FLIGHT PLAN

MCC-H

1823 CST

UPDATE TO CSM
FLIGHT PLAN
CONSUMABLES
PERICYNTHION +2 HR
ABORT PAD
MCC-4 MNVR PAD

UPLINK TO CSM
CSM S.V. & V66
MCC-4 TGT LOAD

76:00
:10
:20
76:30
:40
:50
(21101)
(X1111)
77:00

MSFN

CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK
REPORT: BIAS

LiOH CANISTER CHANGE
(8 INTO B, STOW 6 IN B6)

PAGE G 2-5

NOTE: PERICYNTHION +2 HR ABORT PAD TARGETED FOR A FAST RETURN TO MPL.

PTC

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES
EXIT G&N PTC

PAGE G 8-3

NOTES

DAP LOAD STATUS
(21101)(X1111)

CSM CONSUMABLES UPDATE

GET: __ __ __:__ __

RCS TOTAL _____

QUAD A _____ B _____

C _____ D _____

H_2 TANK 1 _____ 2 _____

O_2 TANK 1 _____ 2 _____

3 _____

P52 IMU REALIGN

N71: __ __,__ __

N05: __ __ __.__ __

N93:

X __ __.__ __ __

Y __ __.__ __ __

Z __ __.__ __ __

GET __ __ __:__ __:__ __

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	76:00 - 77:00	4/TLC	3-70

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MCC-4
BURN CHART

P OR Y RATE	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC TERMINATE	±10° TERMINATE	BT + 1 SEC	TRIM X AXIS ONLY TO 1.0 FPS

TABLE 3-5

FLIGHT PLAN

MCC-H

1923 CST

77:00

:10

:20

77:30

:40

:50

78:00

LOI -5 HR

MSFN

P30 EXTERNAL ΔV
V49 MNVR TO PAD BURN ATTITUDE

SXT STAR CHECK
P40 SPS THRUSTING OR P41 RCS THRUSTING

MCC-4

V66 SET CSM S.V. INTO LM S.V.
BURN STATUS REPORT

MNVR TO MOON VIEW ATT

PTC

TIG: 77:38:14
BT: NOM. ZERO
ΔVT: NOM. ZERO
ULLAGE: NONE
ORBIT: N/A

NOTES

DAP LOAD STATUS
(21101)(X1111)

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								UNBAL

*ITEMS TO BE REPORTED TO MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	77:00 - 78:00	4/TLC	3-73

FLIGHT PLAN

MCC-H

2023 CST

78:00

:10

:20

78:30

:40

:50

(21111)
(X1111)

79:00

MSFN

UPDATE TO CSM
(IF NO MCC-4)
FLIGHT PLAN
CONSUMABLES (76:10)
PERICYNTHION +2 HR
ABORT PAD

CSM SYSTEMS CHECKLIST

PRE-LOI SECONDARY GLYCOL LOOP CHECK

REPORT: LM/CM ΔP

VERIFY LM/CM ΔP <2.4 PSID
IF LM/CM ΔP >2.4 PSID
PRESSURIZE CSM TO 5.7 PSIA

EXIT G&N PTC

PAGE G 8-3

V48 (21111)(X1111)

V49 MNVR TO MOON VIEW ATTITUDE (79:10)
(352,110,311) (HATCH WINDOW)
HGA P -30, Y 293

PAGE S 1-15

PTC

c/o

NOTES

DAP LOAD STATUS
(21101)(X1111)

IF NO MCC-4, CREW
WILL BE AWAKENED
AT 78:00. CREW
WILL ACCOMPLISH
THE FOLLOWING:
EAT PERIOD (75:00)
POST-SLEEP C/L (75:05)
CANISTER CHANGE (76:10)
AND PROCEED WITH
ACTIVITIES AT 78:00

EARTH DISTANCE
≈200 444 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	78:00 - 79:00	4/TLC	3-74

FLIGHT PLAN

MCC-H

2123 CST

79:00
(21111)
(X1111)

:10

:20

79:30

:40

:50

80:00

MSFN

UPLINK TO CSM
CSM S.V. & V66
(PRELIMINARY)
LOI TGT LOAD
(PRELIMINARY)
DESIRED ORIENTATION
(LDG SITE)

UPDATE TO CSM
LOI MNVR PAD
(PRELIMINARY)
TEI 4 PAD

CSM SYSTEMS CHECKLIST

CSM/LM PRESSURE EQUALIZATION (DECAL) PAGE S 2-3

CHECK MISSION TIMER AGAINST CMC CLOCK

ATT DEADBAND - MIN
RATE - LOW
BMAG (3) - ATT 1/RATE 2
SC CONT - SCS

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

STARS _____,_____
SA _____,_____
TA _____,_____

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN
OPTION 1 PREFERRED
(LDG SITE ORIENT)

SC CONT - CMC
BMAG (3) - RATE 2

NOTES

TEI 4 PAD
ASSUMES NO DOI

P52 IMU REALIGN

N71: __ __,__ __
N05: __ __ __.__ __
N93:
X __ __.__ __ __
Y __ __.__ __ __
Z __ __.__ __ __
GET __ __ __:__ __:__ __

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	79:00 - 80:00	4/TLC	3-75

2223 CST

FLIGHT PLAN

80:00 (21111 X1111)

:10

:20

80:30

:40

:50

81:00

MSFN

CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK PAGE G 2-5

REPORT: BIAS

-100 TO -98.5

NOTES

LUNAR PHOTOGRAPHY
AT CREW OPTION

CM /EL/80 OR 250/BW
(f5.6,250,∞)(10 FR)
MAG (P)__, FR # ___

CM /EL/80 OR 250/CEX
(f5.6,250,∞)(10 FR)
MAG (L)__, FR # ___

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	80:00 - 81:00	4/TLC	3-76

FLIGHT PLAN

MCC-H

UPDATE TO CSM
LOI MNVR PAD
MAP UPDATE REV 1

UPLINK TO CSM
CSM S.V. & V66
LOI TGT LOAD

2323 CST

81:00
(21111)
(X1111)

:10

:20

81:30
(21101)
(X1111)

:40

:50

82:00

M
S
F
N

CSM SYSTEMS CHECKLIST

C&W SYSTEM OPERATIONAL CHECK	PAGE S 1-17
CM RCS MONITORING CHECK	PAGE S 1-1
SM RCS MONITORING CHECK	PAGE S 1-1
SPS MONITORING CHECK	PAGE S 1-1
ECS MONITORING CHECK	PAGE S 1-5

OXIDIZER FLOW VALVE INCR - INCR (VERIFY)
O_2 HEATERS 1&2 (2) - AUTO
O_2 HEATERS 3 (1) - OFF
CYCLE CMC MODE - FREE/AUTO
V48 (21101) (X1111)

P30 EXTERNAL ΔV

V49 MNVR TO PAD BURN ATTITUDE (82:00)
(355,261,327)

ACQ MSFN OMNI C

NOTES

MAP UPDATE REV 1

LOS: __ __ __:__ __:__ __
180°: __ __ __:__ __:__ __
AOS WITH LOI: __ __ __:__ __:__ __
AOS WITHOUT LOI: __ __ __:__ __:__ __

THE PU VALVE SHOULD BE USED TO MAINTAIN THE INDICATED UNBALANCE TO WITHIN ±50 LBS OF THE STABILIZED READING (TIG +25 SEC) UNTIL CROSSOVER. AFTER CROSSOVER THE VALVE SHOULD BE USED TO CONTROL THE UNBALANCE WITHIN THE GREEN BAND (0 ± 100 LBS). DURING NORMAL ENGINE OPERATION THE PU VALVE DECREASE POSITION SHOULD NOT BE USED.

THE APPROXIMATE TIME OF CROSSOVER IS 04:06 TO 04:10 INTO THE LOI BURN.

FLIGHT PLAN

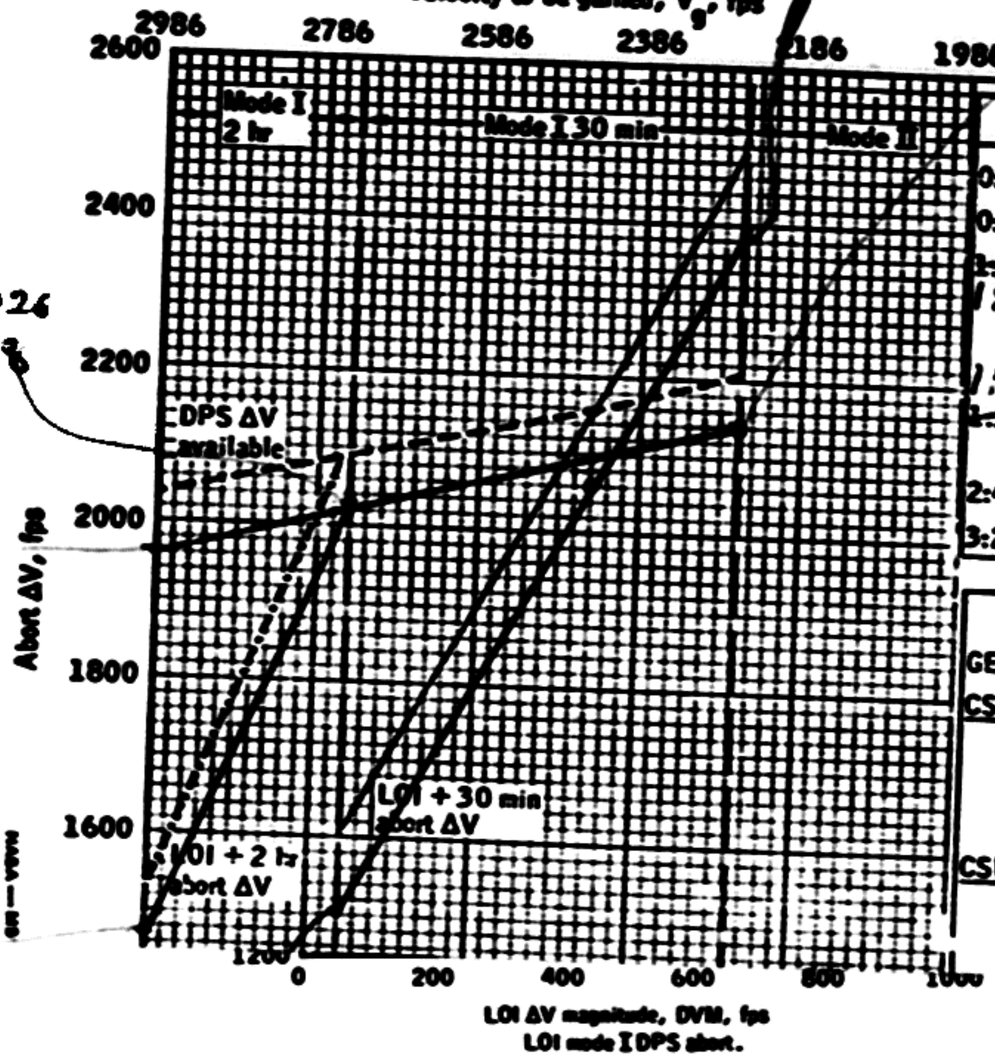
TABLE 3-6
LOI
BURN TABLE AND ABORT CHART

Gonzalez/LMAB/MPAD (for G and C Checklist)
Data source [redacted]
Data confirmed [redacted]

Abort= 2395
LOIΔV= 725

Abort ΔV= 2130
LOIΔV= [redacted] TLI trajectory, launch date
725

0K+28



Abort= 2026
LOIΔV= 238

Abort ΔV= 1966
LOIΔV= 0

Abort= 1477

CSM 4-1.- LOI mode I DPS abort. (January 31 launch date) 1/15/71 Final Revision 1

Burntime	ΔVM	Mode	SPS	Type
0:00 - 0:33	0 - 238	I	TIGHT	DPS at 2 hr (RTCC)
0:33 - [illegible]	238 - [illegible]	I	LOOSE	DPS at 30 min (crewchart)
[illegible] - [illegible] 1:19 1:40	[illegible] - 725 570	I	LOOSE	DPS at 30 mn to depletion + APS at 2 1/2 hr (RTCC); Loss of comm, DPS followed immediately by APS (crewchart)
1:40 2:39 - 2:41	725 - 1202	II	LOOSE	DPS at 2 hr + DPS at perilune (RTCC)
2:41 - 3:20	1202 - 1513	III	LOOSE	DPS at perilune (RTCC)
3:20 - Cutoff	1513 - Cutoff	III	TIGHT	DPS at perilune (RTCC)

	Nominal	Update
GET LOI ignition	82:38:13.63	[redacted]
CSM IMU angles for LOI + 30 min DPS abort		
GET abort ignition	83:08:13.63	[redacted]
Roll	127	127
Pitch	263	264
Yaw	348	348
CSM IMU angles for LOI + 2 hr DPS abort		
GET abort ignition	84:38:13.63	[redacted]
Roll	121	
Pitch	261	

30
82:36:47
83:06:47
84:36:47

FLIGHT PLAN

1/11/71

TABLE 3-6
LOI
BURN TABLE AND ABORT CHART

Gonzales/LMAB/MPAD (for G and C Checklist)
Data source Apollo 10 OT
Data confirmed [illegible]

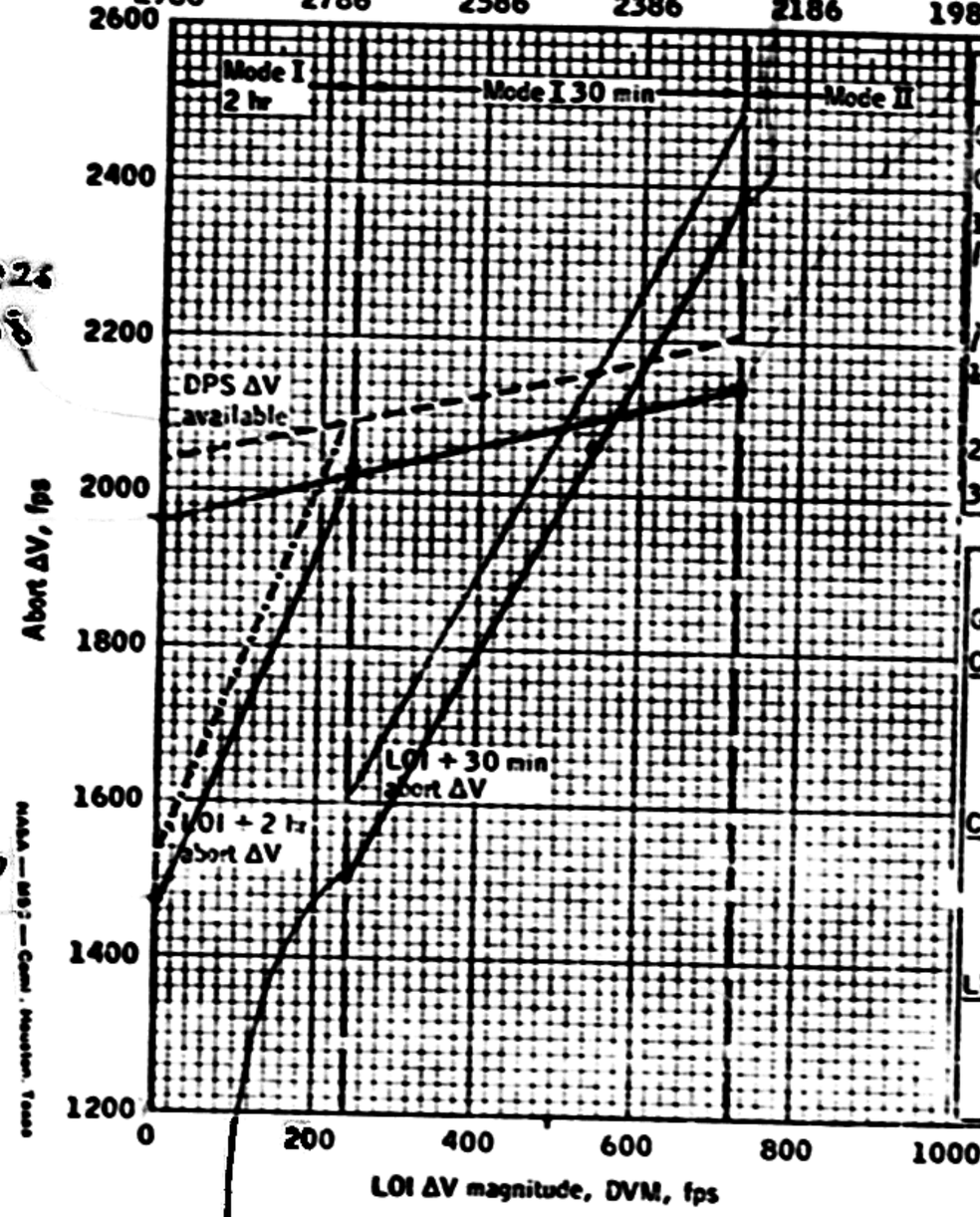
Abort= 2395
LOIΔV= 725

Abort ΔV= 2130
LOIΔV= [illegible] 725
Trajectory, launch date

0 hr + 28 min

CSM 4-1.- LOI mode I DPS abort.
(January 31 launch date)

1/15/71 Final
Revision 1



Abort= 2026
LOIΔV= 258

Abort ΔV
1966
LOIΔV=0

Abort=1477
LOIΔV=0

Abort = 1517
LOIΔV = 238

Figure 19.- LOI mode I DPS abort.

Burntime	ΔVM	Mode	SPS	Type
0:00 - 0:33	0 - 238	I	TIGHT	DPS at 2 hr (RTCC)
0:33 - ~~1:15~~ 1:19	238 - ~~545~~ 570	I	LOOSE	DPS at 30 min (crewchart)
~~1:15 - 1:39~~ 1:19 1:40	~~545~~ - 725 570	I	LOOSE	DPS at 30 mn to depletion + APS at 2 1/2 hr (RTCC); Loss of comm, DPS followed immediately by APS (crewchart)
~~1:39~~ 1:40 - 2:41	725 - 1202	II	LOOSE	DPS at 2 hr + DPS at perilune (RTCC)
2:41 - 3:20	1202 - 1513	III	LOOSE	DPS at perilune (RTCC)
3:20 - Cutoff	1513 - Cutoff	III	TIGHT	DPS at perilune (RTCC)

	Nominal	Update
GET LOI ignition	82:38:13.63	[illegible]
CSM IMU angles for LOI + 30 min DPS abort		
GET abort ignition	83:08:13.63	[illegible]
Roll	127	127
Pitch	263	263
Yaw	348	348
CSM IMU angles for LOI + 2 hr DPS abort		
GET abort ignition	84:38:13.63	[illegible]
Roll	121	
Pitch	261	
Yaw	350	
LM FDAI angles for LOI + 2 hr DPS abort		
GET abort ignition	84:38:13.63	[illegible]
Roll	170	170
Pitch	261	261
Yaw	359	000

38
82:36:47
83:06:47

84:36:47

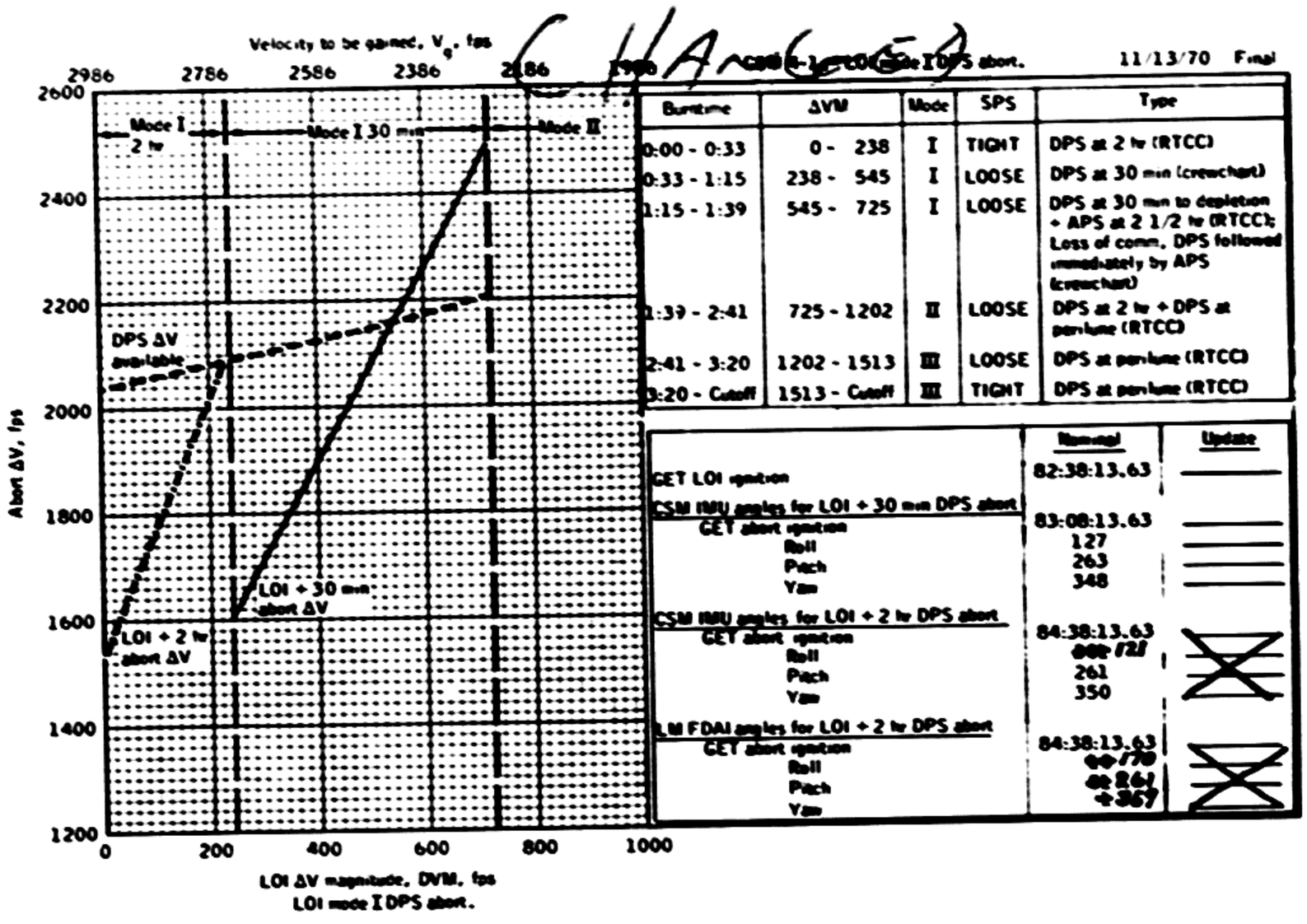
84:36:47

Check Flt Plan Tables - Cue Cards

Change 1, January 15, 1971

1. Sfc wt change
2. Engine model
3. Usable prop.

P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC COMPLETE	±10° COMPLETE	BT + 10 SEC	DO NOT TRIM



LOI mode I DPS abort. 11/13/70 Final

Burntime	ΔVM	Mode	SPS	Type
0:00 - 0:33	0 - 238	I	TIGHT	DPS at 2 hr (RTCC)
0:33 - 1:15	238 - 545	I	LOOSE	DPS at 30 min (crewchart)
1:15 - 1:39	545 - 725	I	LOOSE	DPS at 30 min to depletion + APS at 2 1/2 hr (RTCC); Loss of comm, DPS followed immediately by APS (crewchart)
1:39 - 2:41	725 - 1202	II	LOOSE	DPS at 2 hr + DPS at perilune (RTCC)
2:41 - 3:20	1202 - 1513	III	LOOSE	DPS at perilune (RTCC)
3:20 - Cutoff	1513 - Cutoff	III	TIGHT	DPS at perilune (RTCC)

	Nominal	Update
GET LOI ignition	82:38:13.63	
CSM INRU angles for LOI + 30 min DPS abort		
GET abort ignition	83:08:13.63	
Roll	127	
Pitch	263	
Yaw	348	
CSM INRU angles for LOI + 2 hr DPS abort		
GET abort ignition	84:38:13.63	
Roll	000 /22	
Pitch	261	
Yaw	350	
LM FDAI angles for LOI + 2 hr DPS abort		
GET abort ignition	84:38:13.63	
Roll	000 /70	
Pitch	261	
Yaw	+367	

FLIGHT PLAN

MCC-H	0023 CST		
	82:00 (21101) (X1111)	MSFN	SXT STAR CHECK
RECORD VG_{IMU} DATA			P40 SPS THRUSTING
	:10		
GO/NO-GO FOR LOI			GO/NO-GO FOR LOI
	:20		
			VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)
	82:30		
	REV 1		
	:40		LOI
	(21111) (X1111)		V66 SET CSM S.V. INTO LM S.V.
	:50		V48 (21111)(X1111) V49 MNVR TO COMM ATTITUDE (82:57) (000,176,000)
DUMP DSE			ACQ MSFN HGA P -15, Y 180 BURN STATUS REPORT
	83:00		

TIG: 82:38:14
BT: 6 MIN 06.6 SEC
ΔVT: 2,986.0 FPS
ULLAGE: NONE
ORBIT: 170x57.1 NM

NOTES

BURN STATUS REPORT

λ		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		UNBAL

*ITEMS TO BE REPORTED TO MSFN
**REPORT IF OFF MORE THAN 1 SEC
***REPORT IF >0.2 FPS

S-IVB LUNAR IMPACT
(GET 83:07:46.5)
LAT -1.596
LONG-33.250

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	~~FINAL~~ CHANGE 8 (JAN)	~~DECEMBER 2, 1970~~ 1/11/71	82:00 - 83:00	4/1	3-79

MCC-H

0123 CST

FLIGHT PLAN

83:00
(21111)
(X1111)

:10

:20
(-0.0507)
(+005.00)

UPDATE TO CSM
MAP UPDATE REV 2

83:30

:40

:50

84:00

MSFN

ESTABLISH ORB RATE TO OBSERVE LUNAR SURFACE
V79 (-0.0507)
(+005.00)
(+00001)
PRO TO START PITCH RATE (000,215/176,000)

EAT PERIOD

NOTES

LINE UNDER PITCH ATTITUDE INDICATES AN ORDEAL (LOCAL HORIZONTAL) ANGLE.

THE SC CONTROLLING RATE AND DEADBAND WILL BE SHOWN IN THE TIME COLUMN IF OTHER THAN THE DAP LOAD

MAP UPDATE REV 2
LOS : 84:21:19
180° : 84:44:53
AOS : 85:04:38

DURING LUNAR ORBIT, URINE DUMPS SHOULD BE PERFORMED, WHEN REQUIRED, WHILE THE SC IS ON THE BACK SIDE OF THE MOON

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	83:00 - 84:00	4/1	3-80

MCC-H 0223 CST

FLIGHT PLAN

NOTES

84:00 (21111) (X1111)

:10

:20

84:30

(21101) (X1111) :40

REV 2

:50

85:00

MSFN

STOP ORB RATE AT P52 ATTITUDE (84:05)
(000,065,000) HGA P -54, Y 0

P52 IMU REALIGN
OPTION 3 REFSMMAT
(LDG SITE ORIENT)

REPORT: GYRO TORQUING ANGLES

VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)

CSM SYSTEMS CHECKLIST
COMM MODE - NORMAL LUNAR CONFIGURATION PAGE S 1-23

H_2 PURGE LINE HEATERS ON
CYCLE CMC MODE - FREE/AUTO

V48 (21101)(X1111)
V49 MNVR TO LDMK TRACK ATTITUDE (85:00)
(000,262,000)

H_2 & O_2 FUEL CELL PURGE
WASTE WATER DUMP
H_2 PURGE LINE HEATERS - OFF

P52 IMU REALIGN
N71: __ __,__ __
N05: __ __ __.__ __
N93:
X __ __.__ __ __
Y __ __.__ __ __
Z __ __.__ __ __
GET __ __ __:__ __:__ __

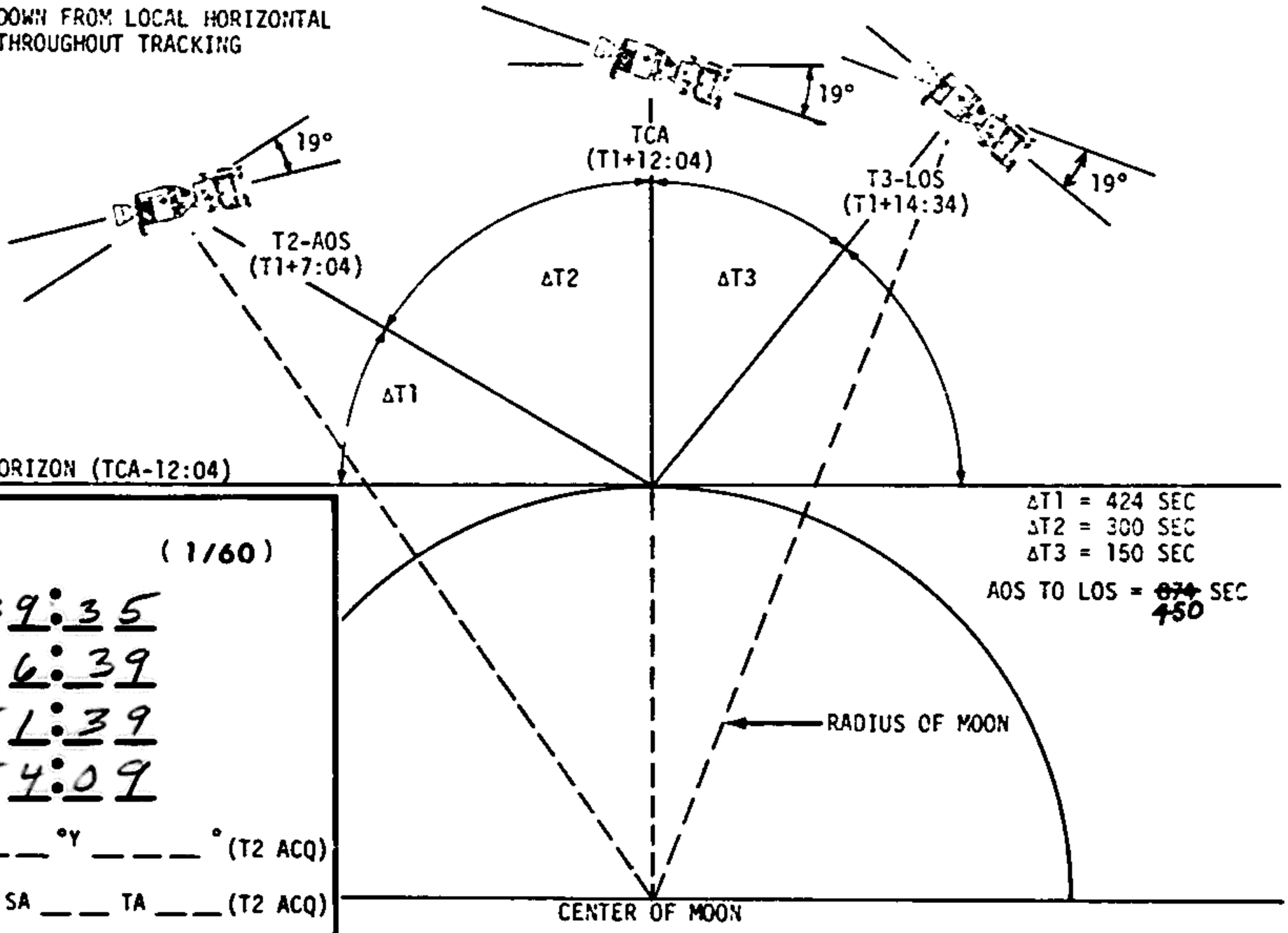
PERICYNTHION +2 HR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	84:00 - 85:00	4/1-2	3-81

1/11/71

CSM LANDMARK TRACKING PROFILE
(50 x 170 NM ORBIT)

19 DEG PITCH DOWN FROM LOCAL HORIZONTAL
ORBITAL RATE THROUGHOUT TRACKING



P24 LDMK TRACKING

TGT: **MÖSTING A** (1/60)

T_1 85:39:35

T_2 85:46:39

TCA 85:51:39

T_3 85:54:09

R ____ °P ____ °Y ____ ° (T2 ACQ)

N ~~or S~~ NM 08 / SA ___ TA ___ (T2 ACQ)

N89

LAT -03.250

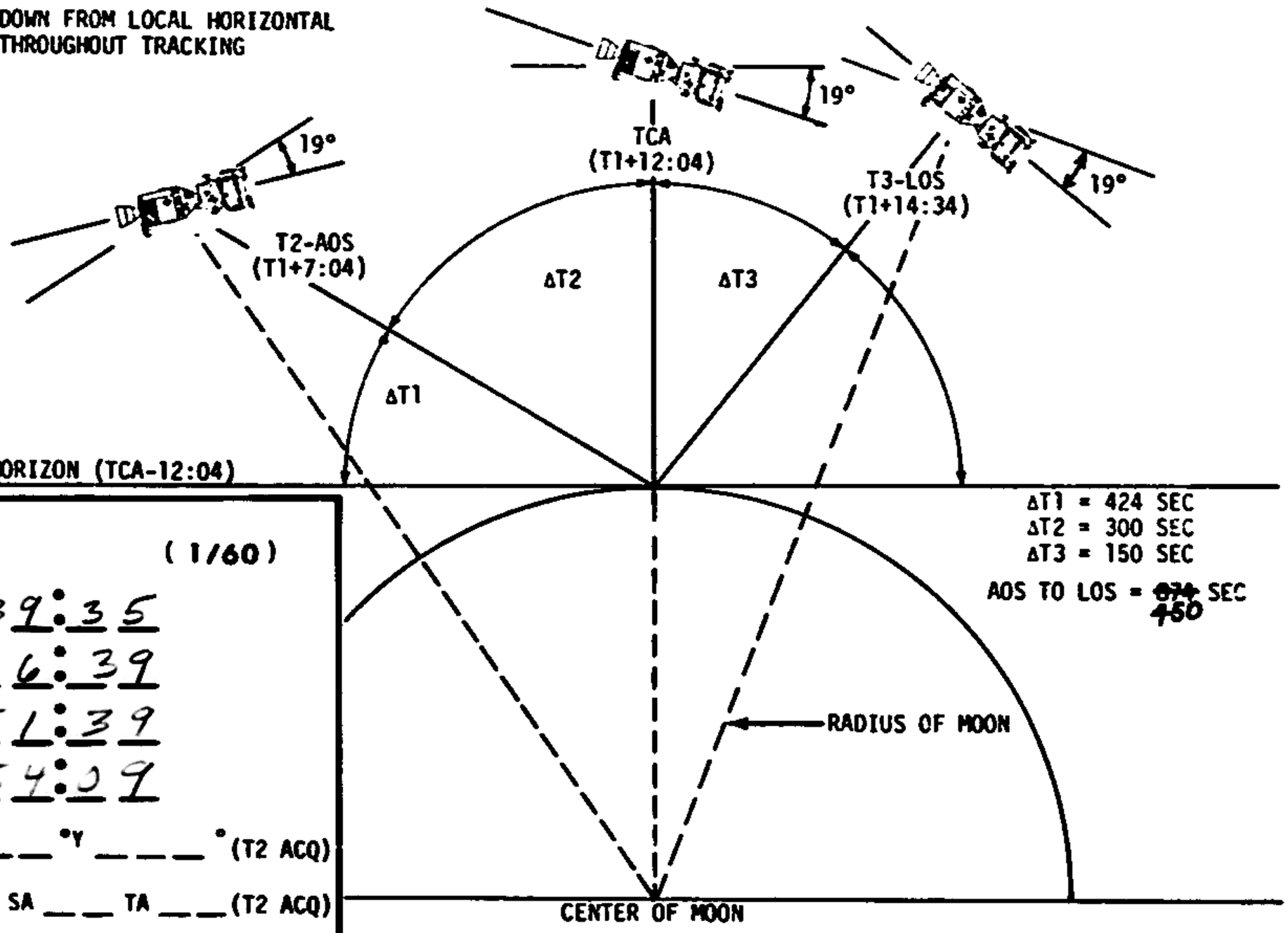
LONG/2 -02.642

ALT +000.00

1/11/71

CSM LANDMARK TRACKING PROFILE
(60 x 170 NM ORBIT)

19 DEG PITCH DOWN FROM LOCAL HORIZONTAL
ORBITAL RATE THROUGHOUT TRACKING



P24 LDMK TRACKING

TGT: MÖSTING A (1/60)

T_1 85:39:35

T_2 85:46:39

TCA 85:51:39

T_3 85:54:09

R ____ °P ____ °Y ____ ° (T2 ACQ)

N ~~or S NM~~ 08 / SA ___ TA ___ (T2 ACQ)

N89

LAT -03.250

LONG/2 -02.642

ALT +000.00

FLIGHT PLAN

MCC-H | 0323 CST | **NOTES**

85:00 (2110) (X111)

ACQ MSFN OMNI C

CSM G&C CHECKLIST

:V TEST & NULL BIAS CHECK — PAGE G 2-5
REPORT: BIAS

UPDATE TO CSM
LDMK TRK PAD REV 2 ✓
TEI 5 PAD ✓
LDMK H-3 PAD REV 3 ✓
MAP UPDATE REV 3 ✓
UPLINK TO CSM
CSM S.V. & V66 ✓

TEI 5 PAD ASSUMES NOMINAL DOI ACCOMPLISHED

MAP UPDATE REV 3
LOS : 86:29:12
180° : 86:33:05
AOS : 87:15:06

:10

:20

CONFIGURE CAMERA: (LDMK TRACK)
CM/DAC/SXT/CEX (EXP PAD) 1 fps (9% MAG)
MAG (B) B MAG %
UTILITY POWER-ON
P24 (MÖSTING A)
OPT ZERO-OFF
OPT MODE-CMC
SC CONTROL-CMC/AUTO (VERIFY)
V79 (N16 LOAD T2 TIME)
(-0.0433)
(+000.50)
(+00001)
PRO (AUTO PITCH RATE AT T2 TIME)

MSFN

85:30

:40 (-.0433) (+00.50)

RECORD PCM LBR ON DSE DURING P24

TRACK LDMK MÖSTING A
30 SEC BETWEEN MARKS

START DAC AT T2 -1 MIN
STOP DAC AT T3

LDMK IS AT 10.6° SUN ANGLE

:50

UPDATE TO CSM
DOI MNVR PAD ✓

RECORD MAG % 77
V49 MNVR TO BURN PAD ATTITUDE EXCEPT IN ROLL (86:10)
(060,269,000) HGA P 29, Y 255

(21101) (X111)

86:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	85:00 - 86:00	4/2	3-83

FLIGHT PLAN

DOI
BURN TABLE

P OR Y RATES	ATT DEVIATIONS	SHUTDOWN TIME	RESIDUALS
10°/SEC TERMINATE	+10° TERMINATE	BT	*TRIM OVERBURNS IN X TO WITHIN 1 FPS, DO NOT TRIM Y & Z

*IF OVERBURN IS >2.2 FPS PITCH 180 AND TRIM

TABLE 3-7

FLIGHT PLAN

MSFN

MCC-H

0423 CST

86:00

(21101)
(X1111)

:10

:20

86:30

:40

:50

REV 3

87:00

DUMP DSE
UPLINK TO CSM
DOI TARGET LOAD
CSM S.V. & V66
(IF REQ'D)
PIPA BIAS CHECK
GO/NO-GO FOR DOI

RECORD VG_{IMU} DATA

CSM SYSTEMS CHECKLIST

C&W SYSTEM OPERATIONAL CHECKLIST	PAGE S 1-17
CM RCS MONITORING CHECK	PAGE S 1-1
SPS MONITORING CHECK	PAGE S 1-1
ECS MONITORING CHECK	PAGE S 1-5

P52 IMU REALIGN
OPTION 3 REFSMMAT
LDG SITE ORIENT

REPORT: GYRO TORQUING ANGLES
P30 EXTERNAL ΔV
P40 SPS THRUSTING
V49 MNVR TO PAD BURN ATTITUDE (86:40)
(000,269,000)
VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)

SXT STAR CHECK
P40 SPS THRUSTING

DOI

V66 SET CSM S.V. INTO LM S.V.

NOTES

P52 IMU REALIGN
N71: 17.
N05: ---.---
N93:
X 000.50
Y 00.070
Z ---.---
GET 86:10:15

TIG: 86:56:57
BT: 21.38 SEC
ΔVT: 206.6 FPS
ULLAGE: 4 JET 14 SEC
ORBIT: 58.4x9.8 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	86:00 - 87:00	4/2-3	3-85

MCC-H

0523 CST

FLIGHT PLAN

NOTES

87:00 (21101 X1111)

:10

:20

STAY/BAILOUT

DUMP DSE

87:30

:40

:50

88:00

MSFN

V49 MNVR TO BAILOUT BURN ATTITUDE (87:10)
(325,063,000)

* * * * * * * * * * * * * * * * * *
AOS - NO UP VOICE PROCEDURE
*1. WAIT 30 SEC, CHECK HGA *
*2. SELECT OMNI B *
*3. SELECT SEC XPNDR *
*4. AFTER 3 MIN GO TO LOSS *
* OF COMM CUE CARD *
* * * * * * * * * * * * * * * * * *

ACQ MSFN HGA P-39, Y325

BURN STATUS REPORT

SC CONTROL-SCS
P47 THRUST MONITOR
BAILOUT BURN

IF REQ'D

TIG: 87:27:31
BT: 10.17 SEC
ΔVC: 100.0 FPS
ULLAGE: 4 JET 14 SEC
ORBIT: N/A

V49 MNVR TO LANDMARK OBSERVATION ATTITUDE (87:45)
(000,292,000) OMNI D

P24 ORB NAV
MONITOR LDMK
NO MARKS

LDMK H-3
T HOR: 87:49:48
TCA -20 SEC: 87:51:47
LAT: -03.691
LONG/2: -03.771
ALT: +00000

BURN STATUS REPORT

	ΔTIG**
26 6	BT*
	V_{gx}
TRIM	
	R
	P
	Y
0.6	V_{gx} ***
0.2	V_{gy} ***
6.0	V_{gz} ***
6.2	ΔV_c *
37.7	FUEL *
31.4	OX *
-9.0	UNBAL

*ITEMS TO BE REPORTED TO MSFN
**REPORT IF OFF MORE THAN 1 SEC
***REPORT IF >0.2 FPS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE C (JAN)	JANUARY 18, 1971	87:00 - 88:00	4/3	3-86

FLIGHT PLAN

MCC-H

0623 CST

88:00
~~21101~~
~~21111~~
(X1111)

:10

:20

88:30

:40

REV 4

:50

~~21101~~
~~11111~~
89:00

MSFN

UPDATE TO CSM
MAP UPDATE REV 4

P52 IMU REALIGN
OPTION 3 REFSMMAT
(LDG SITE ORIENT)

REPORT: GYRO TORQUING ANGLES
VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)

V49 MNVR TO LTC ATTITUDE (89:05)
~~(101,257,369)~~
352, 146, 355

CONFIGURE CAMERA: TARGET 9 (DESCARTES)
CM3/LTC/BW/BEF - (SHUT 1/200, RNG PAD, INT 65.0) (402 FR)
MAG (W) ____, FR # ____
LTC INSTALLATION (DECAL)
RECORD TIME: __ __:__ __:__ __, DAY __ __ __ (LTC CLOCK)
AT GET: ____:____:__ __
LTC CHECKOUT (DECAL)
CYCLE CMC MODE - FREE/AUTO
~~P40 (21101)(11111)~~

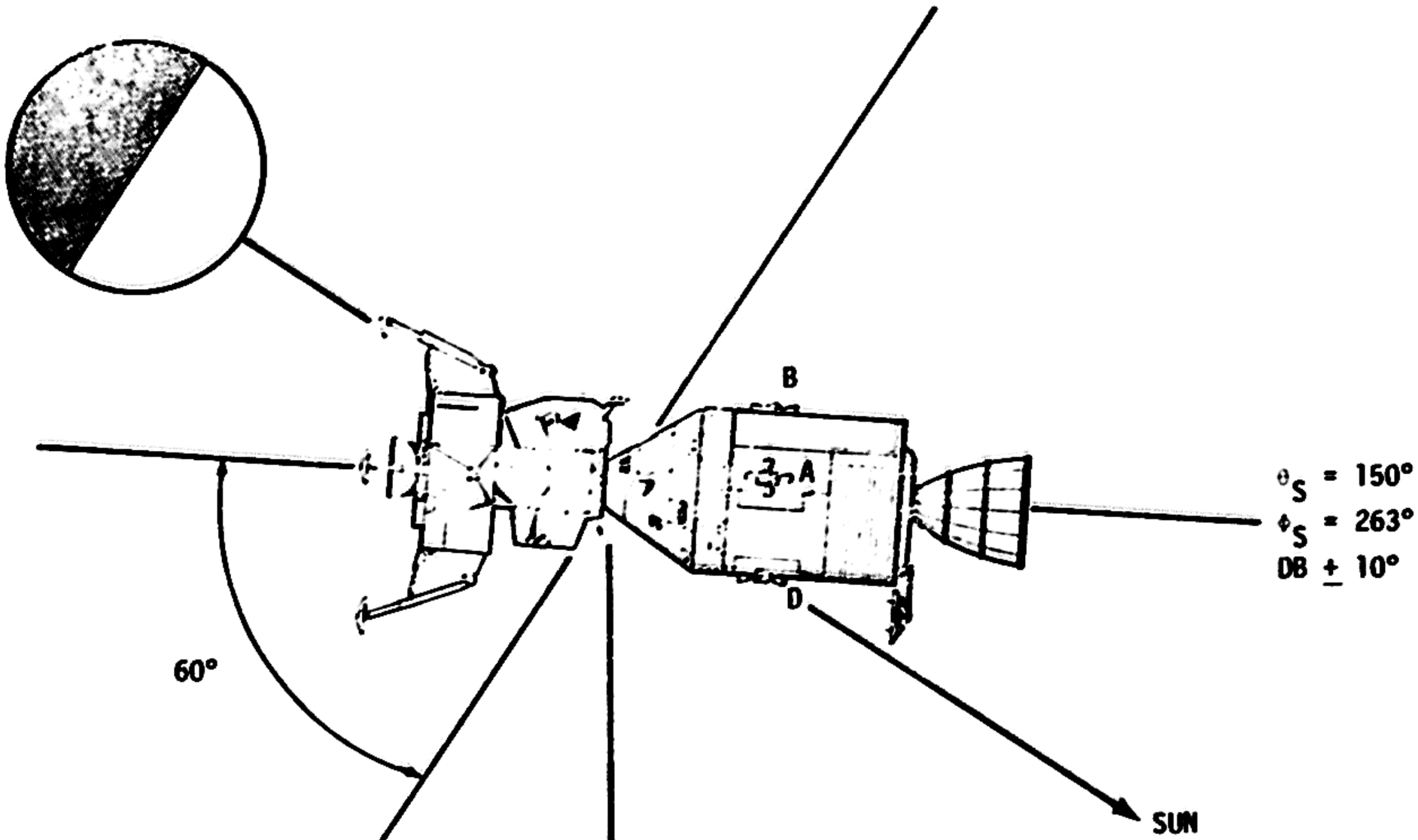
NOTES

MAP UPDATE REV 4
LOS : 88:20:34
180° : 88:46:55
AOS : 89:07:01

P52 IMU REALIGN
N71: _ _,_ _
N05: _ _ _,_ _
N93:
X _ _,_ _ _ _
Y _ _,_ _ _ _
Z _ _,_ _ _ _
GET 88:05:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	~~FINAL~~ CHANGE 3 (JAN)	~~DECEMBER 2, 1970~~ 1/11/71	88:00 - 89:00	4/3-4	3-87

LUNAR ORBIT REST PERIOD ATTITUDE



θ_S THE SMALLEST ANGLE BETWEEN THE SPACECRAFT X BODY AXIS AND THE SUN LINE OF SIGHT

ϕ_S THE ANGLE WHICH IS MEASURED FROM THE MINUS Z SPACECRAFT BODY AXIS POSITIVELY ABOUT THE X BODY AXIS TO THE SUN LINE OF SIGHT VECTOR PROJECTION IN THE Y - Z AXIS PLANE

MCC-H

0723 CST

FLIGHT PLAN

NOTES

89:00
(21101)
(X1111)

DUMP DSE

:10

UPDATE TO CSM
LTC PHOTO PAD
TEI 12 PAD
MAP UPDATE REV 10
UPLINK TO CSM
CSM S.V. & V66

:20

ACQ MSFN HGA P ~~64~~ -46, Y ~~177~~ 178

V49 TWEAK MNVR TO LTC PAD ATTITUDE

VERIFY LTC MODE - STANDBY/PWR - ON (T START - 1 MIN)
ZERO DET

PIP PIN

89:30

MSFN

LTC MODE - AUTO, DET - START/UP (T START)
PHOTO TGT 9 (DESCARTES)
(SEE PAD FOR RANGE CHANGES)
LTC MODE - STANDBY (T STOP)
LTC FILM MAG CHANGE (DECAL)
ADVANCE 4 FRAMES, RECORD FR # ____
PUT MAG (V) ON LTC
RESET FRAME COUNTER
LTC REMOVAL (DECAL) & STOW
V49 MNVR TO REST ATTITUDE (90:00)
(126,286,000) HGA P -35, Y 272
MAN ATT (3) - ACCEL CMD
SC CONT - CMC/AUTO (VERIFY)
V79 (-0.0000) (+010.00) (+00001)
MAN ATT (3) - RATE CMD

:40

:50

90:00

LTC PHOTO PAD TGT: 9(DESCARTES)
(181,257,359)
R 344 P 145 Y 350
T START: 89:34:36
T STOP: 87:40:41
RNG: 53.9 (51.7) (T START)
RNG: 55.2 (53.0) (T START + 00:54)
RNG: 47.7 (44.5) (T START + 01:23)
RNG: 40.7 (36.4) (T START + 02:21)
RNG: 38.0 (33.0) (T START + 04:41)
RNG: 34.9 (28.1) (T START + 05:18)

MAP UPDATE REV 10
LOS : 99:43:44
180° : 100:09:52
AOS : 100:32:12

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	89:00 - 90:00	4/4	3-89

FLIGHT PLAN

MCC-H

0823 CST

UPDATE TO CSM
TRAJECTORY STATUS

90:00
(-0.0000
+010.00)

MSFN

:10

:20

90:30

:40

REV 5

:50

91:00

CSM SYSTEMS CHECKLIST
PRE-SLEEP CHECKLIST PAGE S -126
(DO NOT CHLORINATE WATER UNTIL AFTER EAT PERIOD)

VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)
LiOH CANISTER CHANGE
(9 INTO A, STOW 7 IN B6)

EAT PERIOD

REST ATT

NOTES

ONBOARD READOUT

BAT C	37.0
PYRO BAT A	37.2
PYRO BAT B	37.2
RCS A	20
B	82
C	80
D	83

DC IND SEL - MNA OR B

DAP LOAD STATUS
(21101) (X1111)

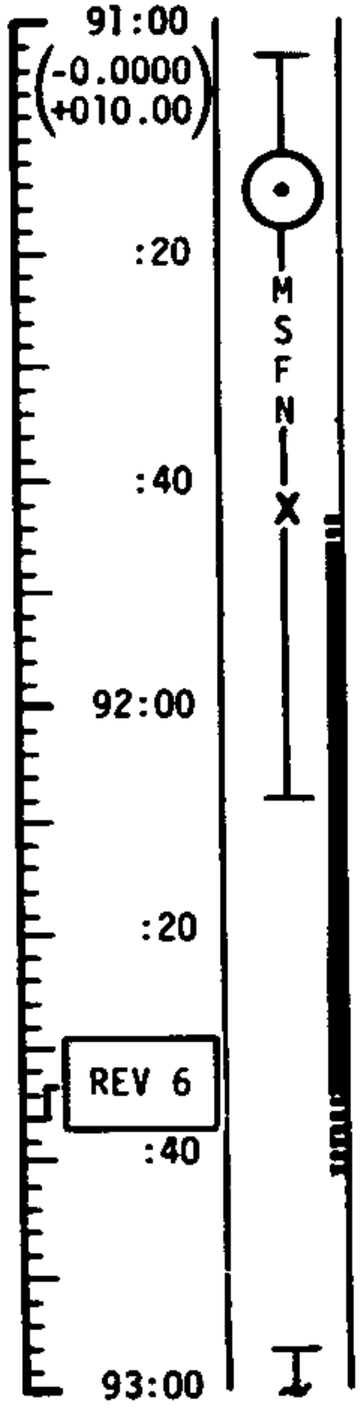
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	90:00 - 91:00	4/4-5	3-90

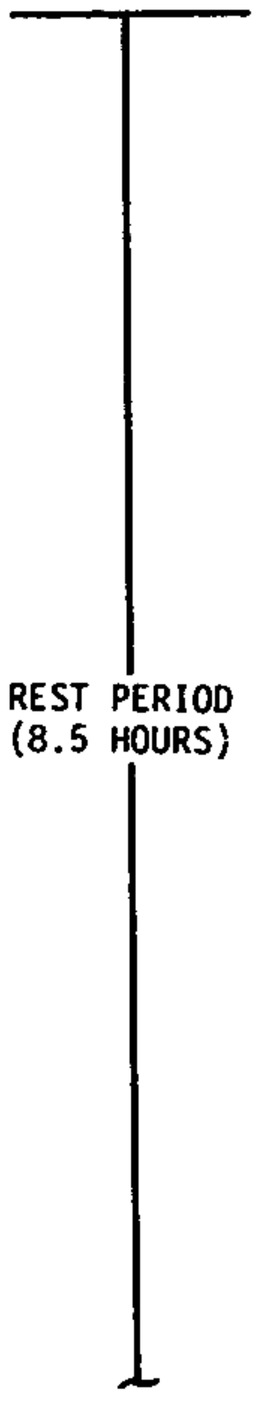
FLIGHT PLAN

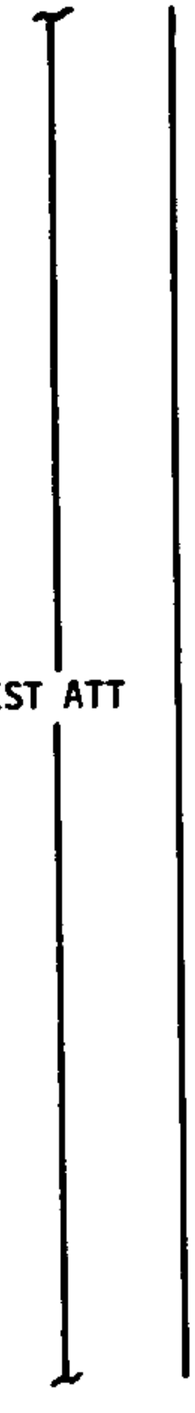
MCC-H

DUMP DSE

0923 CST







NOTES

DAP LOAD STATUS
(21101)(X1111)

DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	91:00 - 93:00	4/5-6	3-91

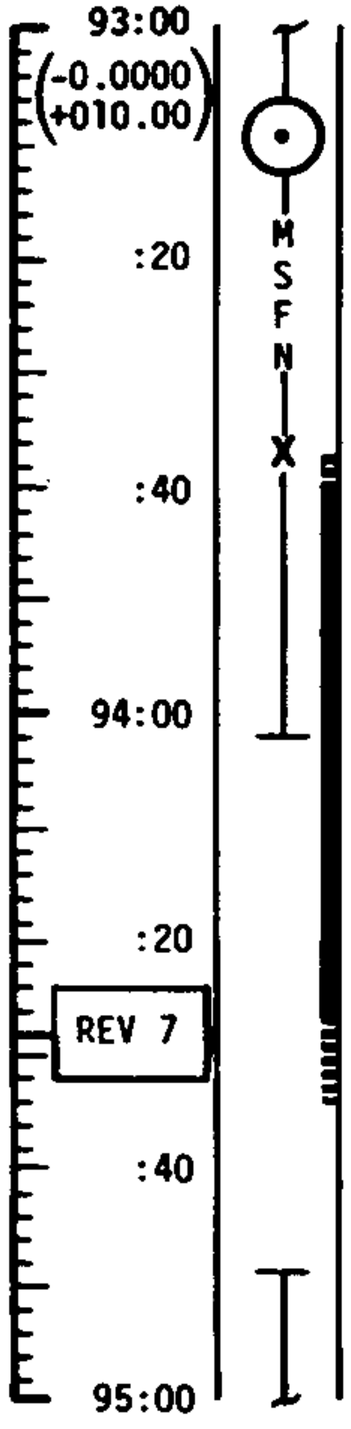
MCC-H

1123 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(21101)(X1111)



REST PERIOD
(8.5 HOURS)

REST ATT

DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	93:00 - 95:00	4/6-7	3-92

MCC-H

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(21101)(X1111)

1323 CST

95:00
(-0.0000)
(+010.00)

M
S
F
N
X

:20

:40

96:00

:20

REV 8

:40

DUMP DSE

97:00

REST PERIOD
(8.5 HOURS)

REST ATT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	95:00 - 97:00	4/7-8	3-93

MCC-H

FLIGHT PLAN

1523 CST

97:00
(-0.0000
+010.00)

:20

:40

98:00

REV 9

:20

:40

99:00

TMSFN — X

DUMP DSE

REST PERIOD
(8.5 HOURS)

REST ATT

NOTES

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	97:00 - 99:00	4/8-9	3-94