

**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: <u>REPORT</u> LIFT-OFF P11 AUTO	LIFT-OFF LT - ON, MET STARTS COUNT
00:02	CDR: <u>REPORT</u> YAW MNVR	
00:11	CDR: <u>REPORT</u> ROLL AND PITCH PROGRAM INITIATE	
00:28	CDR <u>REPORT</u> ROLL COMPLETE	
00:42	MCC-H:CDR: <u>REPORT</u> MARK MODE 1B	
00:50	LMP: <u>REPORT</u> CABIN PRESS DECREASE	
01:17	CDR: <u>REPORT</u> MAX Q	
01:50	MCC-H:CDR: <u>REPORT</u> MARK MODE 1C	
02:00	MCC-H:CDR: <u>REPORT</u> GO/NO GO FOR STAGING	
02:05	CDR: <u>REPORT</u> INBOARD ENGINE CUTOFF	
02:31	CDR: <u>REPORT</u> OUTBOARD ENGINE CUTOFF	LTS 1, 2, 3, & 4 - ON
02:32	CDR: <u>REPORT</u> S-IC/S-II STAGING	LTS OFF

TIME	EVENT	REMARKS
03:00	CDR: <u>REPORT</u> 2ND PLANE SEP	>65% THRUST-S-II SEP LIGHT OUT
03:07	CDR: <u>REPORT</u> TWR JETT & MODE II	
03:25	CDR: <u>REPORT</u> GUIDANCE INITIATE	
03:53	MCC-H: <u>REPORT</u> TRAJECTORY AND GUID. GO/NO GO	
04:00	CMP: <u>REPORT</u> S/C GO/NO GO	
05:00	LMP: <u>REPORT</u> S/C GO/NO GO	
05:53	MCC-H:CDR: <u>REPORT</u> S-IVB TO ORBIT CAPABILITY	
06:00	CDR: <u>REPORT</u> S/C GO/NO GO	
06:15	LMP: OMNI ANT-D	IF LAUNCH AZIMUTH -90°
07:00	CDR: <u>REPORT</u> S/C GO/NO GO	
08:00		
08:20	MCC-H:CDR: <u>REPORT</u> GO/NO GO FOR STAGING	
08:40	CDR: <u>REPORT</u> S-II CUTOFF, S-II STAGING	

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MSC FORM 2114C (JUL 67)

## FLIGHT PLAN

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

MISSION AS503/103

EDITION FINAL

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00:00  
00:15  
00:30  
00:45  
01:00

US  
T  
C  
Y  
L  
I  
T  
T  
A  
N  
T  
C  
R  
O  
N

POST INSERTION CONFIG  
REMOVE HELMET & GLOVES  
ECS POST INSERTION CONFIG  
GDC ALIGN TO IMU  
MOUNT & INITIALIZE ORDEAL  
INSTALL COAS  
COAS HORIZON CK

POST INSERTION CONFIG  
SM RCS CK  
CM RCS CK  
C&W CK  
REMOVE HELMET & GLOVES  
INGRESS LEB  
O<sub>2</sub> MAIN REG CK  
JETTISON OPTICS COVER  
RECORD ΔAZ CORRECTION  
OPTICS CK  
IMU REALIGN P52  
OPTION 3 - REFSMMAT  
STAR ID \_\_\_\_\_ (cont'd)

POST INSERTION CONFIG  
REMOVE HELMET & GLOVES  
ECS POST INSERTION CONFIG  
EPS PERIODIC MONITOR  
ECS MONITOR CK  
SPS PERIODIC MONITOR  
~~PUGS TEST~~  
ECS REDUNDANT COMP CK  
FC PURGE CK  
BIOMFD Sw - CENTER

VOICE UPDATE:  
ΔAZ CORRECTION

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

FLIGHT PLANNING BRANCH

MSC Form 1910 (OT) (Oct 68)

## FLIGHT PLAN

01:00  
01:15  
01:30  
01:45  
02:00

HSK  
US  
CYL

SCS ATT REFERENCE COMPARISON CK

STAR ANGLE DIFF  
TORQUE ANGLES:  
X \_\_\_\_\_  
Y \_\_\_\_\_  
Z \_\_\_\_\_

REPORT: GYRO TORQUE ANGLES  
RECORD ABORT BLOCK PAD (TLI +90 MIN AND TLI +4 HOUR)  
RECORD TLI PAD

BACKUP COMM CK

BIOMED Sw - RIGHT

GIVE GO FOR COMM CK  
VOICE UPDATE: BLOCK DATA  
VOICE UPDATE: TLI PAD  
P27 UPDATE: STATE VECTORS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
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BURN STATUS REPORT

X	X	<input type="checkbox"/>	:		ΔTIG
X	X		:		BT
<input type="checkbox"/>			.		V <sub>gx</sub>
TRIM					
X	X	X			R
X	X	X			P
X	X	X			Y
<input type="checkbox"/>					V <sub>i</sub>
<input type="checkbox"/>					h
<input type="checkbox"/>					h
<input type="checkbox"/>					ΔV <sub>c</sub>

2-2a

TLI  
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
TLI	10°/SEC SHUTDOWN	+45° SHUTDOWN	B/T+6 SEC & V <sub>i</sub> =PAD VALUE	NO TRIM
TLI PREMATURE SHUTDOWN				
ha > 60,000 nm	LUNAR ORBIT OR FLYBY (DEPENDING ON ΔV READ)			
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			

REMARKS:

FLIGHT PLAN

TIME	CDR	CMP	LMP	MCC-N
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		
02:15	TLI PREP EMS ΔV TEST	TLI PREP TRANS TO COUCH	TLI PREP S-BAND XPONDER - SEC	
02:30	GO/NO-GO FOR PYRO ARM GO/NO-GO FOR TLI GDC ALIGN AND DRIFT CK		BIONED Sw - LEFT	GO/NO-GO
02:45	TB-6 P47 BURN ATT CK <b>TLI</b>	<b>GETI = 2:50:31</b>	FLT RCDR - RECORD	
03:00	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)	

TIME	CDR	CMP	LMP	MCC-N
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	R13 SPOTMETER	FLT RCDR - RECORD	
03:30	FLY FORMATION	DOFF & STOW PGA	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)	
	MNVR TO LOCAL VERTICAL -X RADIALLY UPWARD. 1.5 fps	REINITIALIZE W MATRIX R1 + 00094 R2 + 00057 R3 + 00003	TERMINATE WATER BOILER EVAP	
03:45		TRANS CSM STATE VECTOR TO LM SLOT		
04:00				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	03:00 - 04:00	1/TLC	2-4

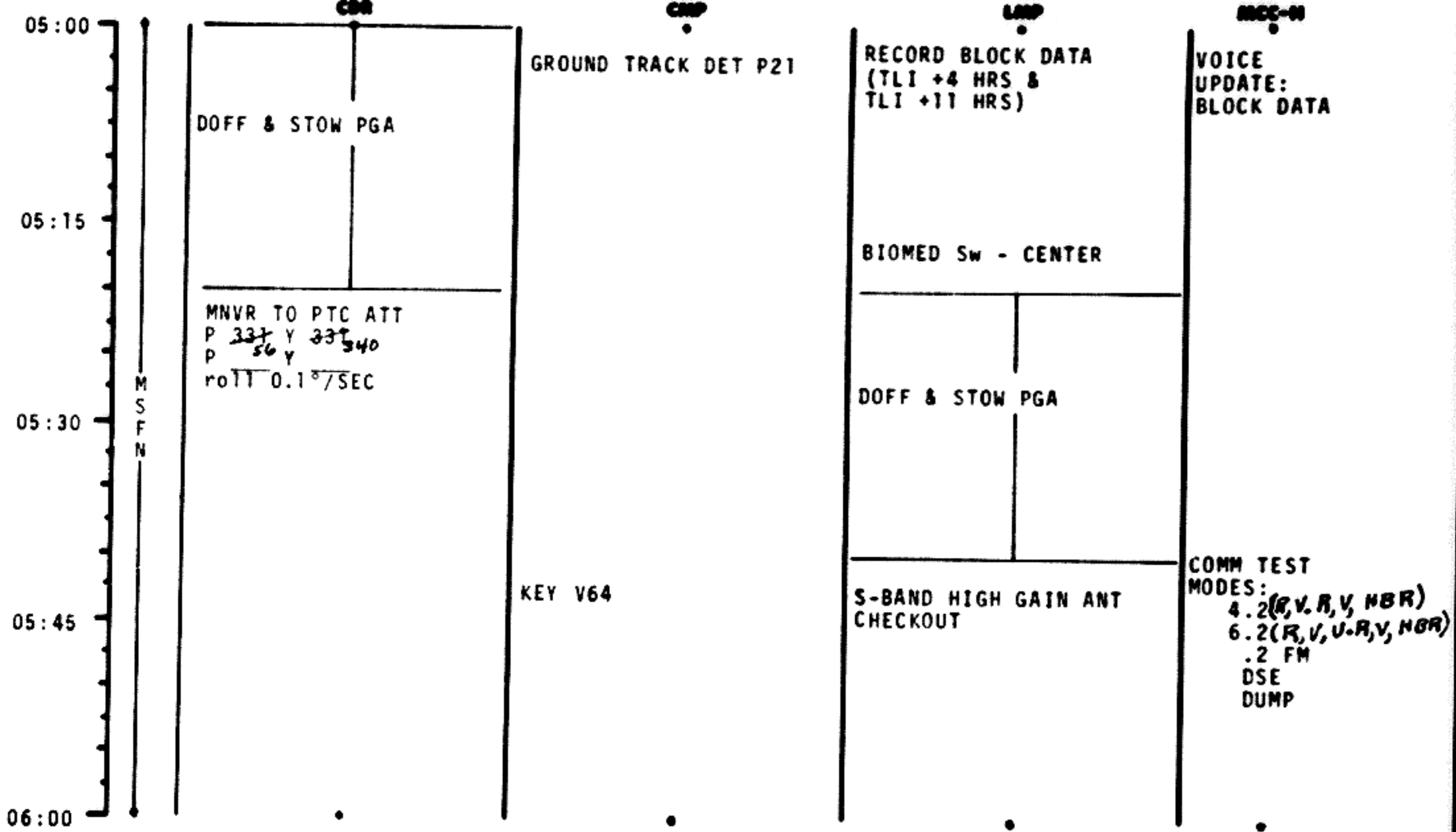
MSC Form 1010 (OT) (Oct 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN

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

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

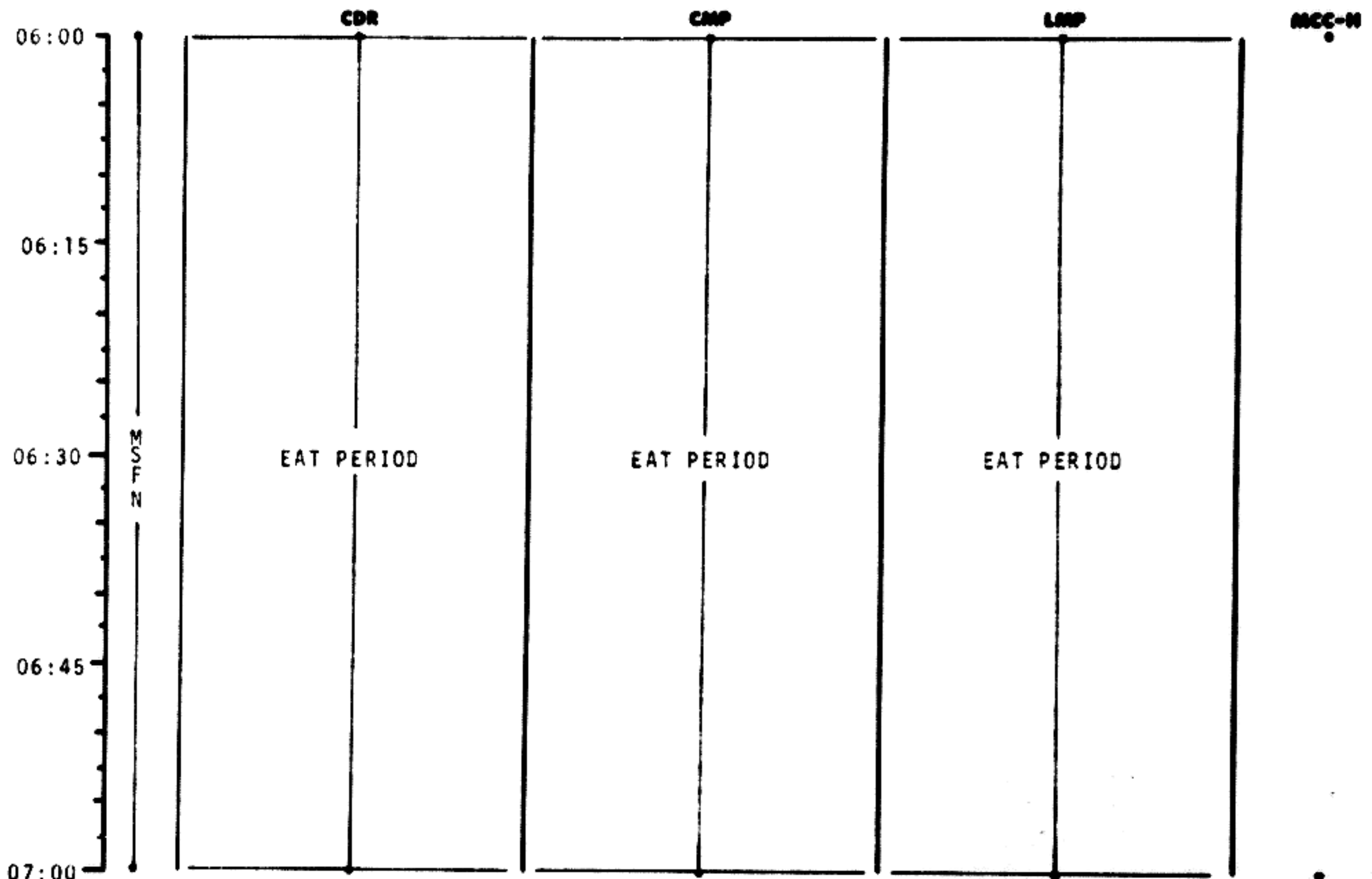


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	05:00 - 06:00	1/TLC	2-6

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

07:00  
07:15  
07:30  
07:45  
08:00

M  
S  
F  
N

LiOH CANISTER CHANGE  
(CARTRIDGE NO. 3 FROM  
A3 INTO CANISTER A)  
85

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

(R, V, R, V, LBR)  
(R, V, U, R, V, LBR)  
(R, U, R, V, HBR)  
(UVB, R, V, HBR)

PERFORM  
COMM TESTS  
MODES: 4.3  
6.3  
5.2  
8.2

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<sub>gx</sub>

TRIM

X X X R  
 X X X P  
 X X X Y  
 V<sub>gx</sub>  
 V<sub>gy</sub>  
 V<sub>gz</sub>  
 ΔV<sub>c</sub>

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 fns

2-8a



08:00 MNVR TO P52 ATT

08:15 IMU REALIGN P52  
OPTION 3 - REFSMMAT  
AND DRIFT CK  
STAR ID  
STAR ANGLE DIFF

TORQUE ANGLES  
X  
Y  
Z

08:30 V47 TRANS LM STATE  
VECTOR TO CSM SLOT

EXT ΔV P30  
SPS/RCS THRUST P40/P41  
MNVR TO BURN ATT

08:45 EMS ΔV TEST

GDC ALIGN TO IMU

09:00 TL1 +6 HRS

MCC<sub>1</sub> ΔV=NOMINALLY ZERO

RECORD MNVR PAD → TLC  
← 11 HR PAD

VOICE UPDATE:  
MNVR PAD →  
TLC ← 11 HR PAD

BIOMED Sw - RIGHT

PIPA BIAS CK

SXT STAR CK

TRANS TO COUCH

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

09:00 V66 TRANS CSM STATE  
VECTOR TO LM SLOT

MCC<sub>1</sub> BURN STATUS REPORT

MNVR TO SIGHTING ATT

09:30

09:30

10:00 MNVR TO PTC ATT

P <sup>56</sup> <sub>337</sub> Y <sup>340</sup> <sub>337</sub>

P Y

ROLL 0.1°/SEC

CDR

SM RCS<sup>MON</sup> CK

TRN BIAS

CISLUNAR NAVIGATION P23

1. STAR 15 ELDNK 10  
LAT 28.876°N  
LONG/2 56.292°W  
ALT 000.01  
STAR ELDNK  
LAT  
LONG/2  
ALT

2 SETS

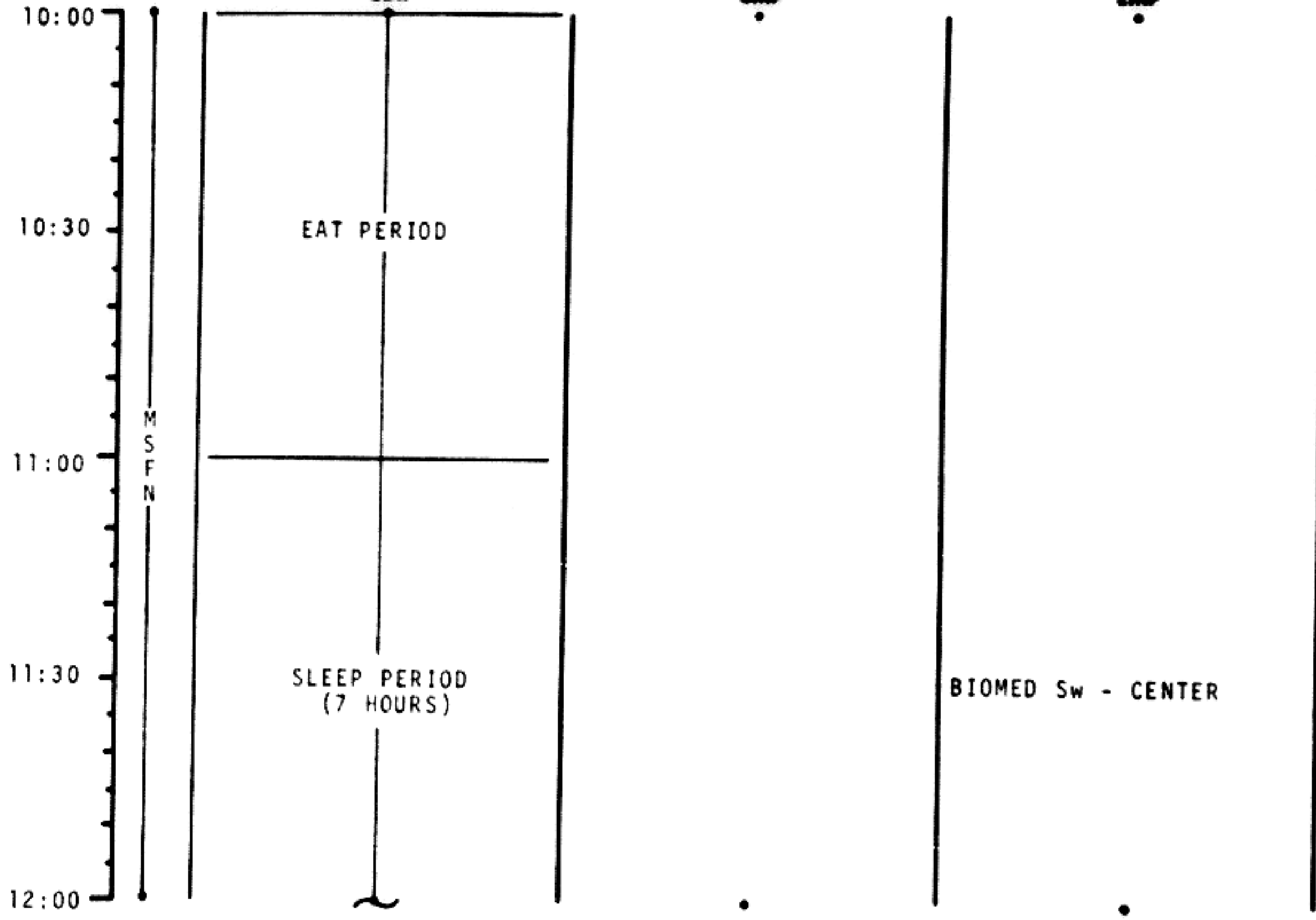
2. STAR 16 ELDNK 10  
LAT 28.876°N  
LONG/2 56.292°W  
ALT 000.01  
STAR ELDNK  
LAT  
LONG/2  
ALT

GROUND TRACK DET P21

SPS MONITOR CK

INITIATE BAT CHARGE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
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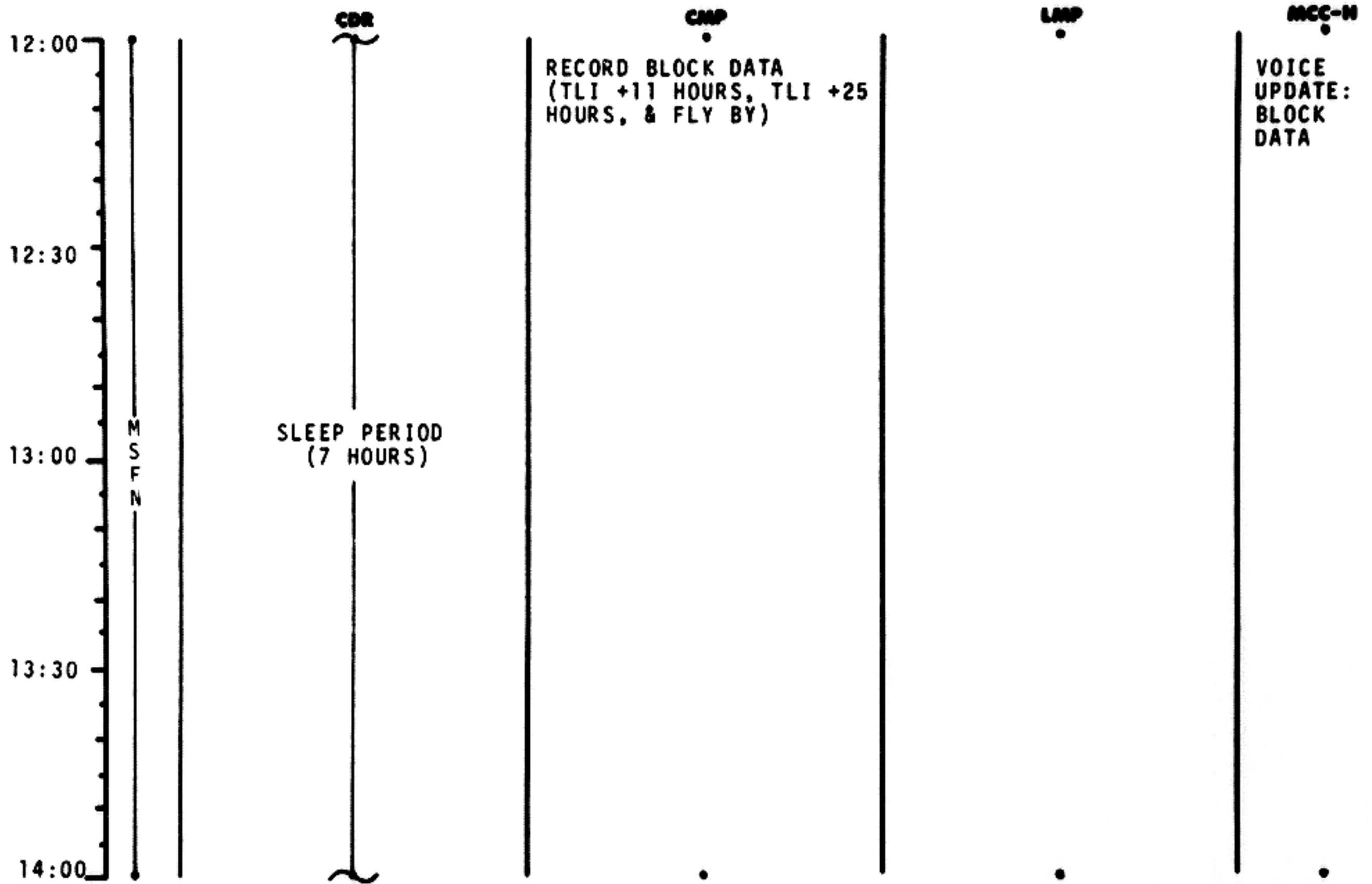


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	10:00 - 12:00	1/TLC	2-11

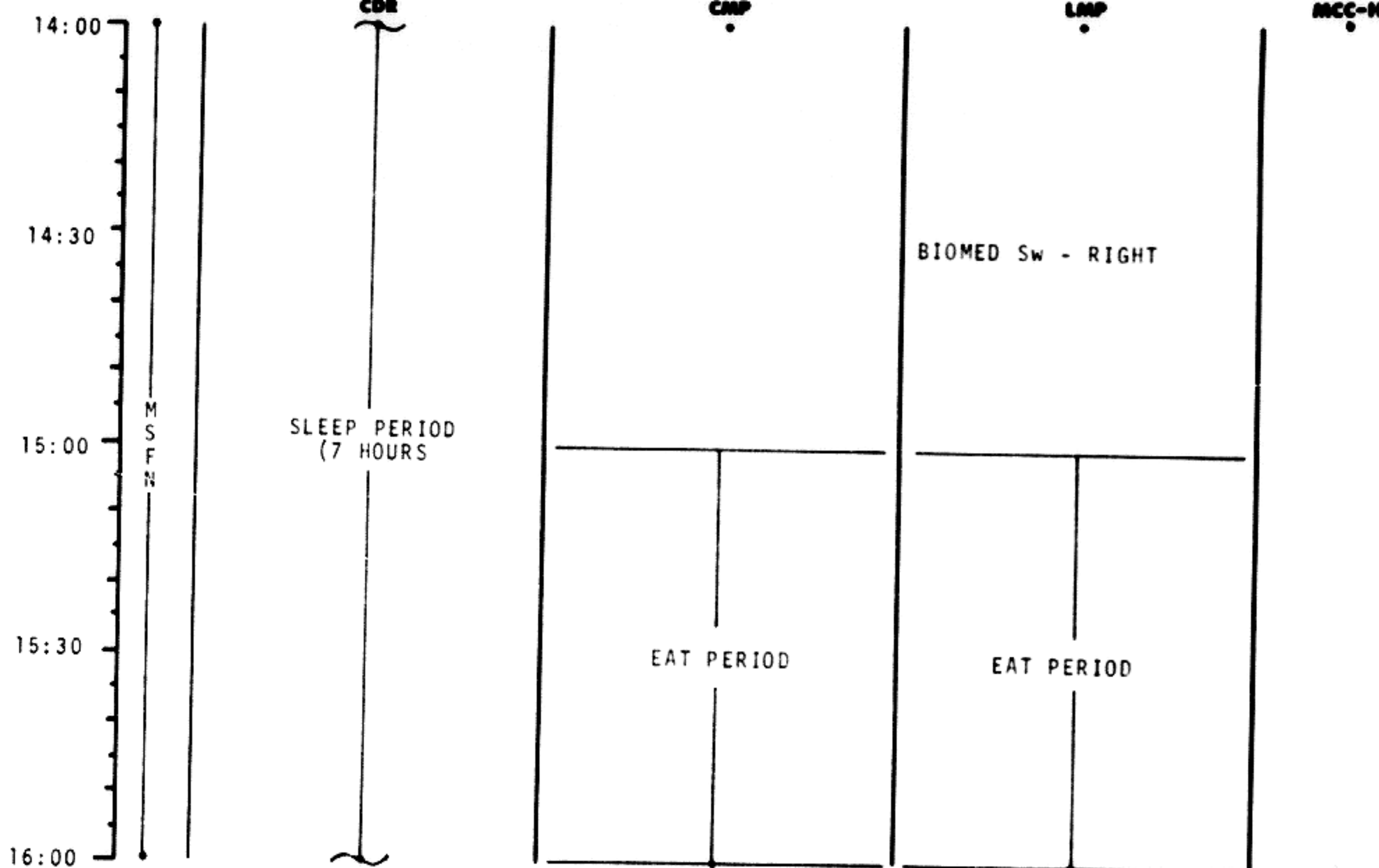
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	12:00 - 14:00	1/TLC	2-11

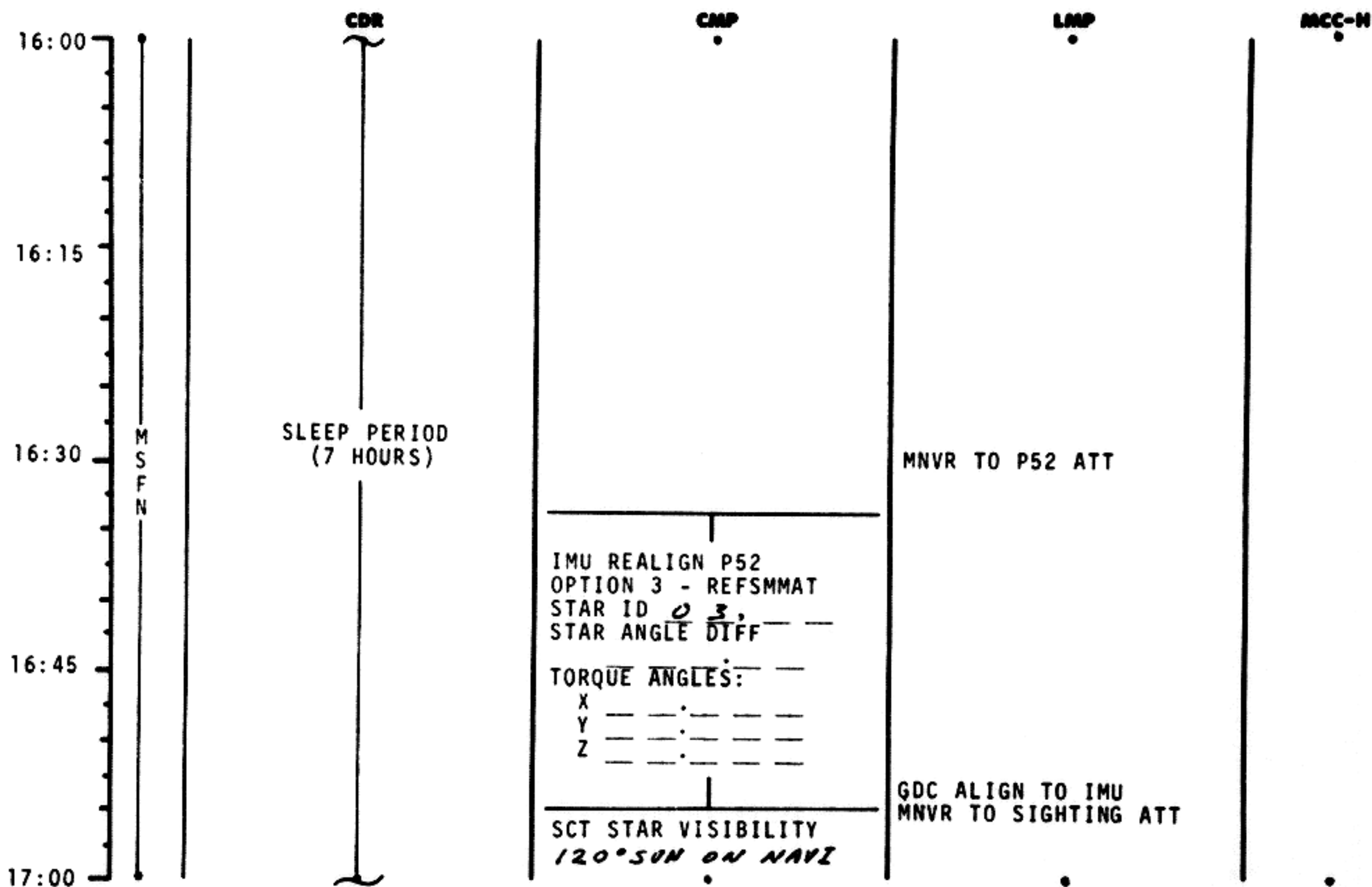


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	14:00 - 16:00	1/TLC	2-13

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN



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

17:00  
17:15  
17:30  
17:45  
18:00

M S F N

SLEEP PERIOD  
(7 HOURS)

TRN BIAS

**CISLUNAR NAVIGATION P23**

1. STAR 22<sup>16</sup> EFH 00120  
STAR \_\_\_ E \_\_\_ H  
3 SETS

2. STAR 16<sup>22</sup> EFH 00120  
STAR \_\_\_ E \_\_\_ H  
2 SETS

GROUND TRACK DET P21

BIOMED Sw - LEFT

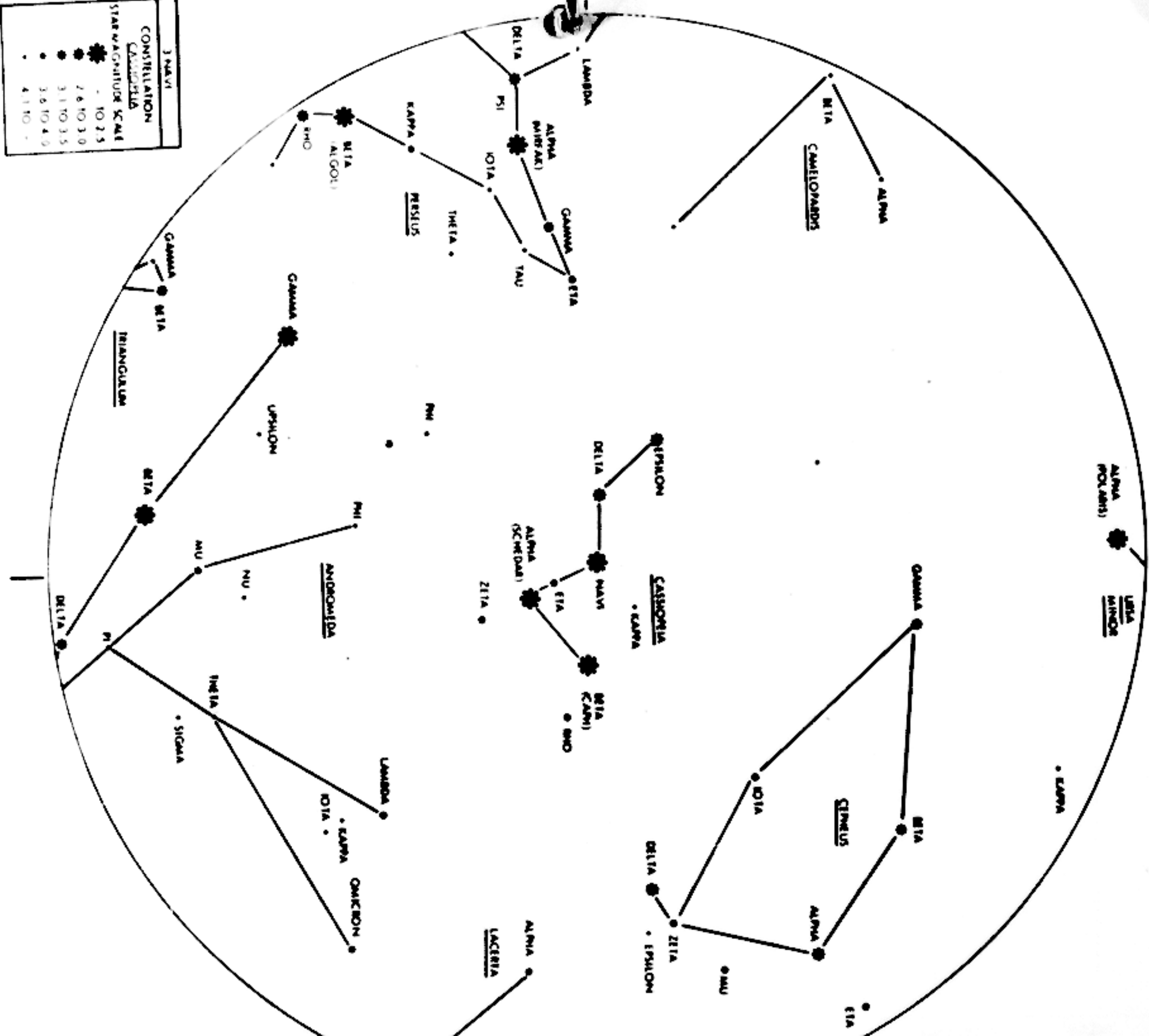
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	17:00 - 18:00	1/TLC	2-15

MSC Form 1910 (Nov 68)

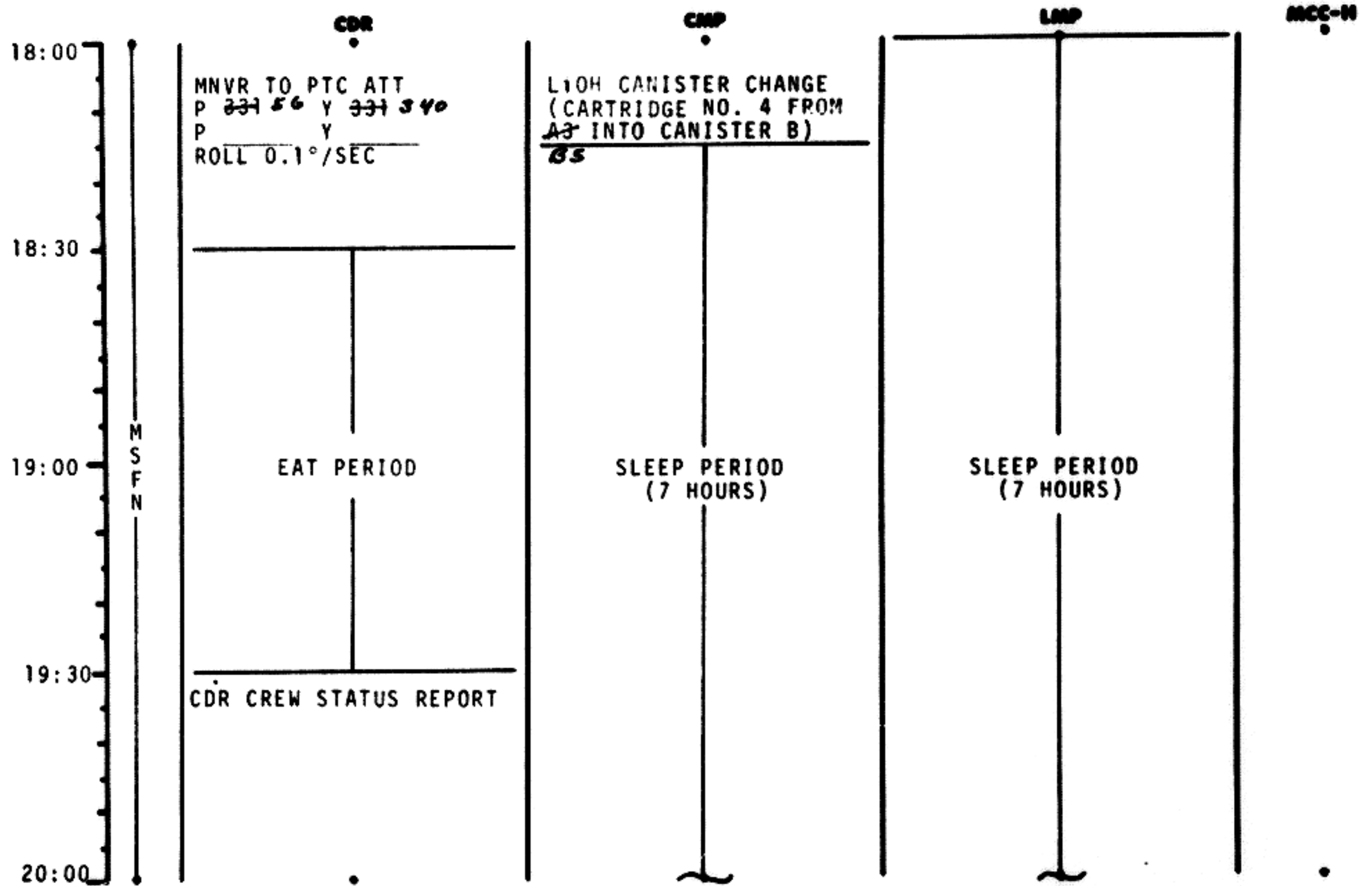
FLIGHT PLANNING BRANCH

3 NAVI  
CONSTELLATION  
CASSIOPIA  
STAR MAGNITUDE SCALE

•	1 TO 2.5
•	2.6 TO 3.0
•	3.1 TO 3.5
•	3.6 TO 4.0
•	4.1 TO 5.0



# FLIGHT PLAN



20:00  
20:30  
21:00  
21:30  
22:00

M  
S  
F  
N

CDR

CDR

LEP

MCC-N

SLEEP PERIOD  
(7 HOURS)

SLEEP PERIOD  
(7 HOURS)

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

22:00  
22:30  
23:00  
23:30  
24:00

M  
S  
F  
N

CDR

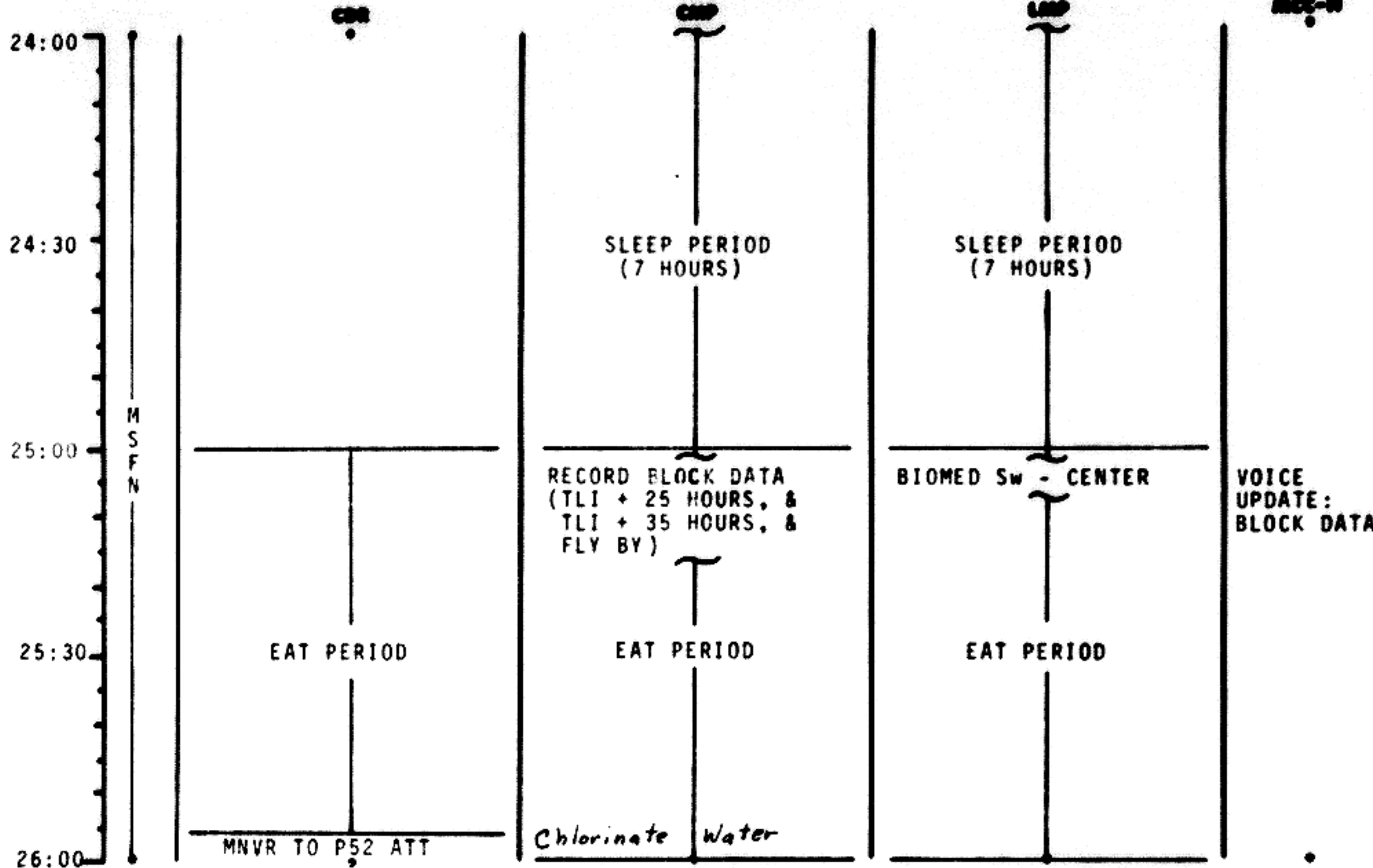
CDR

LEP

MCC-N

SLEEP PERIOD  
(7 HOURS)

SLEEP PERIOD  
(7 HOURS)

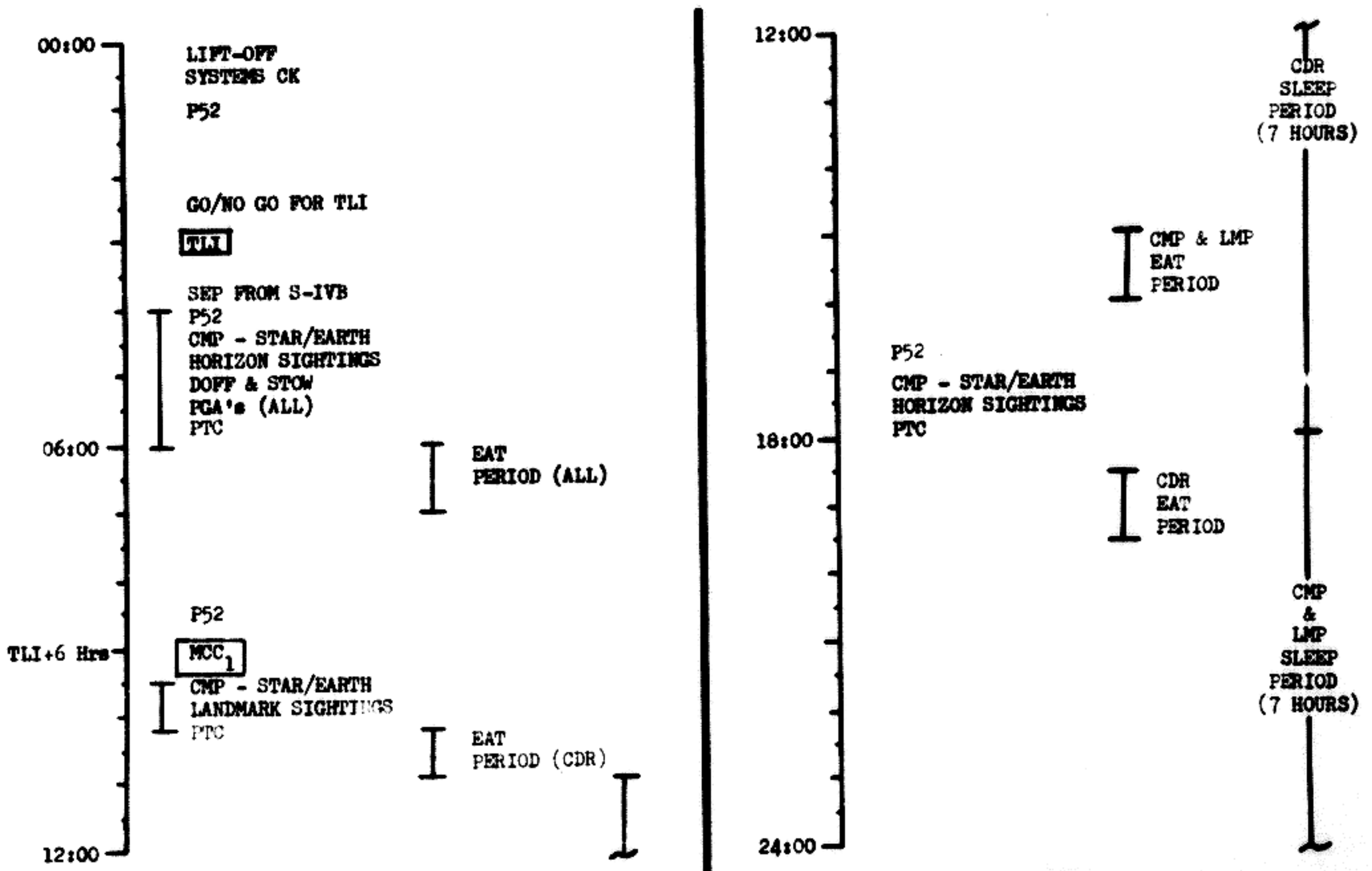


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	24:00 - 26:00	2/TLC	2-19

MSC Form 1010 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



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

# FLIGHT PLAN

26:00  
26:15  
26:30  
26:45  
27:00

M  
S  
F  
N

GDC ALIGN TO IMU  
MNR TO SIGHTING  
ATTITUDE

COR

CMP

IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID STAR ANGLE DIFF	
TORQUE ANGLES:	
X	---
Y	---
Z	---
TRN BIAS	
<b>CISLUNAR NAVIGATION P23</b>	
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

LMP

MCC-N

RECORD MNR PAD

VOICE  
UPDATE:  
MNR PAD



**BURN STATUS REPORT**

MCC'S

**BURN CHART**

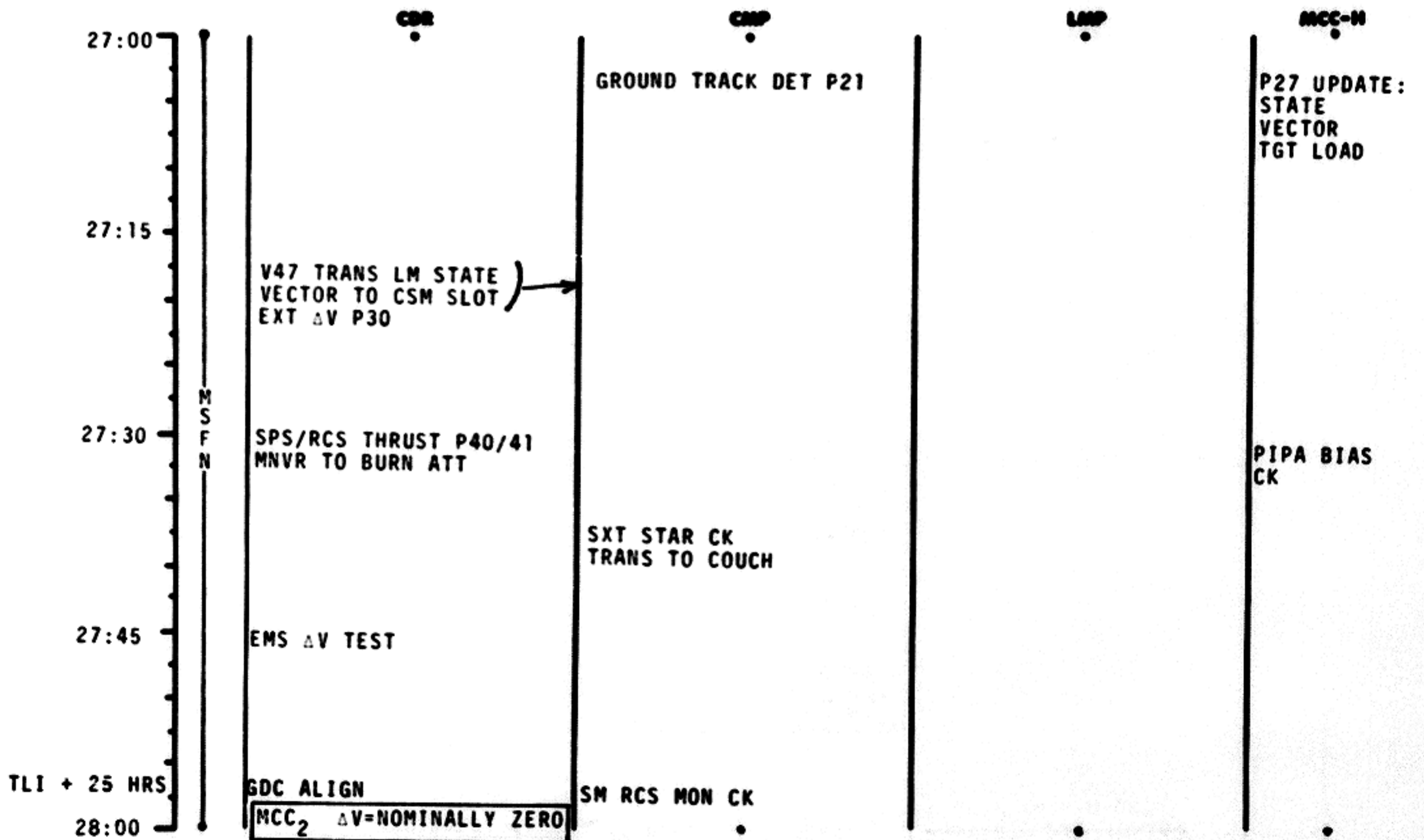
	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
MCC(ALL)	10°/SEC TAKEOVER	10° TAKEOVER	B/T +1 SEC	TRIM TO 0.2 fns

X X  : ΔTIG  
 X X : BT  
 : V<sub>gx</sub>  
 TRIM  
 X X X R  
 X X X P  
 X X X Y  
 V<sub>gx</sub>  
 V<sub>gy</sub>  
 V<sub>gz</sub>  
 ΔV<sub>c</sub>  
 X X X FUEL  
 X X X OX  
 X X X UNBALANCE

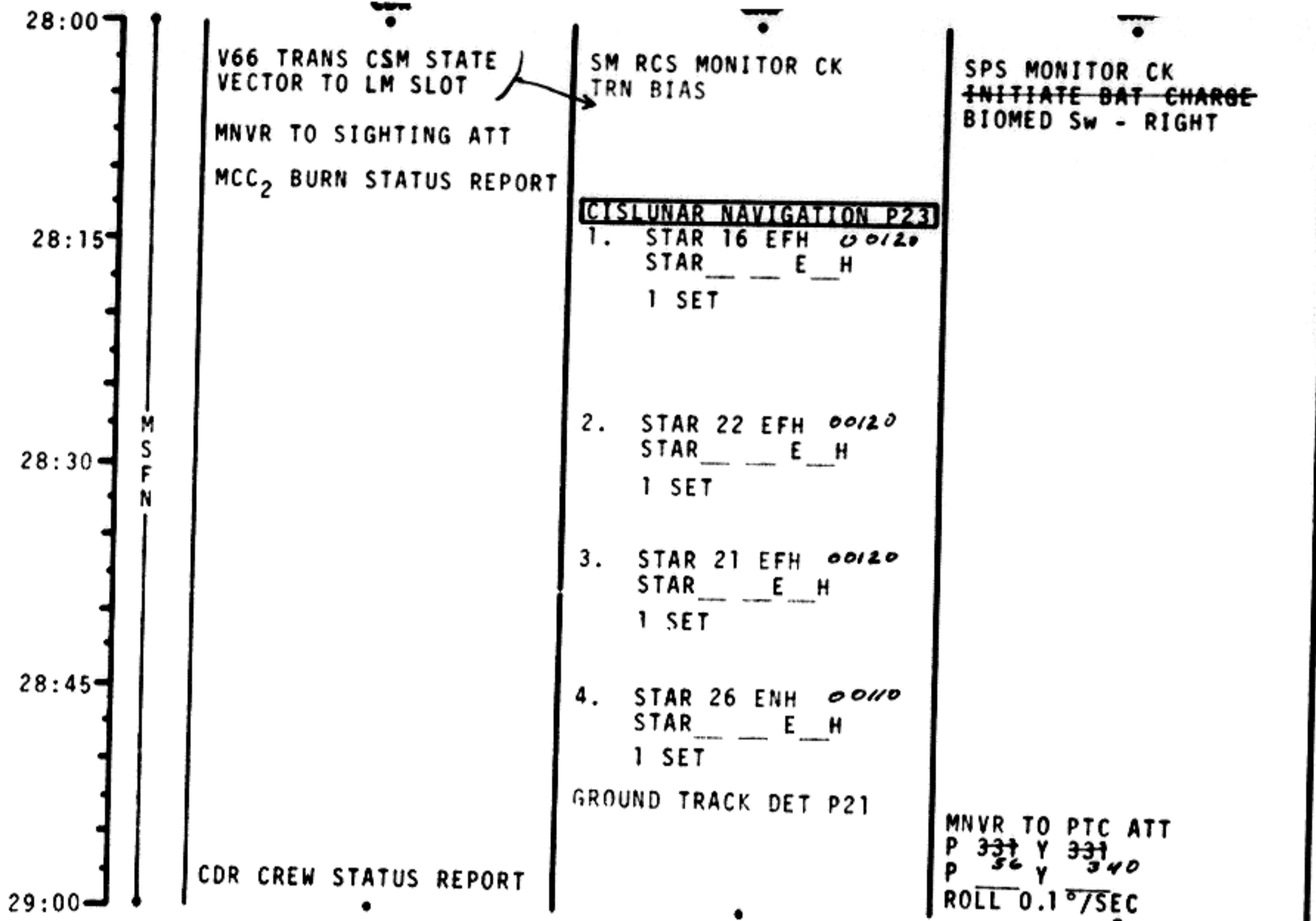
REMARKS:

2-20a

**FLIGHT PLAN**



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
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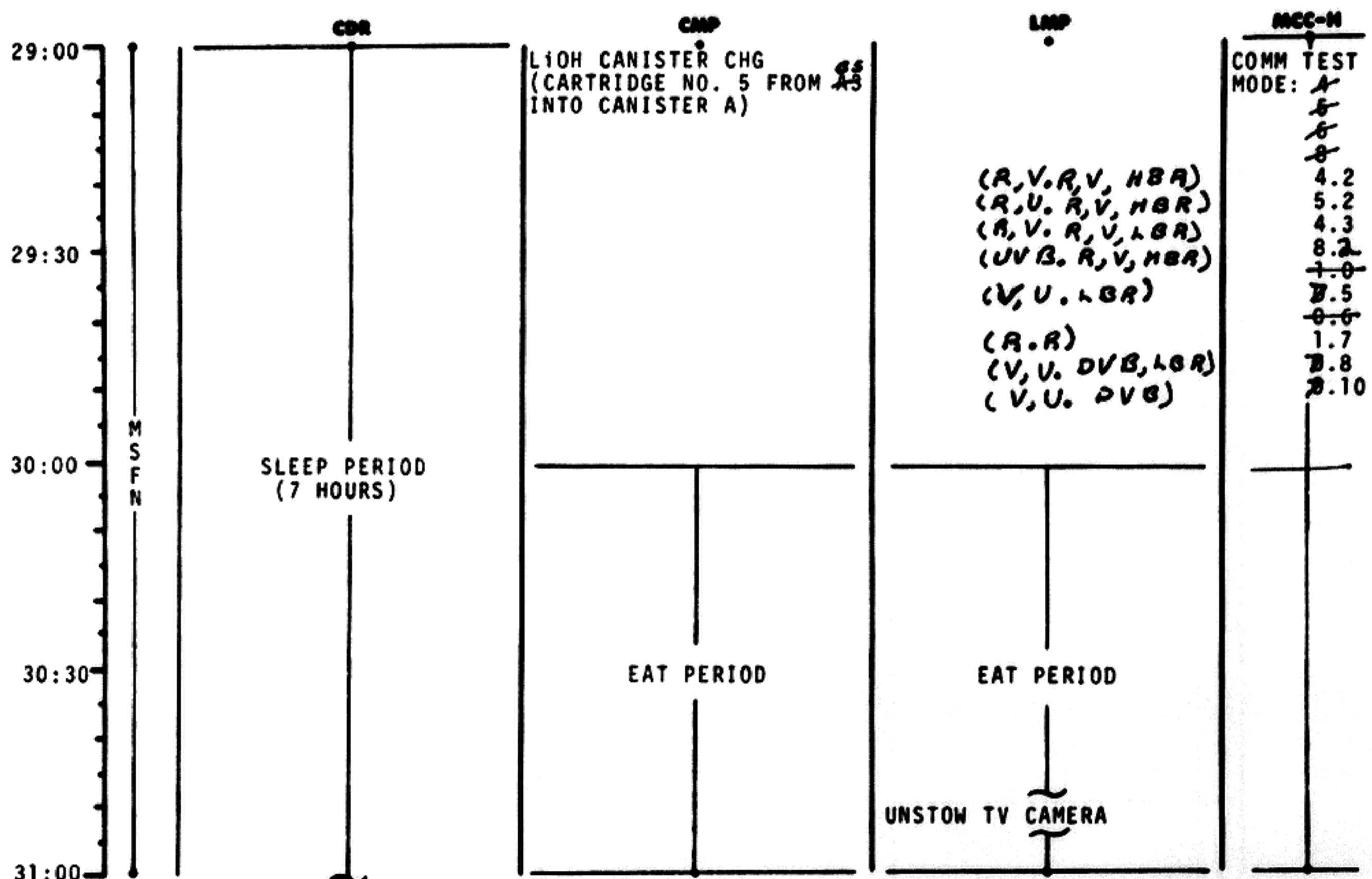


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	28:00 - 29:00	2/TLC	2-22

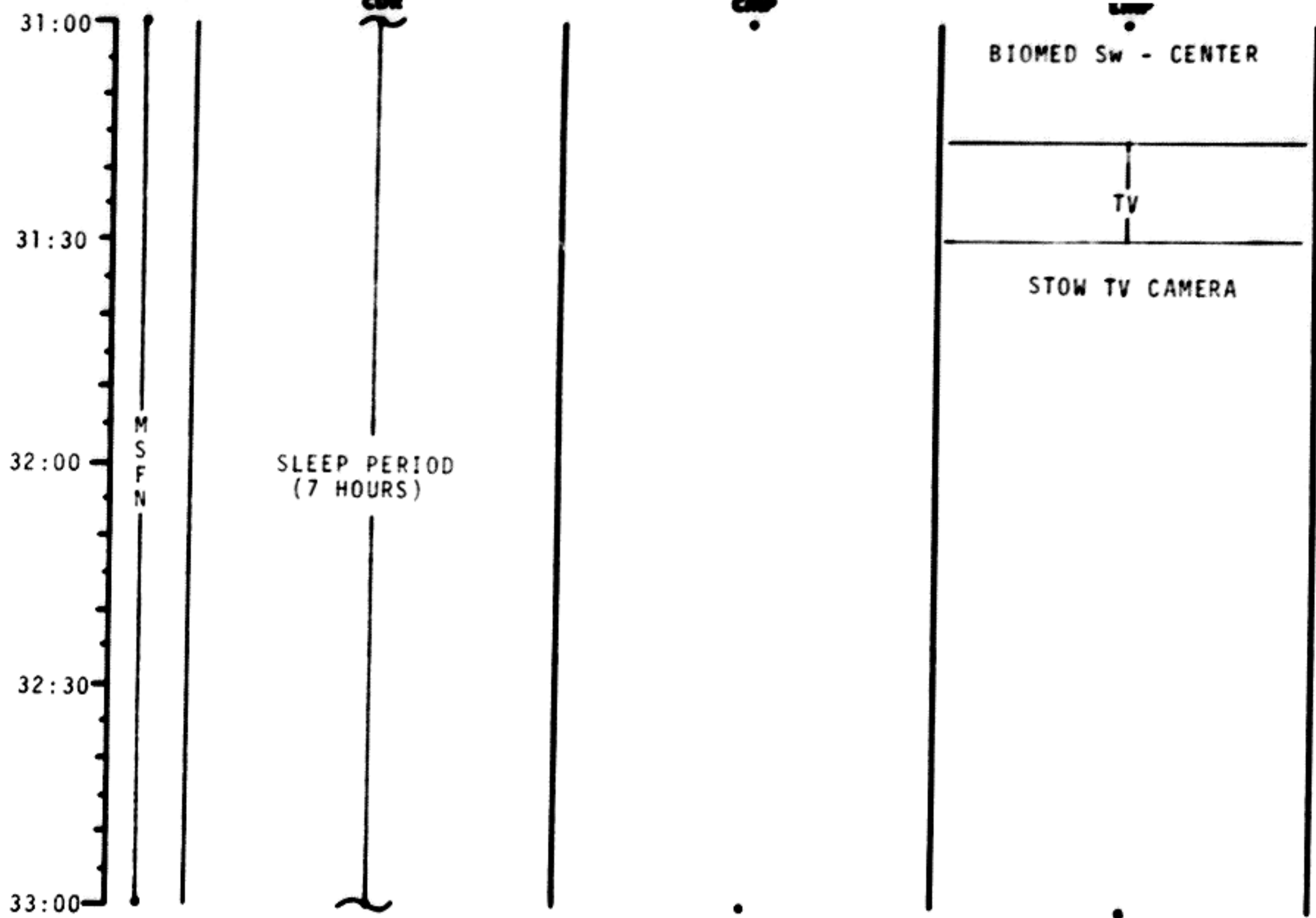
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

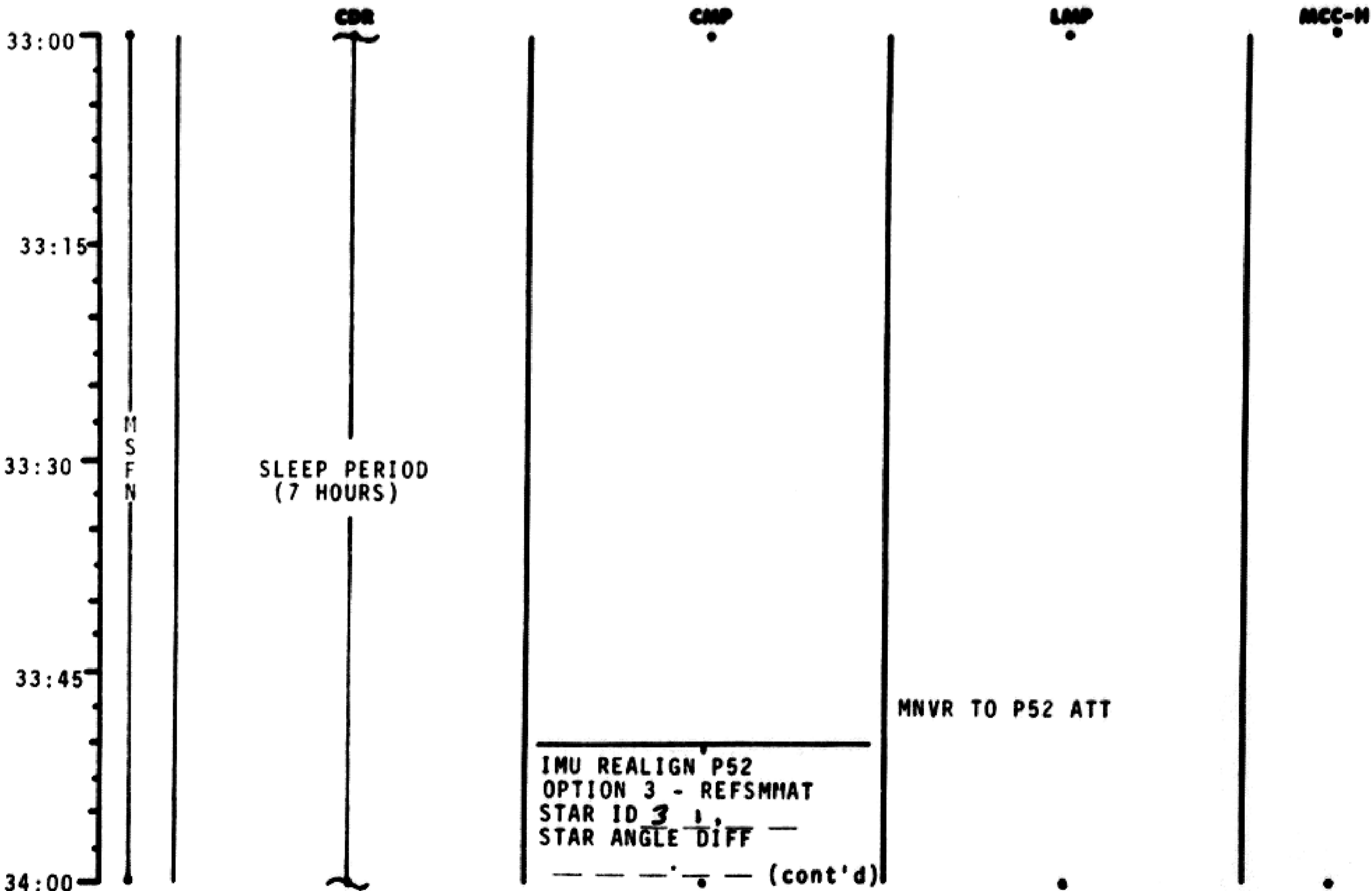


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	31:00 - 33:00	2/TLC	2-24

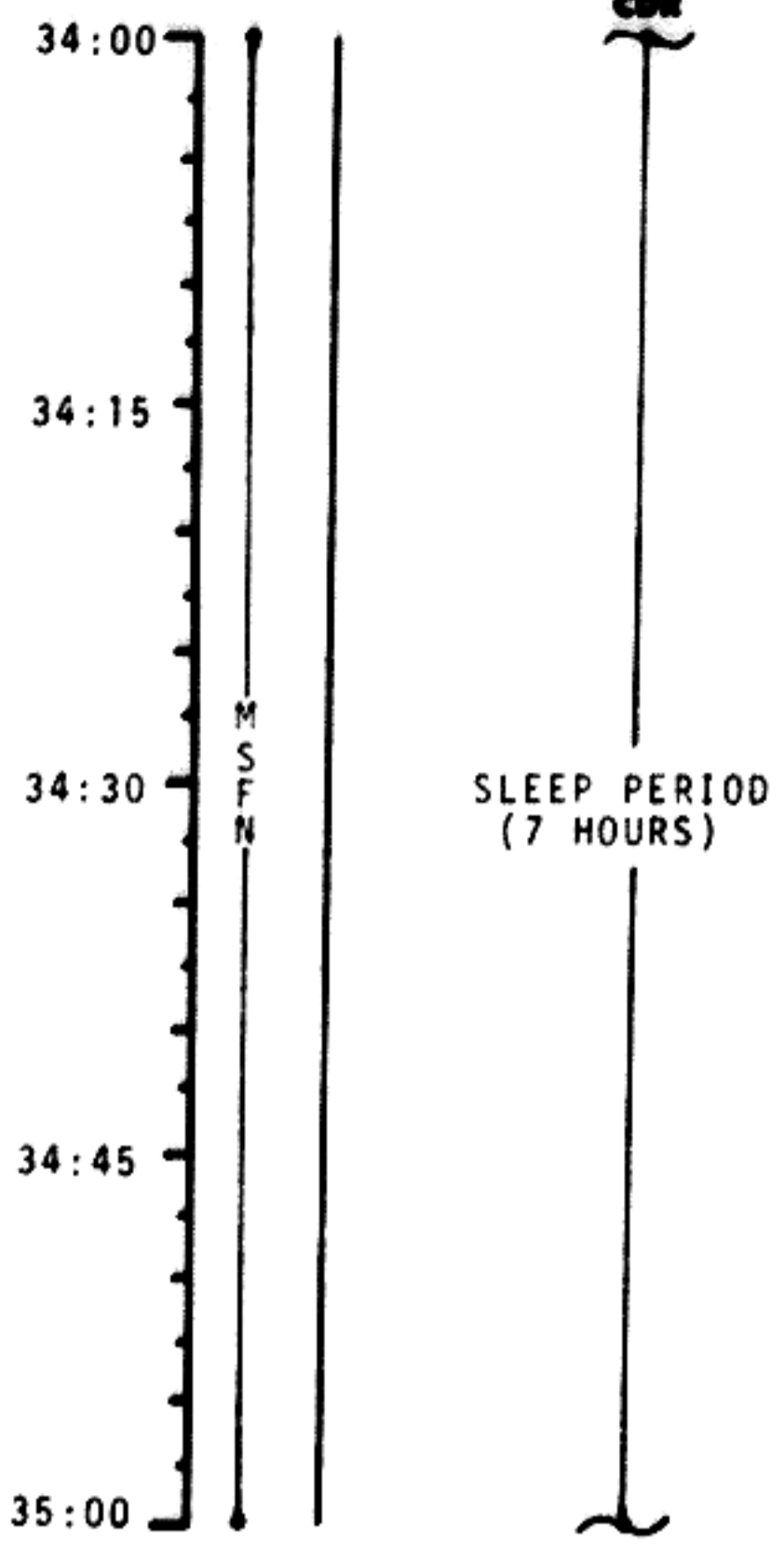
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



TORQUE ANGLES:  
 X \_\_\_\_\_  
 Y \_\_\_\_\_  
 Z \_\_\_\_\_

SCT STAR VISIBILITY  
 TRN BIAS (70° SUN ON ACURUS)

BIOMED Sw - RIGHT  
 MNVR TO SIGHTING ATT

**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

GROUND TRACK DET P21

MNVR TO PTC ATT  
 P 337 Y 337  
 P 36 Y 340  
 ROLL 0.1°/SEC

RECORD BLOCK DATA  
 (TLI + 35 HOURS, TLI +  
 44 HOURS, AND FLY BY)

VOICE  
 UPDATE:  
 BLOCK DATA

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

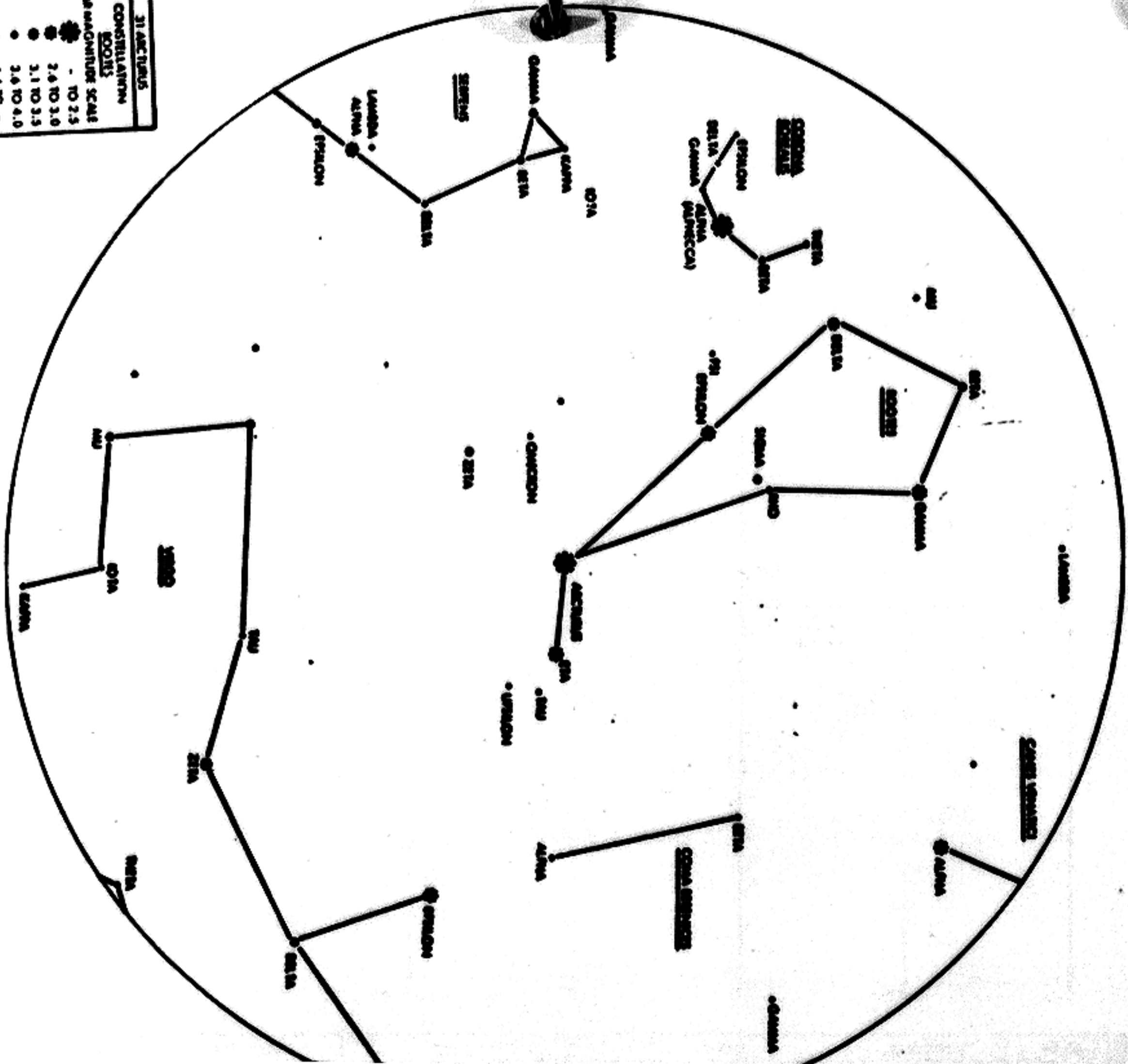
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

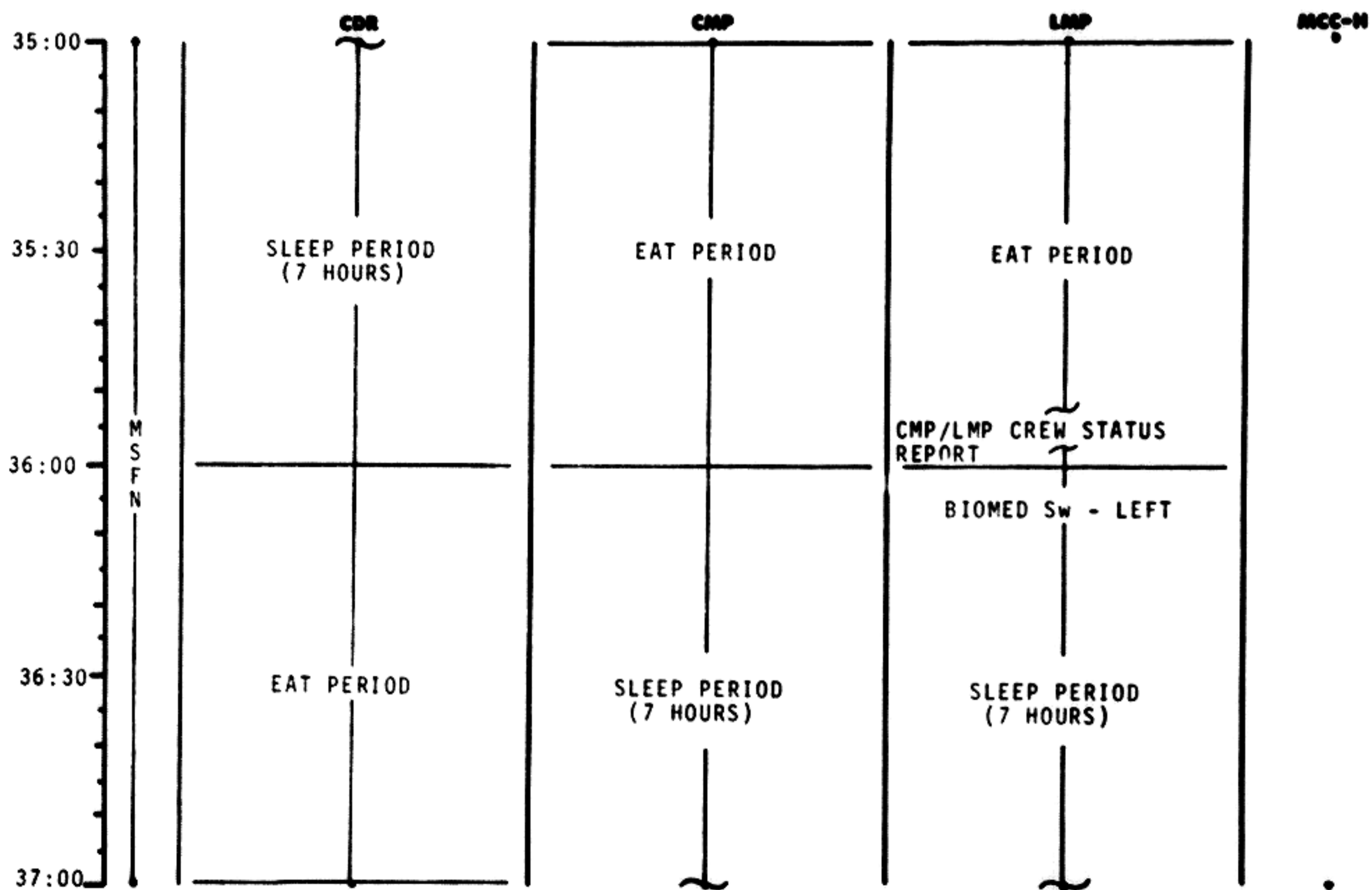
31 ACUTUS  
 CONSTELLATION  
 POINTS  
 STAR MAGNITUDE SCALES

●	TO 2.5
●	2.6 TO 3.0
●	3.1 TO 3.5
●	3.6 TO 4.0
●	4.1 TO

SCALE: 1 CM = 0.2 TO 0.7



# FLIGHT PLAN



MCC-N

37:00  
37:30  
38:00  
38:30  
39:00

M  
S  
F  
N

**CDR**  
CDR CREW STATUS REPORT

SLEEP PERIOD  
(7 HOURS)

SLEEP PERIOD  
(7 HOURS)

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**

39:00  
39:30  
40:00  
40:30  
41:00

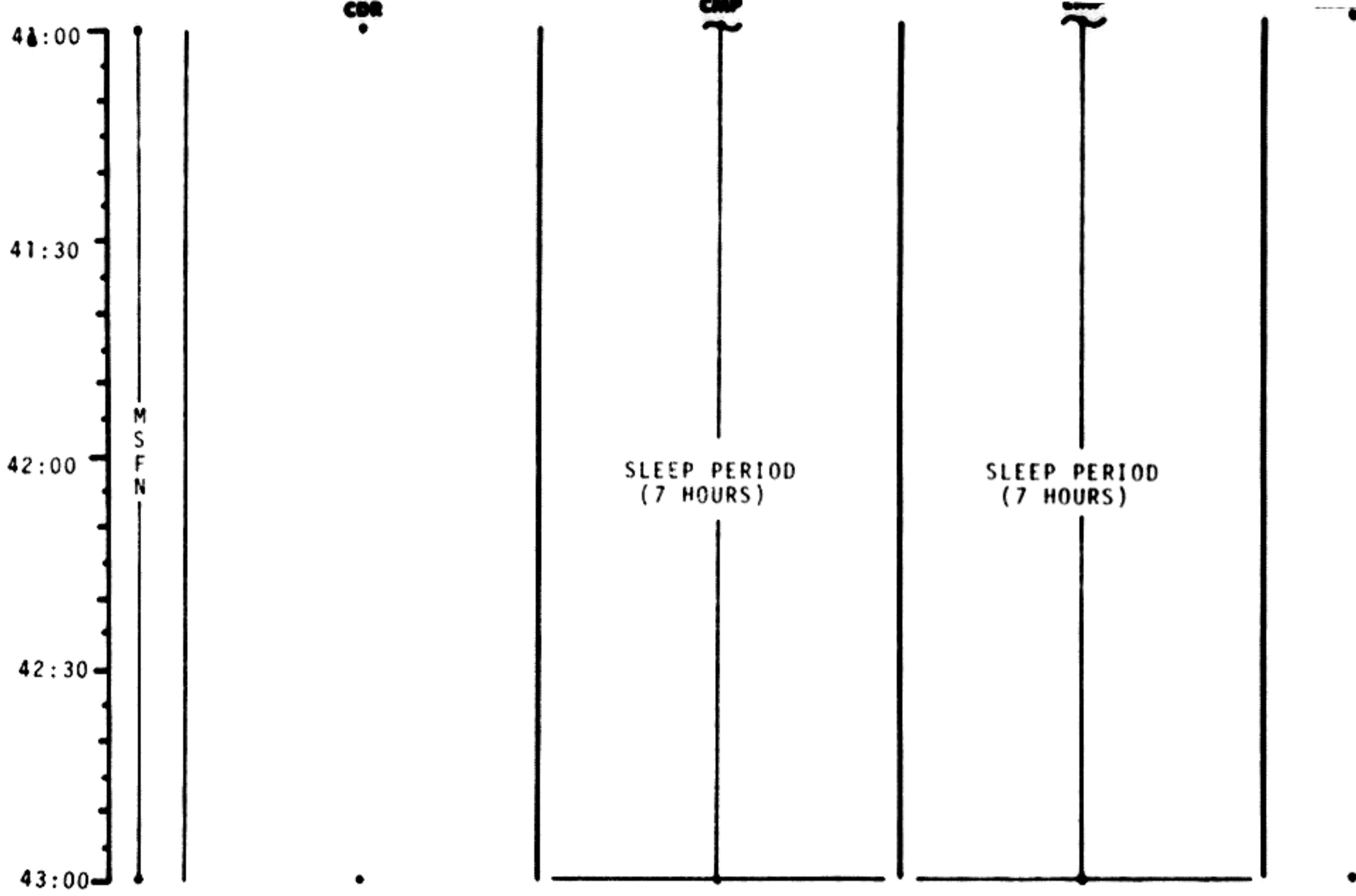
M  
S  
F  
N

L10H CANISTER CHANGE  
(CARTRIDGE NO. 6 FROM  
A5 INTO CANISTER B)  
65

SLEEP PERIOD  
(7 HOURS)

SLEEP PERIOD  
(7 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

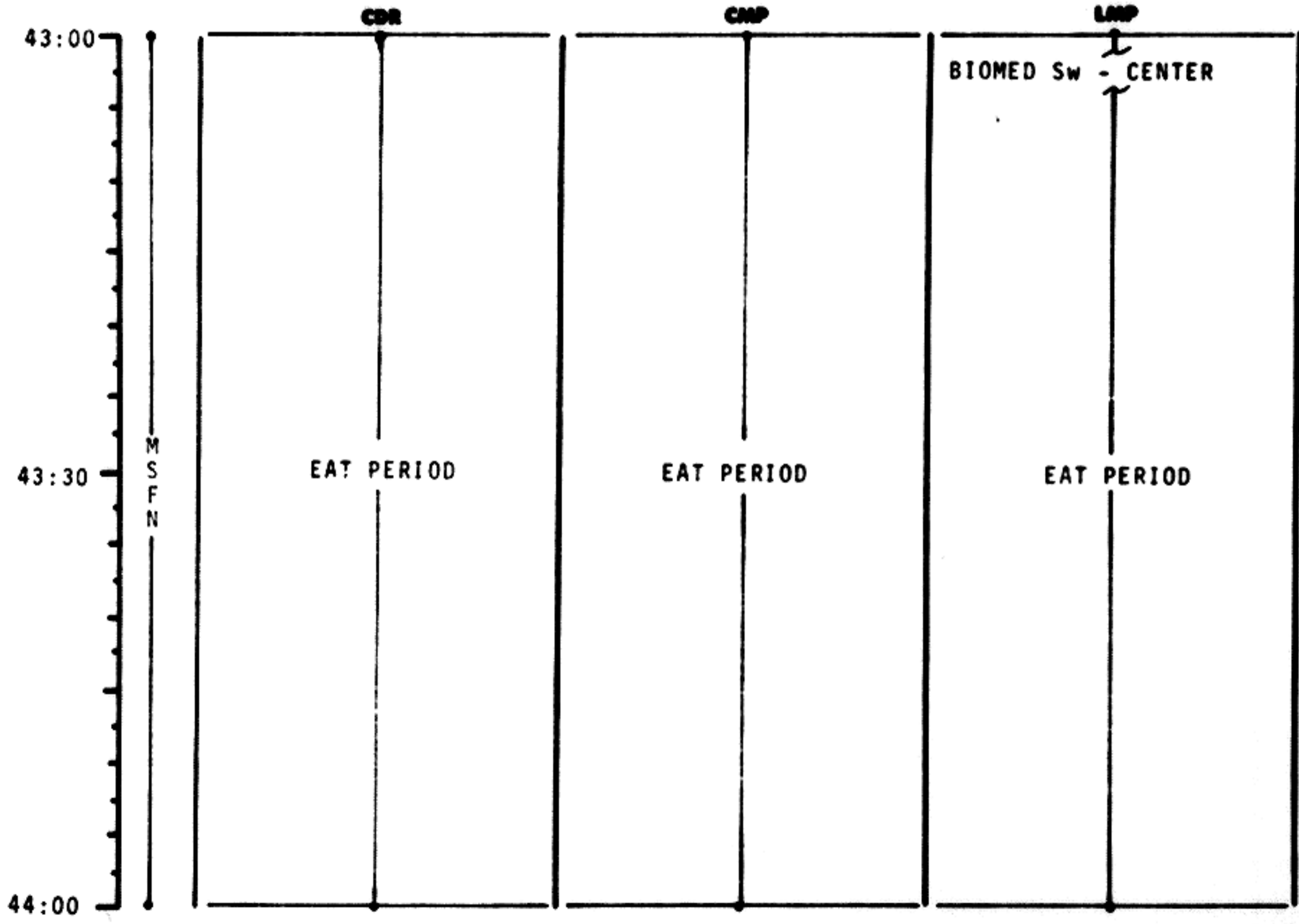


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	41:00 - 43:00	2/TLC	2-30

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MCC-H

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

44:00  
44:30  
45:00

M  
S  
F  
N

MNVR TO P52 ATT

GDC ALIGN TO IMU

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

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

TORQUE ANGLES:  
X  
Y  
Z

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

MSC Form 1010 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN

45:00  
45:15  
45:30  
45:45  
46:00

M  
S  
F  
N

MNVR TO SIGHTING ATT

TRN BIAS  
CISLUNAR NAVIGATION P23

1. STAR 33 LNH 00210  
STAR \_\_\_ L \_\_\_ H  
3 SETS

2. STAR <sup>34 LNH</sup> 37 LNH 00220  
STAR \_\_\_ L \_\_\_ H  
1 SET

3. STAR <sup>40 LNH 00210</sup> 45 LNH 00220  
STAR \_\_\_ L \_\_\_ H  
1 SET

~~4. STAR 42 LNH 00200  
STAR \_\_\_ L \_\_\_ H  
1 SET~~

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



BURN STATUS REPORT

MCC'S

BURN CHART

X X  : ΔTIG  
 X X : BT  
 : V<sub>gx</sub>

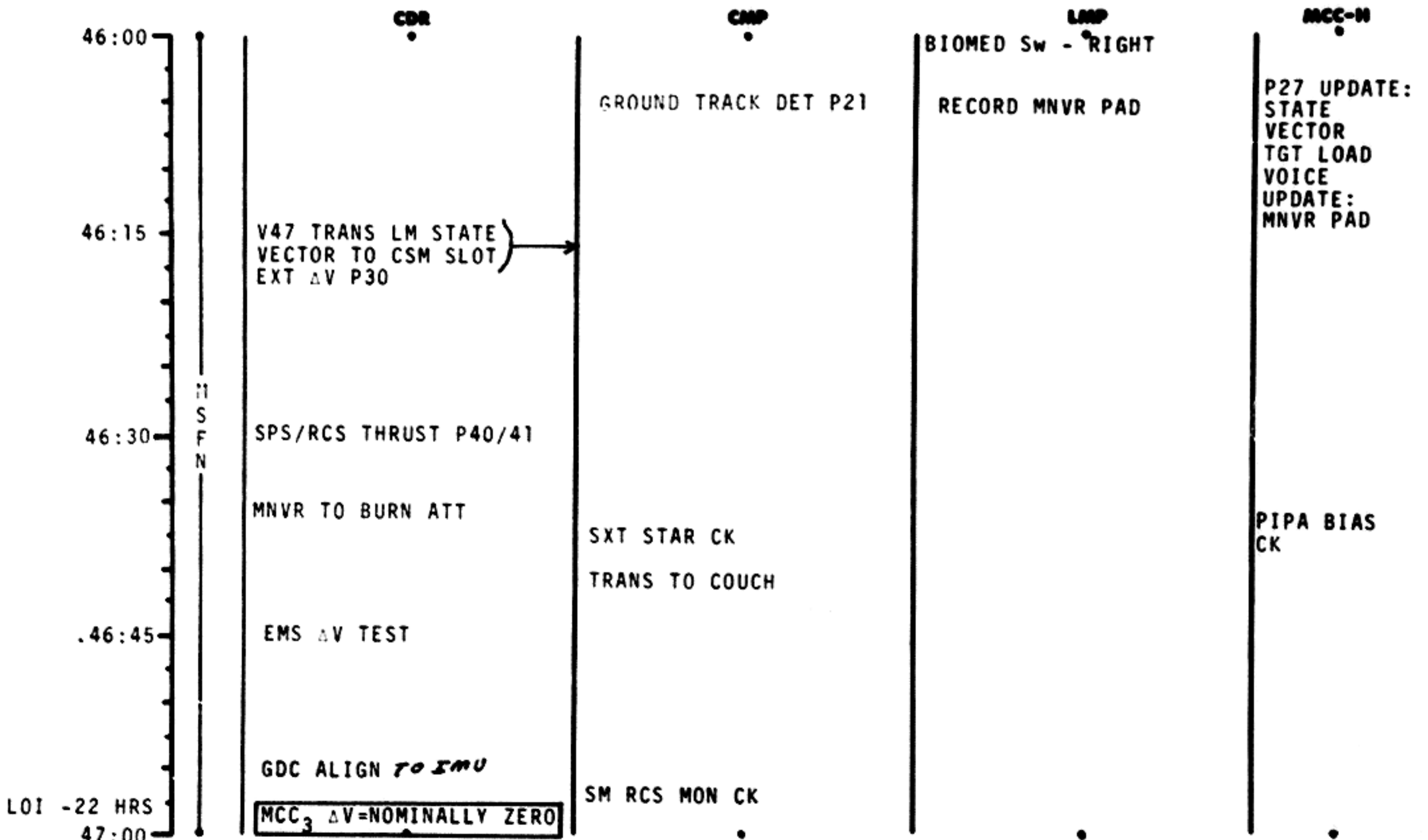
TRIM  
 X X X R  
 X X X P  
 X X X Y  
 V<sub>gx</sub>  
 V<sub>gy</sub>  
 V<sub>gz</sub>  
 ΔV<sub>c</sub>

X X X FUEL  
 X X X OX  
 X X X UNBALANCE

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

REMARKS:

FLIGHT PLAN



47:00  
47:15  
47:30  
47:45  
48:00

M  
S  
F  
N

MNVR TO SIGHTING ATT  
V66 TRANS CSM STATE VECTOR TO LM SLOT  
MCC<sub>3</sub> BURN STATUS REPORT  
  
MNVR TO PTC ATT  
P 331 Y 331  
P 36 Y 340  
ROLL 0.1°/SEC

SM RCS MON CK  
TRN BIAS  
**LUNAR 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  
GROUND TRACK DET P21

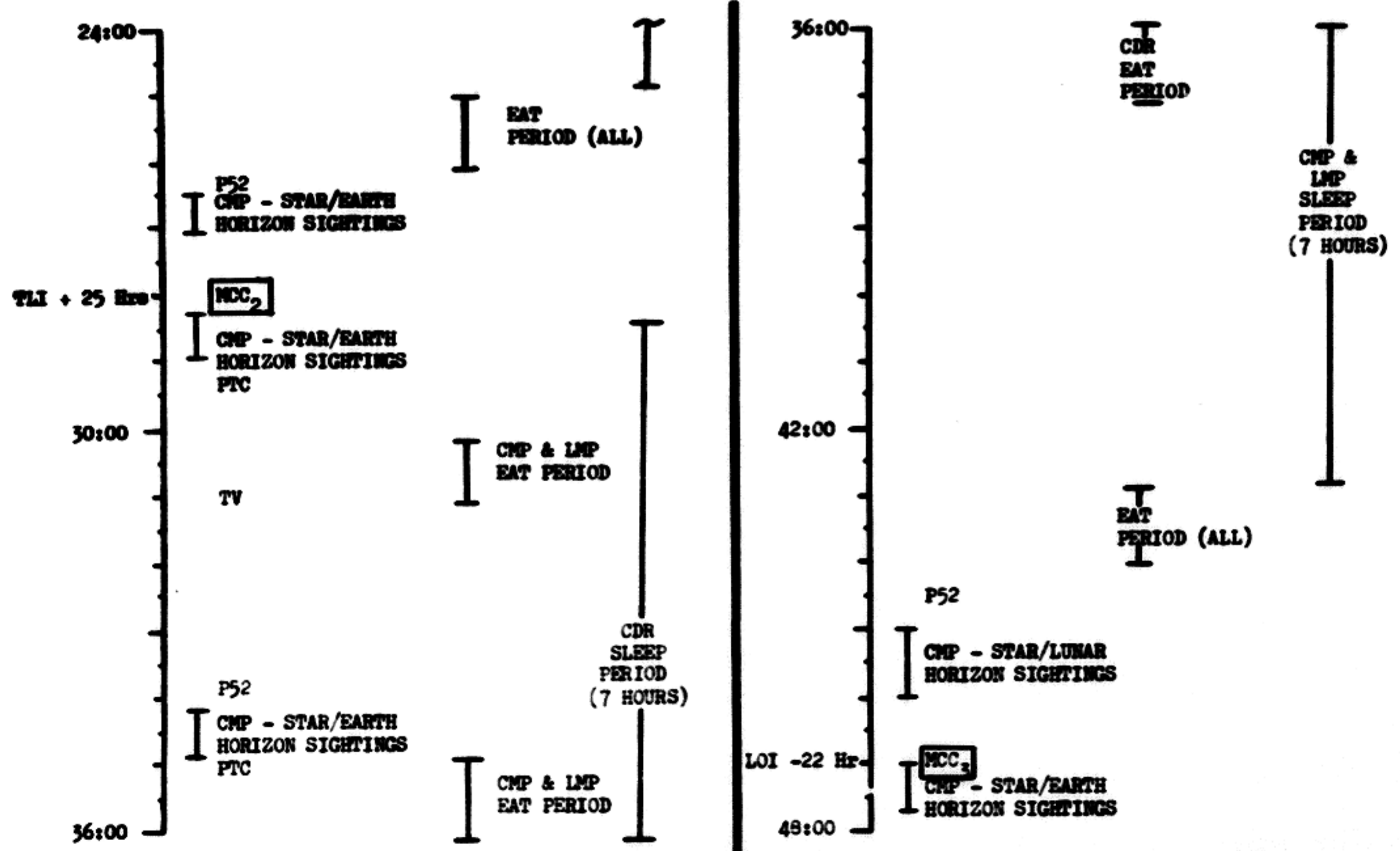
SPS MON CK  
INITIATE BAT CHARGE

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)

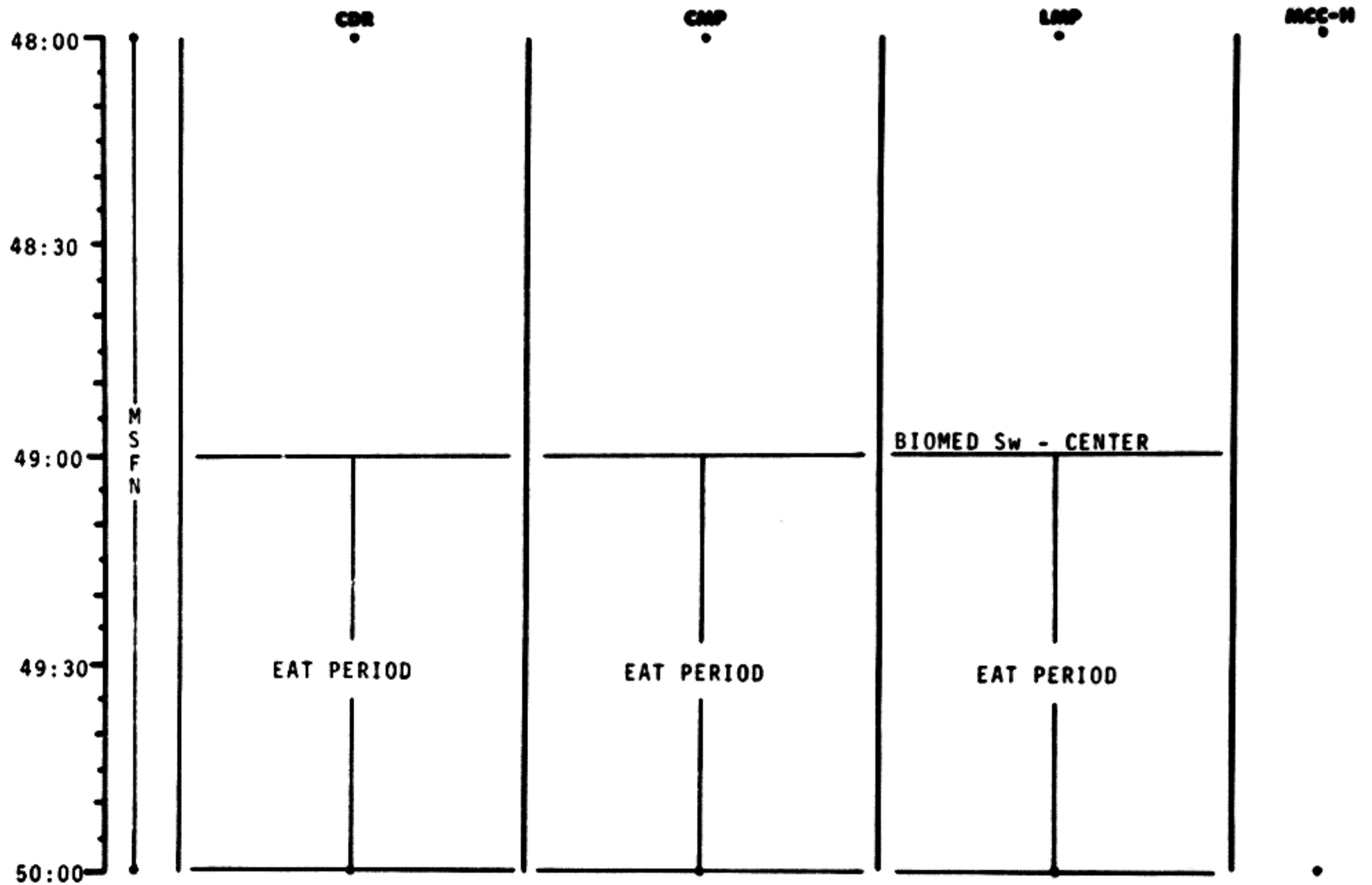
FLIGHT PLANNING BRANCH

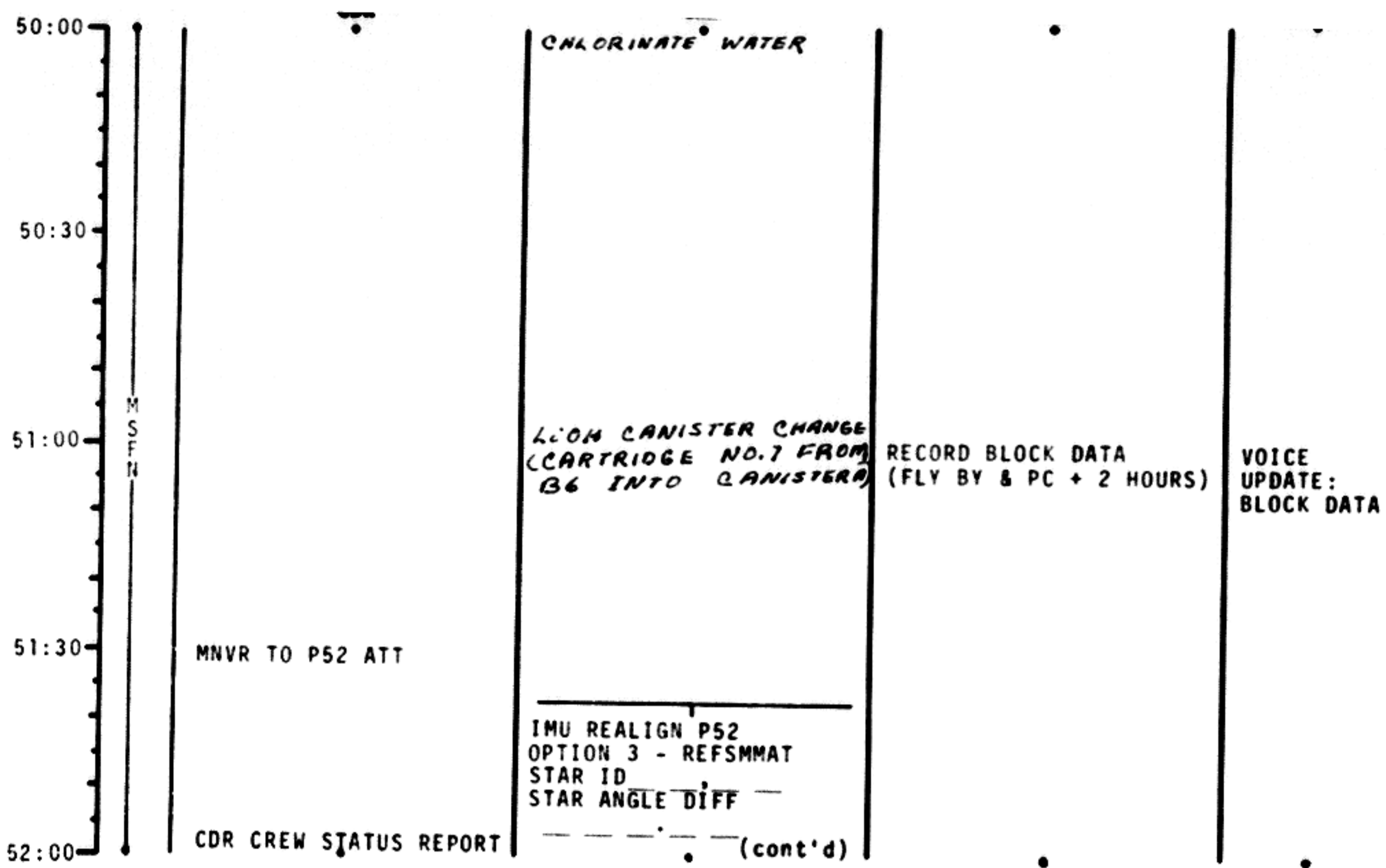
### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	24:00 - 49:00	2	5-2

# FLIGHT PLAN



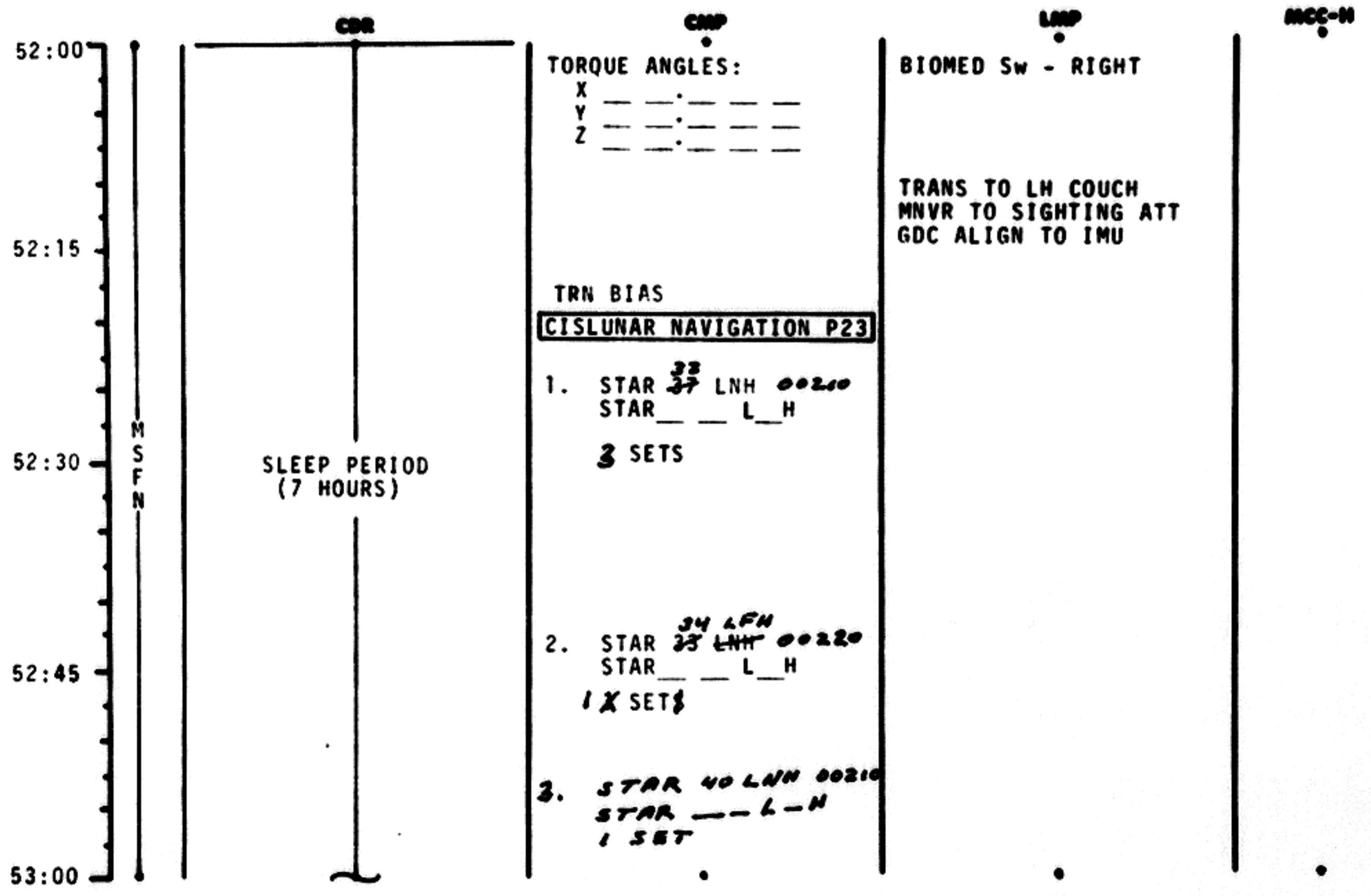


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	50:00 - 52:00	3/TLC	2-37

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
---------	---------	------	------	---------	------

53:00  
53:15  
53:30  
53:45  
54:00

M  
S  
F  
N

SLEEP PERIOD  
(7 HOURS)

GROUND TRACK DET P21

MNVR TO PTC ATT  
P 331 Y 231  
P 86 Y 340  
ROLL 0.1°/SEC

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

54:00  
54:15  
54:30  
54:45  
55:00

M  
S  
F  
N

SLEEP PERIOD  
(7 HOURS)

CDR

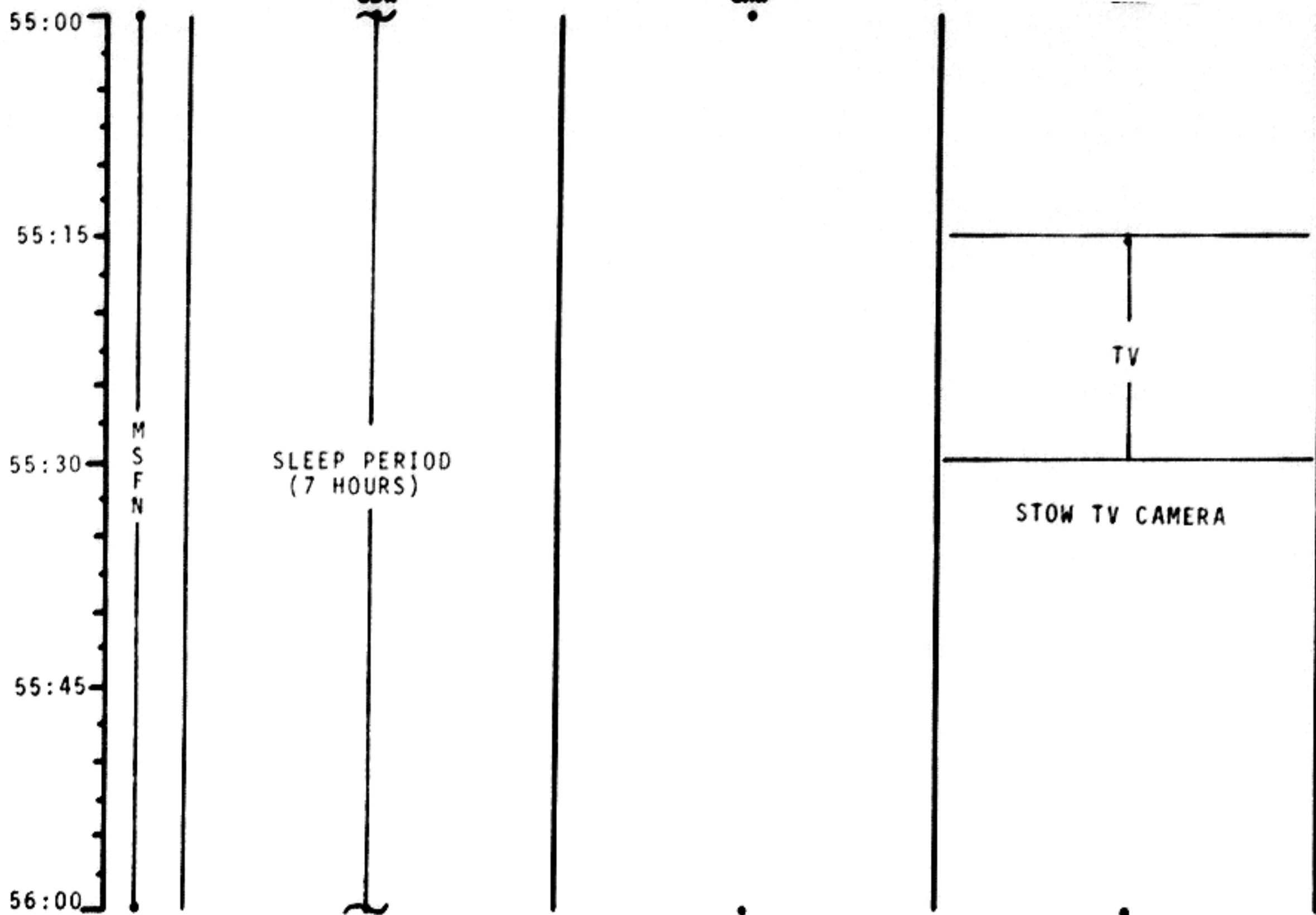
CMP

LOP

MCC-N

BIOMED SW - CENTER  
UNSTOW TV CAMERA

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

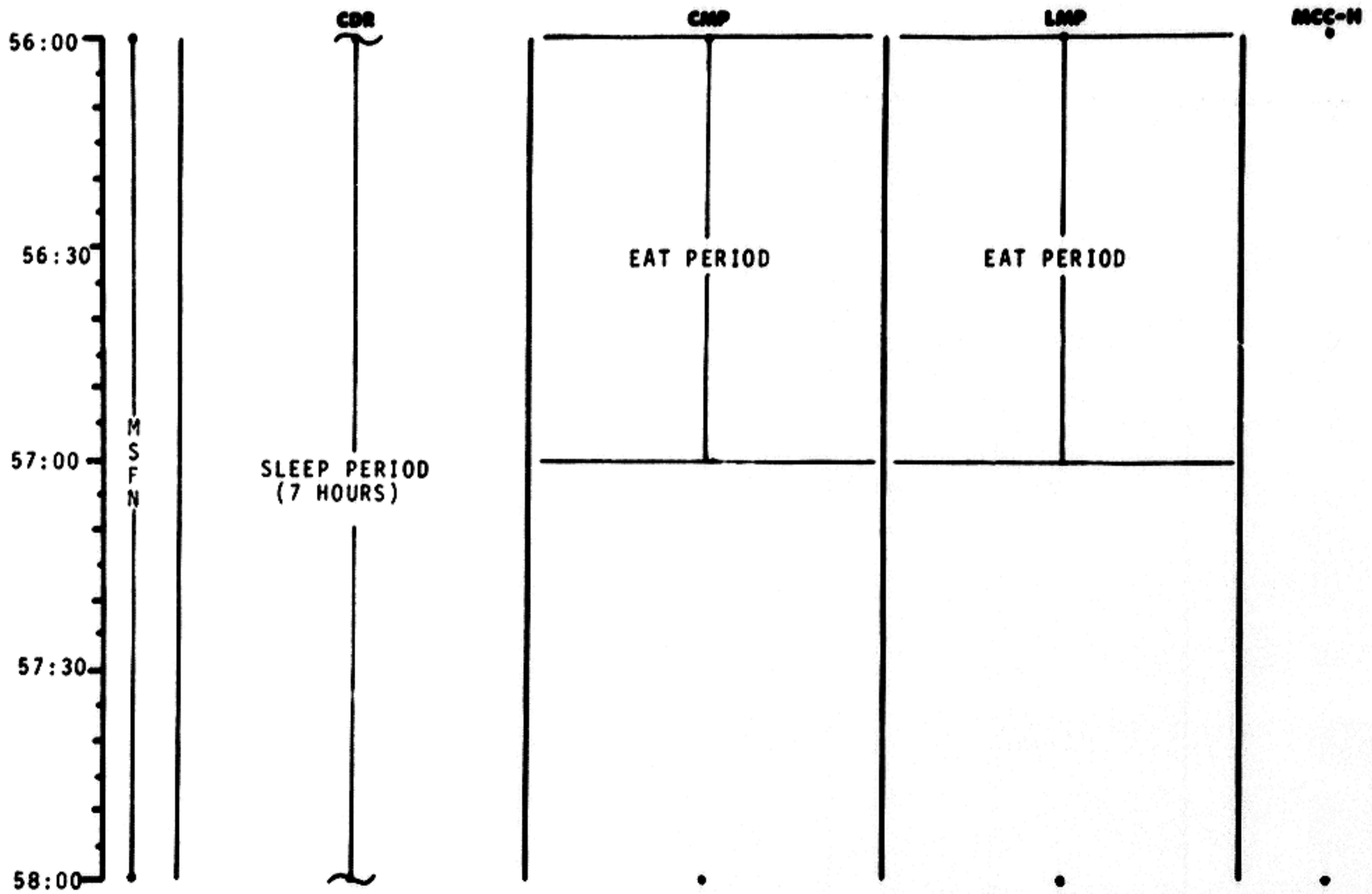


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	55:00 - 56:00	3/TLC	2-41

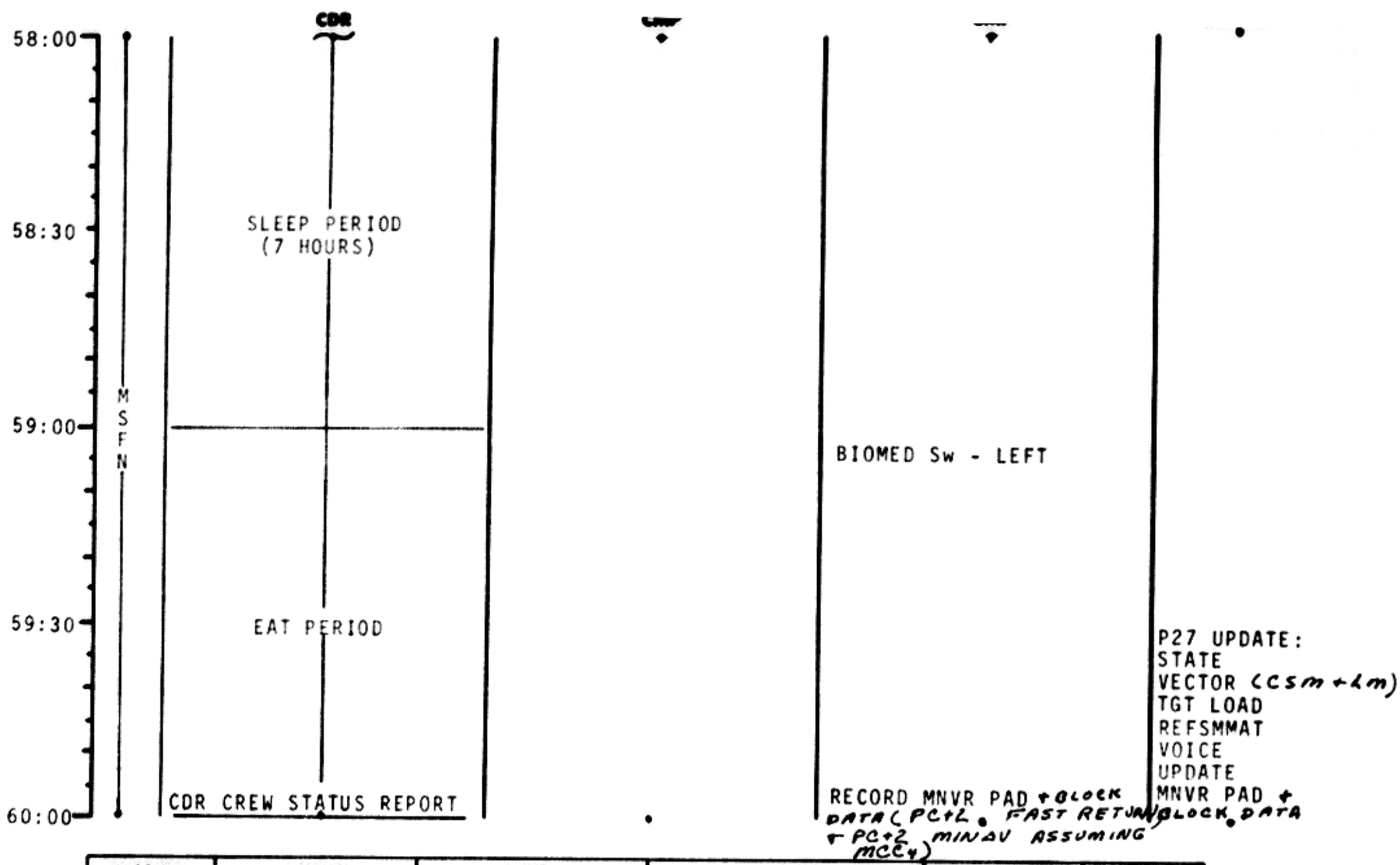
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	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  
 : Vgx

TRIM

X X X R  
 X X X P  
 X X X Y  
 Vgx  
 Vgy  
 Vgz  
 ΔVc

X X X FUEL  
 X X X OX  
 X X X UNBALANCE

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 fns

REMARKS:

2-43a

60:00  
60:15  
60:30  
60:45  
61:00

M  
S  
F  
N

MNVR TO P52 ATT

EXT ΔV P30  
SPS/RCS THRUST P40/41  
MNVR TO BURN ATT

EMS ΔV TEST

GDC ALIGN TO IMU  
MCC<sub>4</sub> ΔV = NOMINALLY ZERO

IMU REALIGN P52  
OPTION 1 - PREFERRED  
STAR ID  
STAR ANGLE DIFF

TORQUE ANGLES:  
X  
Y  
Z

SXT STAR CK

TRANS TO COUCH

SM RCS MON CK

PIPA BIAS  
CK

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

61:00  
61:15  
61:30  
61:45  
62:00

M  
S  
F  
N

**CDR**

V66 TRANS CSM STATE  
VECTOR TO LM SLOT

MNVR TO PTC ATT  
P 122 Y 315  
P Y  
ROLL 0.1 °/SEC

**CMP**

SM RCS MON CK

GROUND TRACK DET P21  
(STATE VECTOR CK)

L/DH CANISTER CHANGE  
(CARTRIDGE NO.8 FROM  
B6 INTO CANISTER B)

**LMP**

SPS MON CK  
~~INITIATE BAT CHARGE~~  
ECS REDUNDANT COMP CK

CMP/LMP CREW STATUS  
REPORT

**MCC-W**

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE



62:00  
62:30  
63:00  
63:30  
64:00

M  
S  
F  
N

CDR

SLEEP PERIOD  
(6 HOURS)

SLEEP PERIOD  
(6 HOURS)

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

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN

64:00  
64:30  
65:00  
65:30  
66:00

M  
S  
F  
N

CDR

CNP

LMP

MCC-N

SLEEP PERIOD  
(6 HOURS)

SLEEP PERIOD  
(6 HOURS)

MNVR TO P52, ATT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

66:00  
66:15  
66:30  
66:45  
67:00

M  
S  
F  
N

**COP**

IMU REALIGN P52  
OPTION 3 - REFSMMAT  
STAR ID \_\_\_\_\_  
STAR ANGLE DIFF \_\_\_\_\_

TORQUE ANGLES:  
X \_\_\_\_\_  
Y \_\_\_\_\_  
Z \_\_\_\_\_

---

GDC ALIGN TO IMU  
~~MNVR TO PTC ATT~~  
~~P 122 Y 315~~  
~~P \_\_\_\_\_ Y \_\_\_\_\_~~  
~~ROLL 0.1°/SEC~~

RECORD MNVR PAD FOR LOI

SLEEP PERIOD  
(6 HOURS)

SLEEP PERIOD  
(6 HOURS)

VOICE  
UPDATE:  
MNVR PAD

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

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN

67:00  
67:15  
67:30  
67:45  
68:00

M  
S  
F  
N

**COP**

MNVR TO LOI<sub>1</sub> ATT  
SXT STAR CK

MNVR TO PTC ATT  
P 122 Y 315  
P \_\_\_\_\_ Y \_\_\_\_\_  
ROLL 0.1°/SEC

RECORD BLOCK DATA  
(TEI<sub>1</sub>, TEI<sub>2</sub>, & PC+2)  
& MAP UPDATE

SLEEP PERIOD  
(6 HOURS)

SLEEP PERIOD  
(6 HOURS)

**MCC-H**

VOICE  
UPDATE:  
BLOCK DATA  
& MAP  
UPDATE 1/2 +  
MNVR PAD  
P27 UPDATE:  
STATE VECTOR  
(SM+LM)+  
TGT LOAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
				3/TLC	2-48

68:00  
68:30  
68:57  
69:00

M  
S  
T  
N

GO/NO GO FOR LOI<sub>1</sub>  
  
MNVR TO P52 ATT  
  
EXTERNAL ΔV P30  
EMS CK  
SPS THRUST P40  
MNVR TO BURN ATT  
  
GDC ALIGN TO IMU

GROUND TRACK DET - P21  
(LOI ALTITUDE DET)  
  
IMU REALIGN P52  
OPTION 3 - REFSMMAT AND  
GYRO DRIFT TEST  
STAR ID  
STAR ANGLE DTFF  
  
TORQUE ANGLES:  
X  
Y  
Z  
  
SXT STAR CK  
TRANSFER TO COUCH

CMP/LMP CREW STATUS  
REPORT  
  
~~RECORD MANEUVER PAD~~  
  
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 - MVB~~  
INITIATE WATER  
BOILER

GO/NO GO  
~~P27 UPDATE:~~  
~~STATE VECTOR~~  
~~TARGET LOAD~~  
~~VOICE UPDATE:~~  
~~MNVR PAD~~

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

MSC Form 1916 (OT) (Oct 68)

FLIGHT PLANNING BRANCH

BURN STATUS REPORT

X X  : ΔTIG  
 X X : BT  
 : V<sub>gx</sub>  
 TRIM  
 X X X R  
 X X X P  
 X X X Y  
 • V<sub>gx</sub>  
 • V<sub>gy</sub>  
 • V<sub>gz</sub>  
 • ΔV<sub>c</sub>  
 X X X FUEL  
 X X X OX  
 X X X UNBALANCE

REMARKS:

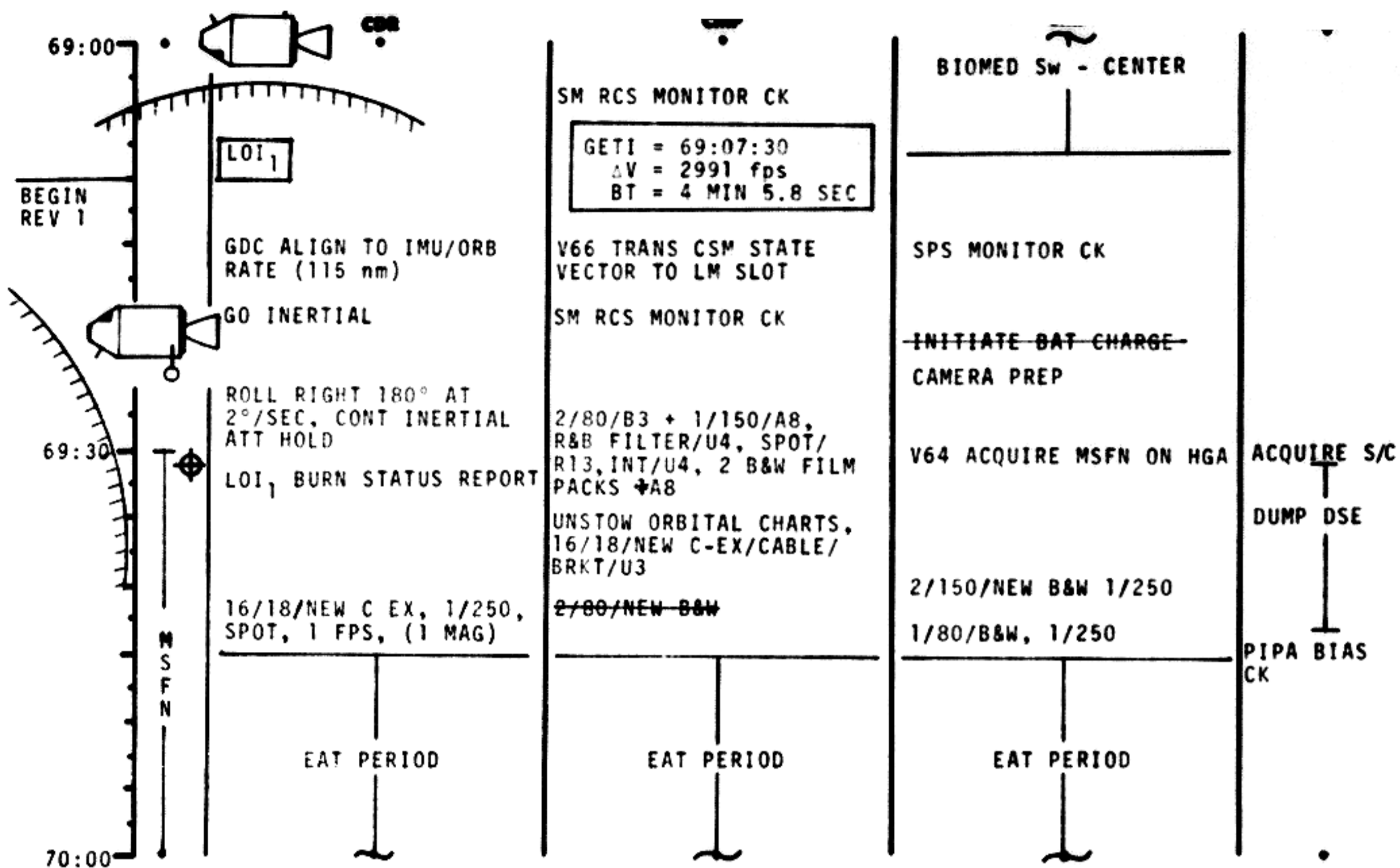
LOI<sub>1</sub>  
BURN CHART

	P or V RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
LOI <sub>1</sub>	10°/SEC TAKEOVER	10° TAKEOVER	B/T+6 SEC	NO TRIM

LOI<sub>1</sub> ABORT MODES

LOI V <sub>go</sub>	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

2-50a

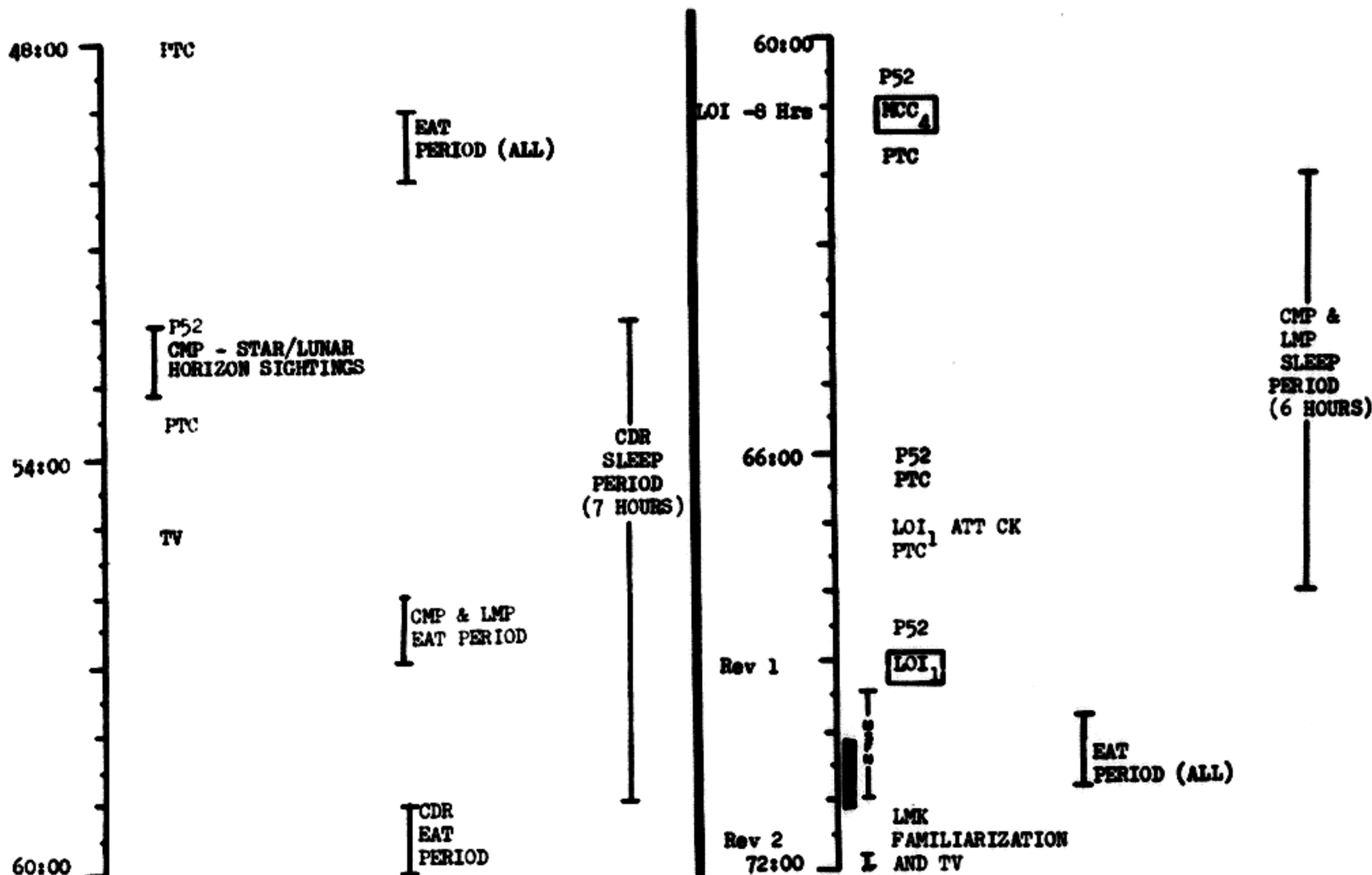


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	69:00 - 70:00	3/LPO	2-51

MSC Form 1910 (Nov 58)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



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

BURN STATUS REPORT

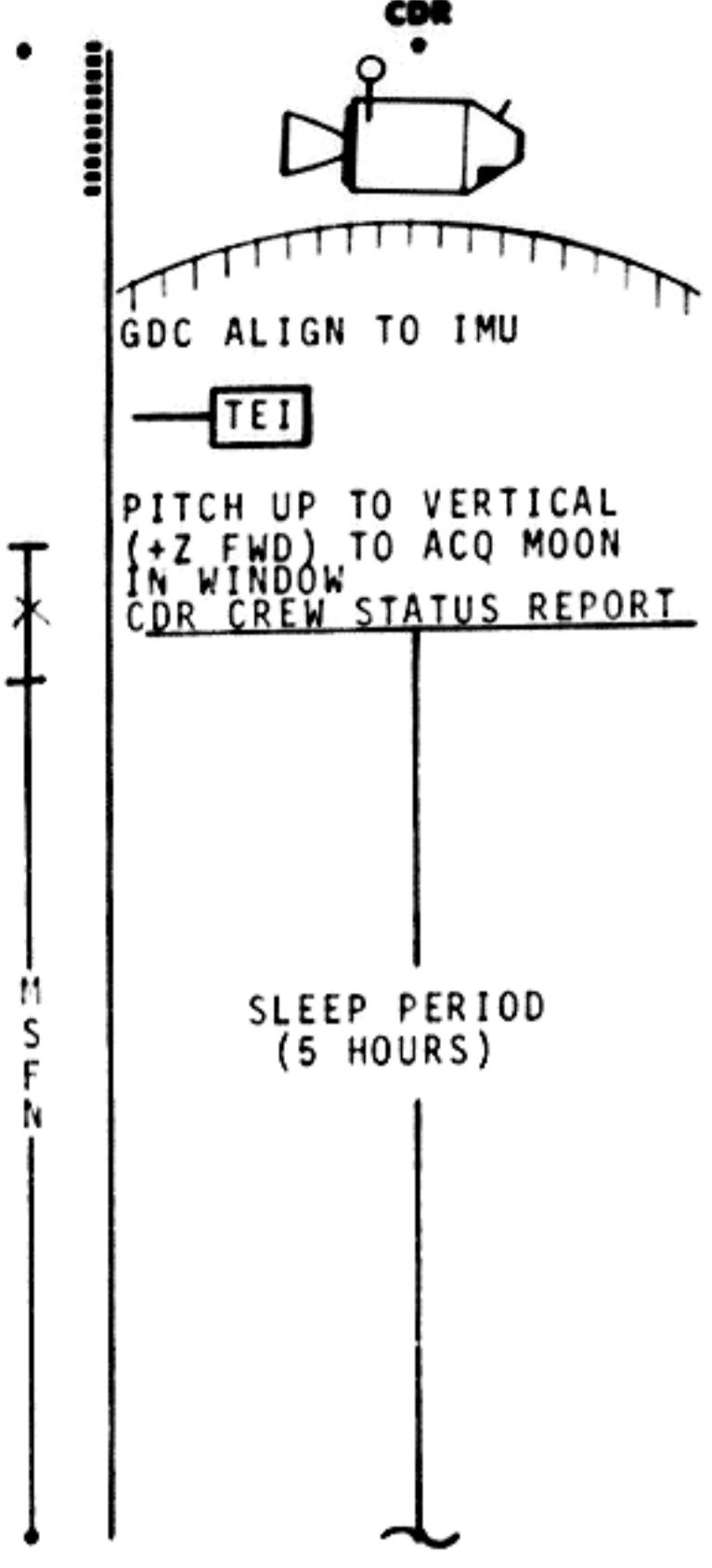
X X	:	ΔTIG
X X	:	BT
	.	V <sub>gx</sub>
—	TRIM	—
X X X		R
X X X		P
X X X		Y
<input type="checkbox"/>	.	V <sub>gx</sub>
<input type="checkbox"/>	.	V <sub>gy</sub>
<input type="checkbox"/>	.	V <sub>gz</sub>
<input type="checkbox"/>	.	ΔV <sub>c</sub>
X X X		FUEL
X X X		OX
X X X		UNBALANCE

REMARKS:

TEI  
BURN CHART

	P or Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
TEI	10°/SEC TAKEOVER	10° TAKEOVER	B/T+2 SEC & ΔV <sub>c</sub> = -40 fps	TRIM TO 2.0 fps
TEI ABORT MODES-SYSTEMS PROBLEMS: 15-MIN ABORT CHART OTHERWISE				
TEI V <sub>go</sub>	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	

89:00  
89:15  
89:30  
89:45  
90:00



SM RCS MON CK  
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<sub>1</sub> +00094  
R<sub>2</sub> +00571 *OK*  
R<sub>3</sub> +00003

SPS MON CK  
ACQUIRE MSFN WITH HGA  
TEI BURN STATUS REPORT  
INITIATE BAT CHARGE  
BIOMED SW - CENTER  
TERMINATE WATER BOILER EVAP  
  
*1/80 (OR 250) / B+W,R+B  
SPOT, 4 STOPS WIDER*  
  
*SC EXT ATM (POST BURN)  
1/80 / NS FZ.8  
B 6 SEC, B 1 SEC, 1/60  
90° FROM SUN*

ACQUIRE S/C  
  
  
DUMP DSE  
UPDATE  
ENTRY  
REFSMAT

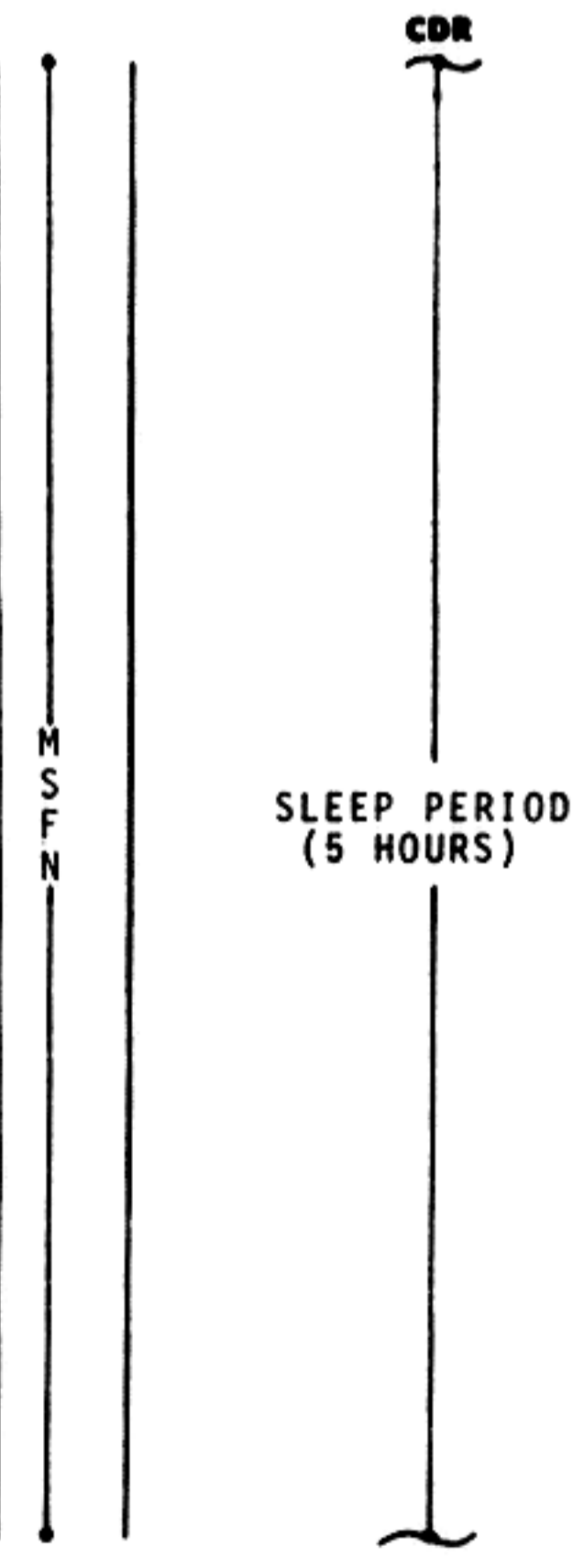
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	89:00 - 90:00	4/TEC	2-71

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN

90:00  
90:15  
90:30  
90:45  
91:00

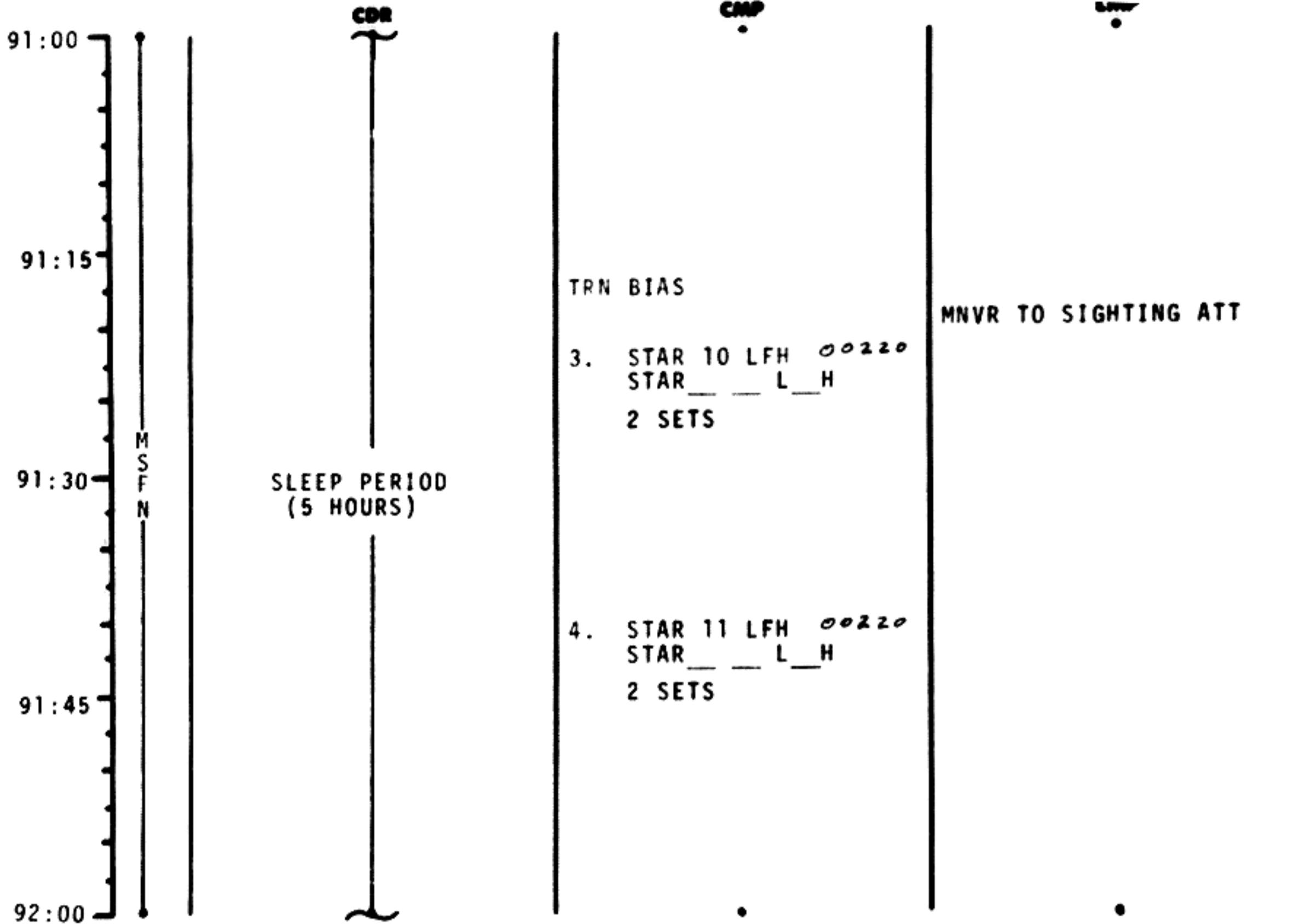


CMP  
IMU REALIGN P52  
OPTION 1 - PREFERRED  
STAR ID \_\_\_\_\_  
STAR ANGLE DIFF \_\_\_\_\_  
TORQUE ANGLES: \_\_\_\_\_  
X \_\_\_\_\_  
Y \_\_\_\_\_  
Z \_\_\_\_\_  
TRN BIAS  
**CISLUNAR NAVIGATION P23**  
1. STAR 01 LNH 00210  
STAR \_\_\_\_\_ L \_\_\_\_\_ H \_\_\_\_\_  
2 SETS  
  
2. STAR 02 LNH 00210  
STAR \_\_\_\_\_ L \_\_\_\_\_ H \_\_\_\_\_

LMP  
MNVN TO P52 ATT  
  
MNVN TO SIGHTING ATT

MCC-H

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

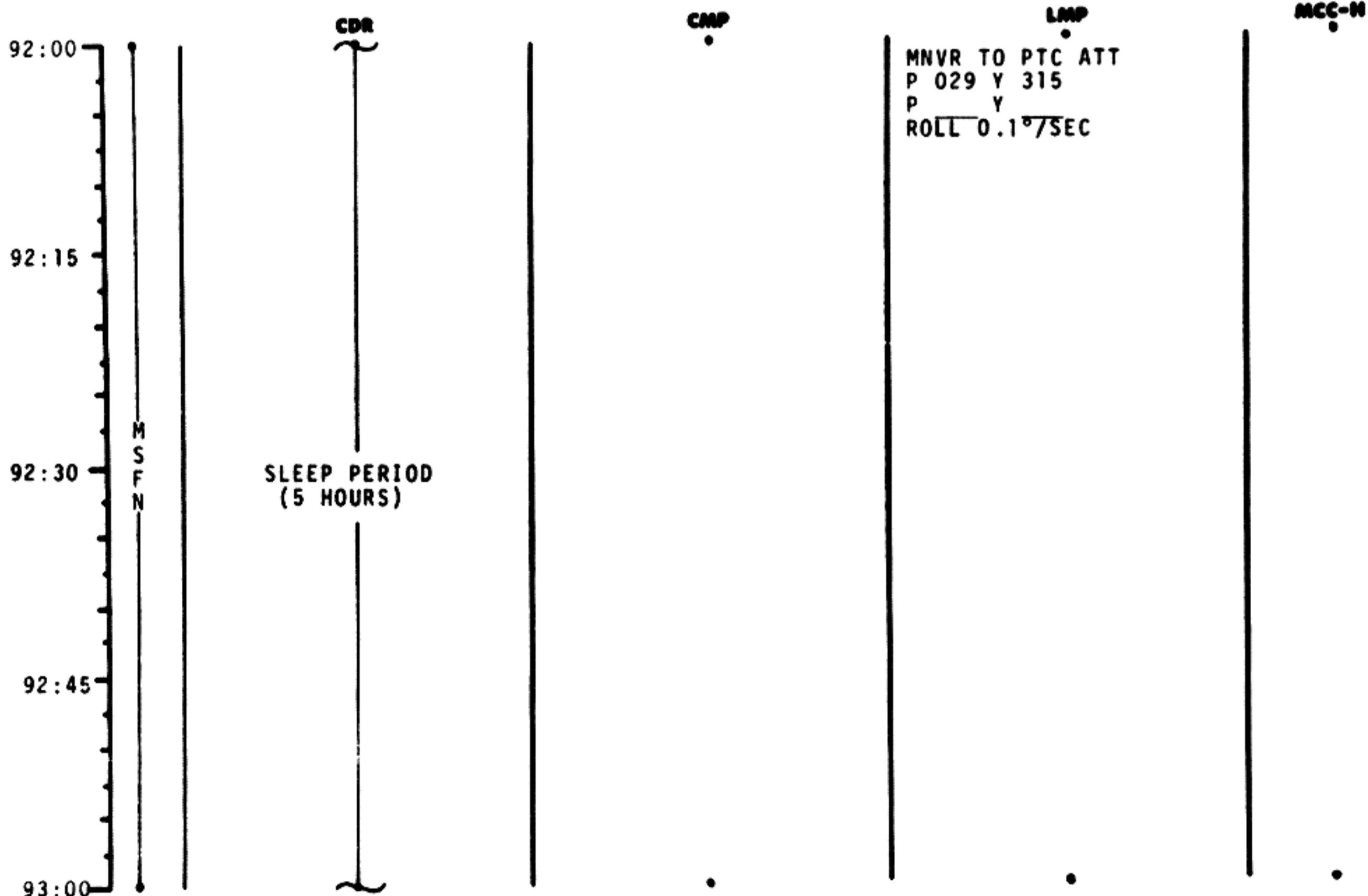


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	91:00 - 92:00	4/TEC	2-73

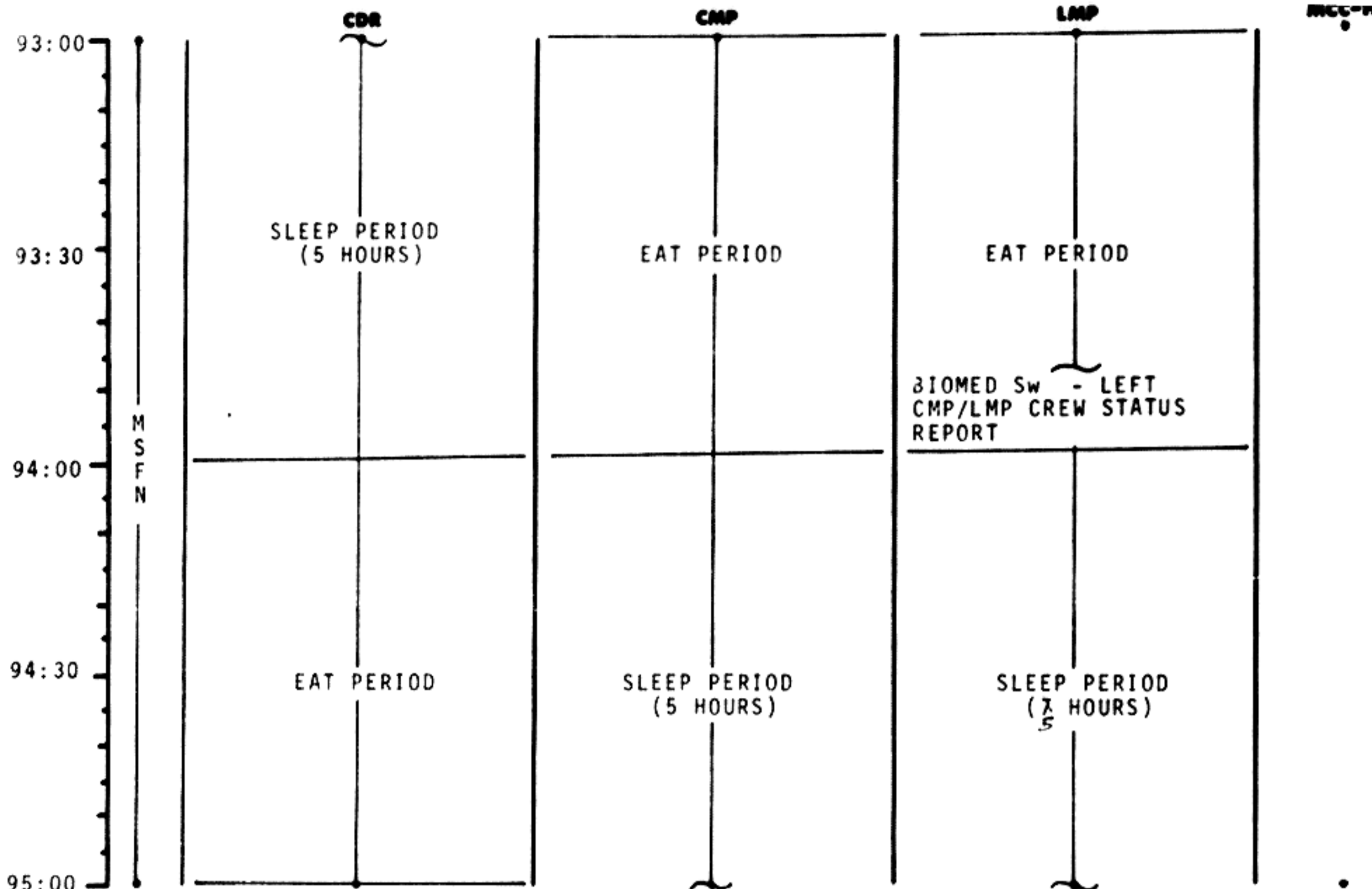
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



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

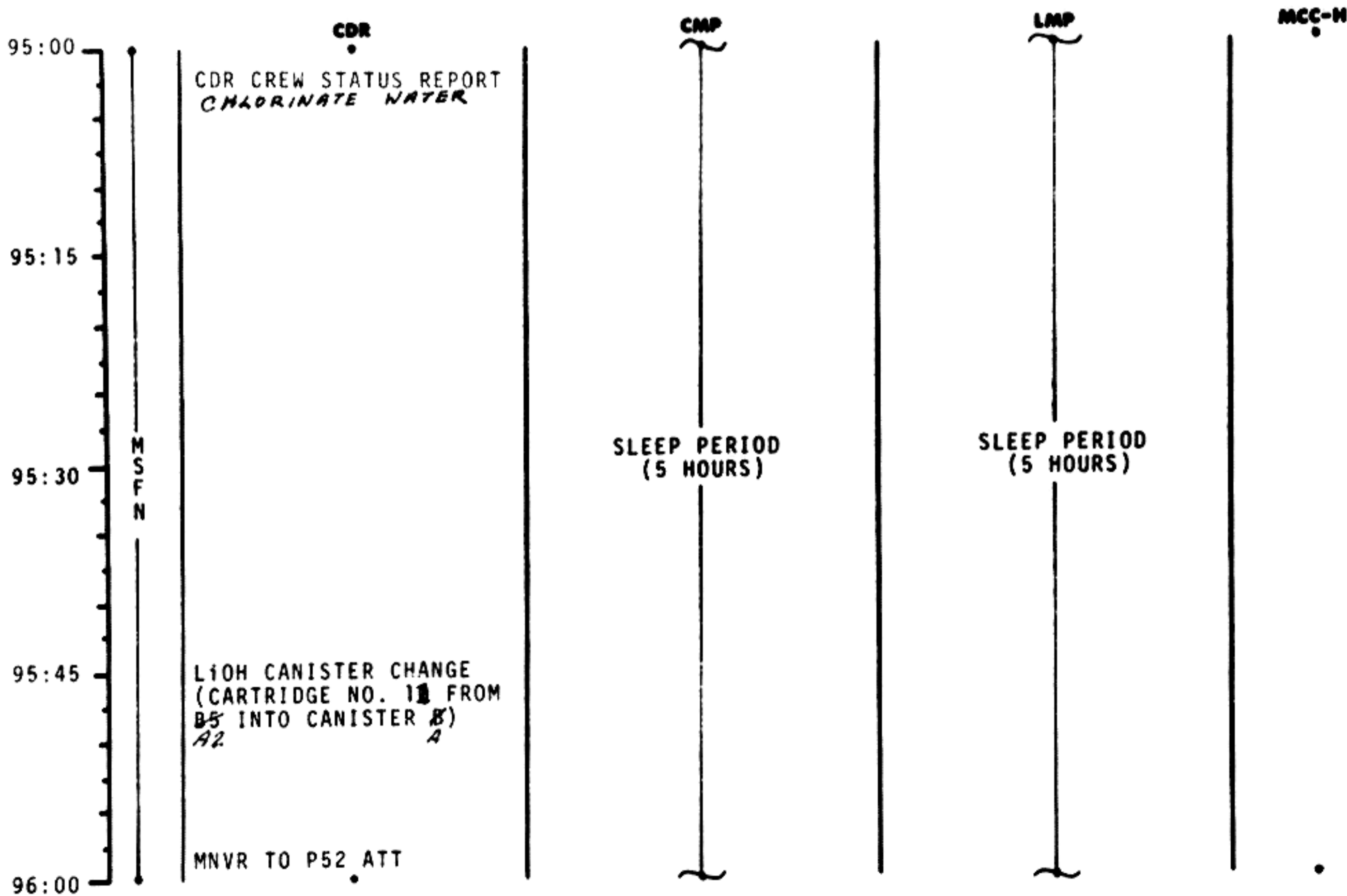


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	93:00 - 95:00	4/TEC	2-75

MSC Form 1910 (Nov 68)

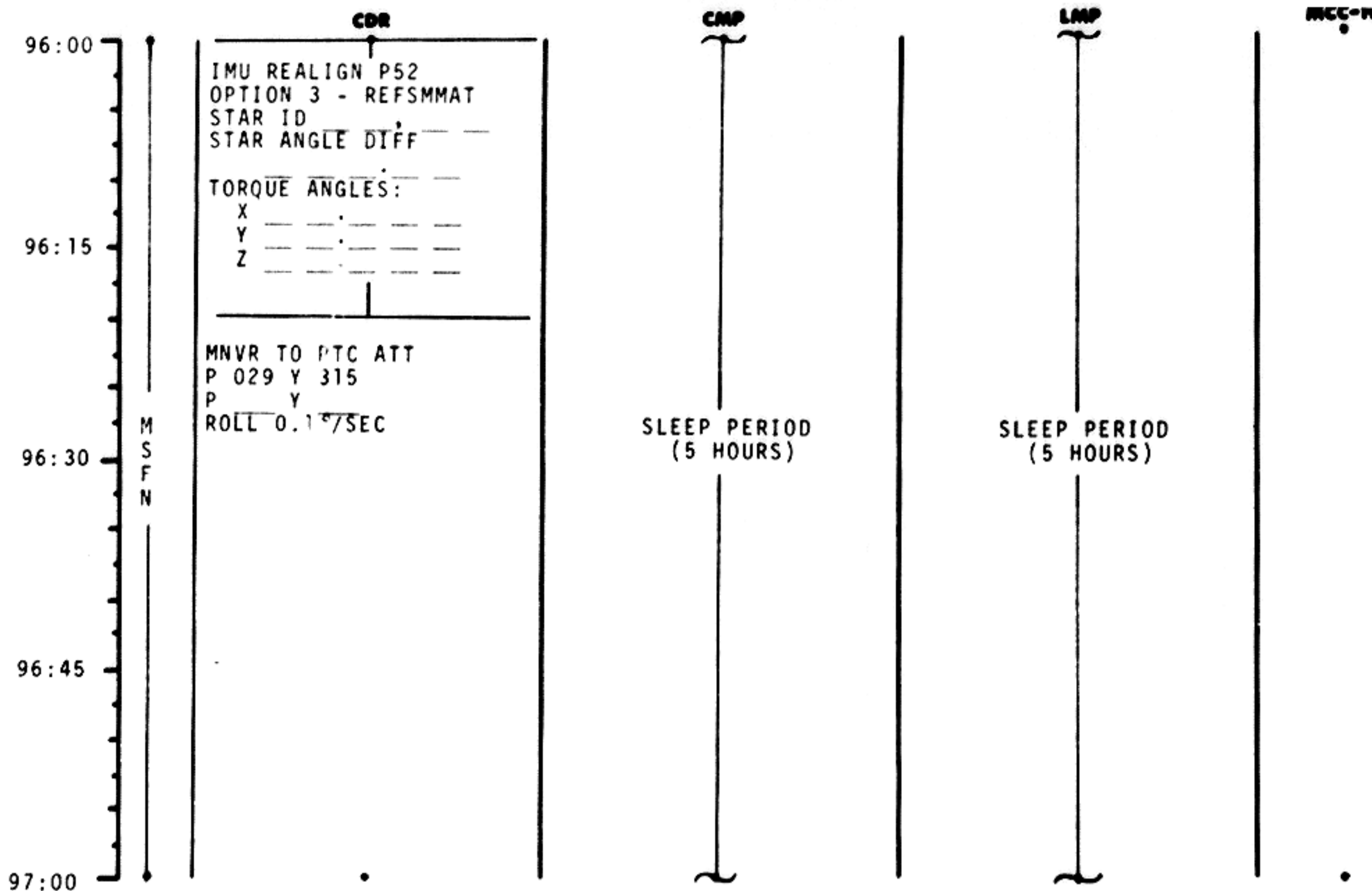
FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
					2-76



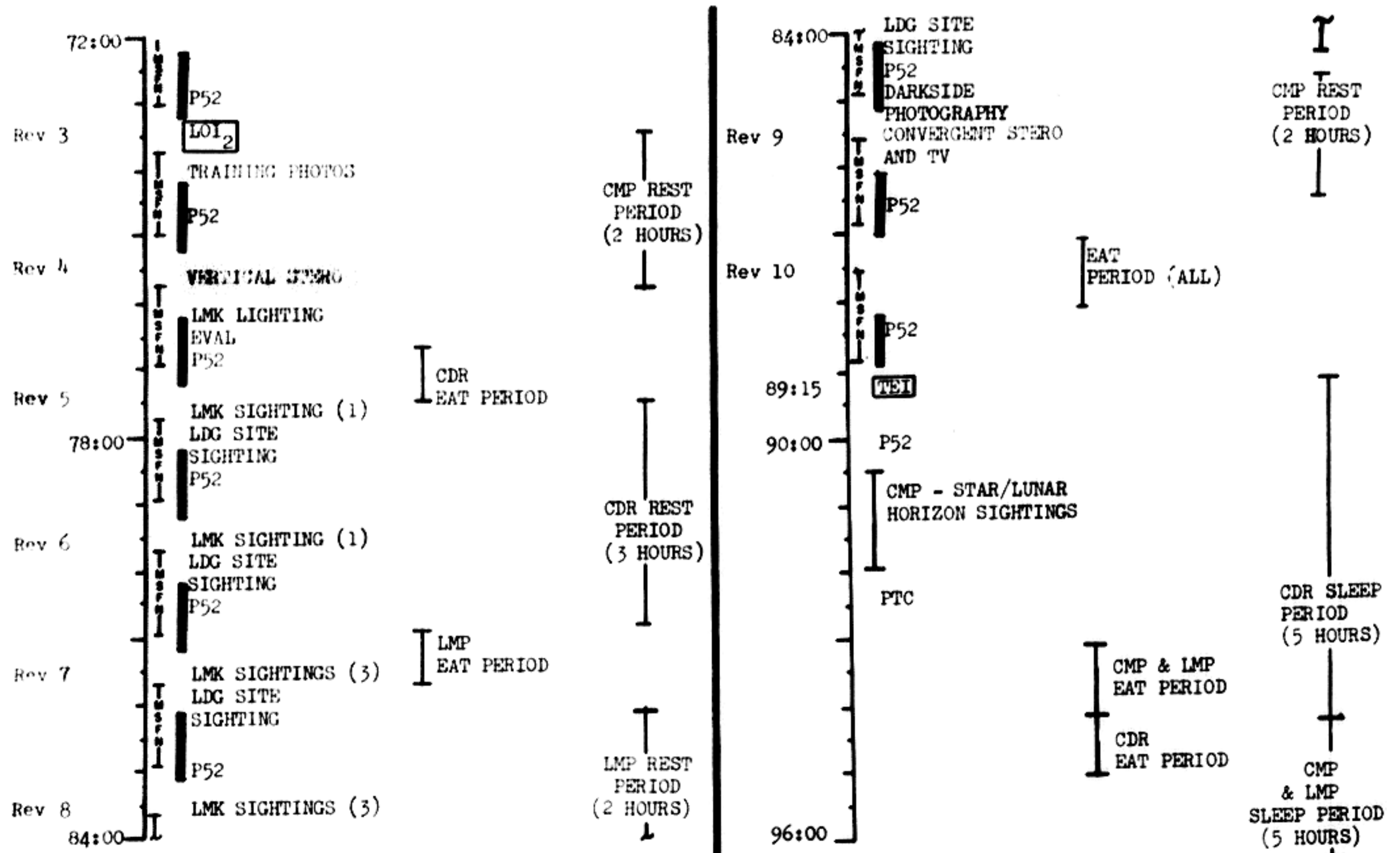


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	96:00 - 97:00	5/TEC	2-77

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

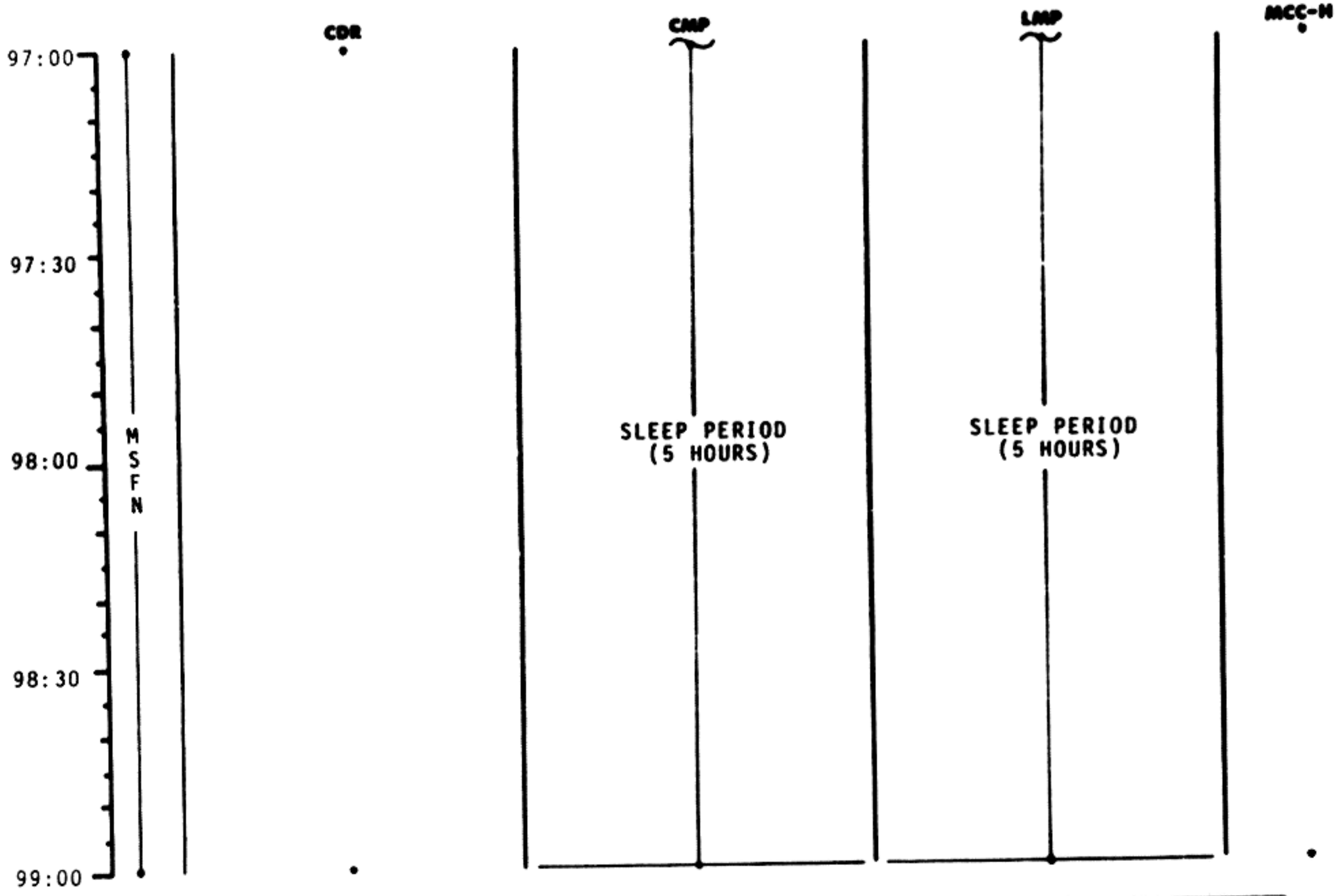
### FLIGHT PLAN



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



99:00	M S F N				BIOMED SW - CENTER
99:15					
99:30		EAT PERIOD	EAT PERIOD	EAT PERIOD	
99:45					
100:00					

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

100:00	M S F N	CDR MNVR TO P52 ATT	CMP IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID _____ STAR ANGLE DIFF _____	LMP CMP/LMP CREW STATUS REPORT	MCC-N	
		100:15		TORQUE ANGLES: X _____ Y _____ Z _____		
		100:30	MNVR TO SIGHTING ATT	TRN BIAS		
		100:45		<b>CISLUNAR NAVIGATION P23</b> 1. STAR 02 LNH 00210 STAR _____ L_H 1 SET _____ 2. STAR 11 LFH 00220 STAR _____ L_H 1 SET _____ 3. STAR 01 LNH 00210 STAR _____ L_H 1 SET _____		
101:00		MNVR TO SIGHTING ATT				

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  
101:30  
101:45  
102:00

M  
S  
F  
N

TRN BIAS

**CISLUNAR NAVIGATION P23**

1. STAR 22 EFH 00120  
STAR\_\_ E\_\_H  
2 SETS

2. STAR 26 ENH 00110  
STAR\_\_ E\_\_H  
2 SETS

BIOMED Sw - RIGHT

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

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

**FLIGHT PLAN**

CDR

CMP

LMP

MCC-H

102:00  
102:15  
102:30  
102:45  
103:00

M  
S  
F  
N

MNVR TO P52 ATT

3. STAR 31 ENH 00110  
STAR\_\_ E\_\_H  
2 SETS

RECORD MNVR PAD

P27 UPDATE  
STATE  
VECTOR  
TGT LOAD  
REFSMAT  
  
VOICE  
UPDATE:  
MNVR PAD

IMU REALIGN P52  
OPTION 3 - RESFMMAT  
STAR ID  
STAR ANGLE DTFF  
  
TORQUE ANGLES:  
X  
Y  
Z

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	102:00 - 103:00	5/TEC	2-82

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 fns

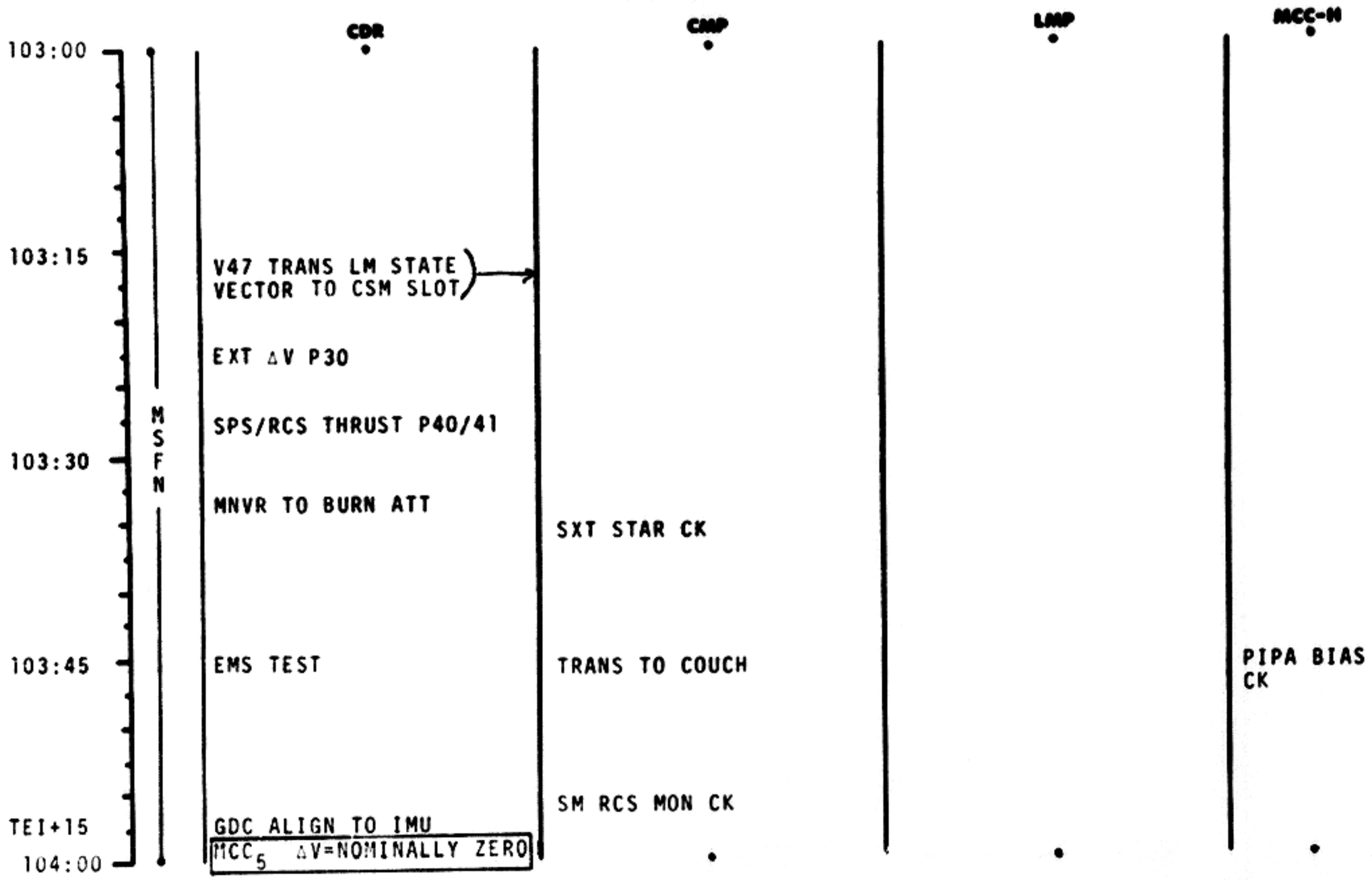
BURN STATUS REPORT

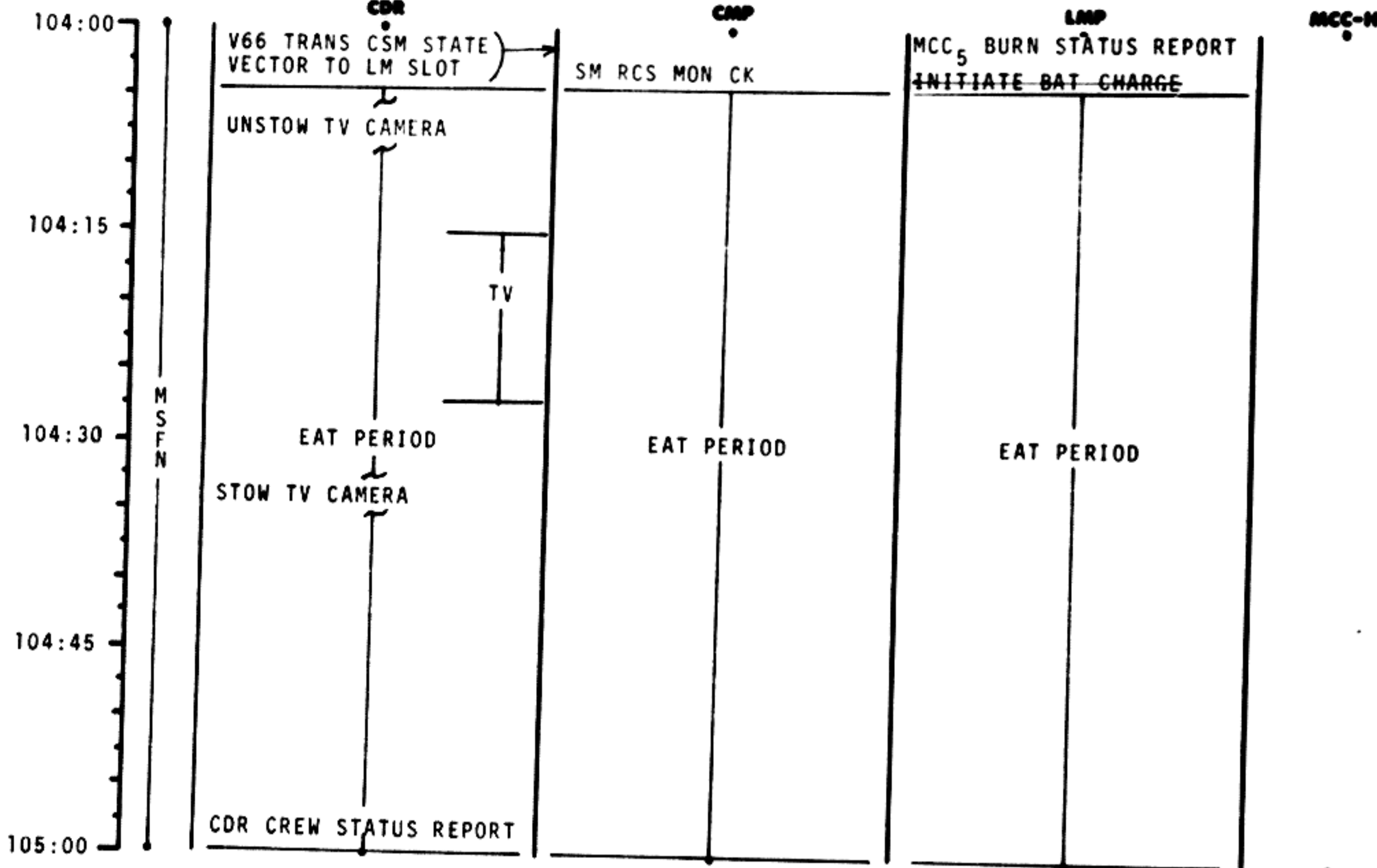
X X  : ΔTIG  
 X X : BT  
 : V<sub>gx</sub>  
 -----  
 X X X TRIM R  
 X X X P  
 X X X Y  
 V<sub>gx</sub>  
 V<sub>gy</sub>  
 V<sub>gz</sub>  
 ΔV<sub>c</sub>  
 X X X FUEL  
 X X X OX  
 X X X UNBALANCE

2-82a

REMARKS:

FLIGHT PLAN



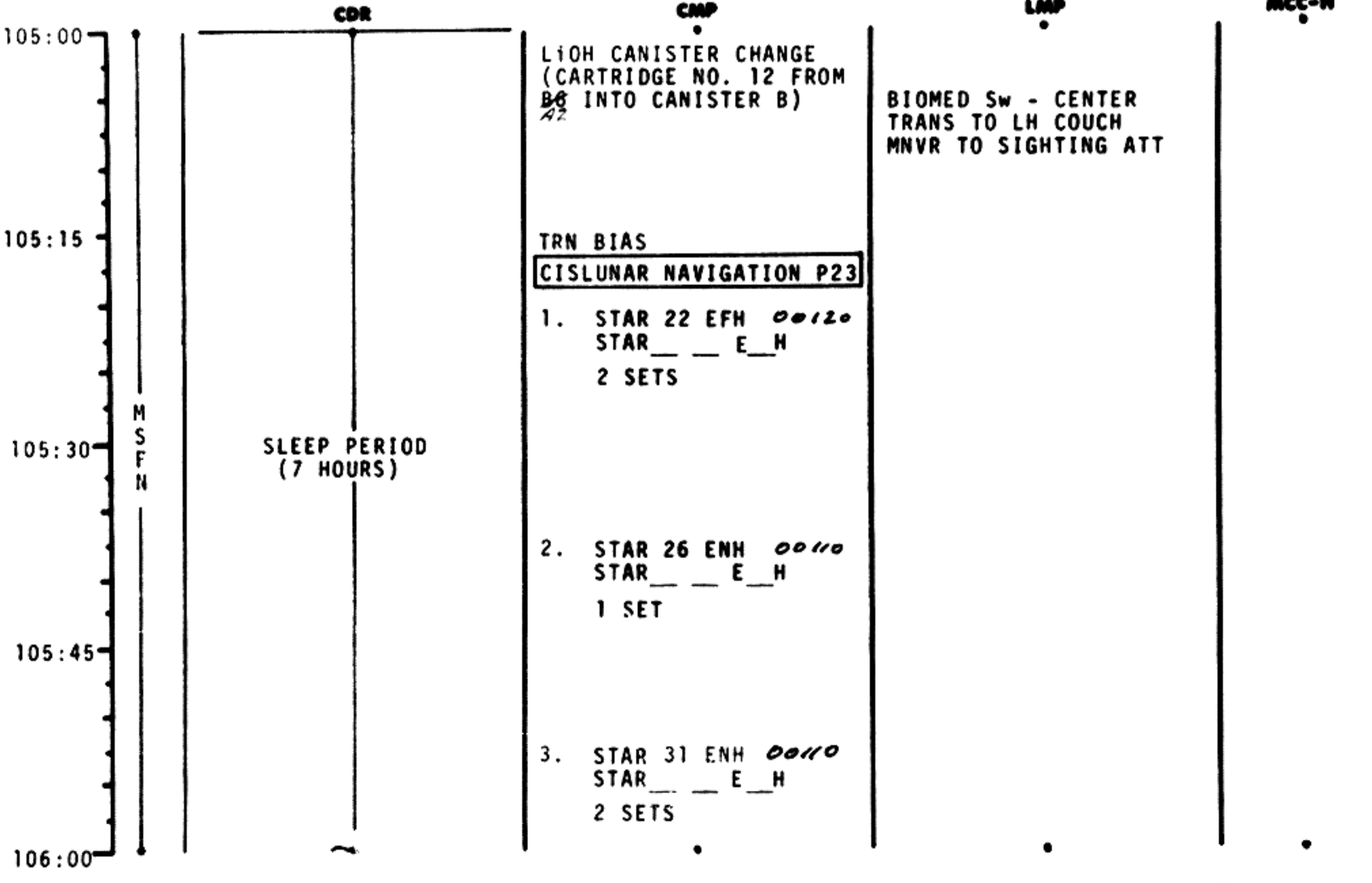


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	104:00 - 105:00	5/TEC	2-84

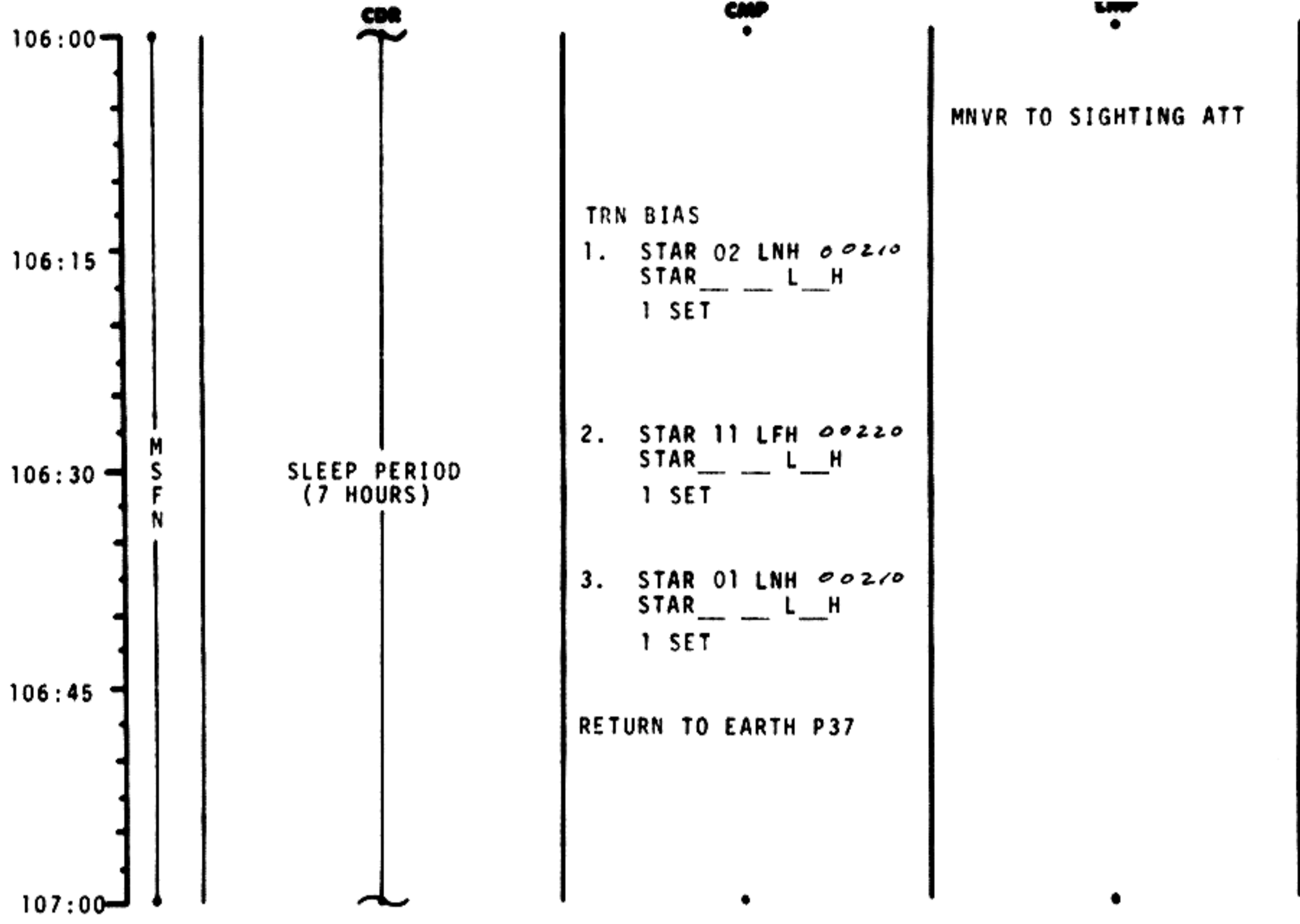
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE

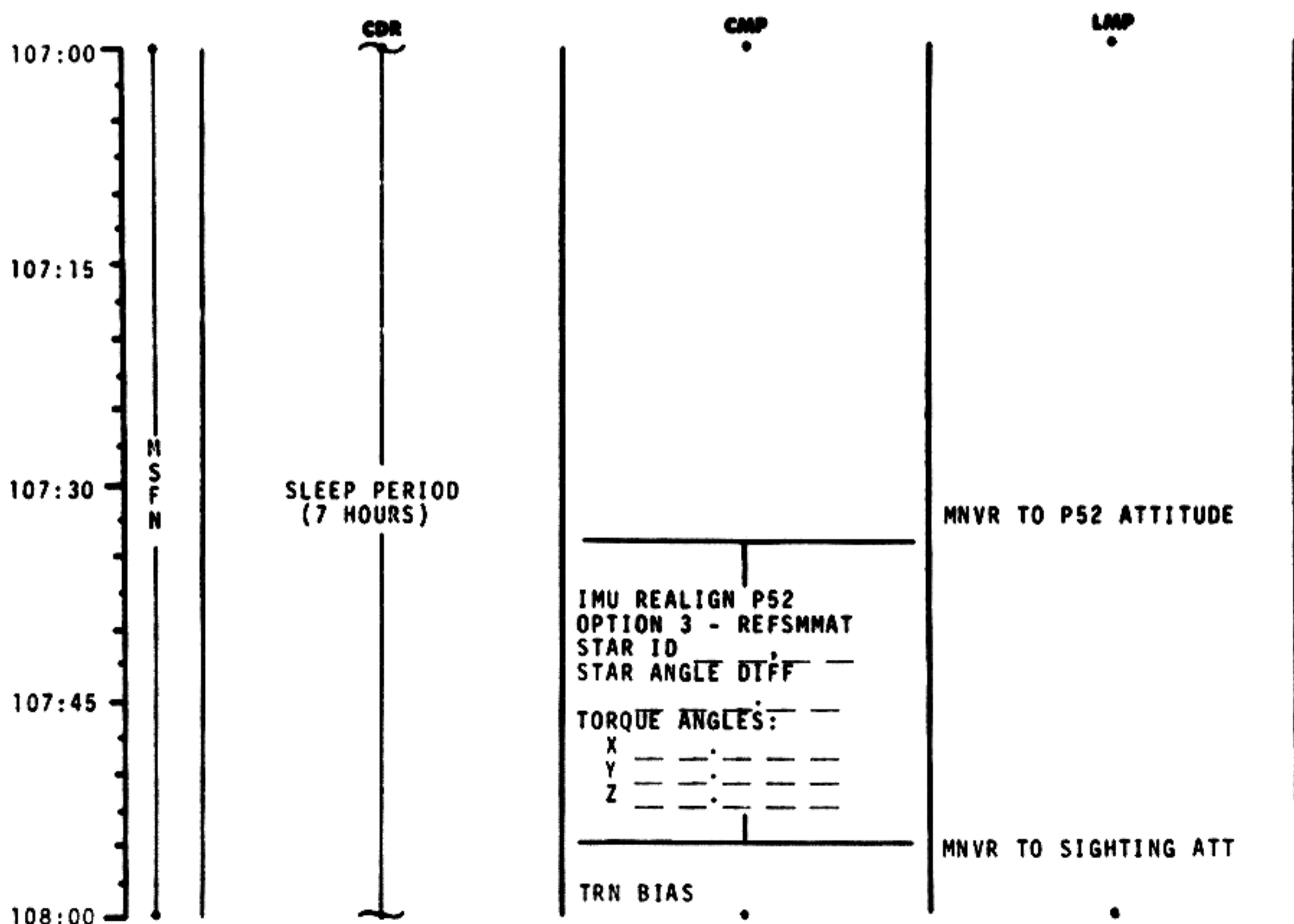


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	106:00 - 107:00	5/TEC	2-86

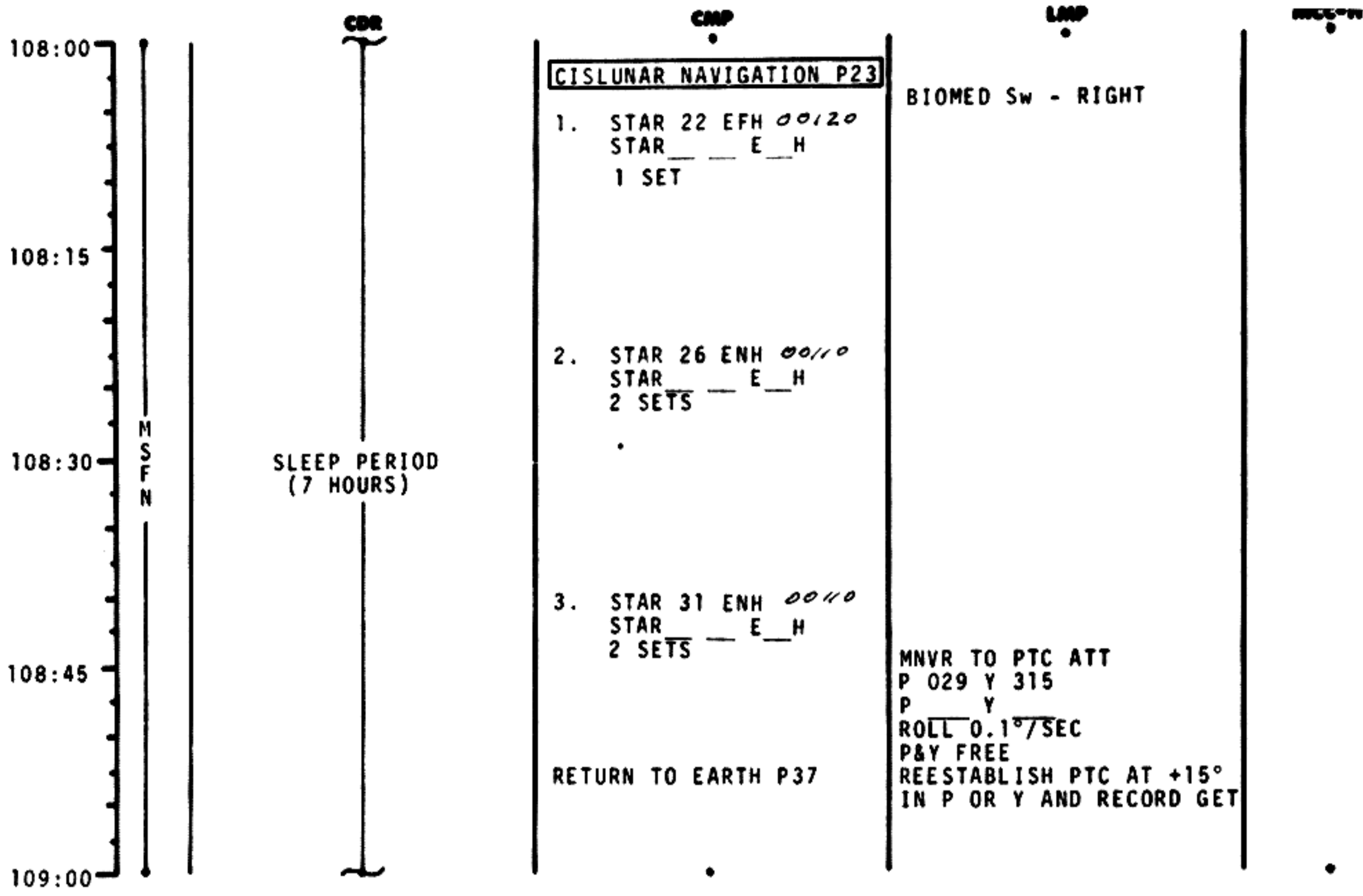
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	107:00 - 108:00	5/TEC	2-87

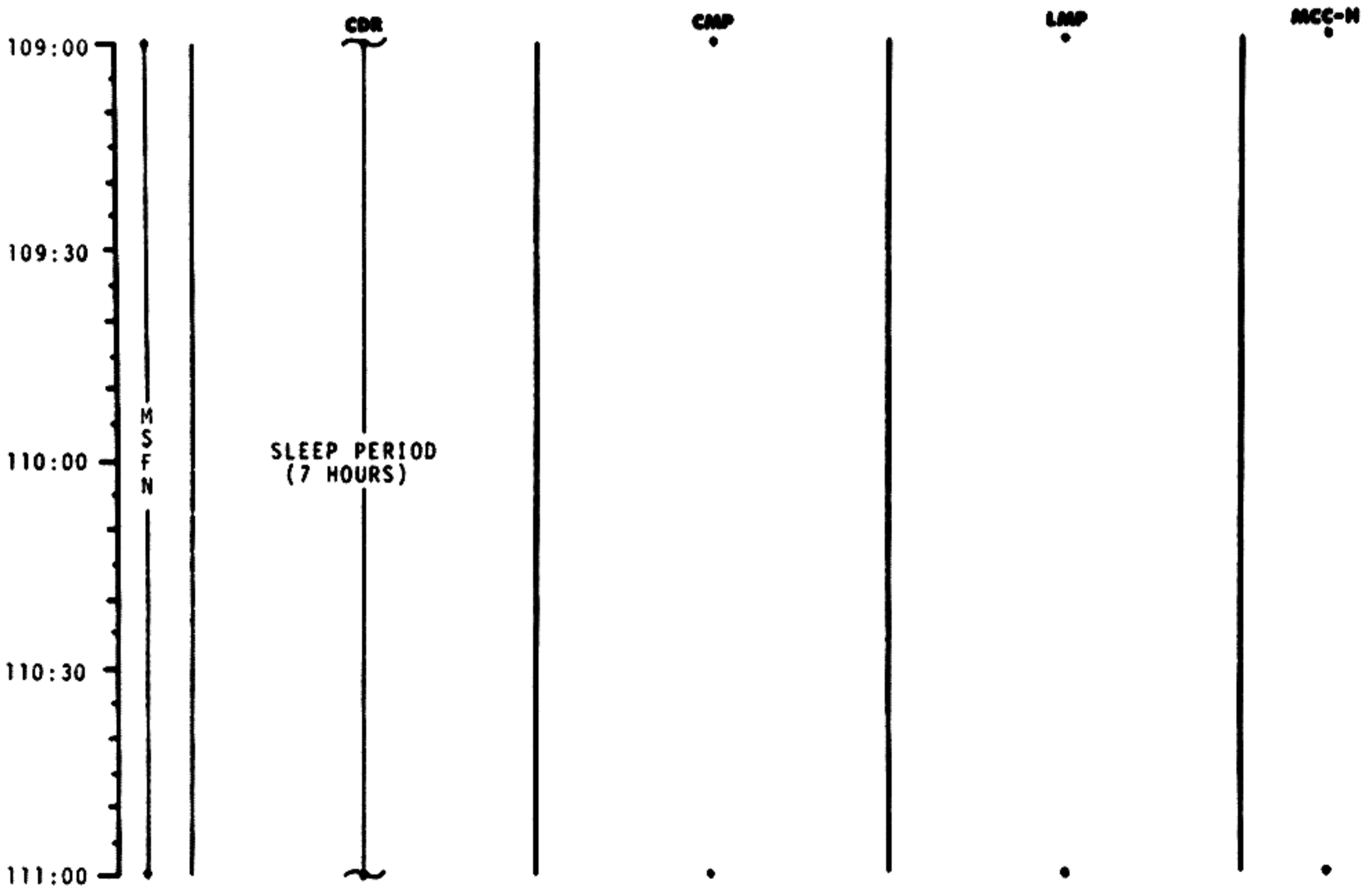


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	108:00 - 109:00	5/TEC	2-88

MSC Form 1910 (Nov 68)

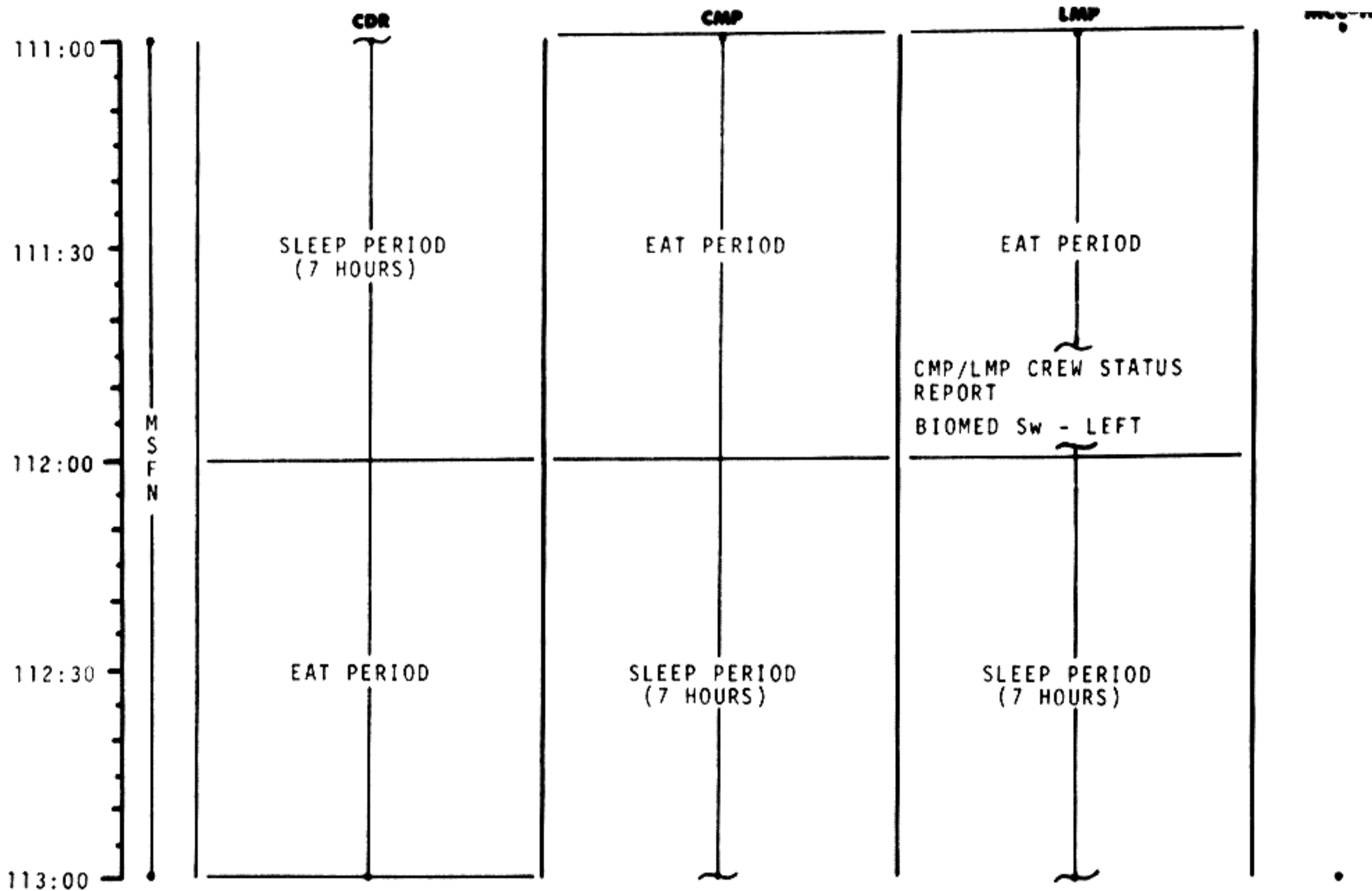
FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22 1968	109:00 - 111:00	5/TEC	2-89



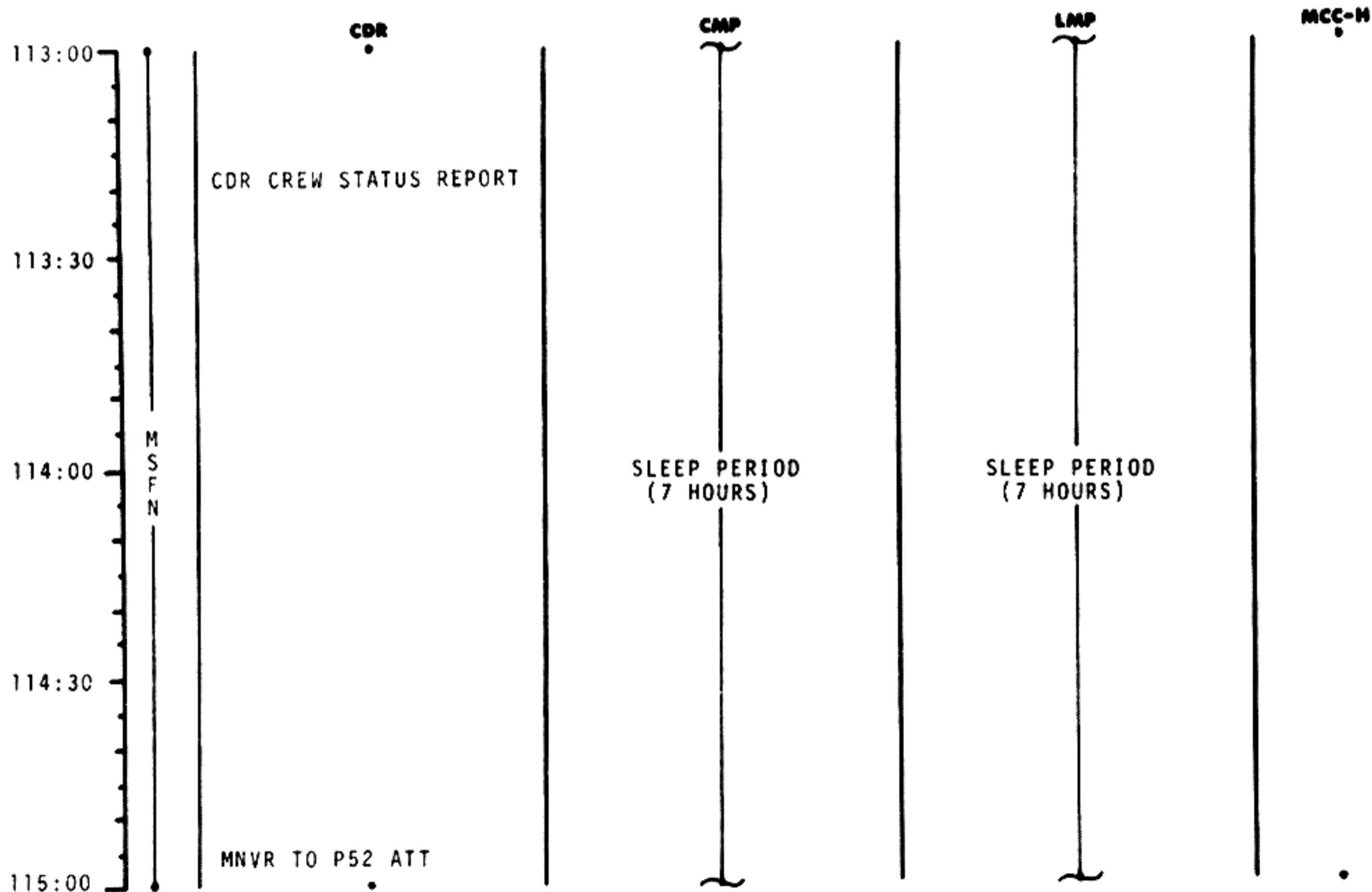


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	111:00 - 113:00	5/TEC	2-90

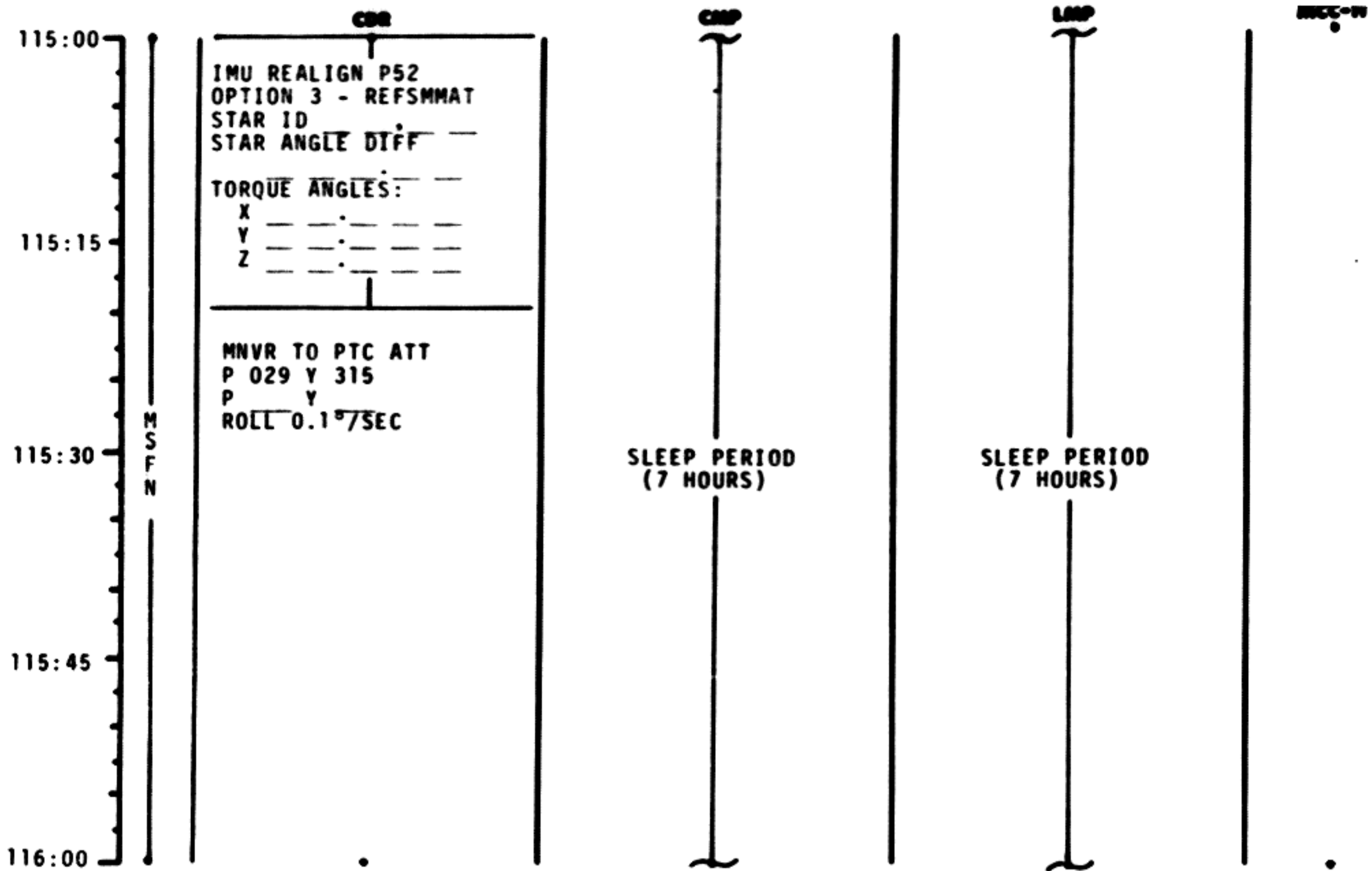
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			113:00 - 115:00	5/TEC	2-91

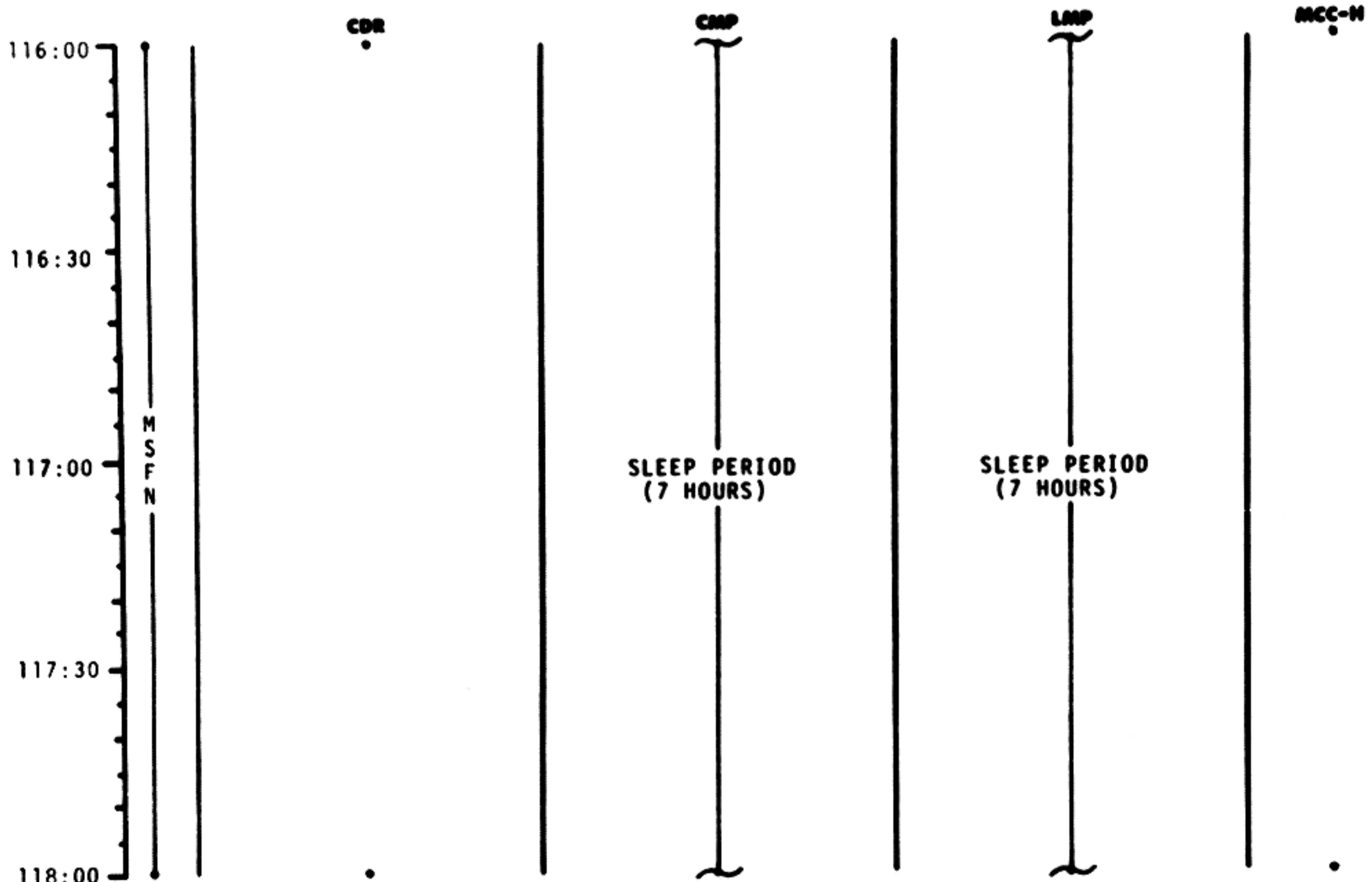


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	115:00 - 116:00	5/TEC	2-92

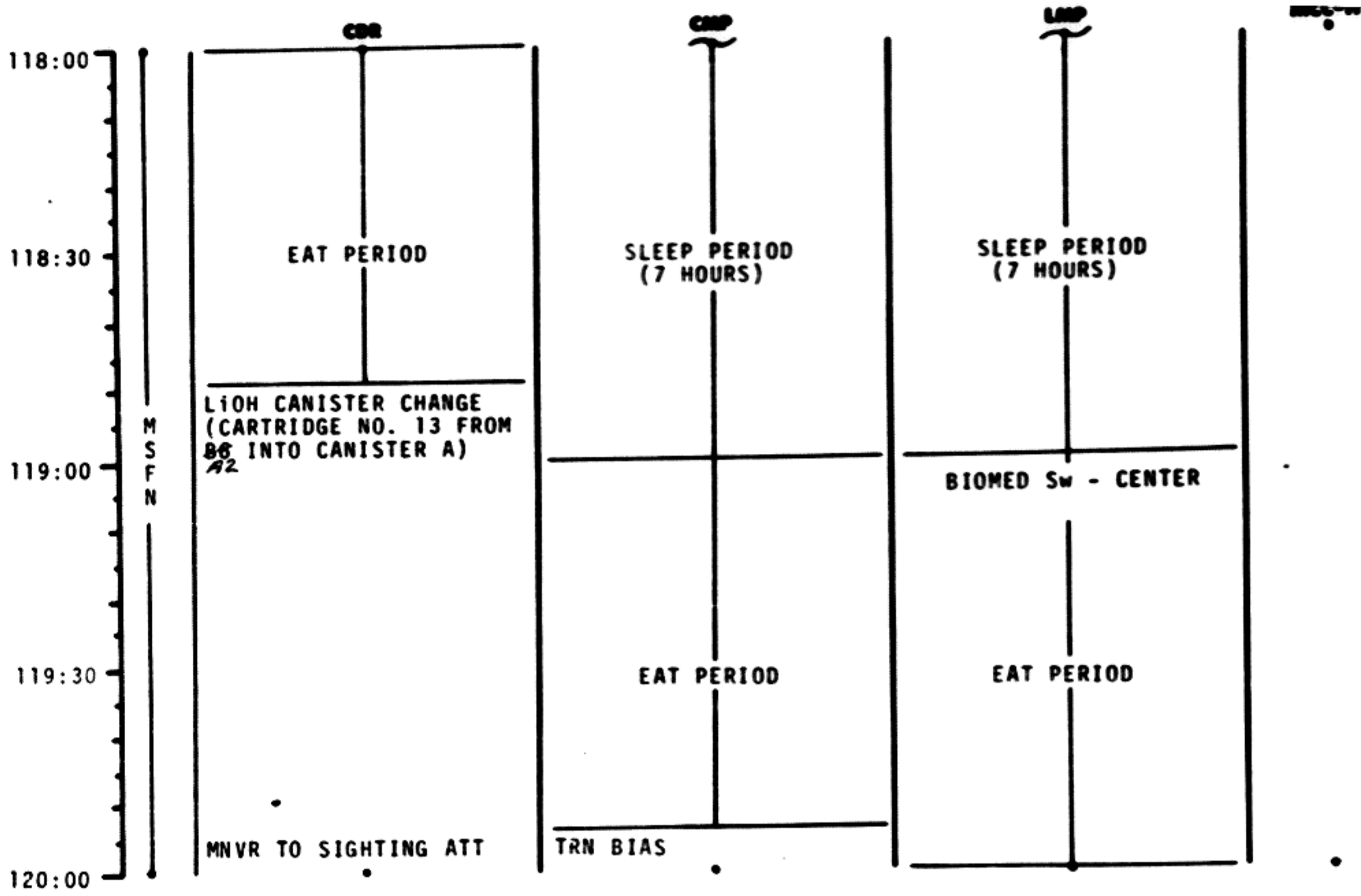
NSC Form 1010 (Nov 68)

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

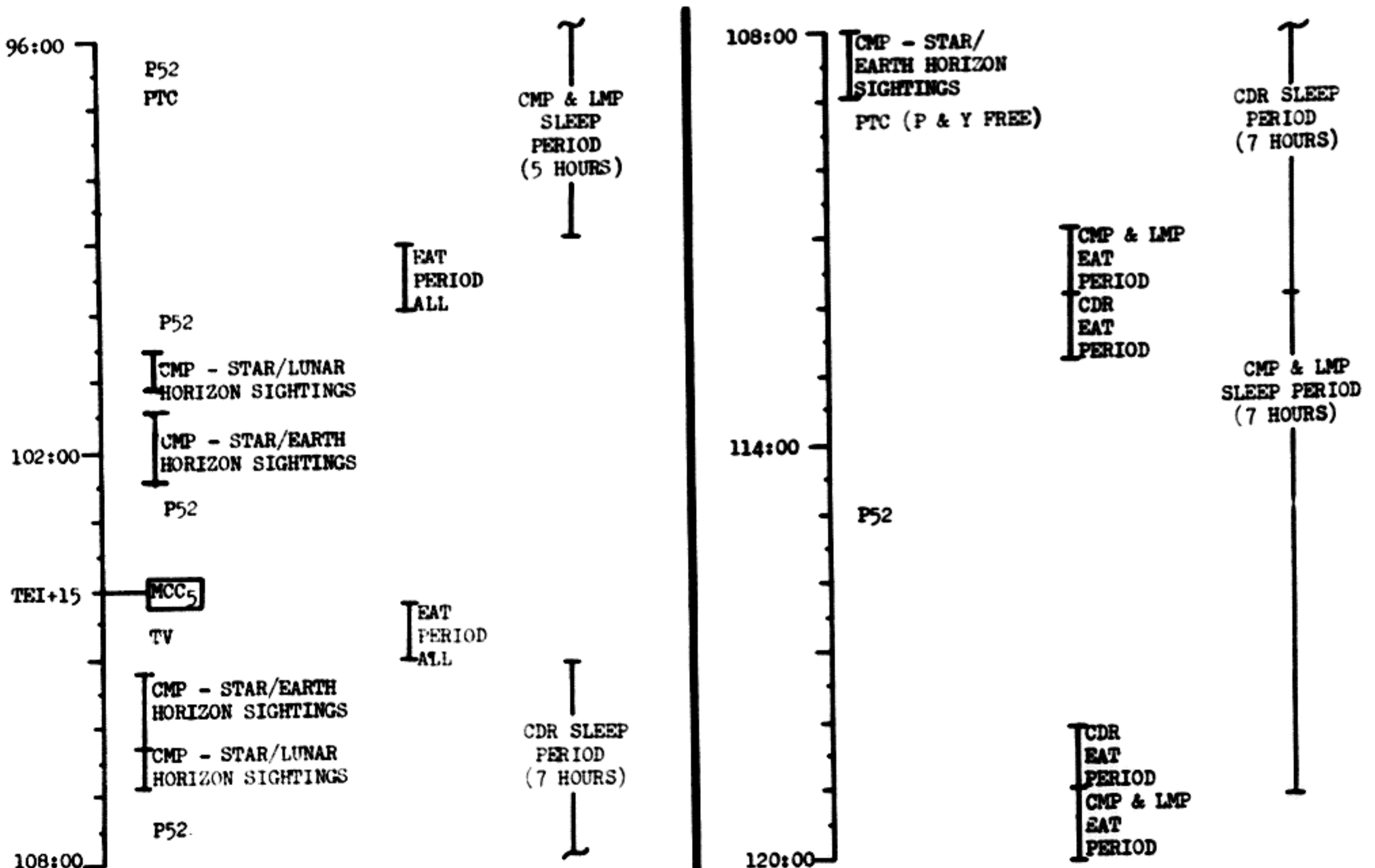


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	118:00 - 120:00	5/TEC	2-94

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 00110  
STAR \_\_\_ E \_\_\_ H  
1 SET
  
  3. STAR 31 ENH 00110  
STAR \_\_\_ E \_\_\_ H  
1 SET
- RETURN TO EARTH  
P37  
CHLORINATE WATER

CMP/LMP CREW STATUS  
REPORT

RECORD MNVR PAD  
INITIATE GATB CHARGE  
(FOLLOWED BY GAT A)

P27 UPDATE:  
STATE  
VECTOR  
TGT LOAD  
VOICE  
UPDATE:  
MNVR PAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
10000102	ETNAI	November 22, 1968	120:00 - 121:00	6/TEC	2-95

BURN STATUS REPORT

X X  : ΔTIG  
 X X : BT  
 : V<sub>gx</sub>

TRIM  
 X X X R  
 X X X P  
 X X X Y  
 V<sub>gx</sub>  
 V<sub>gy</sub>  
 V<sub>gz</sub>  
 ΔV<sub>c</sub>

X X X FUEL  
 X X X OX  
 X X X UNBALANCE

REMARKS:

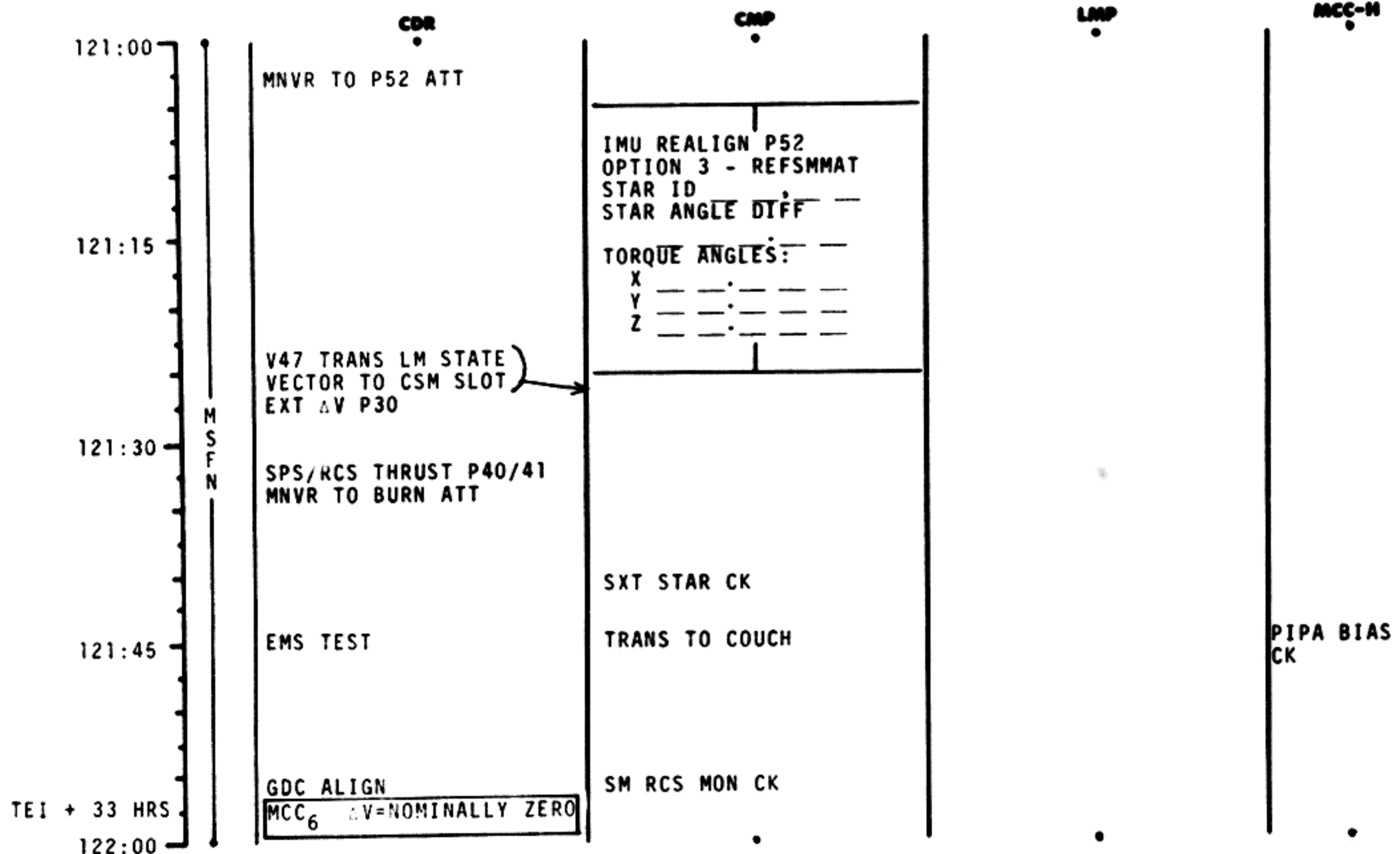
MCC'S

BURN CHART

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

2-96A

FLIGHT PLAN



122:00	CDR V66 TRANS CSM STATE VECTOR TO LM SLOT	CMP SM RCS MON CK	LMP MCC <sub>6</sub> BURN STATUS REPORT <del>INITIATE BAT CHARGE</del>
122:15			RIOMED Sw - RIGHT
122:30	M S F N MNVR TO SIGHTING ATT	TRN BIAS	
122:45		CISLUNAR NAVIGATION P23	
		1. STAR 02 LNH 00210 STAR ___ L ___ H 2 SETS	
123:00		2. STAR 01 LNH 00210 STAR ___ L ___ H 1 SET	

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

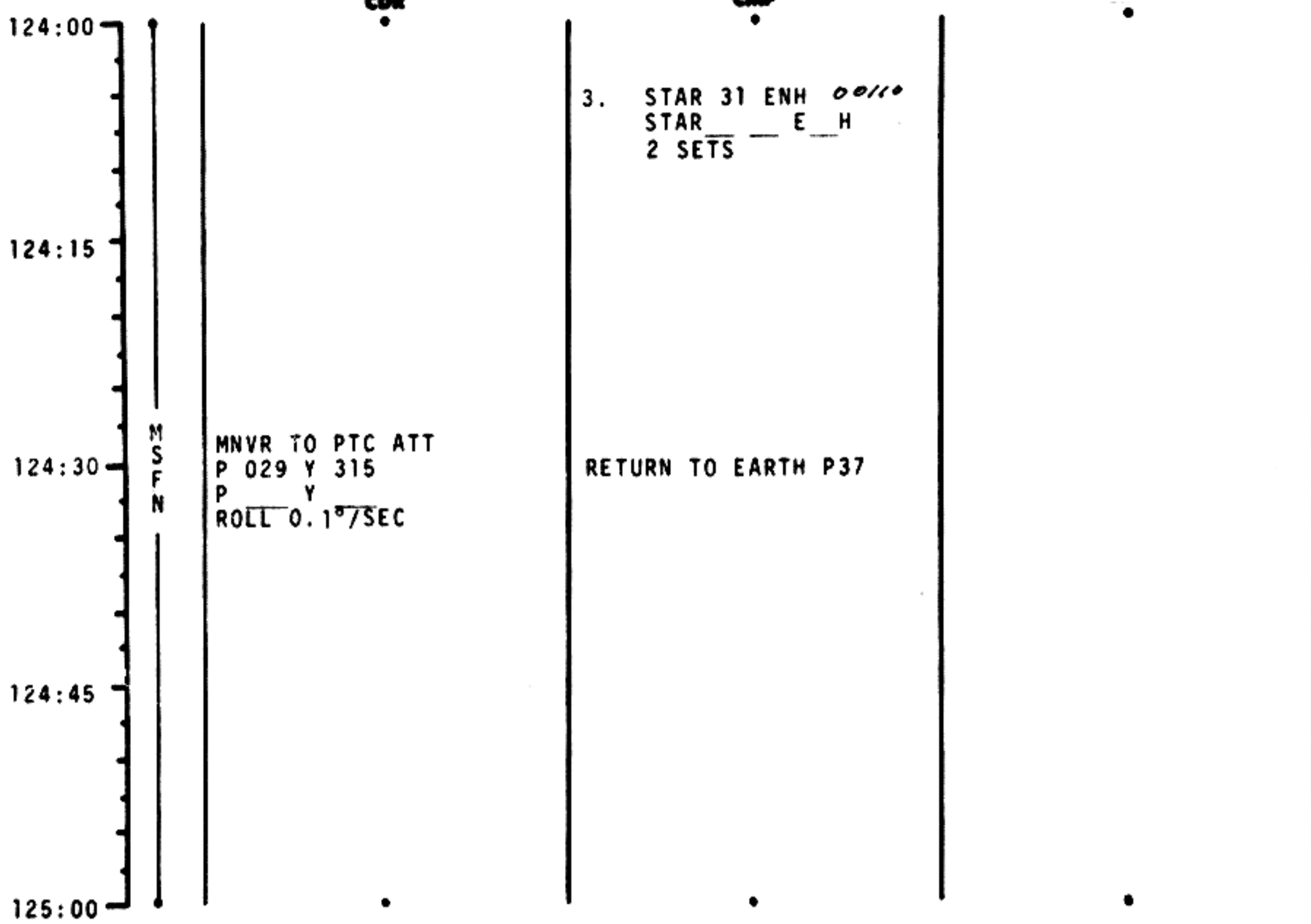
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN

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

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

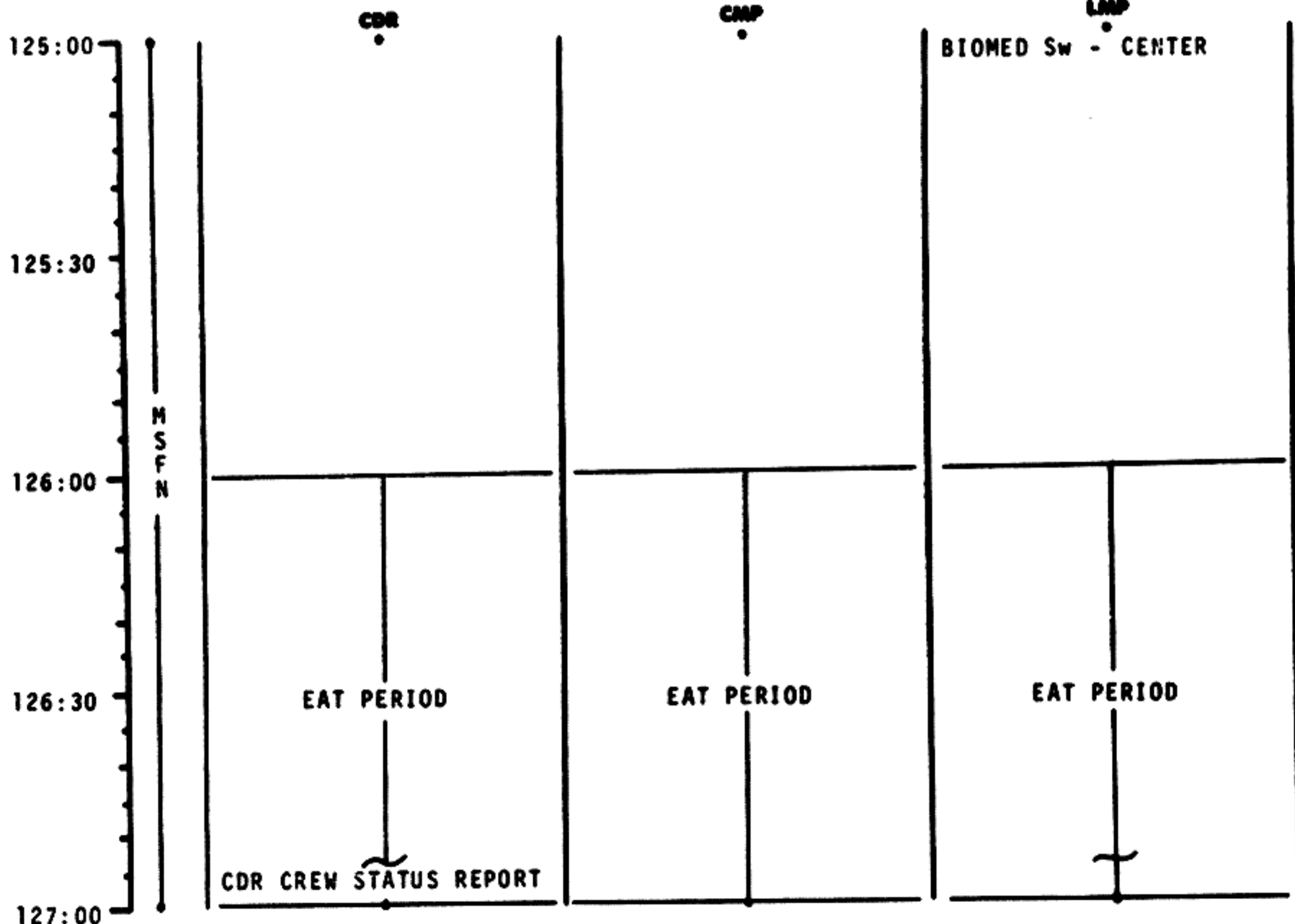


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	124:00 - 125:00	6/TEC	2-99

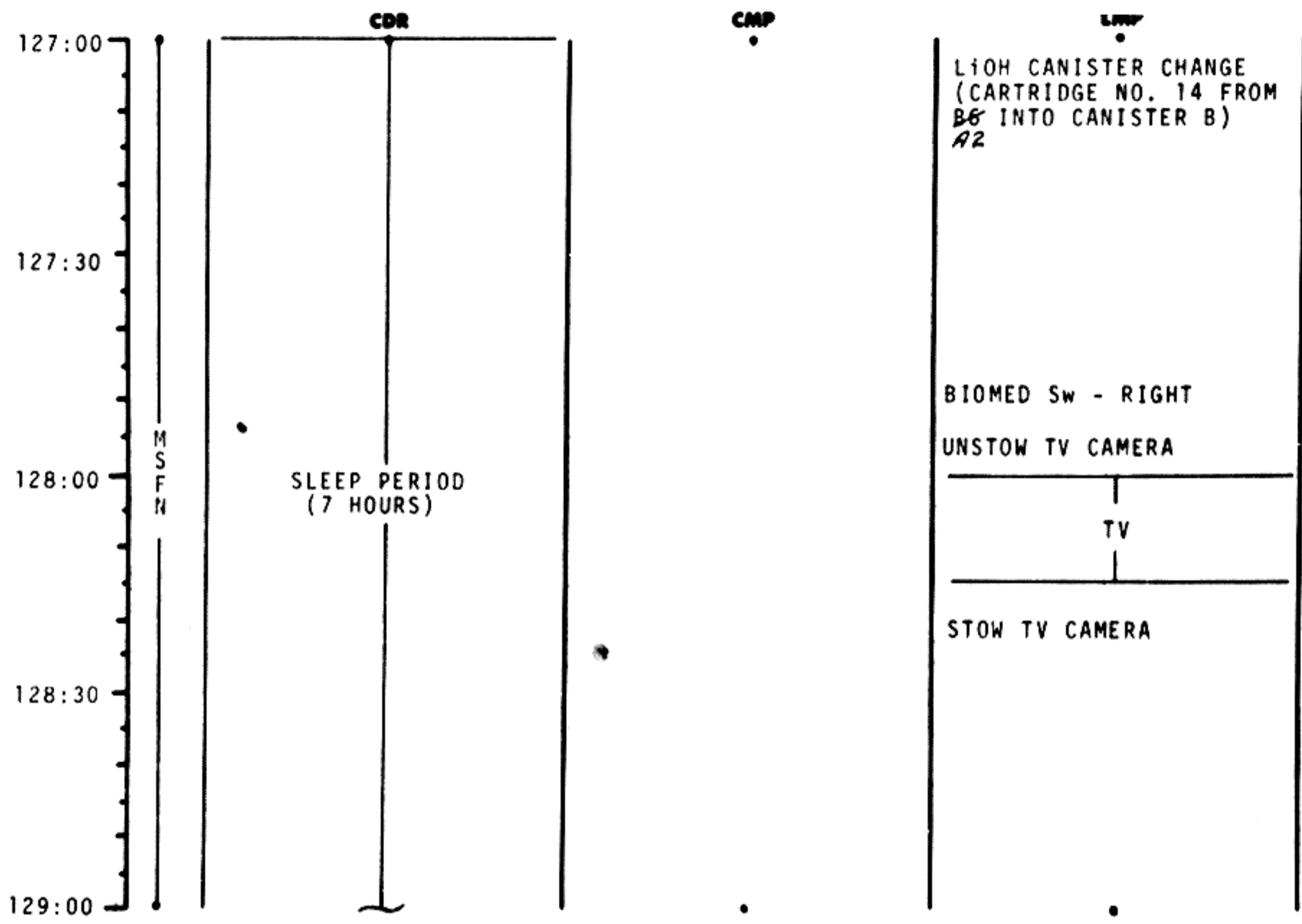
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	125:00 - 127:00	6/TEC	2-100

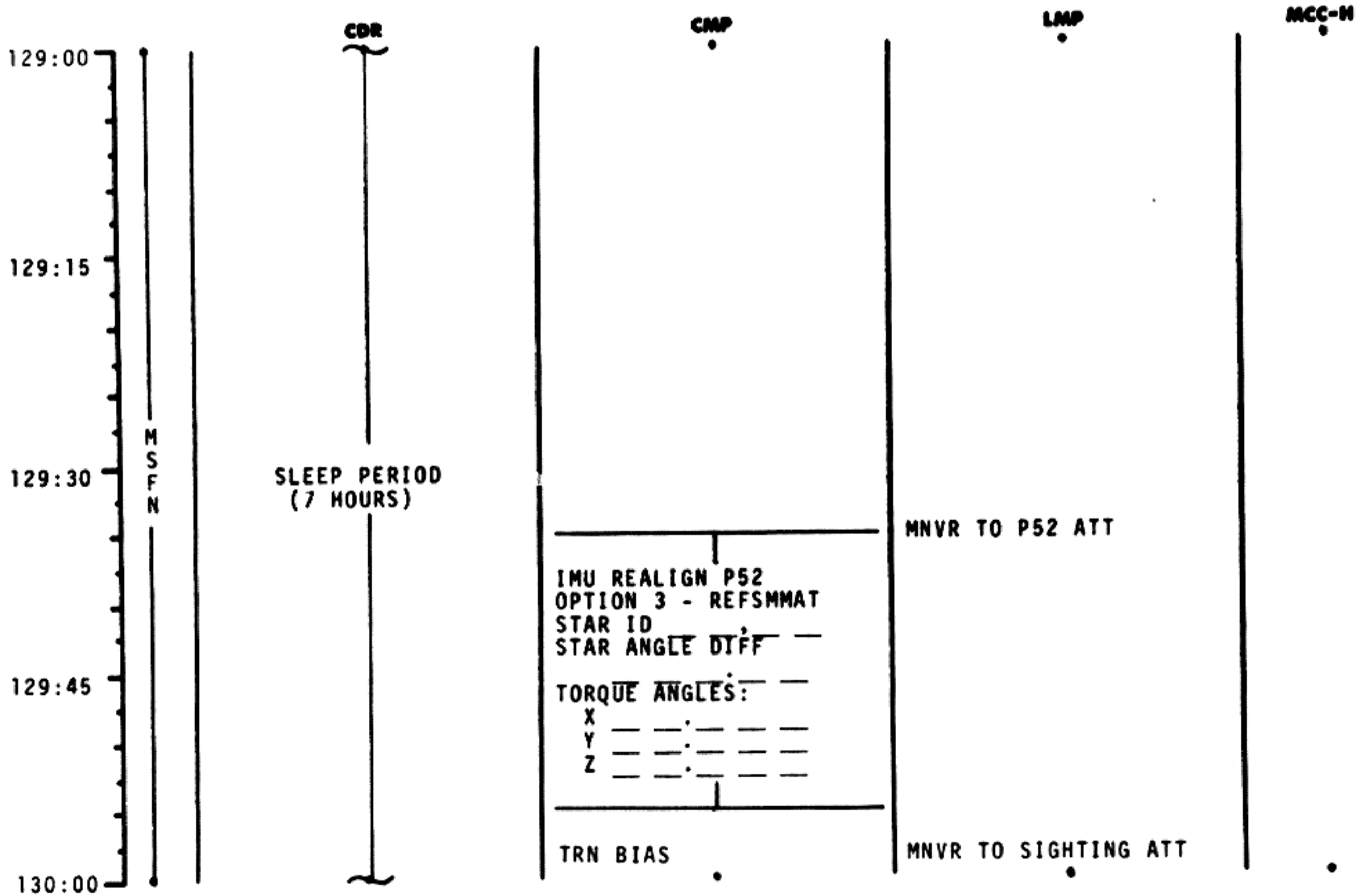


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	127:00 - 129:00	6/TEC	2-101

MSC Form 1910 (Nov 68)

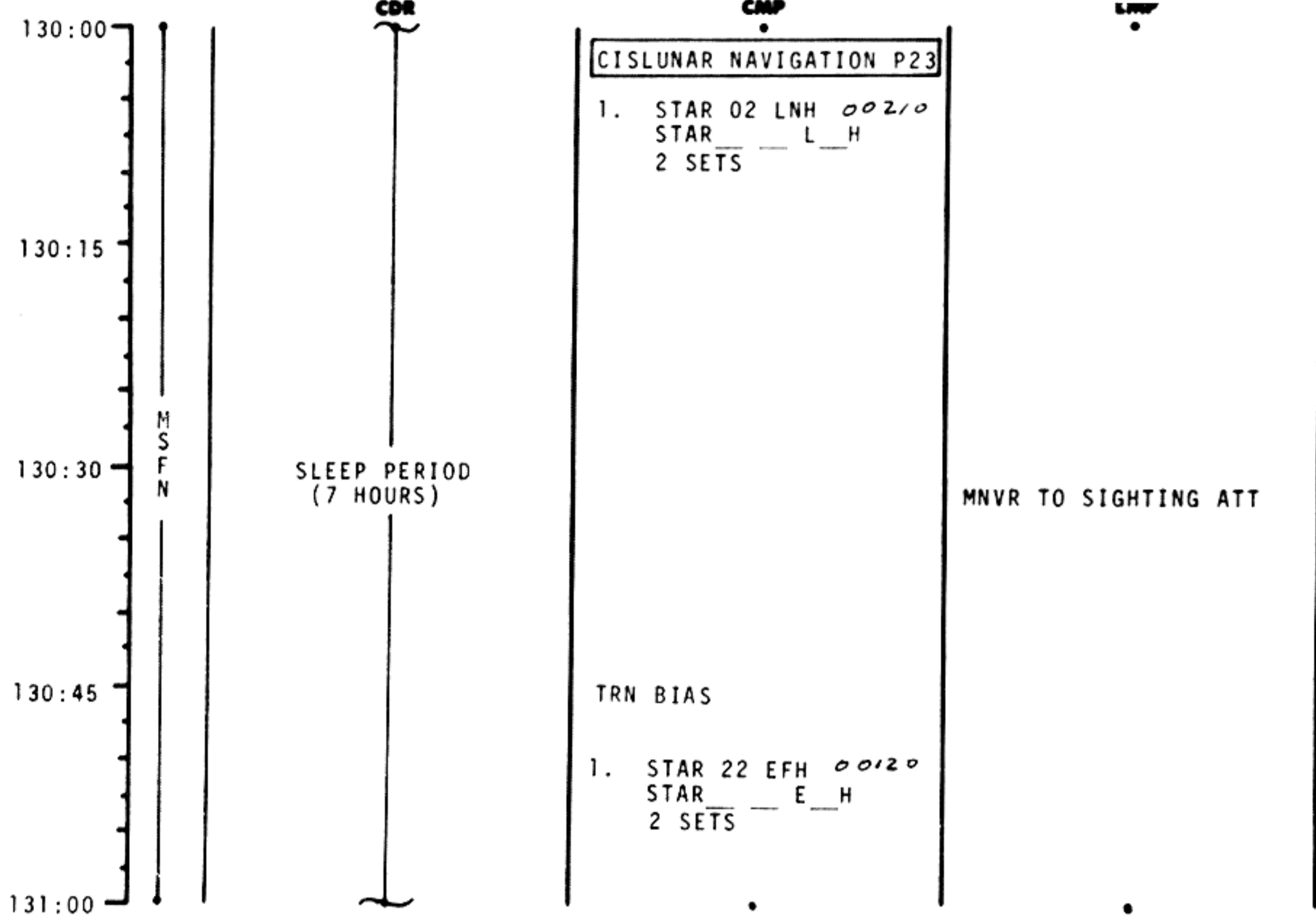
FLIGHT PLANNING BRANCH

### FLIGHT PLAN



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



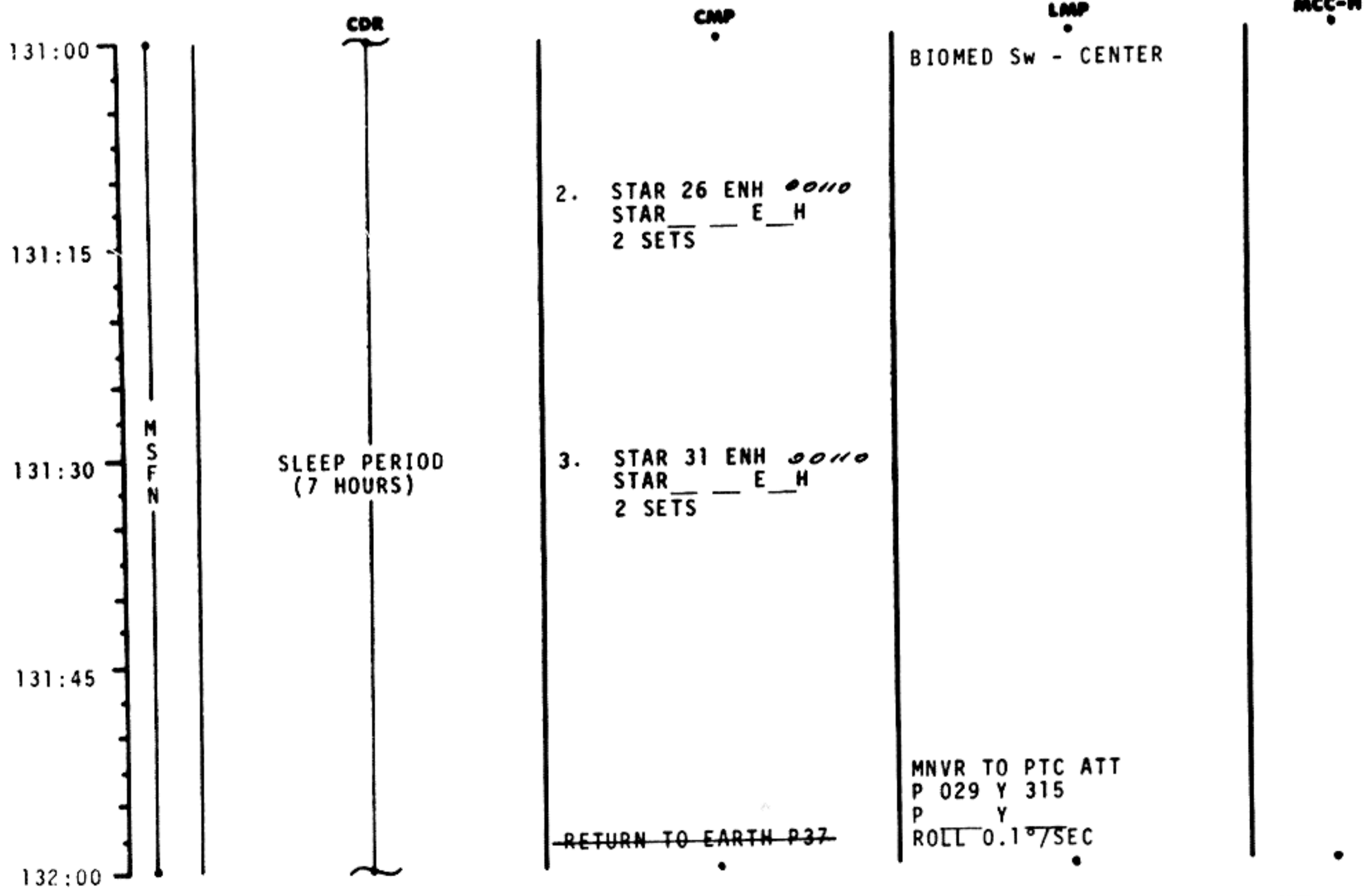


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	130:00 - 131:00	6/TEC	2-103

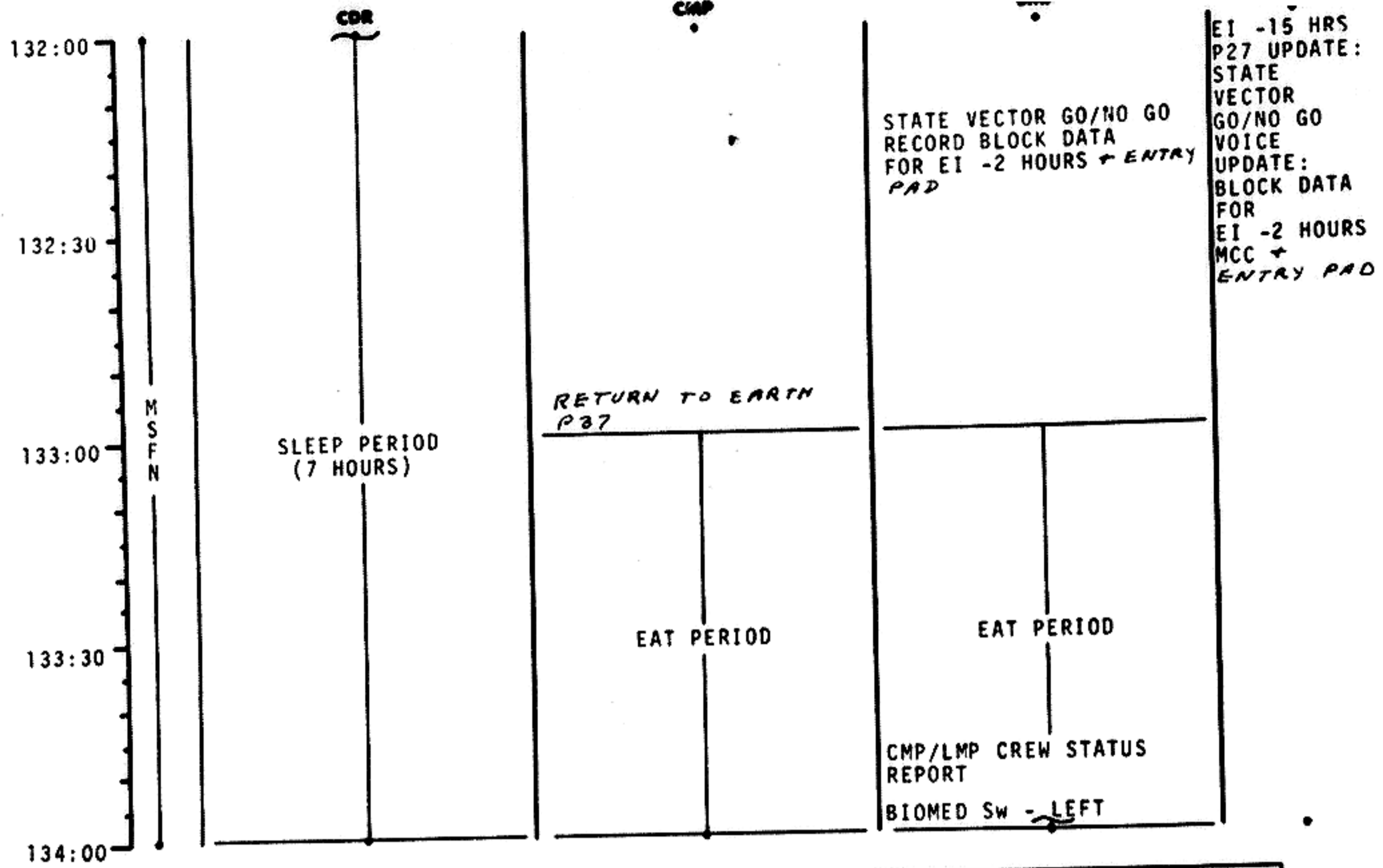
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

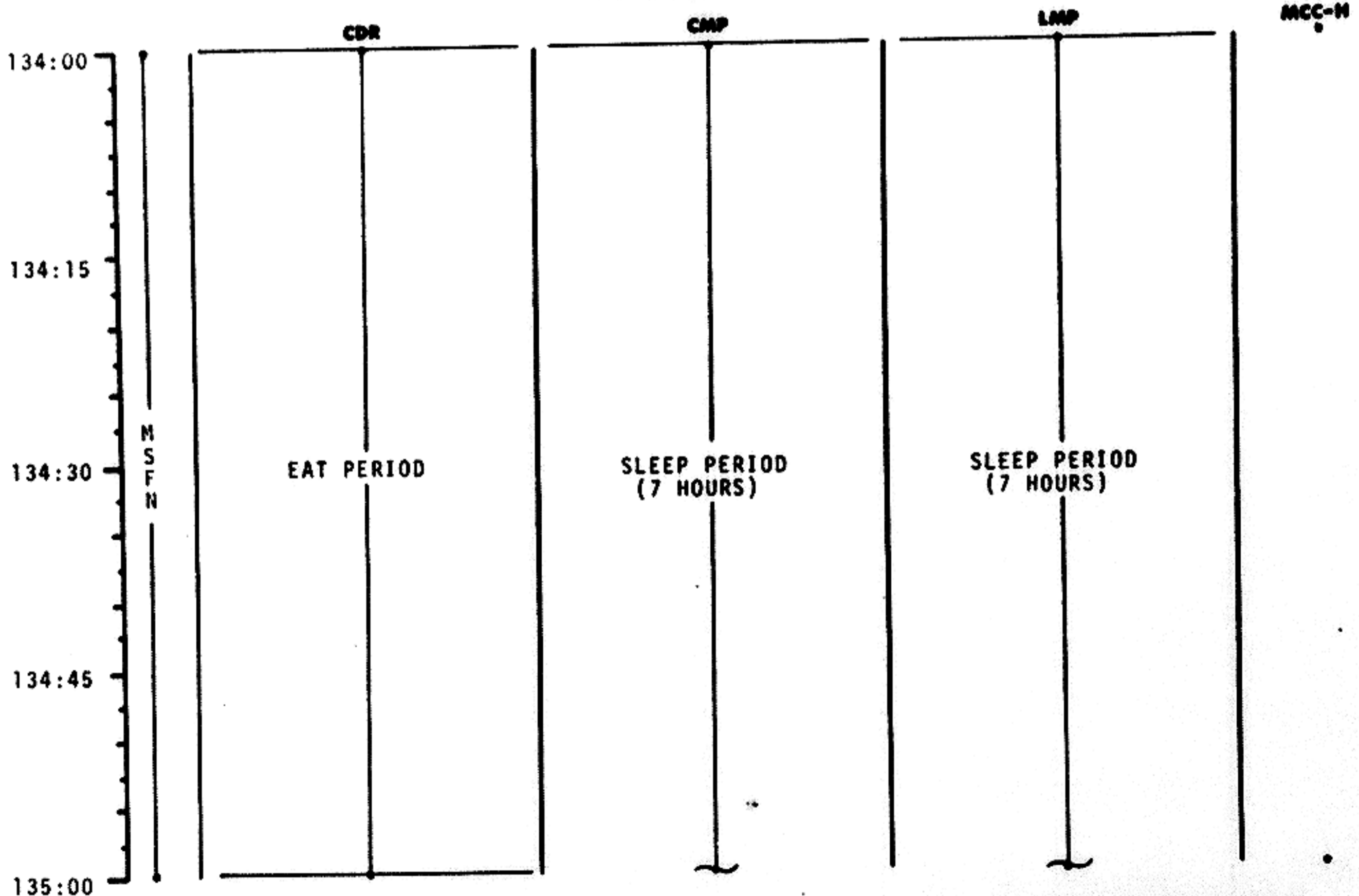
### FLIGHT PLAN

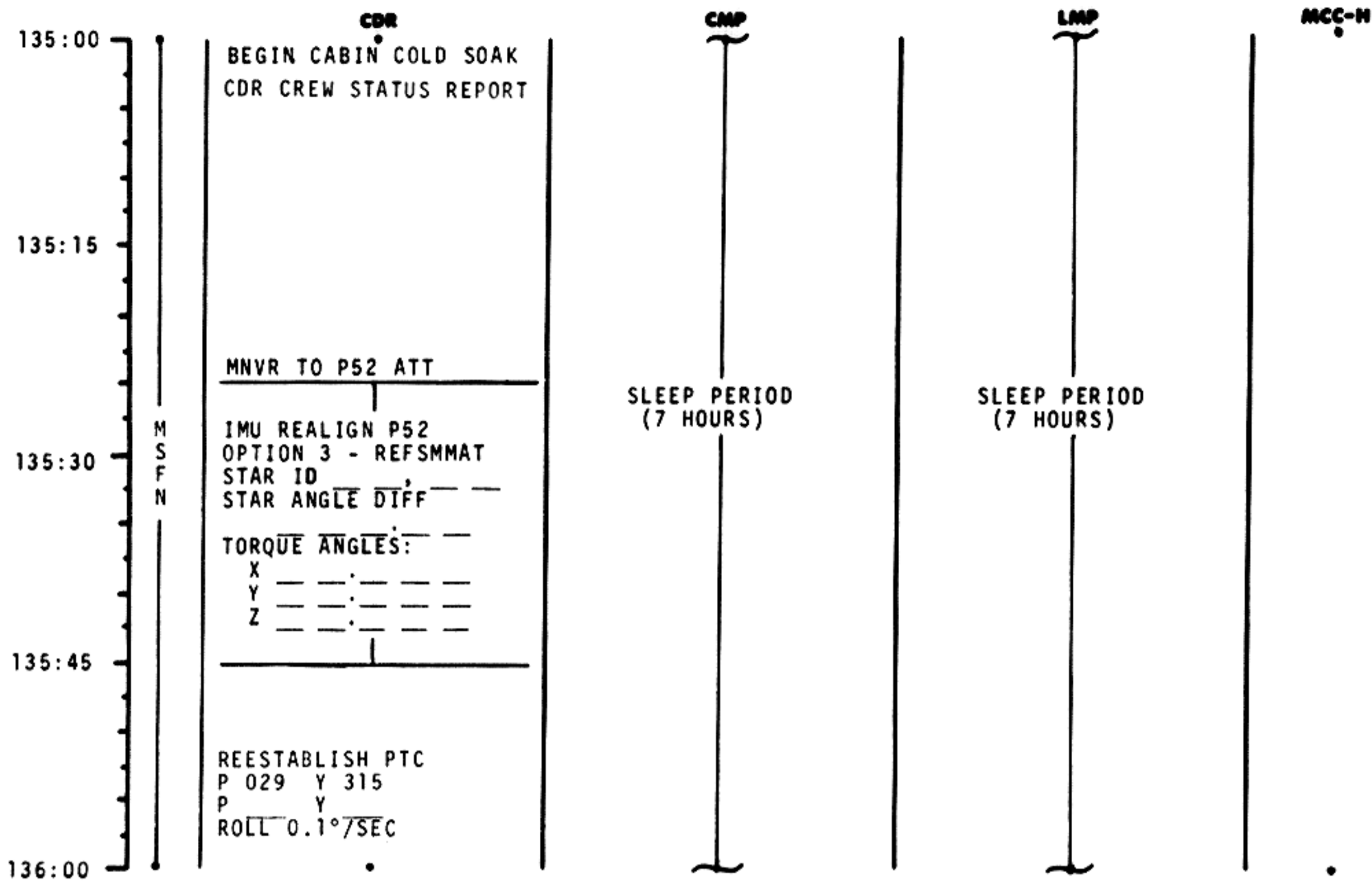


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
			131:00 - 132:00	6/TEC	2-104



### FLIGHT PLAN



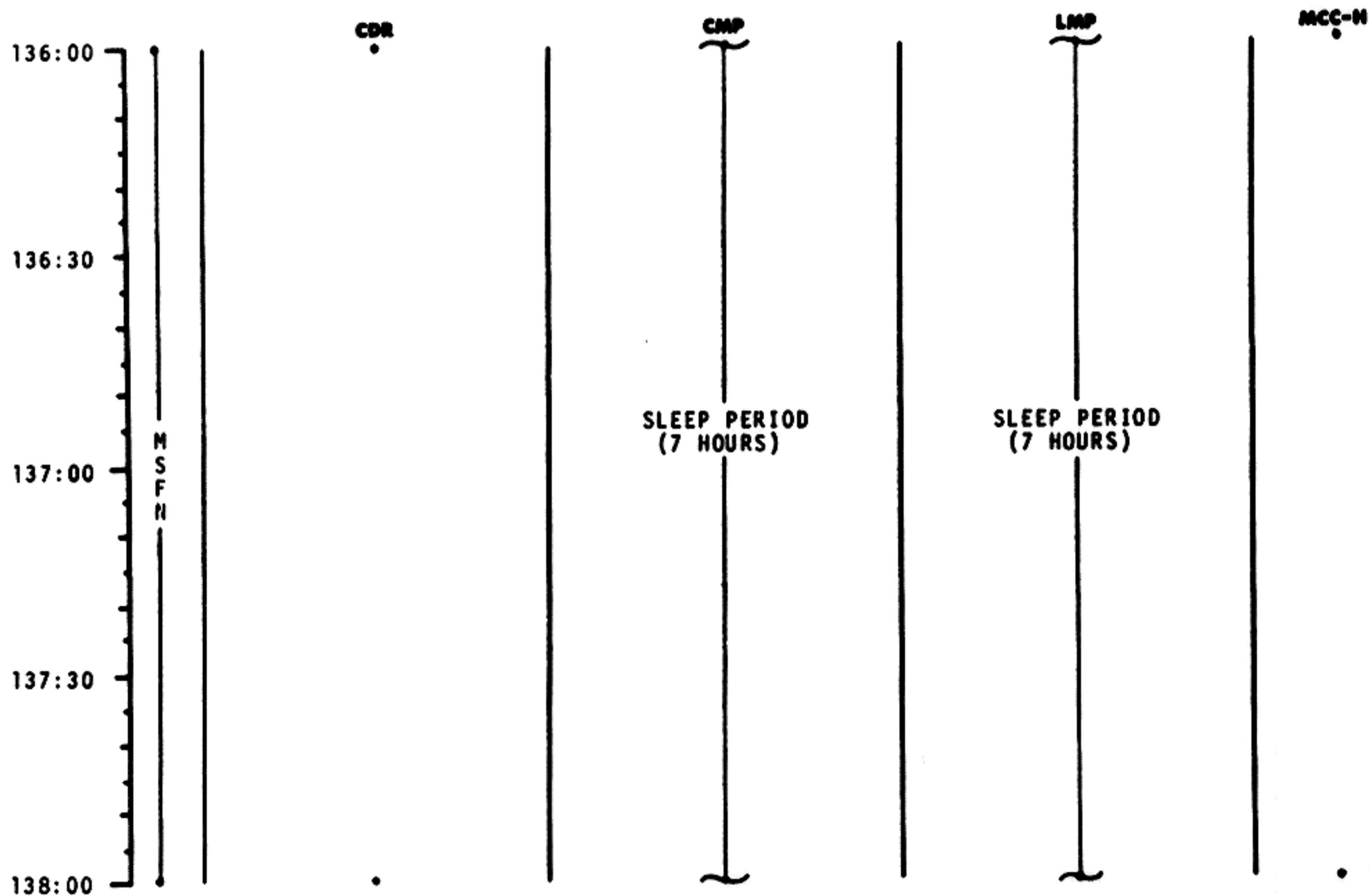


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	135:00 - 136:00	6/TEC	2-107

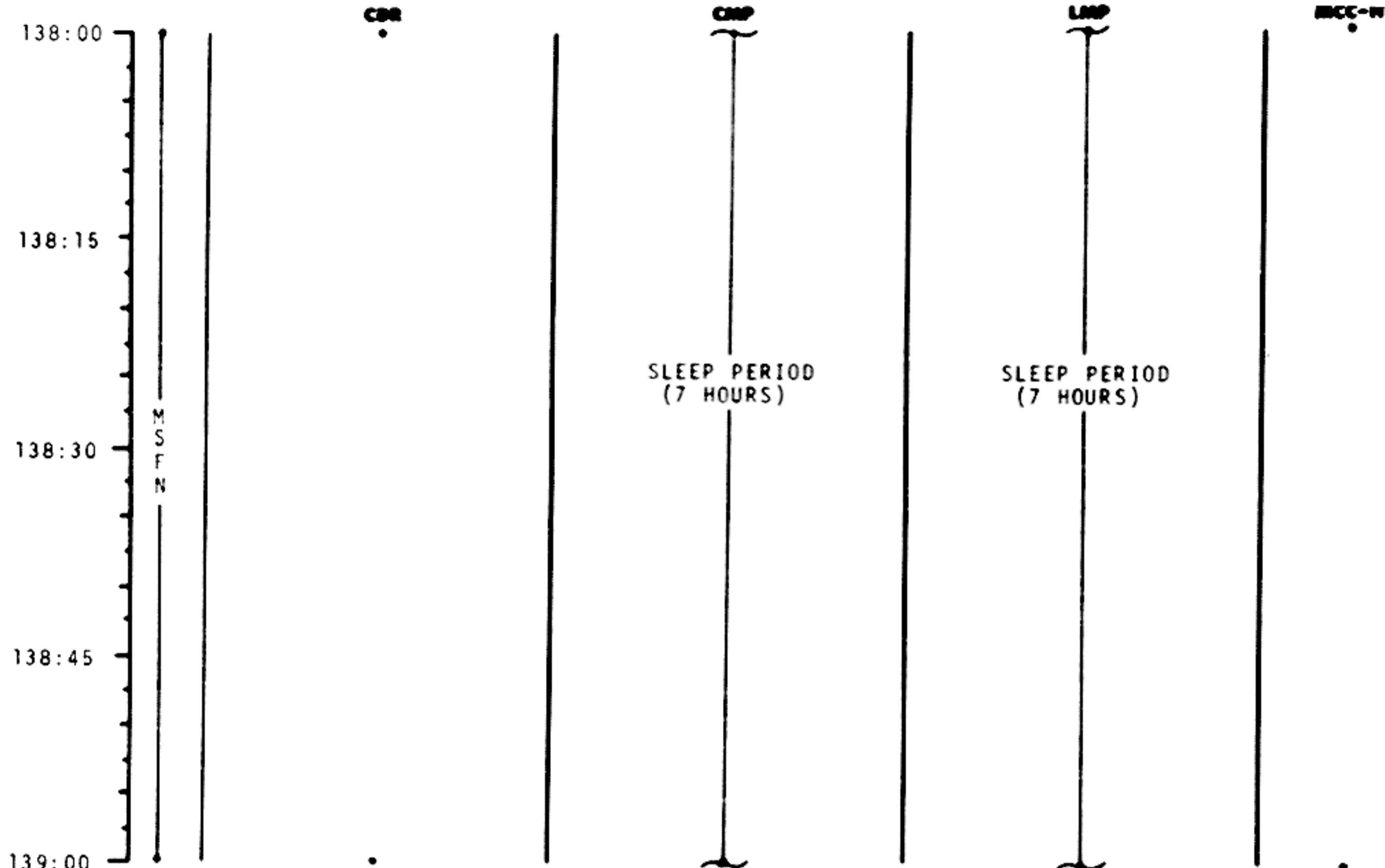
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	136:00 - 138:00	6/TEC	2-108

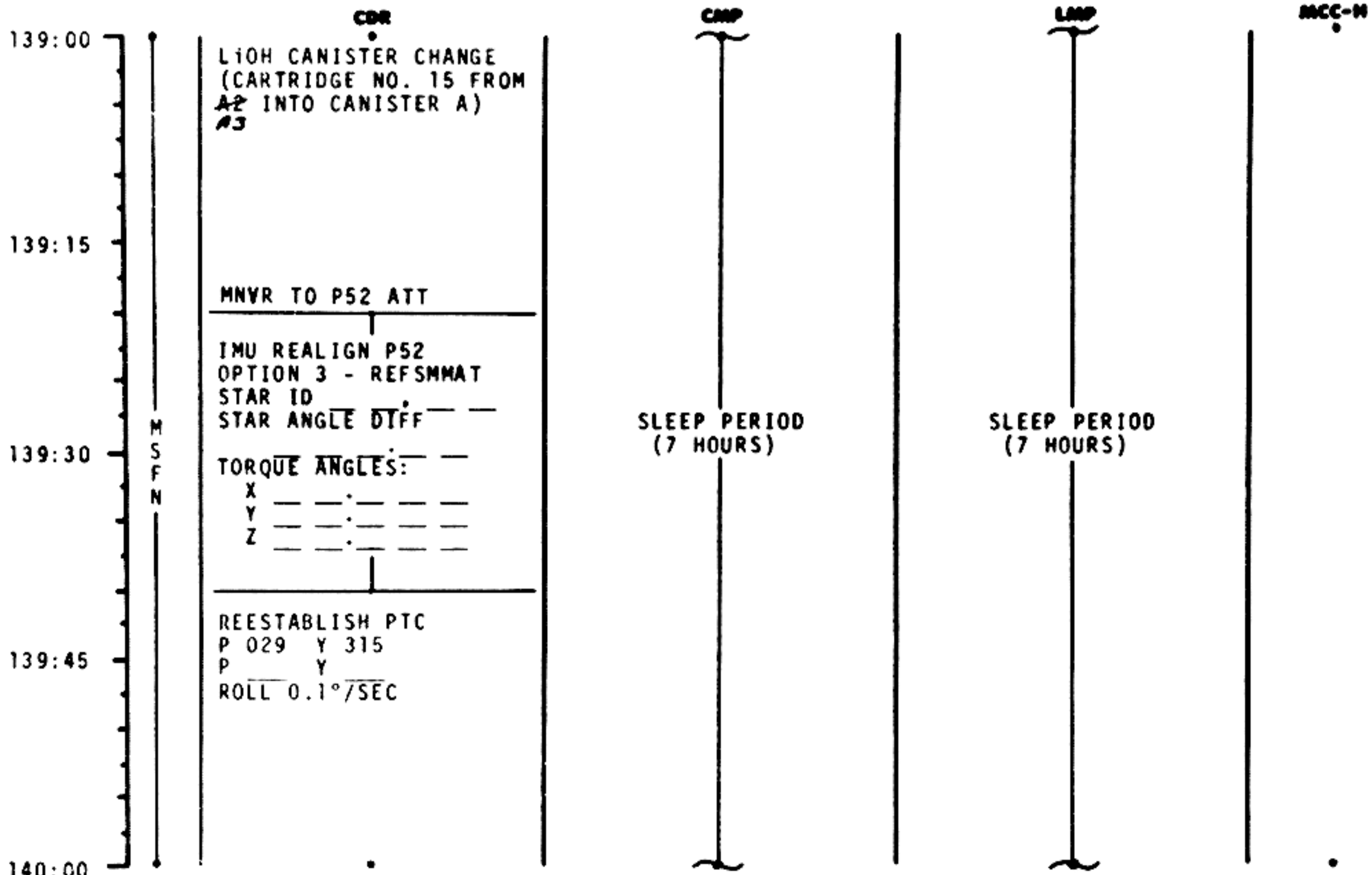


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	138:00 - 139:00	6/TEC	2-109

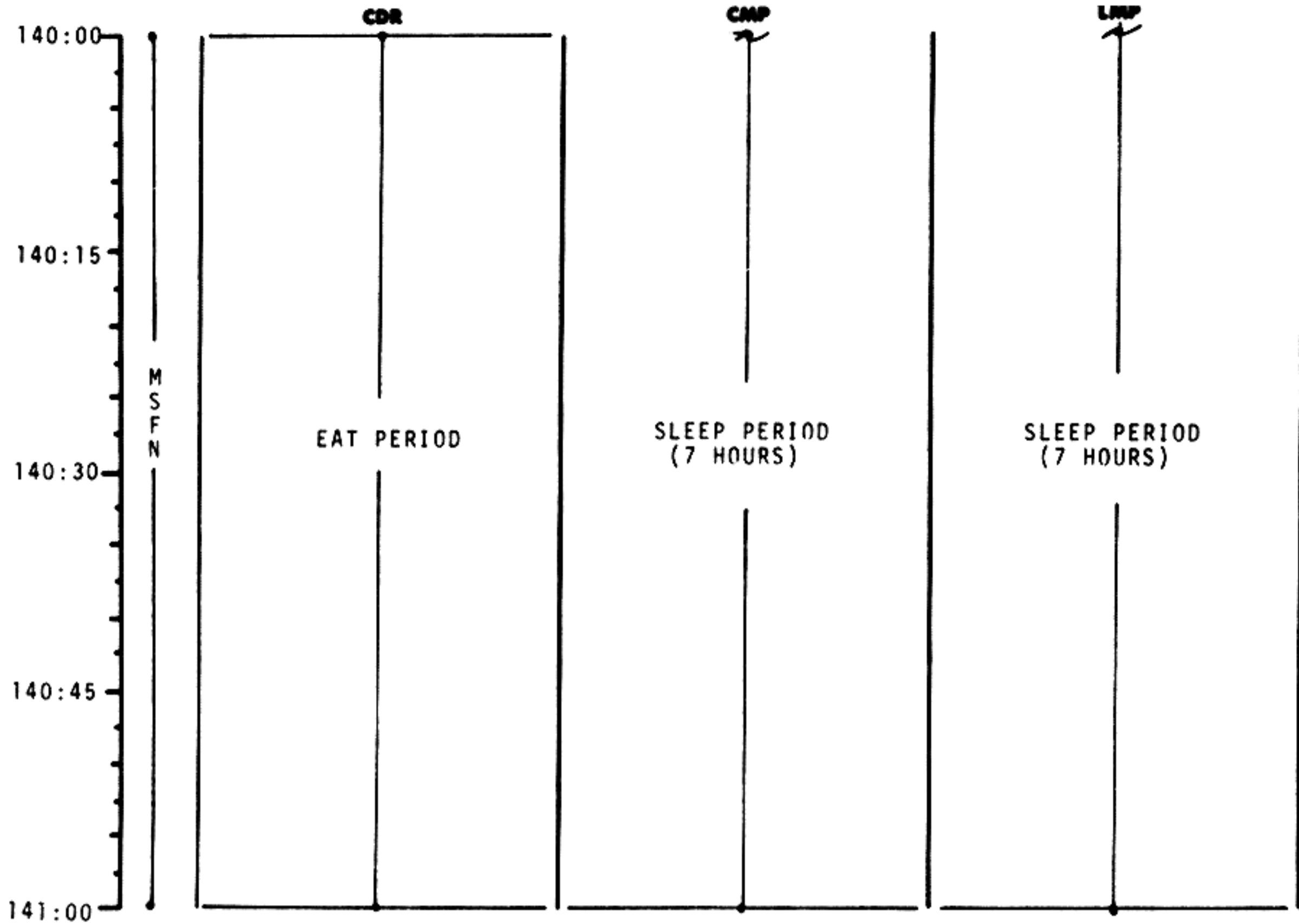
MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

### FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	139:00 - 140:00	6/TEC	2-110

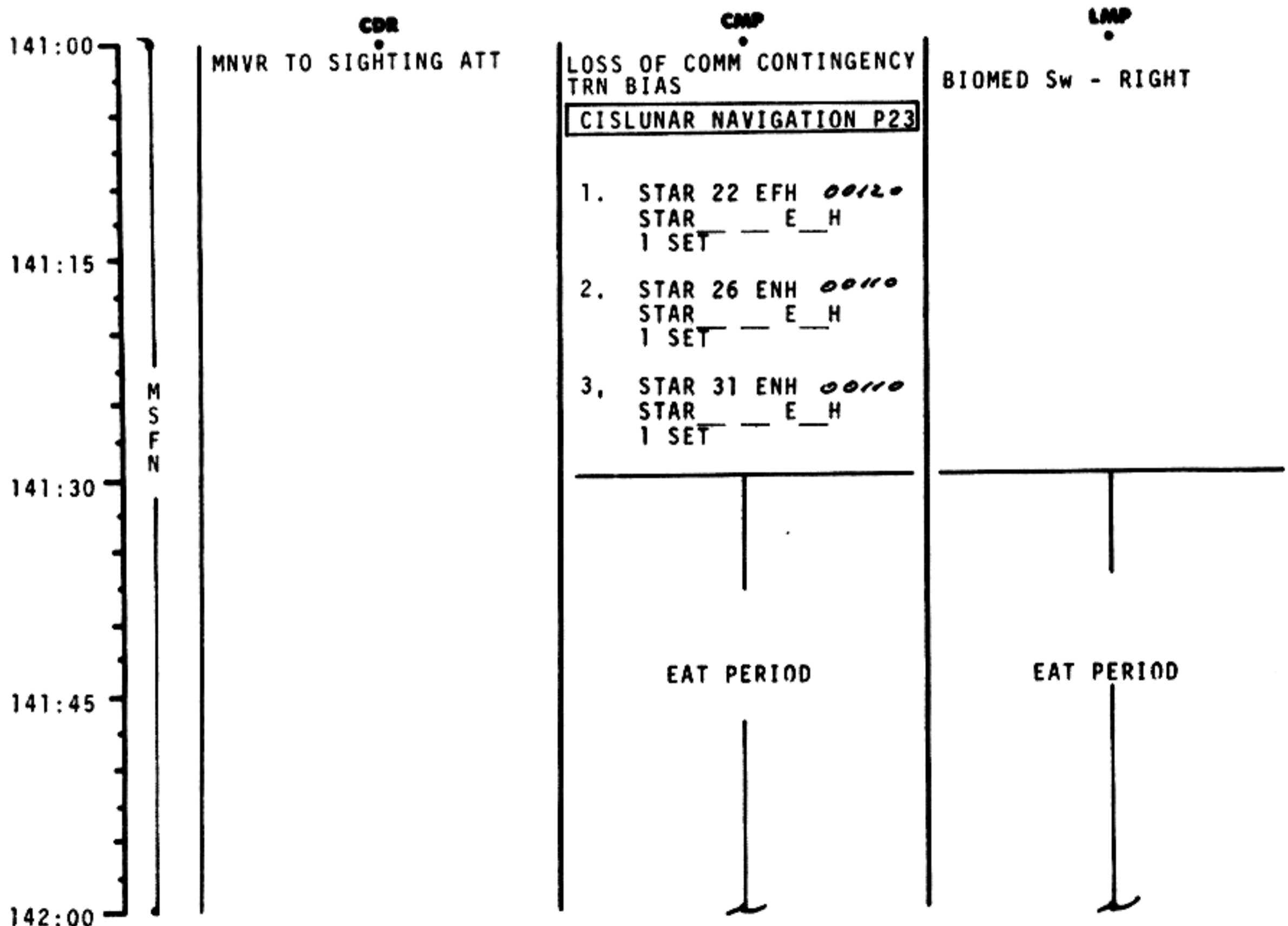


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	140:00 - 141:00		2-111

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

142:00  
142:15  
142:30  
142:45  
143:00

M  
S  
F  
N

EAT PERIOD

EAT PERIOD

LOSS OF COMM CONTINGENCY

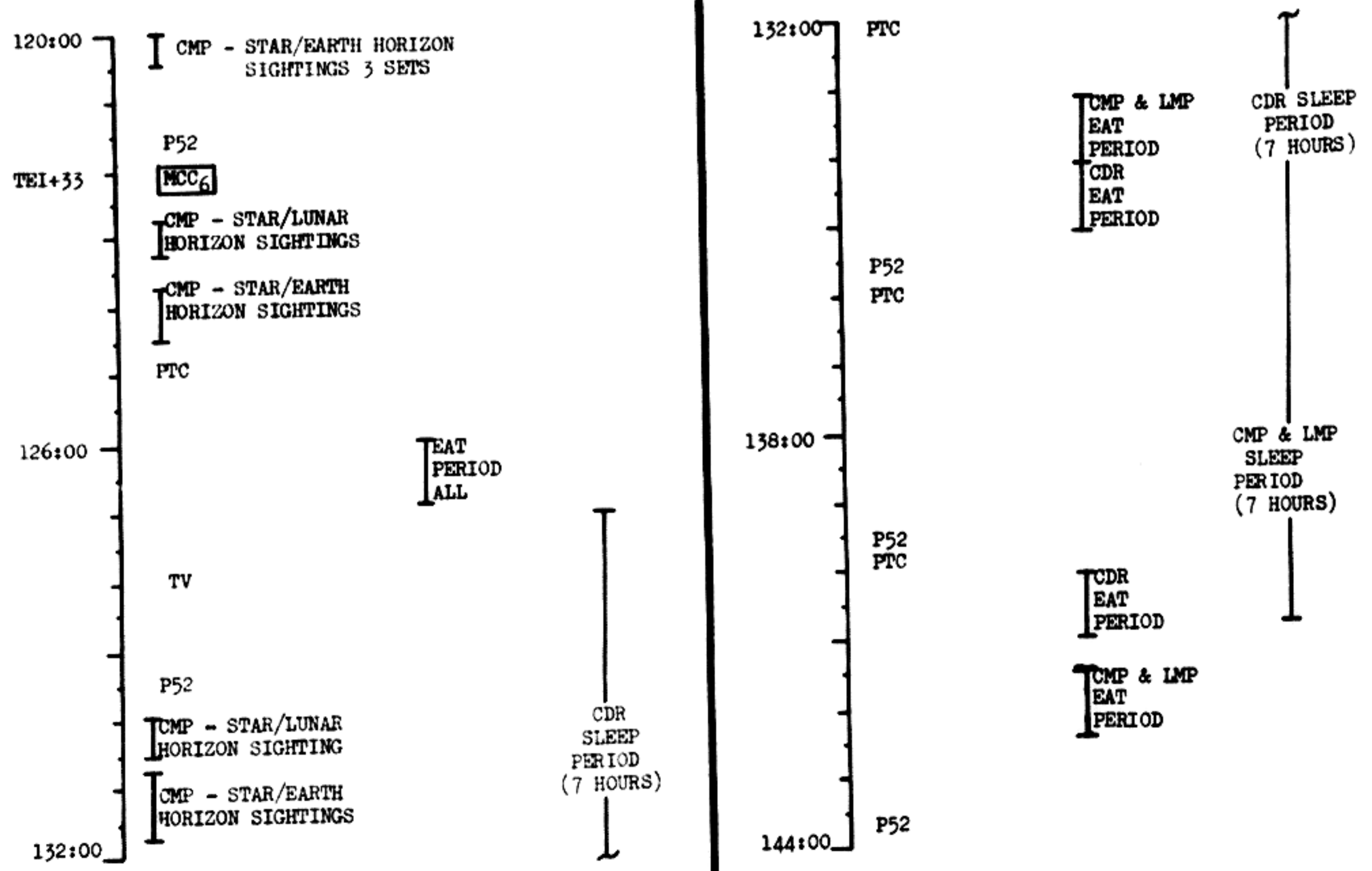
TRN BIAS  
CISLUNAR NAVIGATION P23  
1. STAR 22 EFH 00120  
STAR \_\_\_ E \_\_\_ H  
1 SET  
2. STAR 26 ENH 00110  
STAR \_\_\_ E \_\_\_ H  
1 SET

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-N
<p>143:00</p> <p>EI-3.5 HRS</p> <p>143:30</p> <p>EI-3 HRS</p> <p>144:00</p>	<p style="text-align: center;">M S P N</p> <p>MNVR TO P52 ATT</p>	<p>IMU REALIGN P52 OPTION 3 - REFSMMAT STAR ID _____ STAR ANGLE DIFF _____</p> <p>TORQUE ANGLES: _____ X _____ Y _____ Z _____</p> <p>CMC SELF CK DSKY COND LT TEST</p>	<p>RECORD MNVR AND ENTRY PAD</p> <p>ECS CK</p> <p>EPS CK SPS CK SM/CM RCS CK C&amp;W CK</p>	<p>P27 UPDATE: STATE VECTOR (LM &amp; CSM SLOTS) REFSMMAT</p> <p>VOICE UPDATE: MNVR PAD ENTRY PAD</p>

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 fns

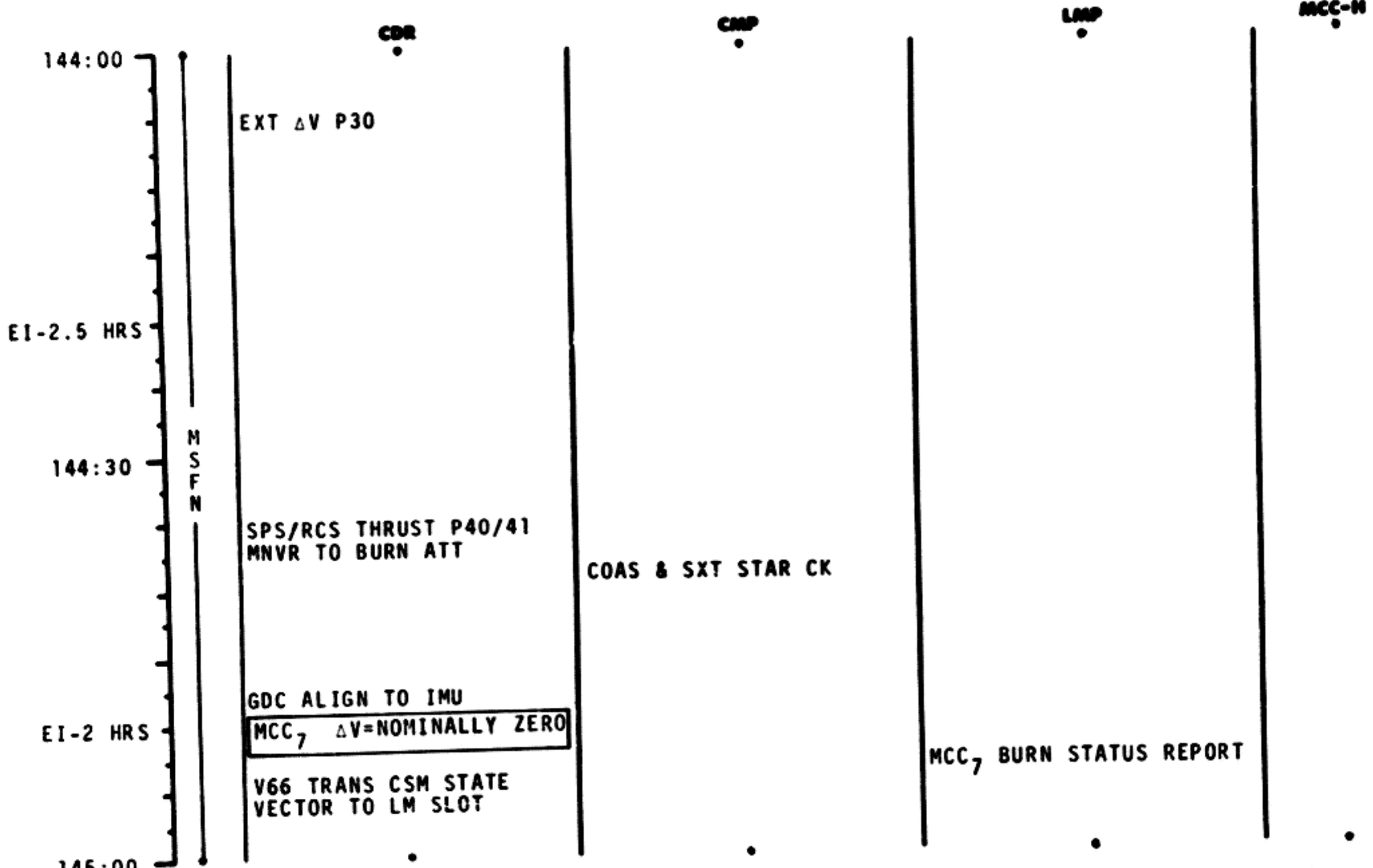
BURN STATUS REPORT

X X	<input type="checkbox"/>	ΔTIG
X X		BT
<input type="checkbox"/>		Vgx
TRIM		
X X X		R
X X X		P
X X X		V
<input type="checkbox"/>		Vgx
<input type="checkbox"/>		Vgy
<input type="checkbox"/>		Vgz
<input type="checkbox"/>		ΔVc
X X X		FUEL
X X X		OX
X X X		UNBALANCE

2-114a

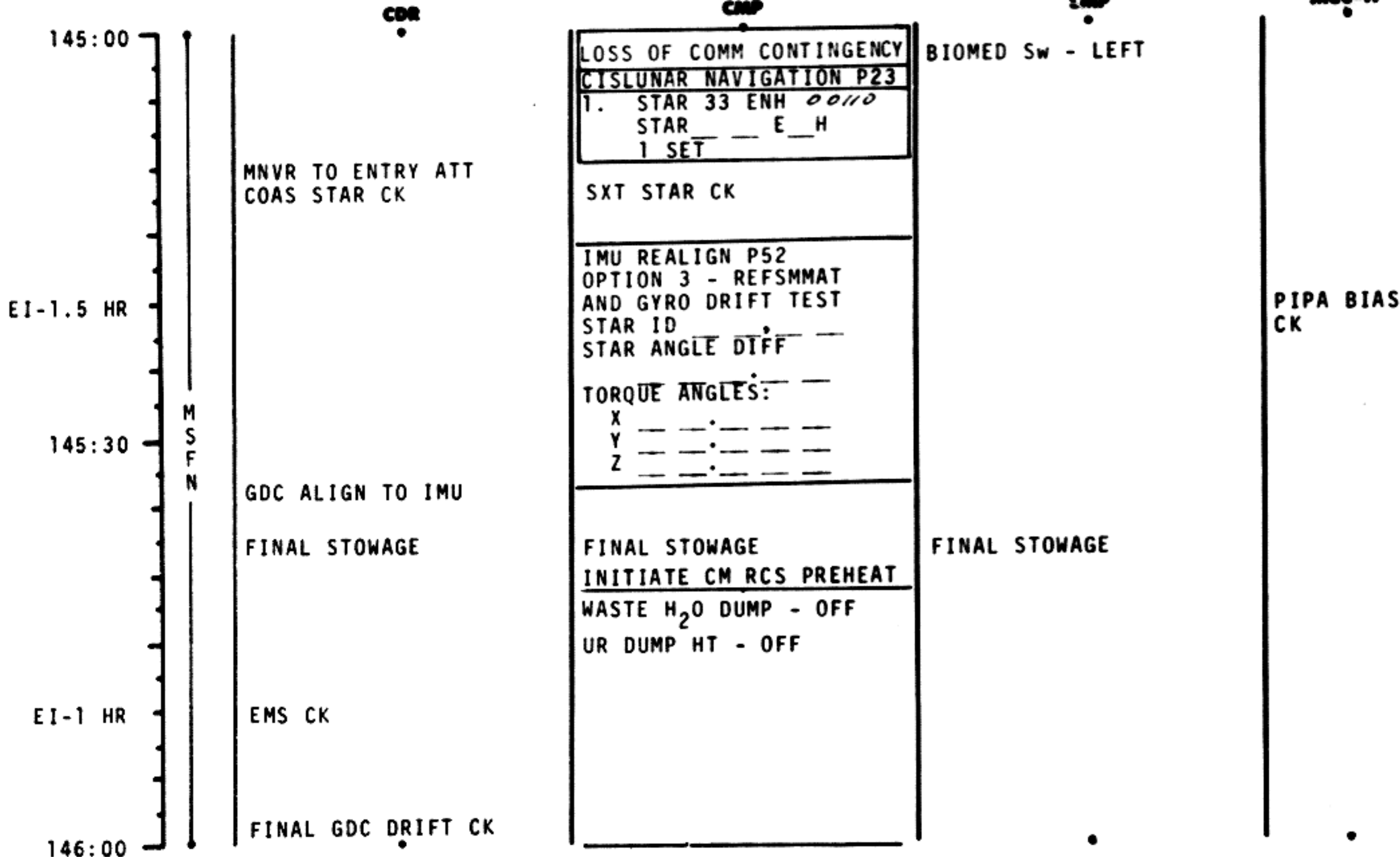
REMARKS:

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
		November 22, 1968	144:00 - 145:00	7/TEC	2-115



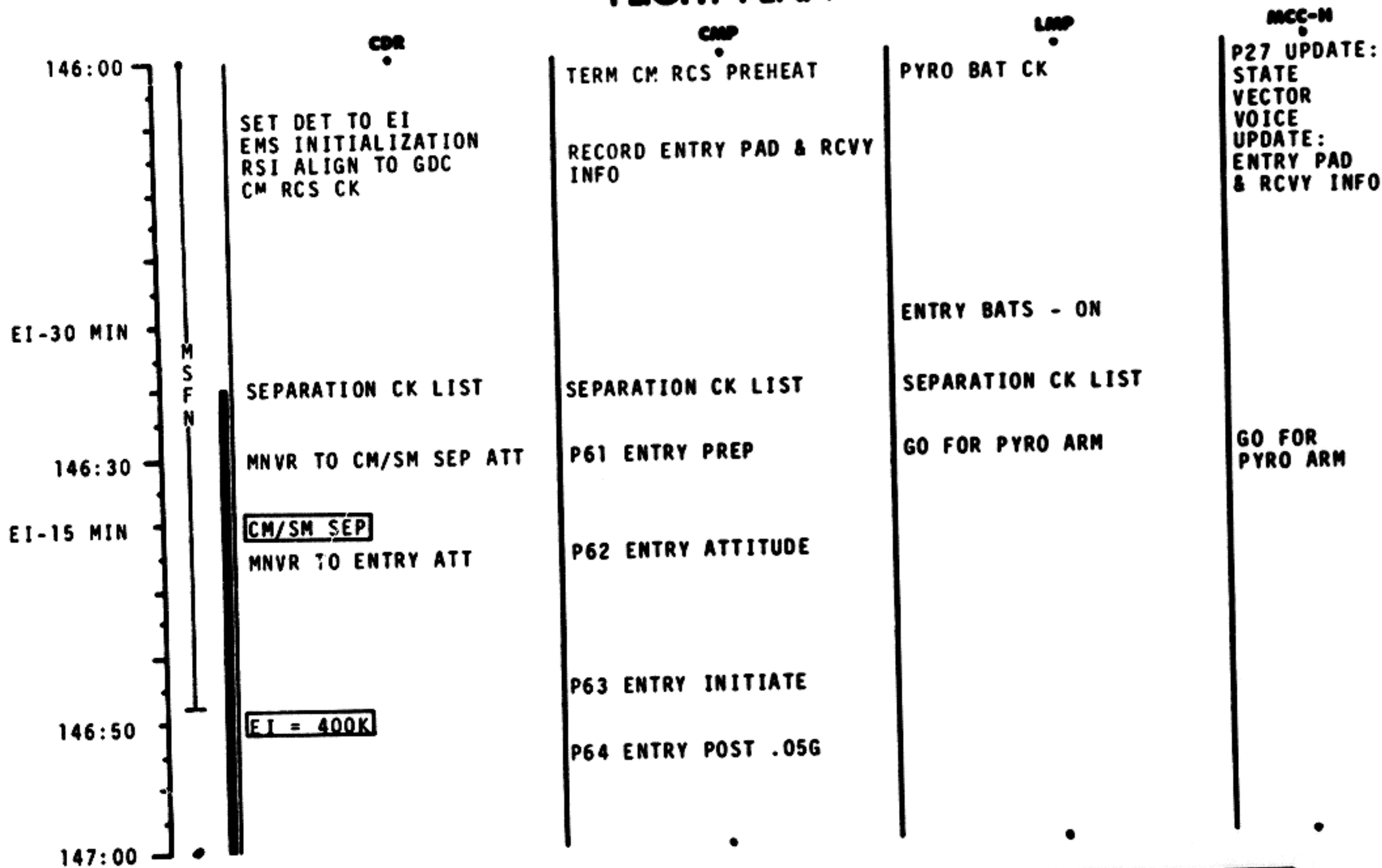


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
AS503/103	FINAL	November 22, 1968	145:00 - 146:00	7/TEC	2-116

MSC Form 1910 (Nov 68)

FLIGHT PLANNING BRANCH

## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
					2-117

147:00

EARTH LANDING PHASE

SPLASHDOWN

147:30

148:00

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

144:00

EI -2 HRS

MCC<sub>7</sub>  
P52

CM/SM SEP

EI = 400K

147:10

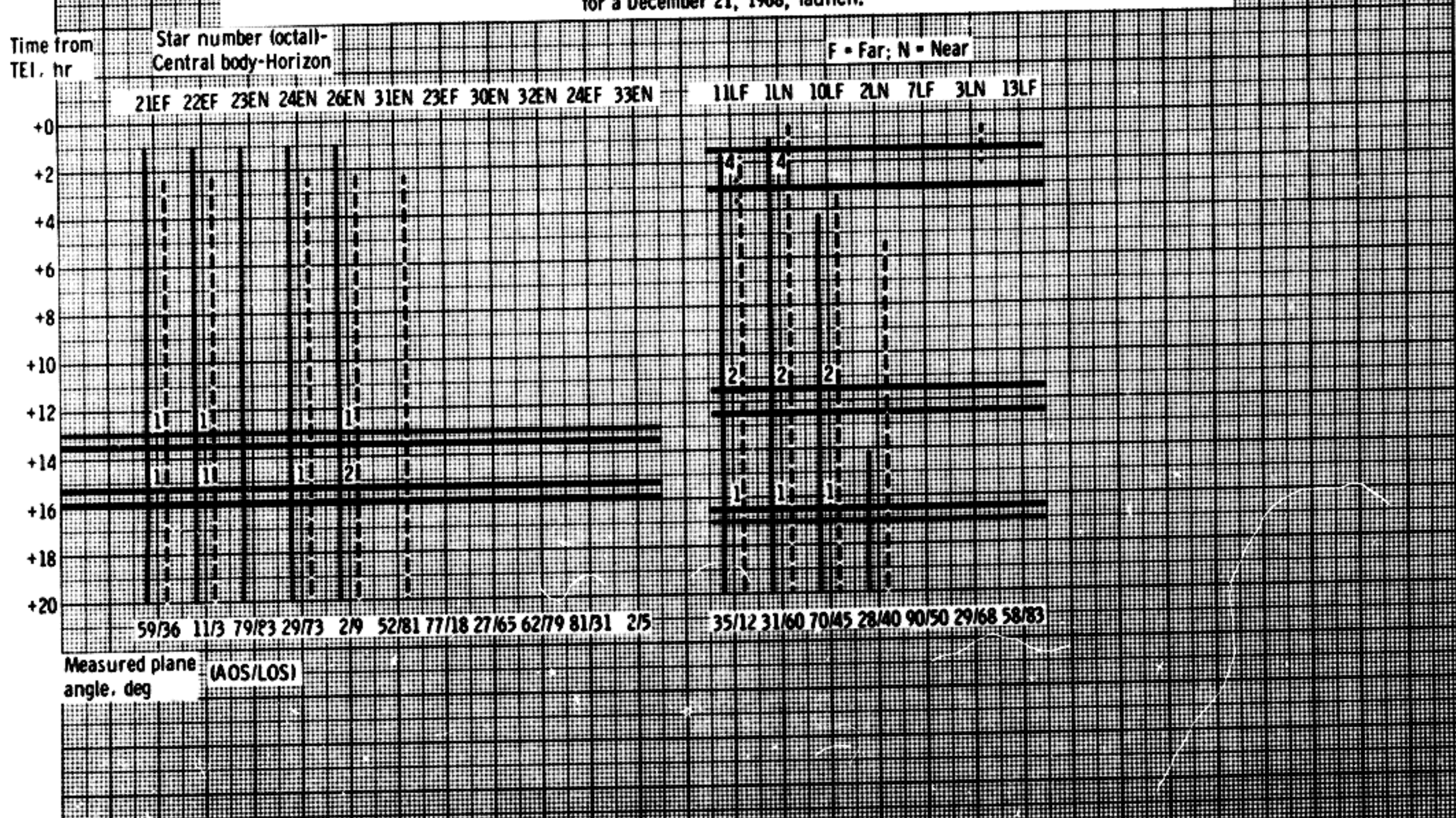
148:00

SPLASHDOWN

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

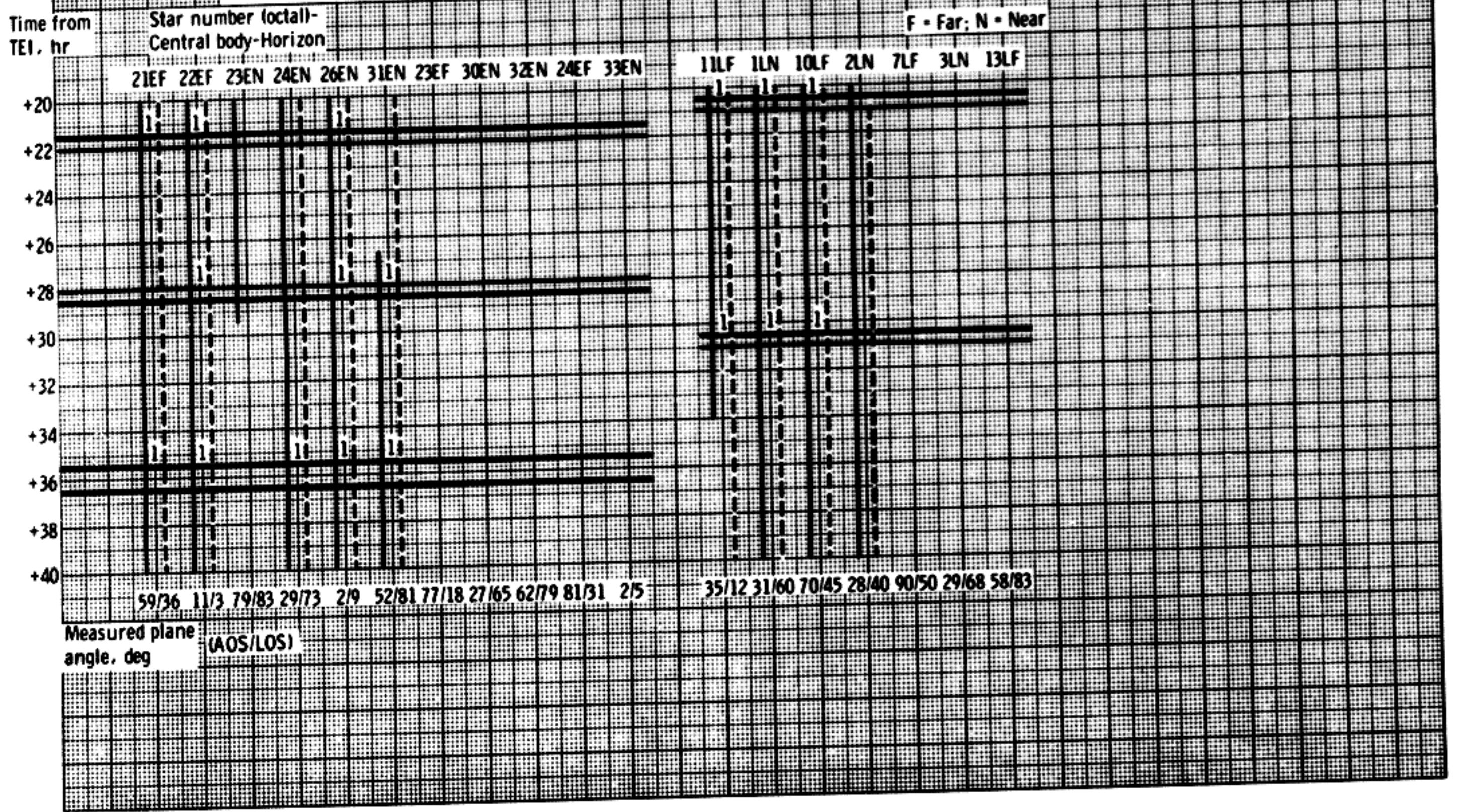
(a) Time from TEI.

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



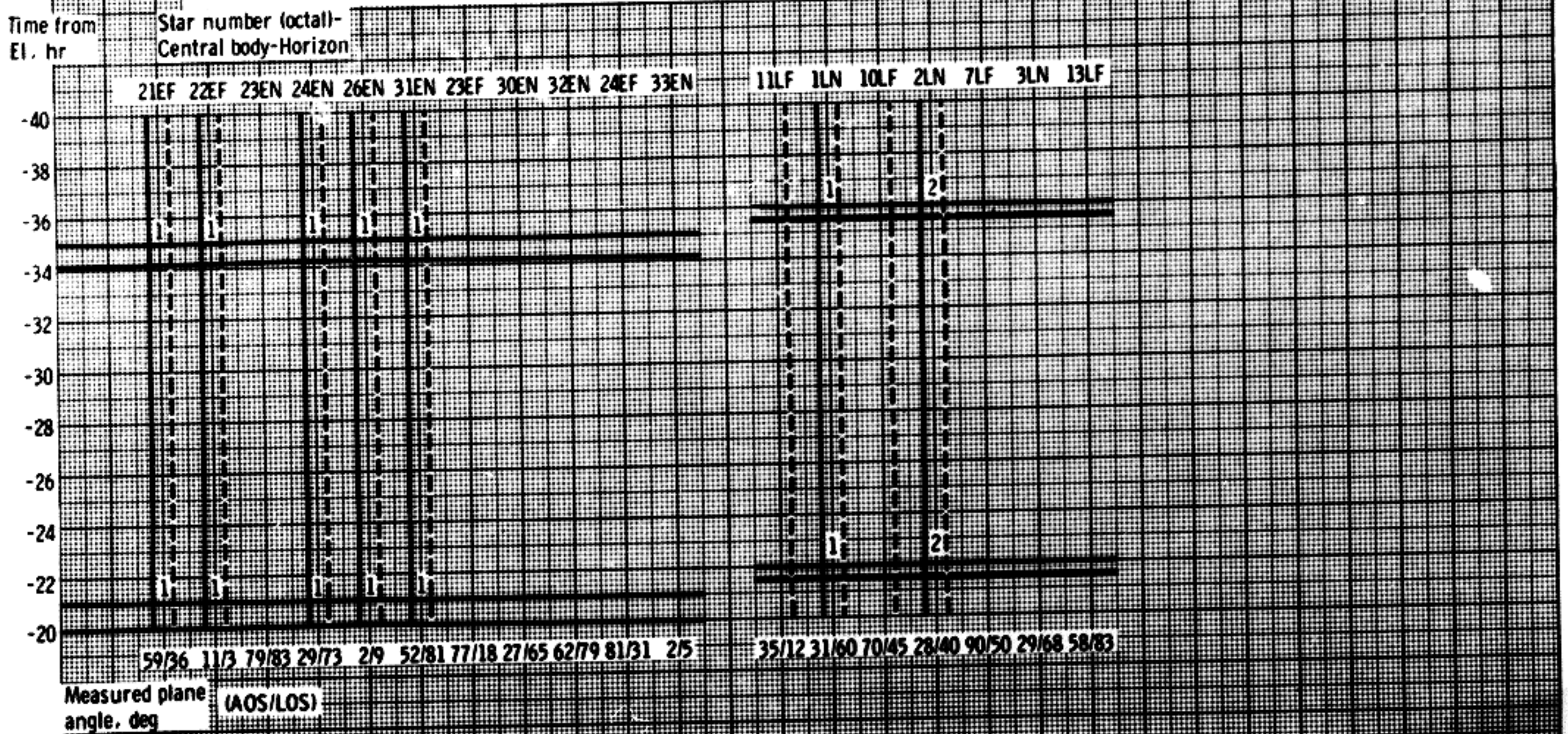
(b) Time from TEI-Concluded.

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



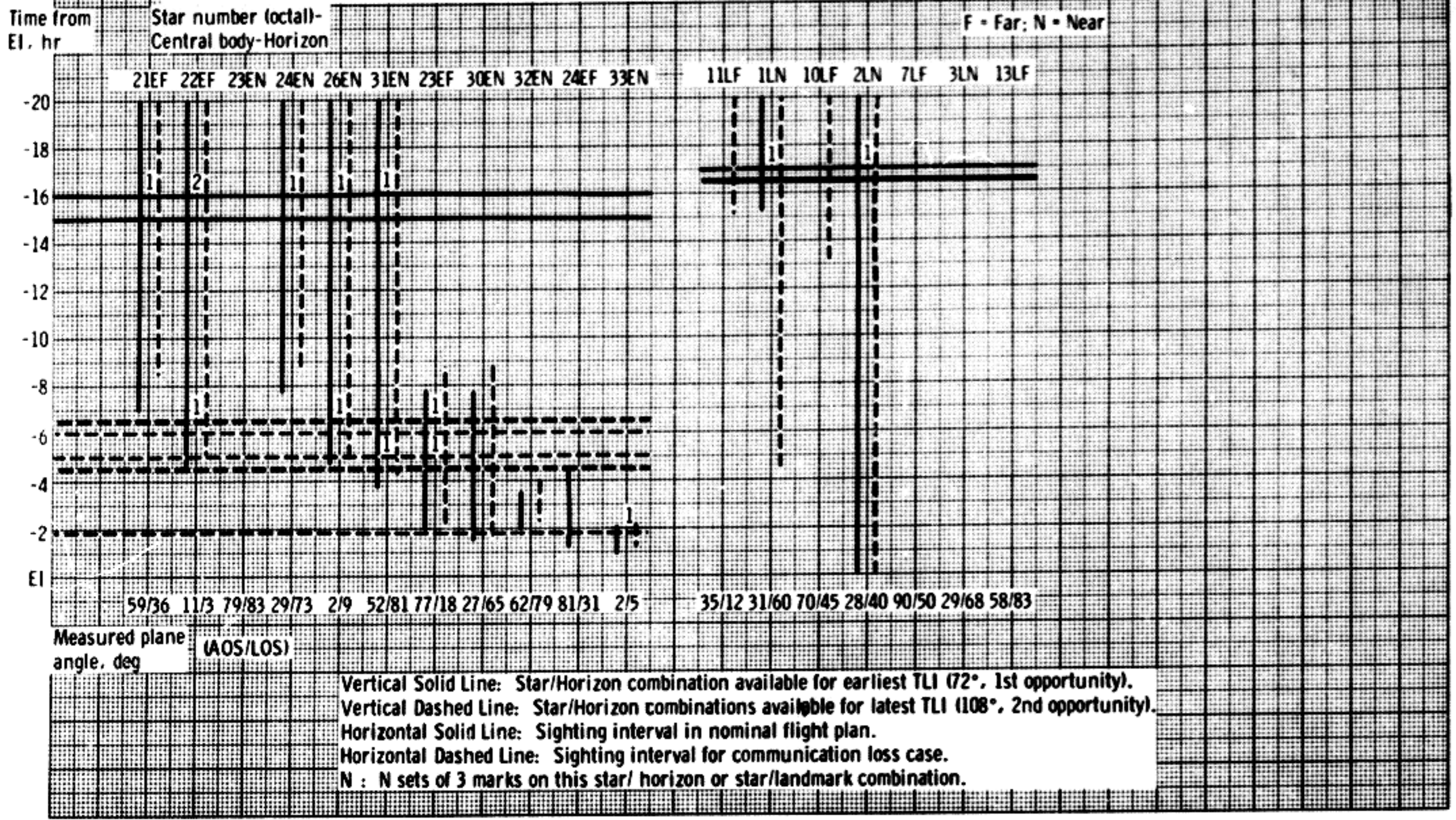
(c) Time from EI.

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



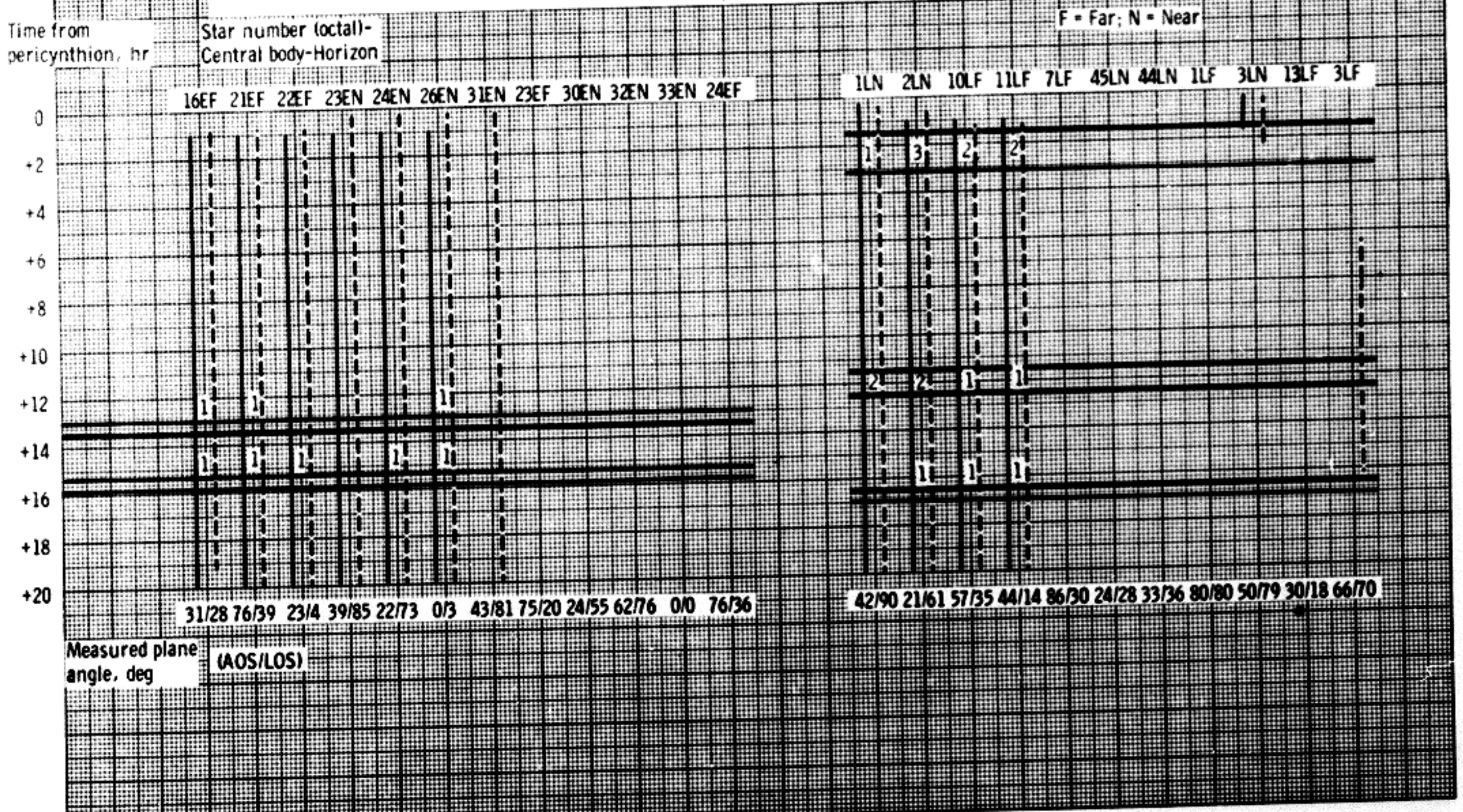
(d) Time from EI-Concluded.

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



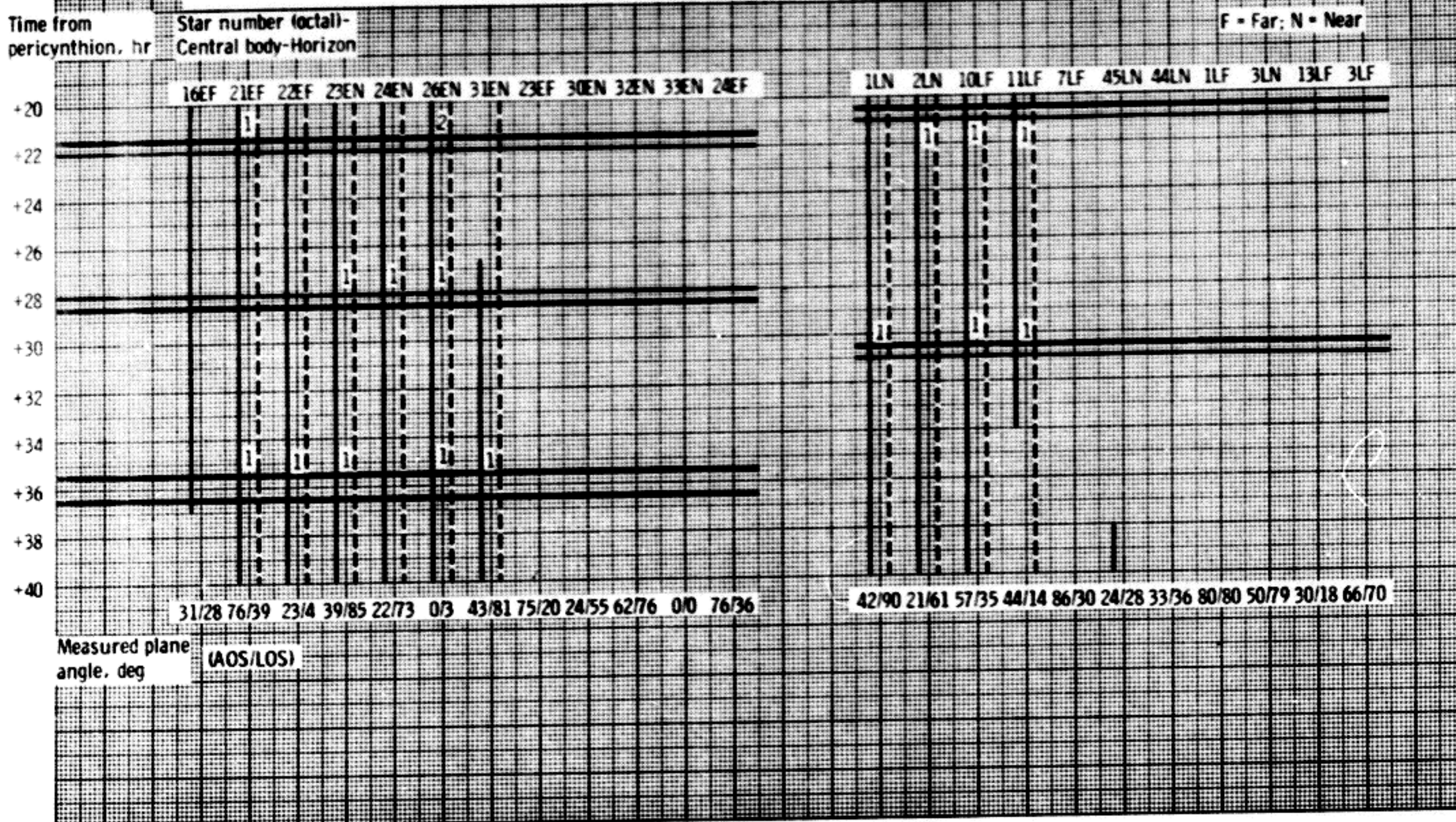
(a) Time from pericyynthion.

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



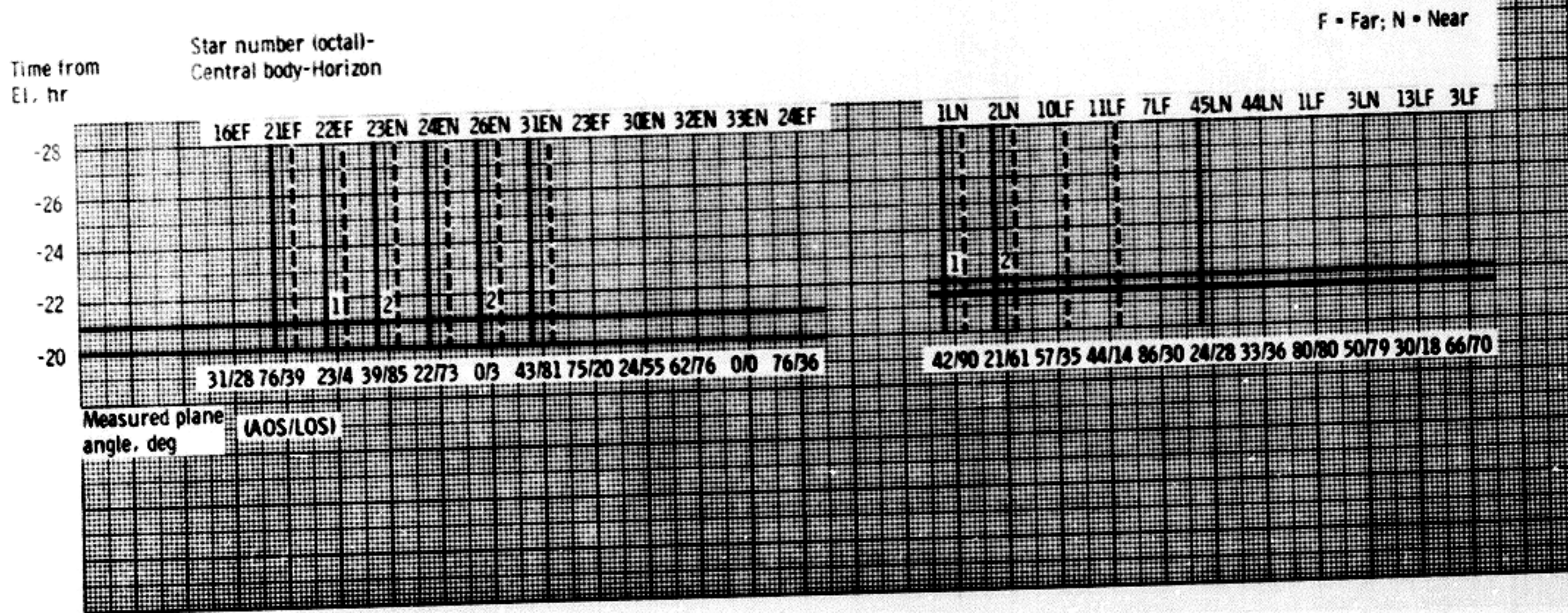
b) Time from pericynthion-Concluded.

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



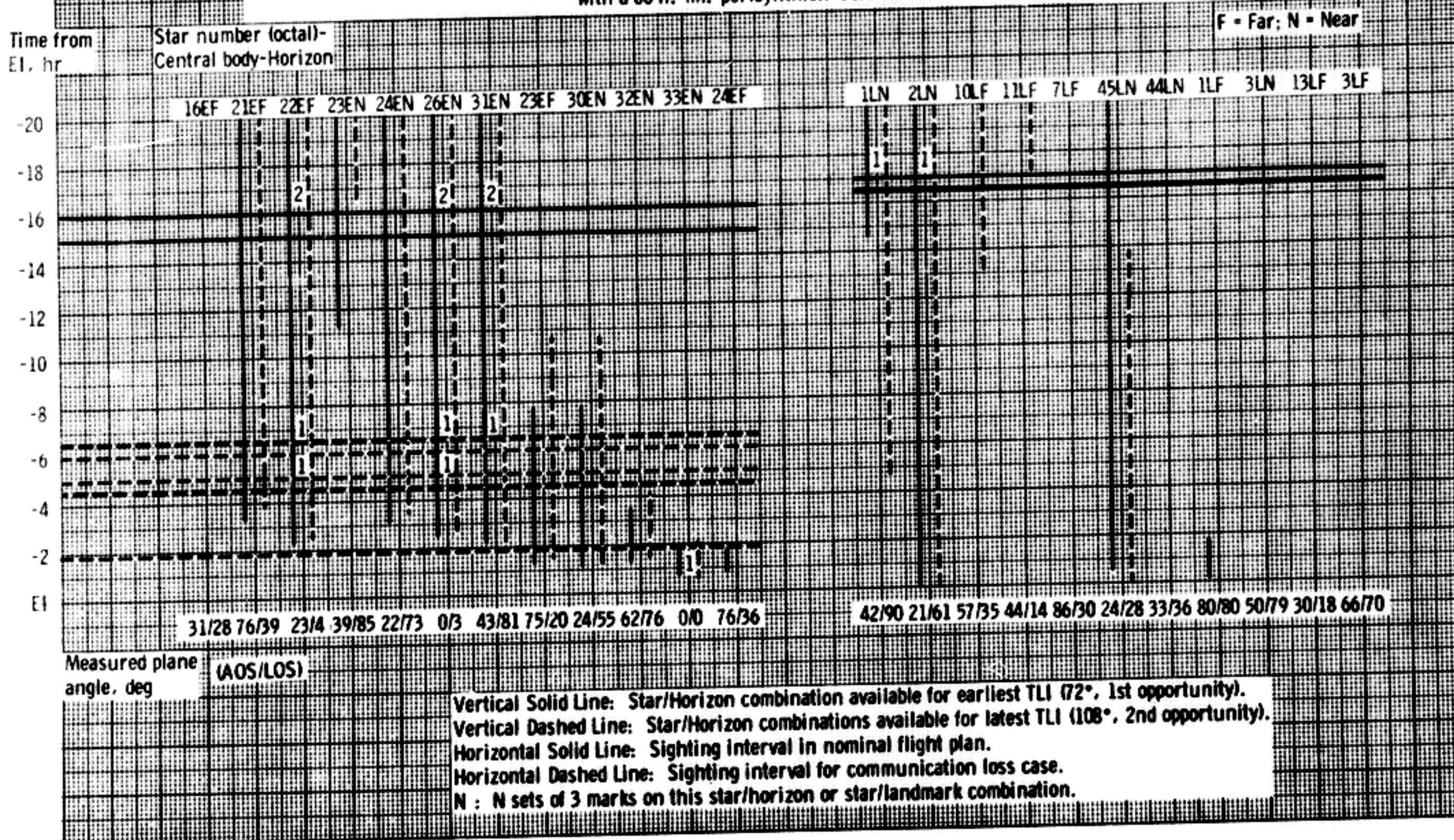
(c) Time from EI.

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  
06:00  
12:00

PERICYNTHIAN

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

EAT PERIOD  
(ALL)

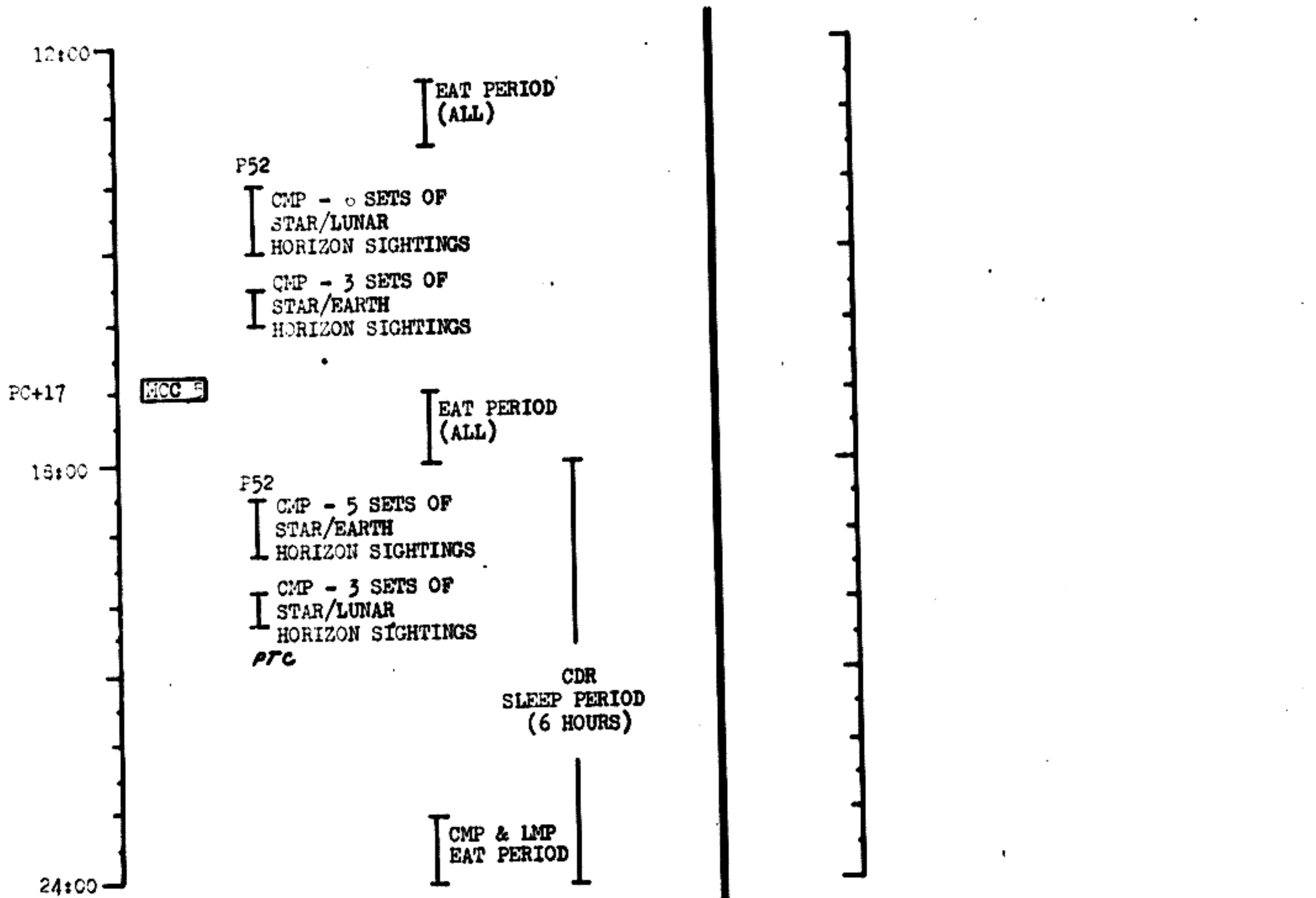
CDR  
SLEEP PERIOD  
(5 HOURS)

CMP & LMP  
EAT PERIOD  
CDR  
EAT PERIOD

CMP & LMP  
SLEEP PERIOD  
(5 HOURS)

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# FLIGHT PLAN



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# FLIGHT PLAN

24:00

CDR  
EAT PERIOD

CMP & LMP  
SLEEP PERIOD  
(6 HOURS)

30:00

EAT PERIOD  
(ALL)

P52  
CMP - 3 SETS OF  
STAR/LUNAR  
HORIZON SIGHTINGS  
CMP - 3 SETS OF  
STAR/EARTH  
HORIZON SIGHTINGS

MCC 6

EAT PERIOD  
(ALL)

36:00

CMP - 3 SETS OF  
STAR/LUNAR  
HORIZON SIGHTINGS  
PTC

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# FLIGHT PLAN

36:00  
42:00  
48:00

P52  
LUMP - 6 SETS OF  
STAR/EARTH  
HORIZON SIGHTINGS  
PTC

CDR  
SLEEP PERIOD  
(6 HOURS)

CMP & LMP  
EAT PERIOD  
CDR  
EAT PERIOD

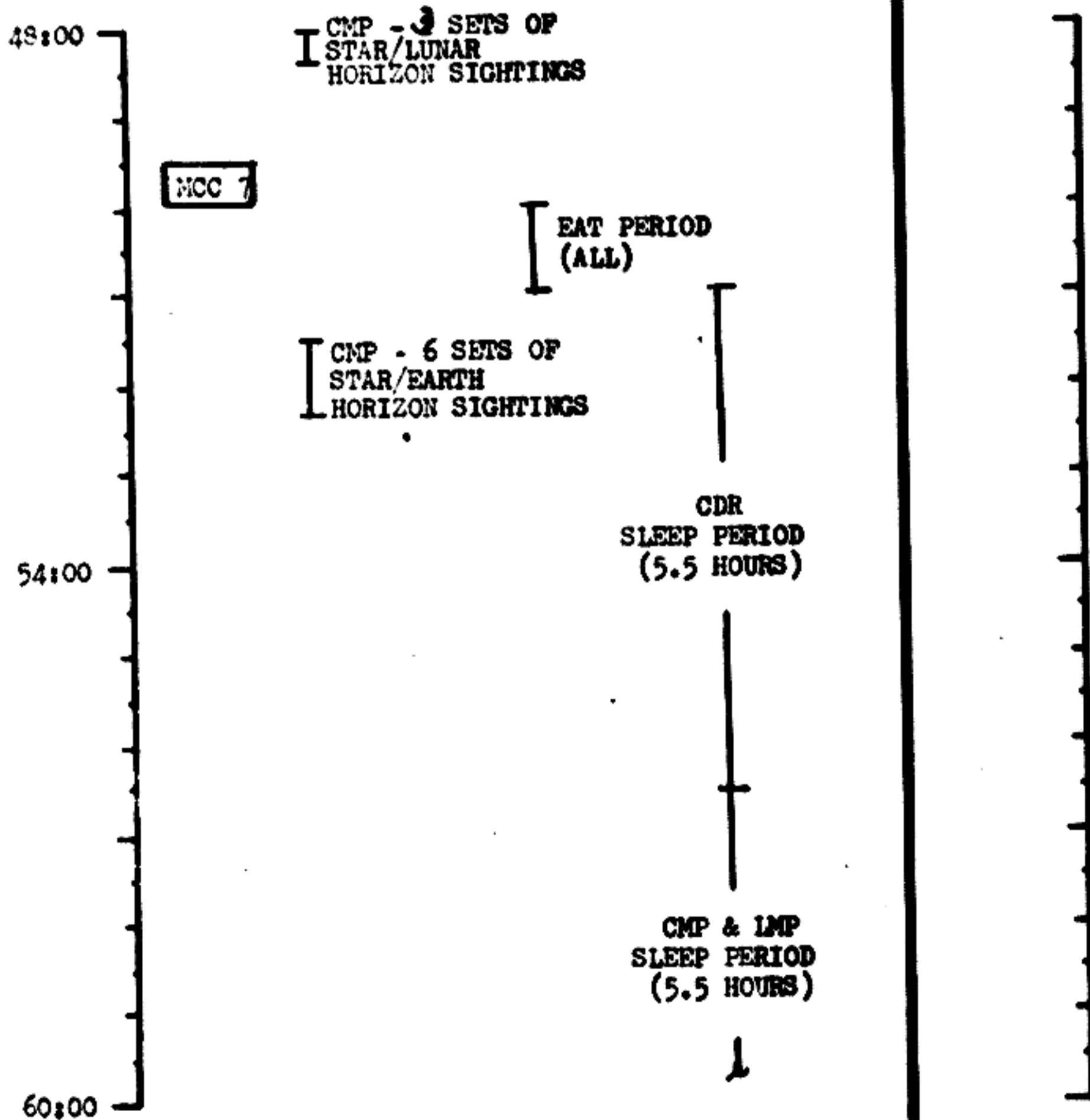
CMP & LMP  
SLEEP PERIOD  
(6 HOURS)

EAT PERIOD  
(ALL)

P52

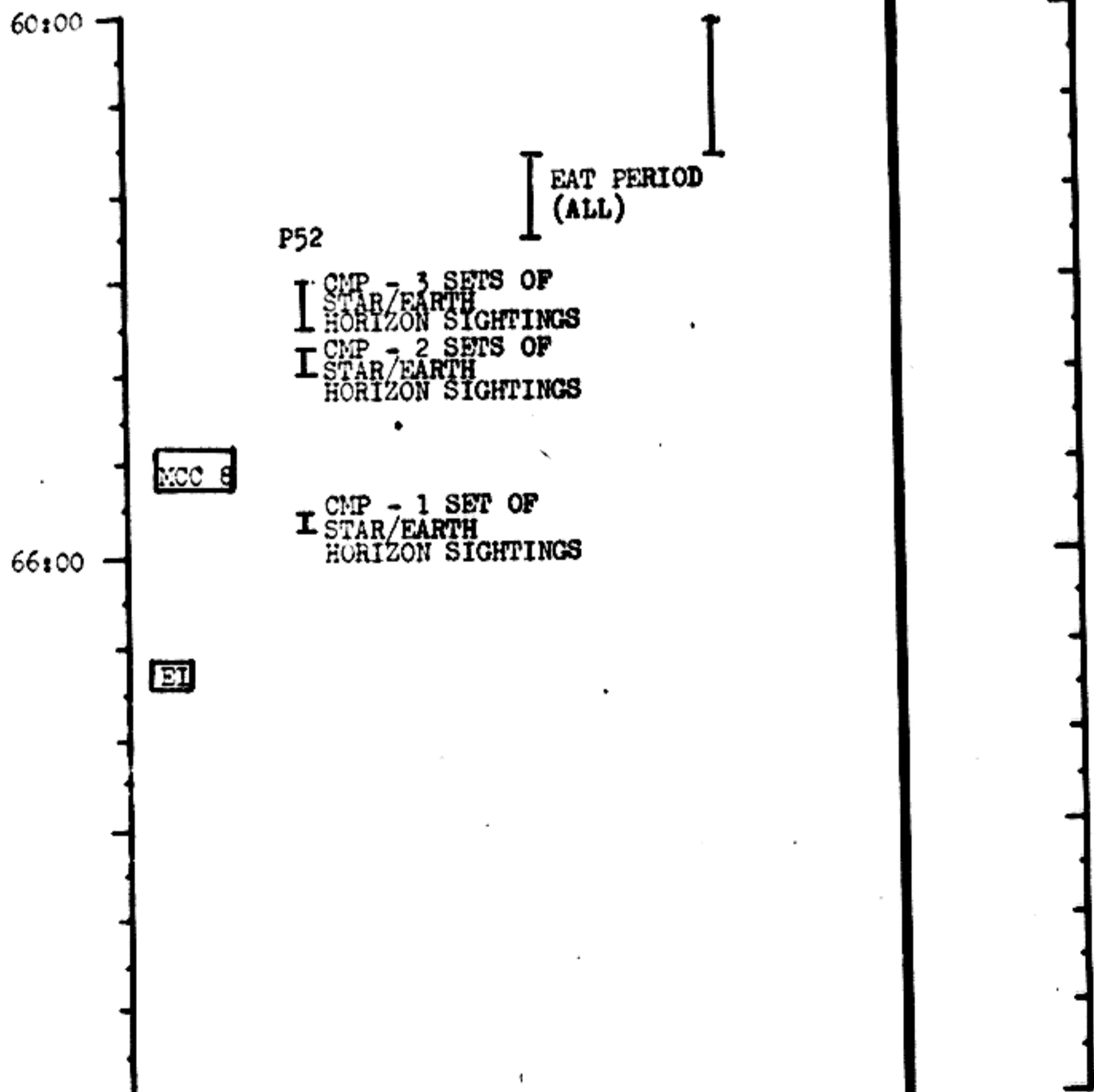
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# FLIGHT PLAN



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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

STORAGE

MAY SCHEDULE

DAY

FLYBY

DAY 3

DAY 4

DAY 5

DAY 6

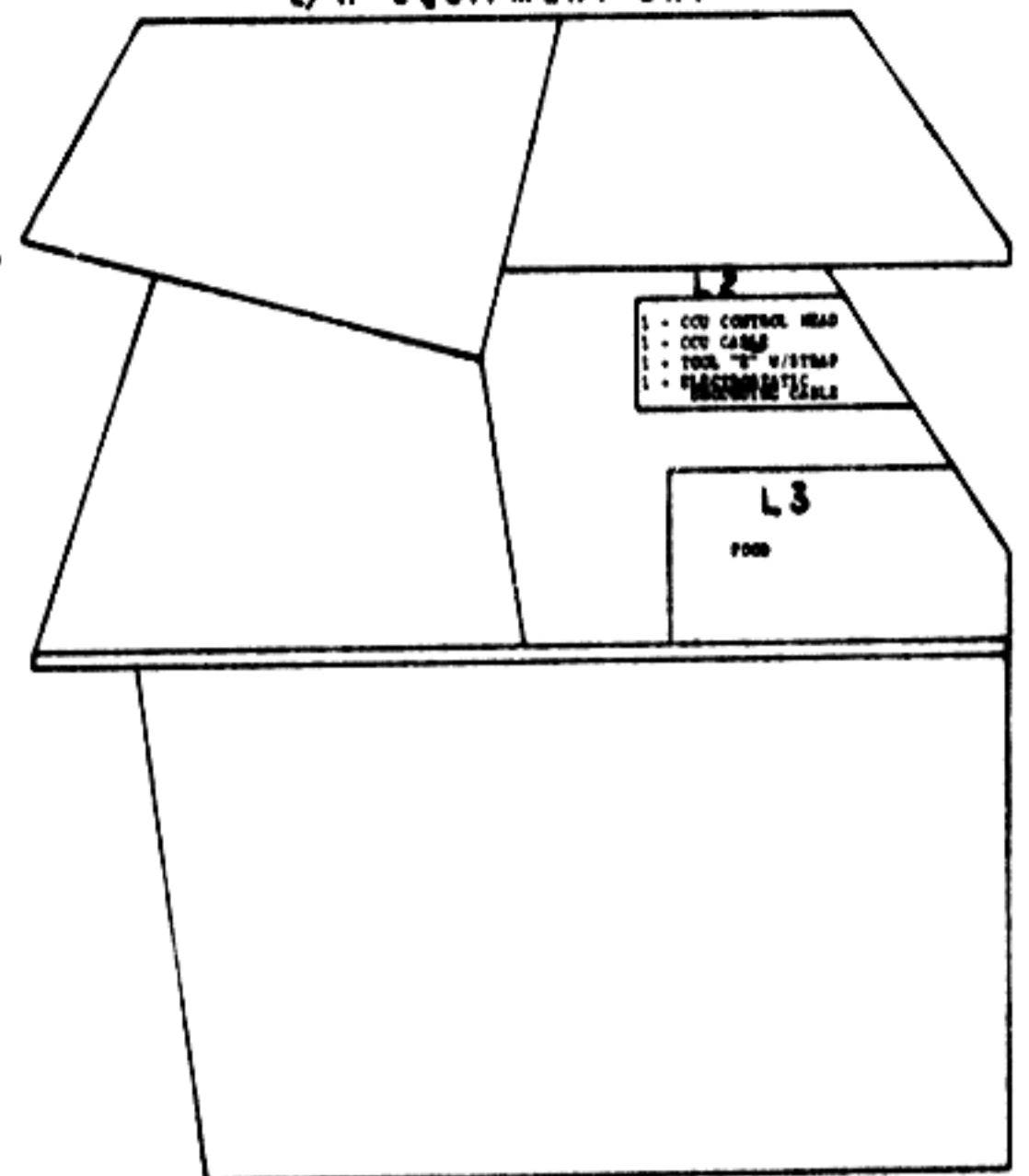
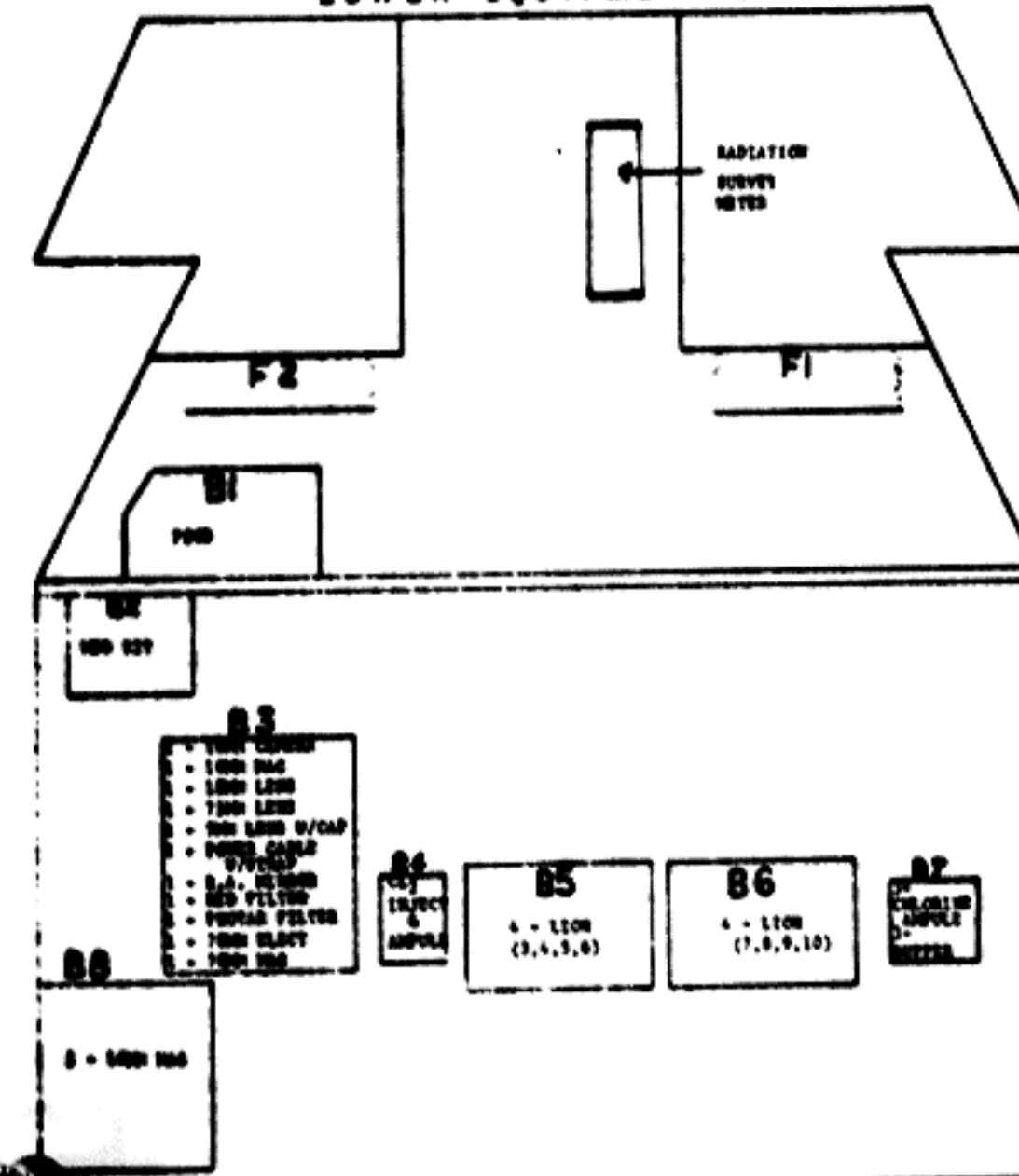
DAY 7

NAV SCHEDULE  
 FLYBY  
 DAY 3  
 DAY 4  
 DAY 5  
 DAY 6  
 DAY 7

STORAGE

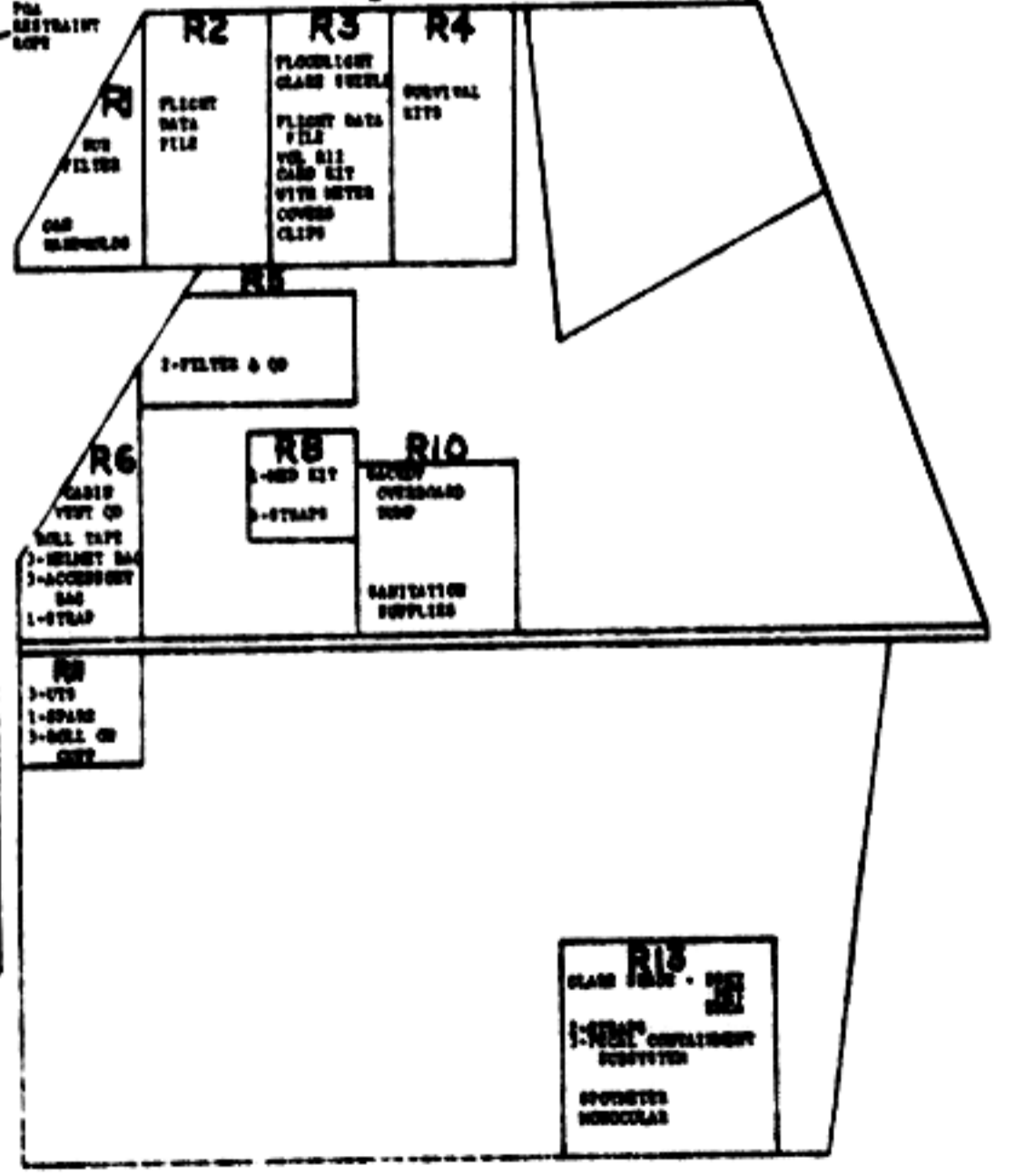
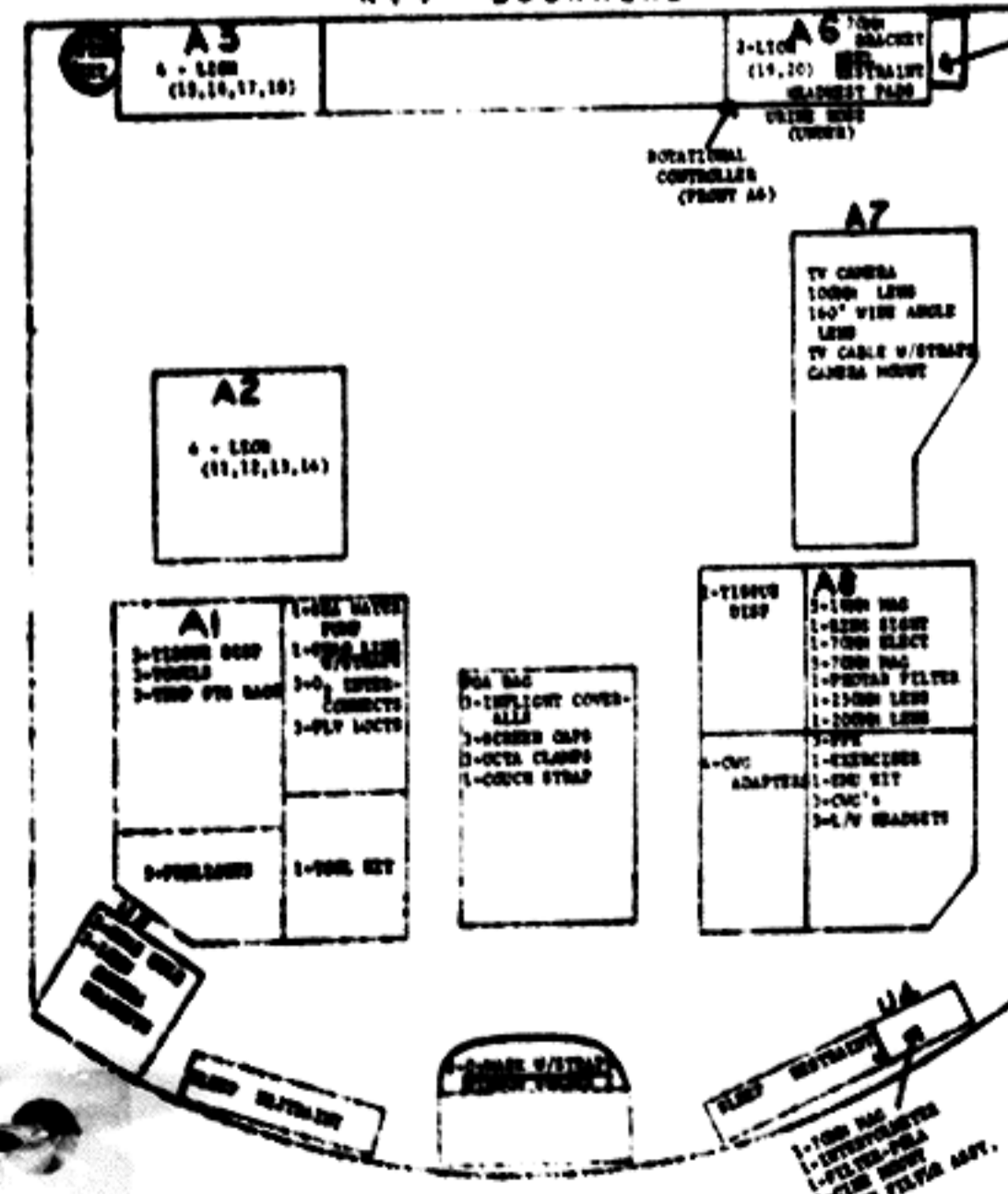
LOWER EQUIPMENT BAY

L/H EQUIPMENT BAY



AFT BULKHEAD

R/H EQUIPMENT BAY



END OF L/H VIEW

ADAPTER, CWG A-8  
 AMPULE, BUFFER B-4, B-7  
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 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  
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 CCU CABLE, SPARE L-2  
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 HEEL RESTRAINT A-6  
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 LENS, 200mm A-8  
 LENS, 250mm A-8  
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 MAGAZINE, 70mm A-8, U-4  
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**FLIGHT PLAN**

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