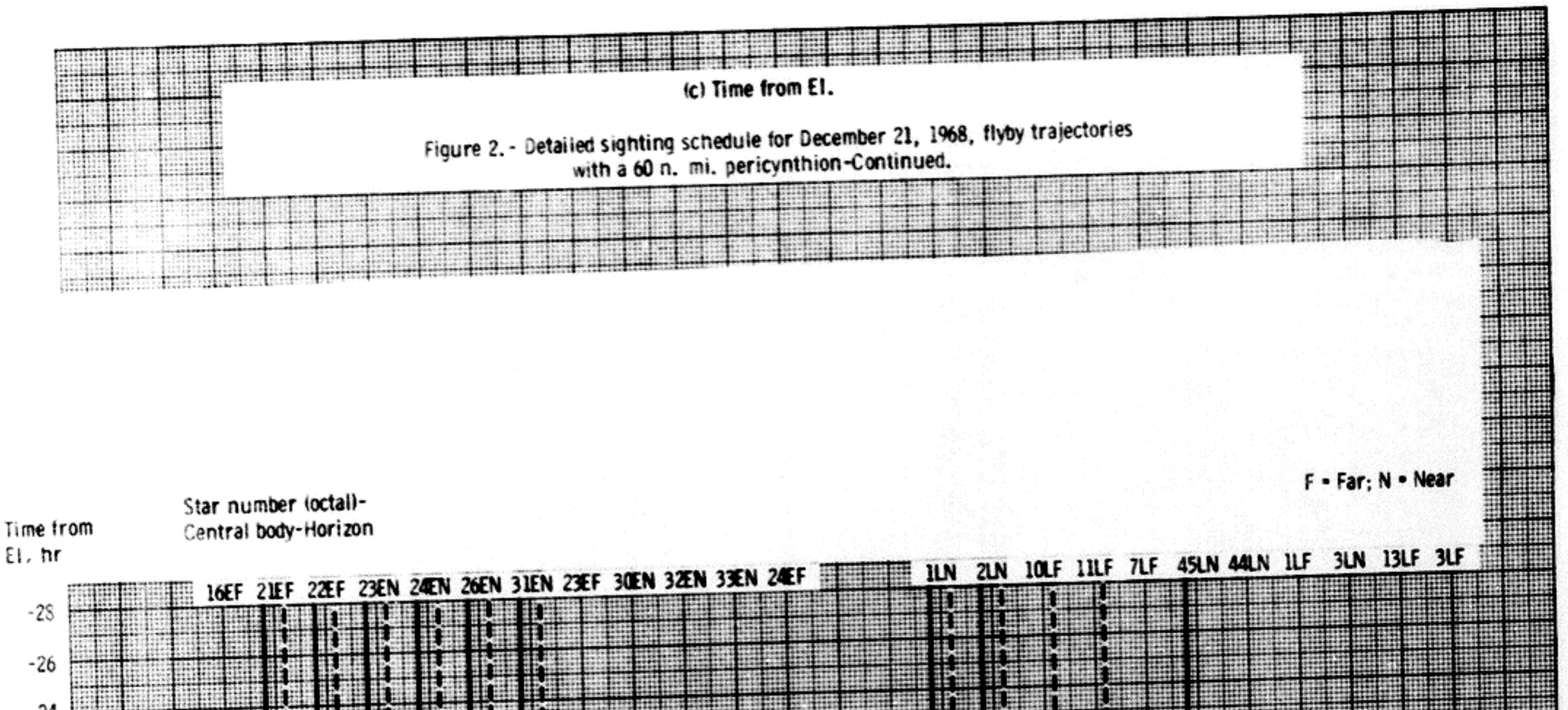
(b) Time from pericynthion-Concluded.

Figure 2.- Detailed sighting schedule for December 21, 1968, flyby trajectories with a 60 n. mi. pericynthion-Continued.



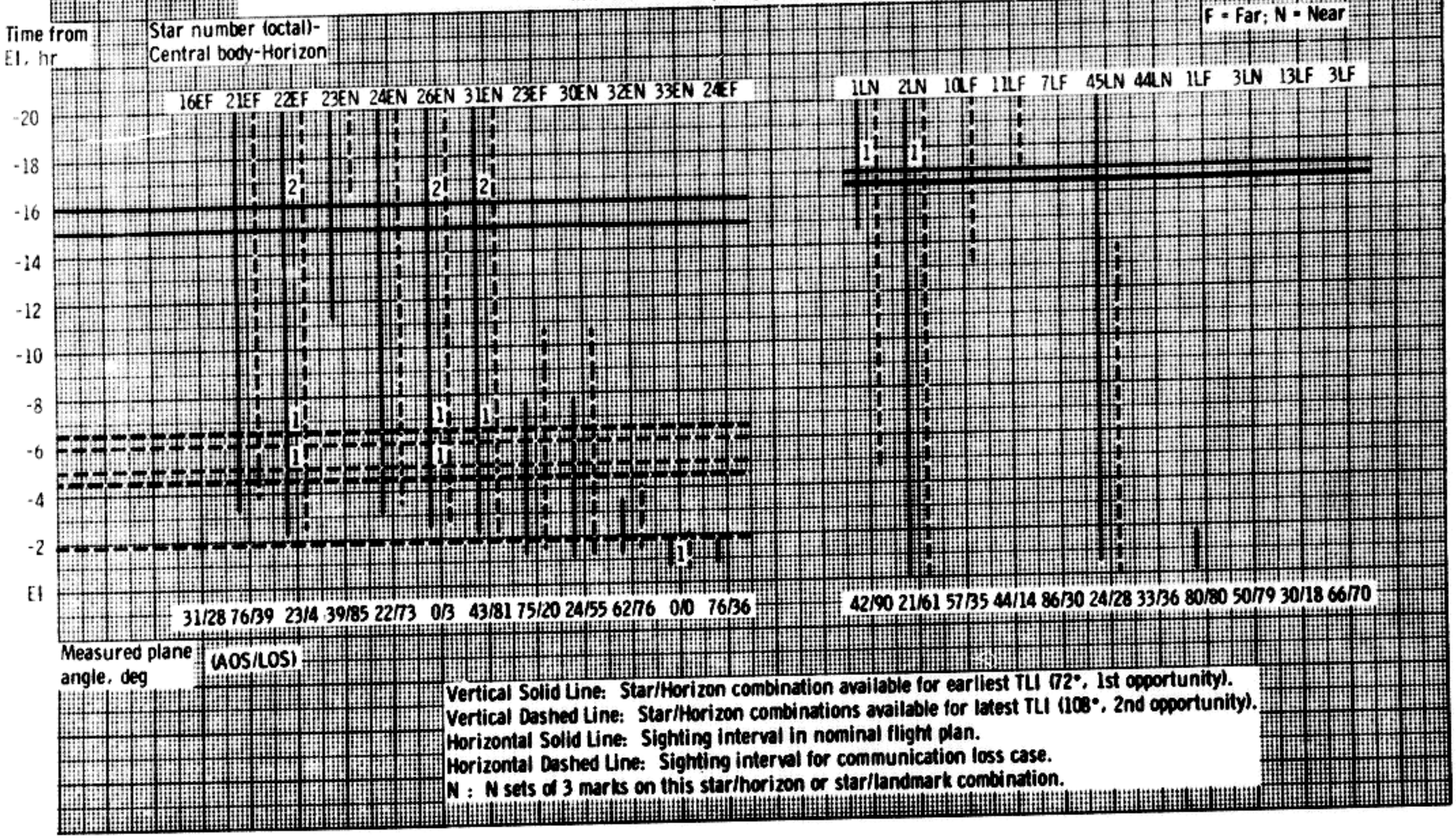
(c) Time from EI.

Figure 2.- Detailed sighting schedule for December 21, 1968, flyby trajectories with a 60 n. mi. pericynthion-Continued.



(d) Time from EI-Concluded.

Figure 2.- Detailed sighting schedule for December 21, 1968, flyby trajectories with a 60 n. mi. pericynthion-Concluded.



DEC 21 LUNAR FLYBY
TEC = 67 HOURS

FLIGHT PLAN

TIME FROM PC

00:00 PERICYNTHIAN

EAT PERIOD (ALL)

P52
CMP - 8 SETS OF STAR/LUNAR HORIZON SIGHTINGS
PTC

CDR SLEEP PERIOD (5 HOURS)

CMP & LMP EAT PERIOD

CDR EAT PERIOD

06:00

CMP & LMP SLEEP PERIOD (5 HOURS)

12:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL			TEC	1

FLIGHT PLAN

12:00

EAT PERIOD (ALL)

P52

CMP - 0 SETS OF STAR/LUNAR HORIZON SIGHTINGS

CMP - 3 SETS OF STAR/EARTH HORIZON SIGHTINGS

PC+17 — MCC 5

EAT PERIOD (ALL)

18:00

P52

CMP - 5 SETS OF STAR/EARTH HORIZON SIGHTINGS

CMP - 3 SETS OF STAR/LUNAR HORIZON SIGHTINGS

prc

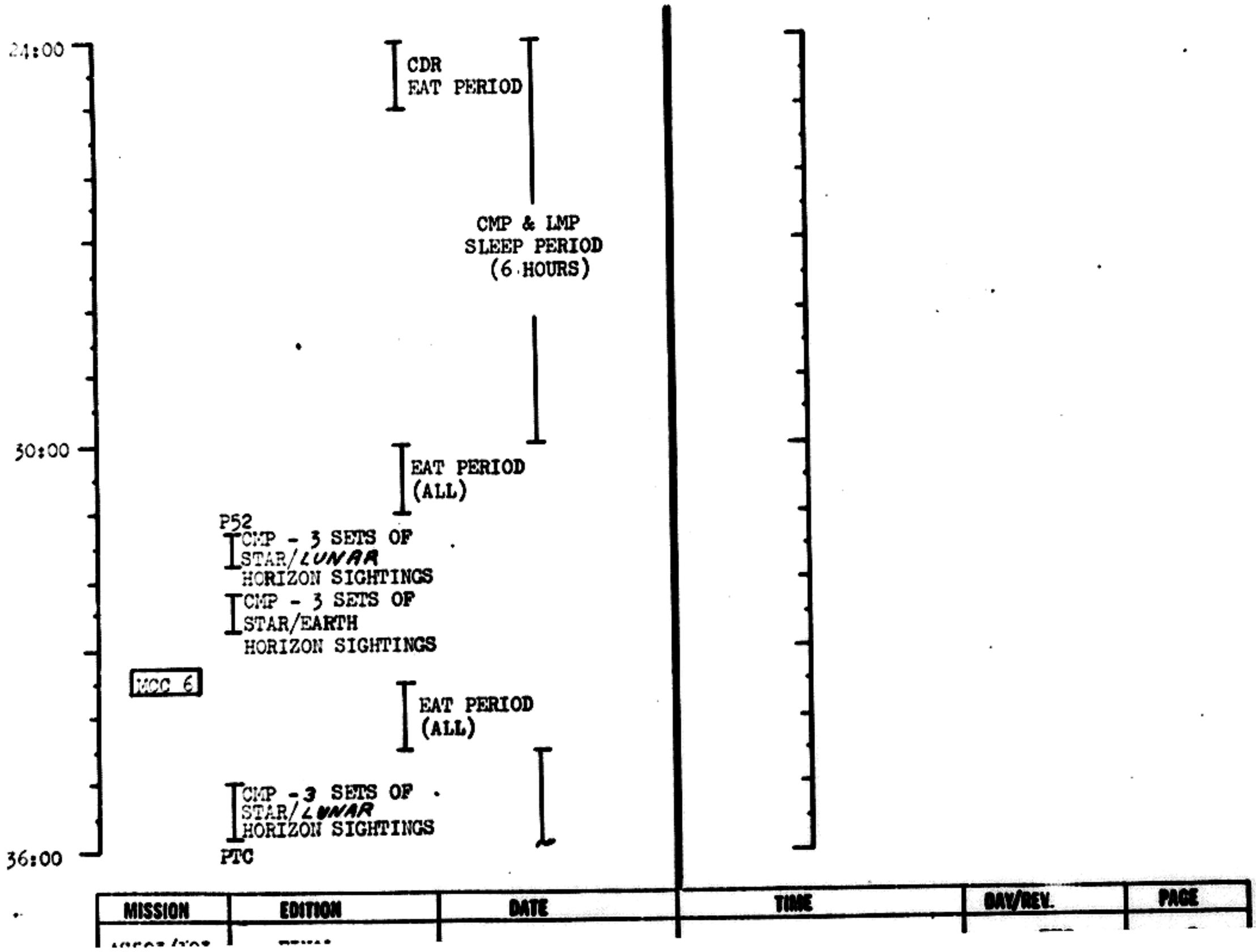
CDR SLEEP PERIOD (6 HOURS)

CMP & LMP EAT PERIOD

24:00

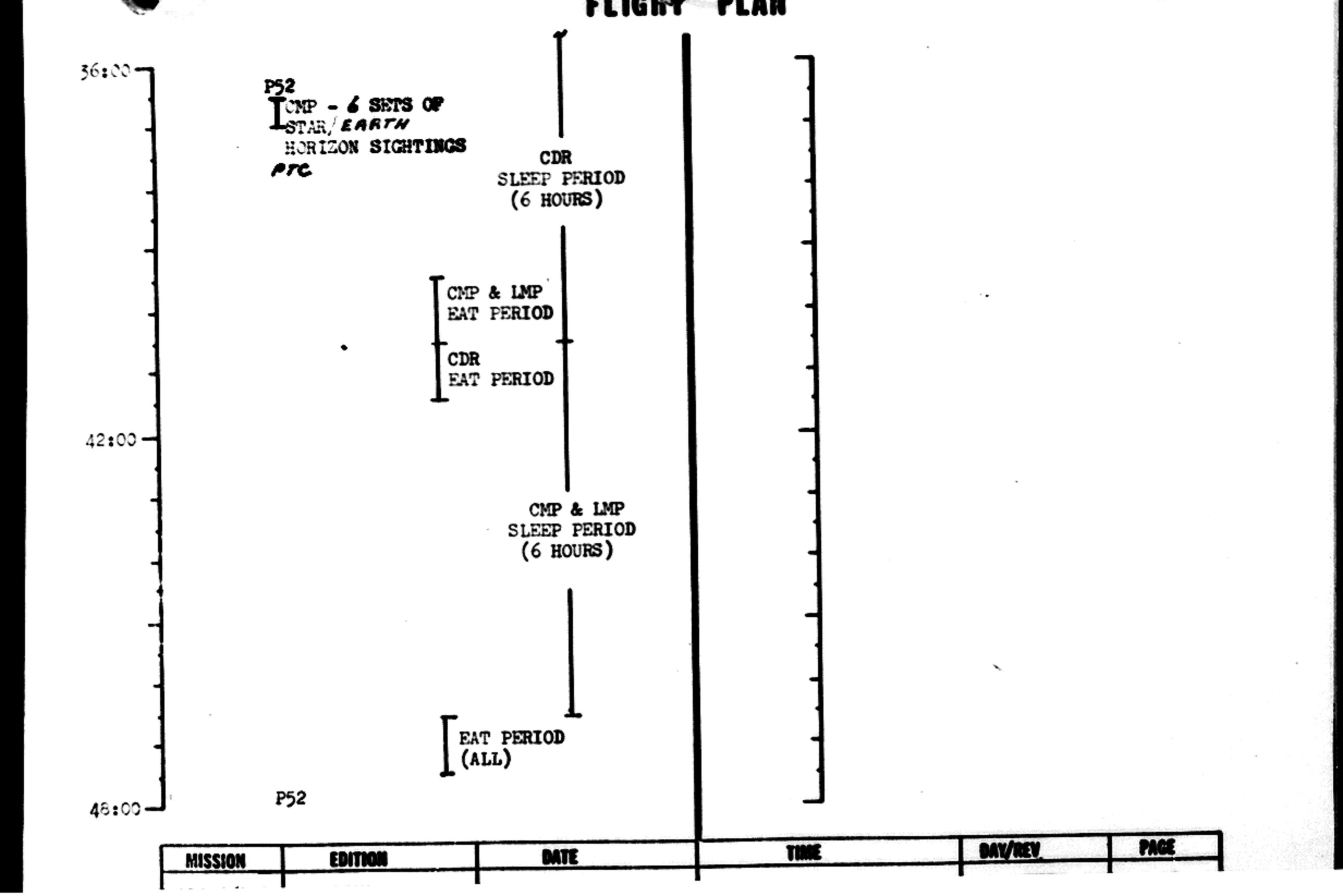
MISSION	EDITION	DATE	TIME	DAY/REV.	PAGE

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV.	PAGE

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV.	PAGE

FLIGHT PLAN

48:00

CMP - 3 SETS OF STAR/LUNAR HORIZON SIGHTINGS

MCC 7

EAT PERIOD (ALL)

CMP - 6 SETS OF STAR/EARTH HORIZON SIGHTINGS

CDR SLEEP PERIOD (5.5 HOURS)

54:00

CMP & LMP SLEEP PERIOD (5.5 HOURS)

60:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	PTRAJ.				

FLIGHT PLAN

60:00

EAT PERIOD (ALL)

P52

CMP - 3 SETS OF STAR/EARTH HORIZON SIGHTINGS

CMP - 2 SETS OF STAR/EARTH HORIZON SIGHTINGS

MCC 6

CMP - 1 SET OF STAR/EARTH HORIZON SIGHTINGS

66:00

EI

MISSION	EDITION	DATE	TIME	DAV/REV	PAGE
AS503/103	FINAL			TBC	6

LUNAR FLYBY PHOTO PROCEDURES

Hp<180NM

1/80/NEW B&W, 1/250, F2.8
BRKT, INT, CHART FOR F STOPS

* VERTICAL STRIP PHOTOGRAPHY WITH EXTRA EXPOSURES AS POSSIBLE
* CHANGE TO 250 LENS AT Hp+20MIN

2/250/NEW C, 1/60, F5.6, CHART

* TERMINATOR PHOTOGRAPHY
* PHOTOGRAPH TARGETS AND GENERAL SCENE AS RAPIDLY AS POSSIBLE
* REPLACE MAG WITH NEW B&W
* USE R&B ON TARGET 59 AT Hp+50 MIN: THREE PAIRS OF EXPOSURES AT 3, 4, AND 5 STOPS WIDER THAN SPOT

16/18/NEW CEX 1/250 F2.8 1FPS SPOT

* SYSTEMATIC COVERAGE OF TERMINATORS AND SUNLIT SIDE
* EARTH SET AND EARTHRISE
* CHANGE TO LONGER LENS AS DISTANCE INCREASES

Hp>180NM

SAME AS ABOVE EXCEPT BEGIN VERTICAL STRIP WITH 250 LENS

NAV SCHEDULE

FLYBY

DAY 3

DAY 4

DAY 5

DAY 6

STOWAGE

NAV SCHEDULE

FLYBY

STOWAGE

DAY 4

DAY 5

DAY 6

ADAPTER, CWG A-8
AMPULE, BUFFER B-4, B-7
AMPULE, CHLORINE B-4, B-7
AUTOMATIC SPOTMETER R-13

BACKUP URINE DUMP SYS R-1
BAG, TEMP STOWAGE U-1
BAGS, FECAL R-10
BRACKET, HASSELBLAD A-6
BRACKET, SEQ CAMERA U-3
BUFFER AMPULE B-4, B-7
BULB, COAS U-3

CABLE, TV A-7
CAMERA 16mm B-3
CAMERA 70mm B-3, A-8
CAMERA BRACKET U-3
CARDS, DATA R-3
CCU CABLE, SPARE L-2
CHLORINE AMPULE B-4, B-7
CINE MOUNT U-4
CLIP, DATA FILE R-3
COAS BULB U-3
CONSTANT WEAR GARMENTS A-8
CONTROL HEAD, SPARE L-2
COUPLING ASSY, O2 UMB A-1
COVERALLS, PGA BAG
CUFFS, ROLL ON R-11
CWG ADAPTER A-8

DATA ACQUISITION CAMERA B-3
DATA CARD KIT R-3
DATA FILE R-1, R-2, R-3, R-12
DUCT, PLV A-1

EARTUBE, UNIVERSAL, ICG JACKET
EMU MAINT KIT A-8
EXERCISER A-8

FECAL BAGS R-10
FECAL CONT SUBSYSTEM R-13
FILM, 16mm A-8, B-8
FILM 70mm A-8, U-4
FILTER HOLDER U-4
FILTER PHOTAR A-8, B-3
FILTER, POLA U-4
FILTER, RED B-3
FILTER, SUN R-1
FILTER, URINE R-5
FIRE EXTINGUISHER A-3
FLOODLIGHT GLARE SHIELD R-3

G&N FILTER R-1
G&N HANDHOLD R-1
GLARE SHADES, MDC R-13
GLARE SHIELD R-3

HANDHOLD, G&N R-1
HASSELBLAD CAMERA B-3, A-8
HASSELBLAD CAMERA BRACKET A-6
HEADSETS, LT. WT. A-8
HEADREST PAD A-6
HEEL RESTRAINT A-6
HELMET STOWAGE BAGS R-6
HOLDER, SLIDE & FILTER U-4
HOOK, SNAG LINE A-1
HOSE, URINE, A-6

INFLIGHT COVERALLS, PGA BAG
INFLIGHT EXERCISER A-8
INTERCONNECT, O2 HOSE A-1
INTERVALOMETER U-4

LENS, 5mm B-5
LENS, 18mm B-3
LENS, 75mm B-3
LENS, 200mm A-8
LENS, 250mm A-8
LENS, TV A-7
LIGHT BULD, COAS U-3
LIGHTWEIGHT HEADSETS A-8
LUNAR SURFACE FILM MAG A-8, U-4

MAGAZINE, 16mm A-8, B-8
MAGAZINE, 70mm A-8, U-4
MAINT KIT, EMU A-8
MEDICAL KIT B-2
MIRROR RT ANGLE B-3
MONOCULAR R-13
MOUNT, 16mm CAMERA U-3
MOUNT, ROT CONT A-6

NASAL EMOLLIENT B-2
NEEDLE CHLORINE B-4

O2 HOSE CAPS, PGA BAG
OXY MASK, UNDER HATCH

PAD, HEADREST A-6
PENLIGHTS A-1
PHOTAR FILTER A-8, B-3
PLV DUCT A-1
POLA FILTER U-4
POWER CABLE B-3
PPK A-8
PUMP, SEA WATER A-1

Q.D. CABIN VENT R-6

RADIATION SURVEY METER, LEB
RECEIVER, UTS R-11
RED FILTER B-3
RESTRAINT, HEEL A-6
RETAINER STRAPS R-6
RIGHT ANGLE MIRROR B-3
RING SIGHT
ROLL ON CUFFS R-11
ROPE, SLEEP RESTRAINT A-6
ROT CONT MOUNT A-6

SCREEN CAP, O2 HOSE PGA BAG
SEAWATER PUMP A-1
SHADES, GLARE, MDC R-13
SHADES, WINDOW O2 RACK
SIGHT, RING A-8
SLEEP RESTRAINT ROPE A-6
SLIDE HOLDER U-4
SNAG LINE HOOK A-1
SPOTMETER R-13
STRAP, COUCH RESTRAINT, PGA BAG
STRAPS, RETAINER R-8
SURVIVAL KITS R-4
SYRINGE, CHLORINE B-4

TAPE R-6
TEMP STOWAGE BAG U-1
TISSUES A-1, A-8
TOOL SET A-1
TOWELS A-1
TV CABLE A-7
TV CAMERA A-7
TV CAMERA MOUNT A-7
LENS A-7

UCTA CLAMPS, PGA BAG
UNIVERSAL EARTUBE, ICG JACKET
URINE DUMP, BACKUP R-10
URINE FILTER R-5
URINE HOSE A-6
URINE TRANS SYS, R-11
UTS RECEIVER R-11

16mm Lenses B-3
16mm Mirror B-3
70mm Camera B-3, A-8
70mm Film B-3, A-8, U-4
250mm Lens A-8
200mm Lens A-8
16mm Bracket U-3
16mm Camera B-3
16mm Camera Mount U-3
16mm Film B-3, B-8, A-8
16mm Pwr Cable B-3

FLIGHT PLAN

TIME | DAY/REV | PAGE

MISSION | EDITION | DATE

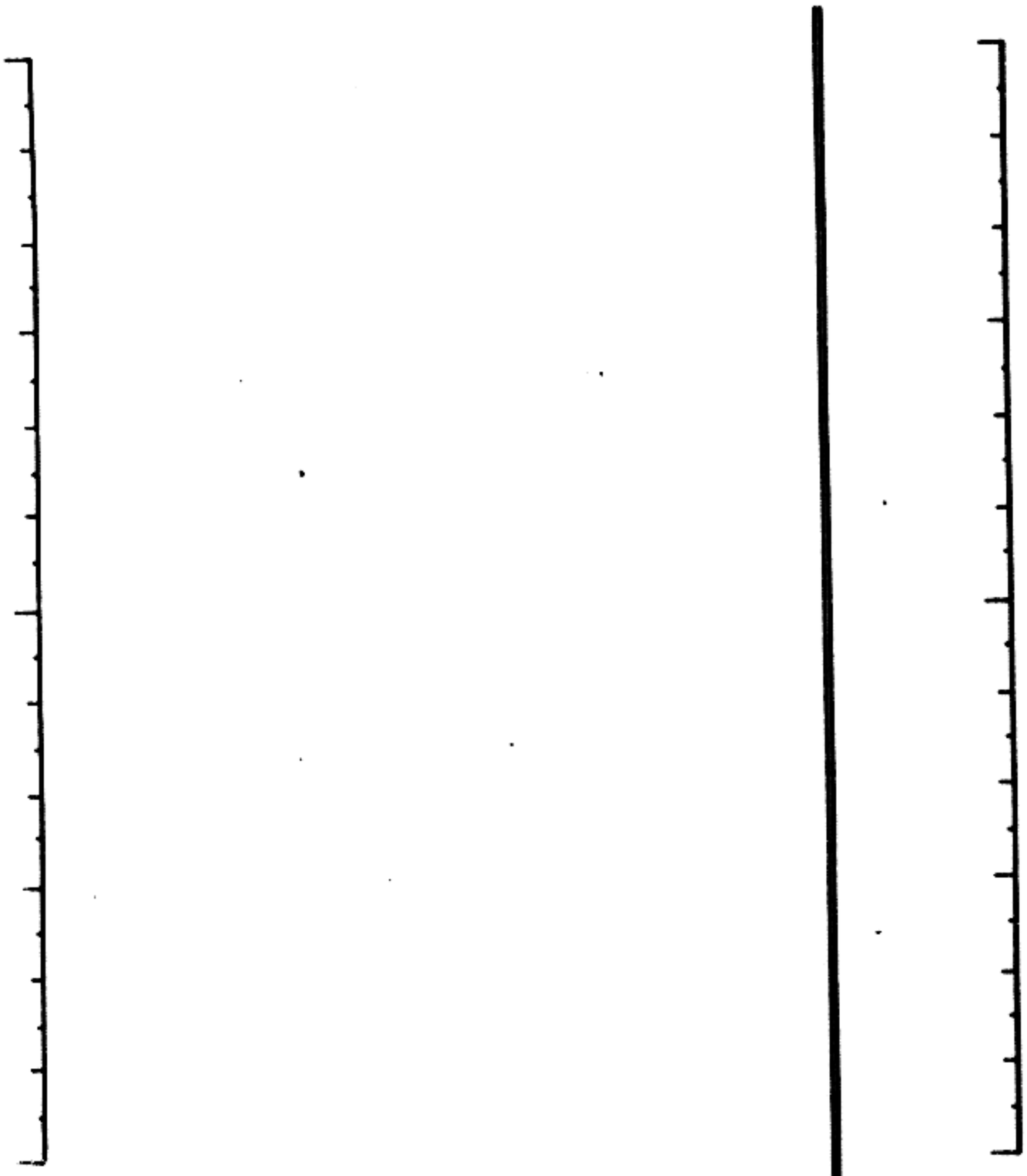
FLIGHT PLANNING BRANCH

MSC FORM 1186 (SEP 67)

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN

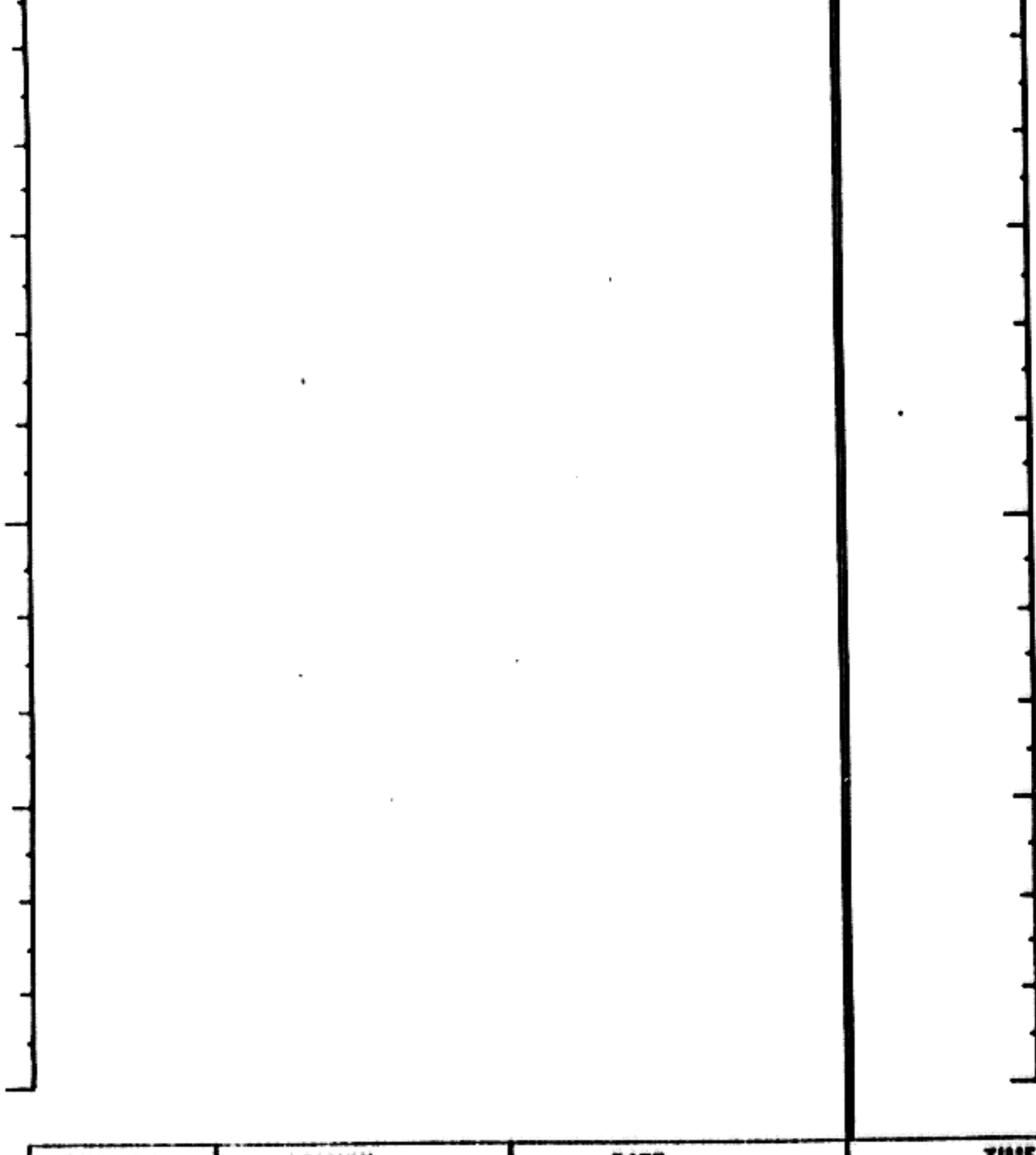


	POSITION	DATE	TIME	DAY/REV	PACE

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE