

CSM FLIGHT PLAN

130:00 MSFN UPLINK:
CSN S.V.
MSFN UPDATE:
CONSUMABLES
MAP UPDATE REV 26 (131:05)
VERTICAL STEREO PAD (131:35)

CYCLE CHC MODE - FREE/AUTO
V48 (11102)
(X1111)

V49 MNVR TO ORB SCIENCE/S-BD BI-STATIC RADAR ATT (130:11)
(228,013,000)

MCC CMDS:
S-BD MODE RANGING - OFF
S-BD AUX TAPE - OFF
PCM BIT RATE - LO
TAPE RECORDER - FWD

VERIFY DSE TAPE MOTION (IF TB NOT GRAY - S-BD MODE RNG-OFF,
AUX TAPE-OFF/LBR/RCD/FWD/CMD RESET)

ON MCC CUE, SELECT:
VHF ANT - LEFT, S-BD ANT - OMNI C

NOTE: MCC WILL TURN OFF UPLINK (~130:08)

SC CONT - CHC/AUTO (VERIFY)
V79 (-0.0830)
(+005.00)
(+00001)

PRO TO START PITCH RATE (228,043/013,000)

ORBITAL SCIENCE PHOTOGRAPHY

PHOTO TGT 10, SOUTH (F11,1/250,-) 102 FR AT 10 SEC (250mm)
(180° + :49)

NOTE: DURING BI-STATIC RADAR
 TEST MSFN HAS NO FILM FROM
 ~130:10 TO ~130:55 AND NO VOICE
 CAPABILITY DURING TEST

CHANGE TO F8

CHANGE TO F5.6

130:30 CHANGE TO F4

RECORD FR # _____

CSN CONSUMABLES UPDATE

GET: _____

RCS TOTAL _____

QUAD A _____	B _____
C _____	D _____
H ₂ TANK 1 _____	2 _____
O ₂ TANK 1 _____	2 _____
3 _____	

EAT PERIOD

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-174

LM FLIGHT PLAN

MCC-N	0023 CST	CDR	LMP	NOTES
UPLINK TO CSM CSM S.V.	130:00			
UPDATE TO CSM CONSUMABLES				
MAP UPDATE REV 26	:10		REST PERIOD (10 HOURS)	
VERTICAL STEREO PAD	:20			
	130:30	STOW HAMMOCKS CHANGE L10H CANISTER		
	:40		BIOMED - RIGHT	
STAY/NO-STAY FOR EVA-2 PREP	:50	STAY/NO-STAY FOR EVA PREP	EAT PERIOD	
	131:00	CREW STATUS REPORT (SLEEP DOSIMETER)		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	130:00 - 131:00	6/25	3-175

CSM FLIGHT PLAN

<p>131:00 (-0830) (+05.00)</p> <p>(11102) (Y1111)</p> <p>131:10</p> <p>131:20</p> <p>131:30</p>	<p>MAP UPDATE REV 26</p> <p>LOS : _____</p> <p>180°: _____</p> <p>AOS : _____</p> <p>P52 IMU REALIGN</p> <p>N71: _____</p> <p>N05: _____</p> <p>N93: _____</p> <p>Y _____</p> <p>Z _____</p> <p>GET _____</p> <p>P52 (OPTION 3) (LIFT-OFF ORIENT)</p> <p>GDC ALIGN VERIFY ORDEAL V49 MVR TO VERT STEREO ATT (131:26) (180,021,000)</p> <p>SC CONT - CMC/AUTO (VERIFY) V79 (-0.0507) (+000.50) (+00001)</p> <p>PRO TO START PITCH RATE (180,282/021,000)</p>	<p>131:30 (-0507) (+00.50)</p> <p>CONFIGURE CAMERA: (VERT STEREO) CM4/DC/80/BW-BRKT, IYL, PCM CABLE (f4.1/250,-) (174 FR)</p> <p>MAG (0) _____, FR # _____</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>VERTICAL STEREO PHOTO</p> <p>T START: _____</p> <p>T STOP: _____</p> </div> <p>BOOTSTRAP (VERT STEREO) & ORBITAL SCIENCE PHOTOGRAPHY</p> <p>ADJUST COAS FOR +12° ELEVATION</p> <p>V06N65 (DO NOT ENTER) CONFIGURE DSE (HBR/RCD/FWD/CMD RESET) 131:43:19 - ENTER, DC - ON (T START)</p> <p>RECORD TIME FROM V06N65 _____</p> <p>PCM BIT RATE - LO</p> <p>CHANGE DC f-STOP TO (f8)</p> <p>V64; ACQ MSFN HGA P -57, Y 356 REPORT: <u>GYRO TORQUING ANGLES</u> (FROM P52 AT 131:18)</p> <p>CONFIGURE CAMERA: (ORB SCIENCE) CM/EL/250/CEX (f8,1/250,-) (43 FR)</p> <p>MAG (M) _____, FR # _____</p> <p>132:00</p>
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MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-176

LM FLIGHT PLAN

MCC-H

0123 CST

CDR

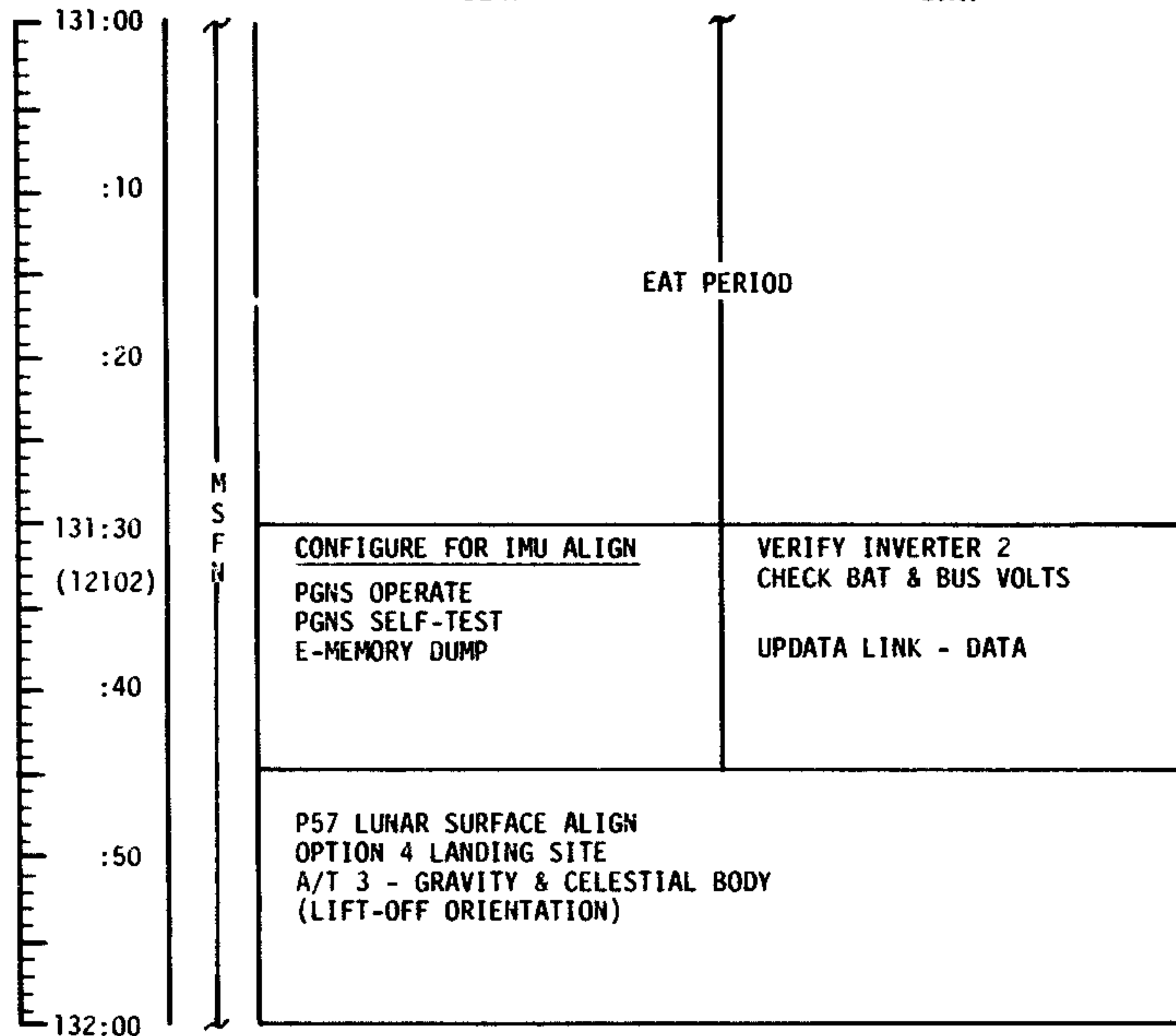
LMP

NOTES

UPDATE TO LM
LM CONSUMABLES
TIME OF LIFT-OFF
FOR REVS 26
THROUGH 31

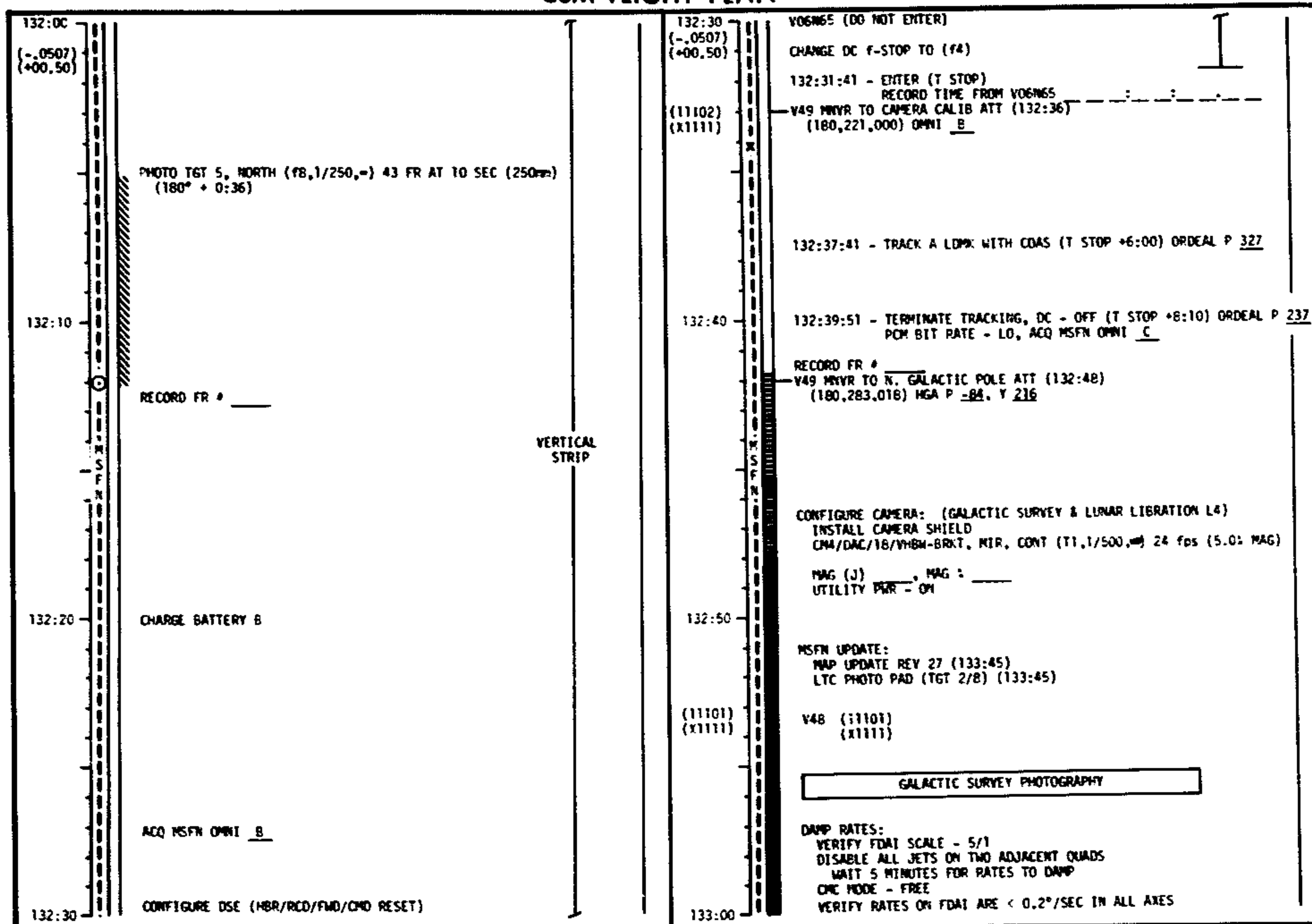
UPLINK TO LM
CSM S.V.
RLS (IF REQ'D)

DUMP DSE



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	131:00 - 132:00	6/25-26	3-177

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-178

LM FLIGHT PLAN

MCC-H

0223 CST

CDR

LMP

NOTES

UPDATE TO CSM
LTC PHOTO PAD
MAP UPDATE REV 27

132:00 (12102)	M S E N	EVA PLANNING PERIOD	
:10			
:20		<u>CABIN PREP FOR EVA-2</u> CLEAN AND LUBRICATE SEALS AS REQUIRED STOW ALL LOOSE ITEMS NOT REQUIRED FOR EVA UNSTOW EVA-2 PREP & POST CARD STOW LUNAR SURFACE CHECKLIST	
132:30			
:40			
:50		<u>EQUIPMENT PREP FOR EVA-2</u> SET DET CDR DON BOOTS UNSTOW AND CHECK BOTH OPS VERIFY EQUIPMENT IN ETB AND STOW FOR EVA LMP DON BOOTS	-1:30
133:00			-1:20

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	132:00 - 133:00	6/26	3-179

CSM FLIGHT PLAN

133:00

M
S
F
A

(11101)
(x1111)

DAC - ON AT 24 fps FOR 2 SEC
CHANGE TO TIME & 1/60 SEC
VERIFY DSE TAPE POSITION (LGR/RCD/FWD/CHD RESET)
DIM INTERIOR LIGHTING

START PHOTO SEQUENCE:
2 FRAMES, EXP TIME 20 SEC
1 FRAME, EXP TIME 5 SEC

VERIFY RATES NOT > 0.2°/SEC IN ANY AXIS
IF RATES > 0.2°/SEC, AND TIME PERMITS -
DAMP RATES FOR 60 SEC AND REPEAT EXPOSURE SEQUENCE

CHANGE TO 24 fps & 1/500, RUN DAC FOR 2 SEC
LIGHTS UP, CHC MODE - AUTO, ENABLE ALL QUADS

V49 HWYR TO LUNAR LIBRATION ATT (133:20)
(180,320,349)

CONFIGURE CAMERA: (BOOTSTRAP/ORB SCIENCE)
CM3/LTC/MBW/SEF (SHUT 1/50, RING 1-PAD, INT 8.1)(436 FR)

MAG (U) _____, FR # _____

LTC INSTALLATION (DECAL)
LTC CHECKOUT (DECAL)

LUNAR LIBRATION PHOTOGRAPHY

133:20 - INHIBIT - A3,C4,B3,04 THRUSTERS
DAC - ON AT 24 fps FOR 2 SEC, CHANGE TO TIME & 1/60 SEC
DIM INTERIOR LIGHTING

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1 FRAME, EXP TIME 60 SEC
2 FRAMES, EXP TIME 20 SEC
1 FRAME, EXP TIME 5 SEC
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CHANGE TO 24 FPS & 1/500. RUN DAC FOR 2 SEC
LIGHTS UP, ENABLE - A3, C4, B3, D4 THRUSTERS
REMOVE CAMERA FROM WINDOW

RECORD MAG :
REMOVE CAMERA SHIELD

MAP UPDATE REV 27

LOS : _____

180° : _____

AOS : _____

133:30 V48 (11102)
(X1111)
(11102) V49 HWVR TO VERT LTC TGT: 2/8 PAD ATT (133:38)
(X1111)

BOOTSTRAP (VERT LTC) & ORB SCIENCE PHOTOGRAPHY

SC CONT - CNC/AUTO (VERIFY)

V79 (-0.0507)
(+000.50)
(+00001)

PRO TO START PITCH RATE AT ORDEAL P 328

CONFIGURE DSE (HBR/RCD/FWD/CMD RESET)

VERIFY: LTC MODE - STBY/PWR - ON, ZERO DET (T START -1 MIN)
LTC TGT 2/8 (SHUT 1/50, RNG 1-PAD, INT 8.1) (424 FR)
LTC MODE - AUTO, DET - UP/START (T START)

PCM BIT RATE - LO
ACQ HSFN OMNI B

CHANGE SHUTTER
TO 1/100 SEC

LTC PHOTO PAD TGT: 2/8 (180,032,020)

R _____ P _____ Y _____
T START: _____
T STOP : _____

RNG 1 _____ (91.0) T START

RNG 2 _____ (91.1) T START +21:25

RNG 3 _____ (90.9) T START +39:50

RNG 4 _____ (91.0) 7 START +44:10

RWG 5_____ (91.1) T START +47:30

V64; ACQ MSFN HGA P -47, Y 357

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-180

LM FLIGHT PLAN

MCC-H

0323 CST

CDR

LMP

NOTES

133:00
(12102)

:10

:20

133:30

:40

:50

134:00

M
S
F
N

T
V

PREPARE VISORS & HELMETS FOR EVA
UNLOCK FORWARD HATCH HANDLE

-1:10

PLSS DONNING

CONFIGURE LMP PLSS FOR DONNING
LMP DON PLSS
CONFIGURE CDR PLSS FOR DONNING
CDR DON PLSS
UNSTOW RCU'S AND VERIFY CONFIGURATION
CONNECT RCU TO PLSS

-1:00

-0:05

PLSS COMM CHECK

FM VGICE CHECK (TV ON)
CONFIGURE FOR EVA COMM, BIOMED-OFF
RECORDER - ON
VERIFY PLSS COMM & TM

-0:40

FINAL SYSTEMS PREP

OPS CONNECT

LMP UNSTOW OPS AND CONNECT TO RCU & PLSS
CDR UNSTOW OPS AND CONNECT TO RCU & PLSS
VERIFY ITEMS PREPARED FOR JETTISON

-0:30

HELMET/GLOVE DONNING

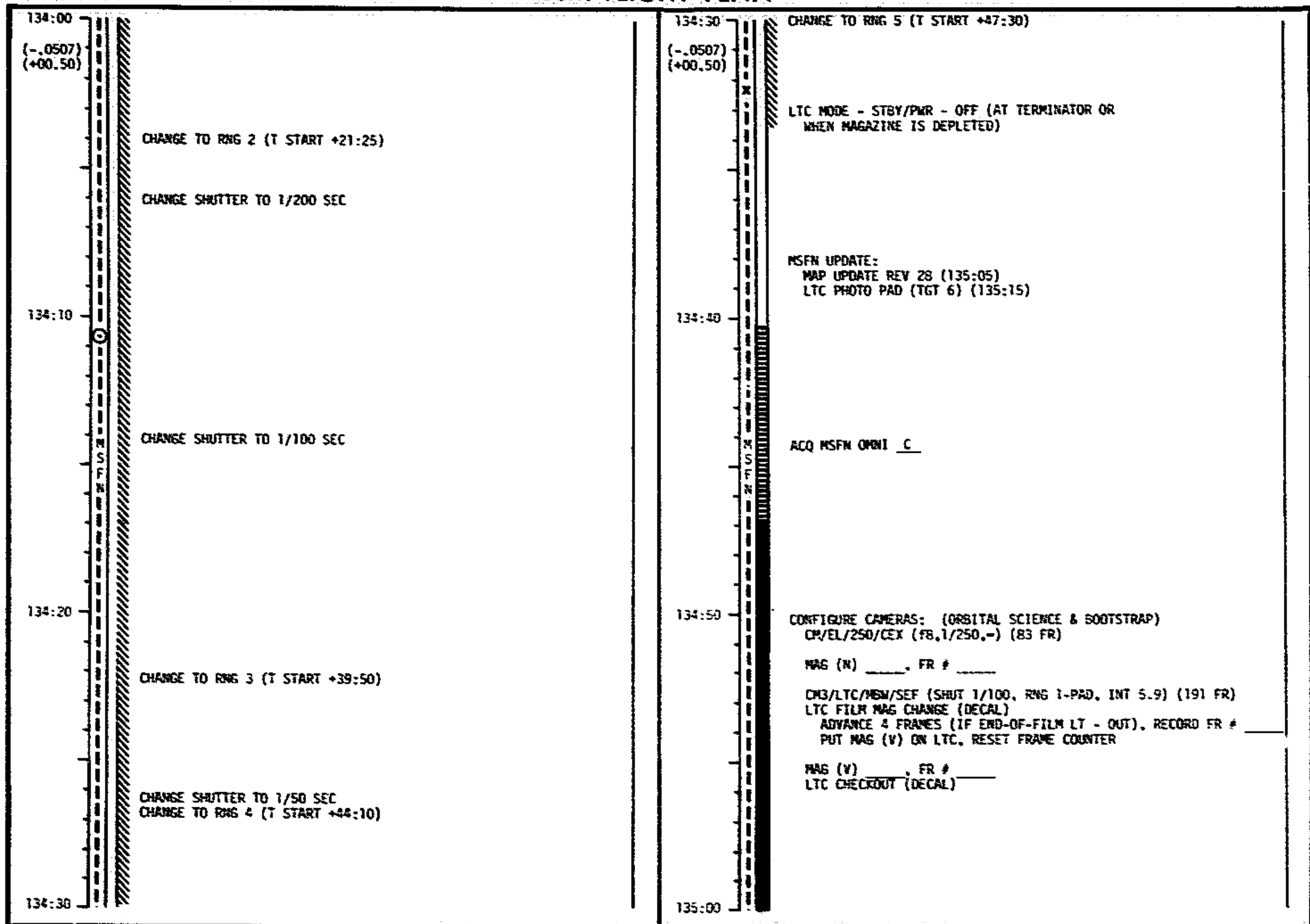
DON HELMETS & LEVA'S
STOW LM HOSES

-0:20

DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	133:00 - 134:00	6/26-27	3-181

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-182

LM FLIGHT PLAN

MCC-H

0423 CST

CDR

LMP

NOTES

134:00
(12102)

:10

:20

134:30

:40

:50

135:00

M
S
T
F
V
N

VERIFY PGA CONFIGURATION

VERIFY CB CONFIGURATION FOR EVA
DON GLOVES

PRESSURE INTEGRITY CHECK
PLSS O₂ - ON

CABIN DEPRESS
DEPRESS CABIN TO 3.5 PSIA, START EVA WATCH
OVHD OR FWD DUMP VALVE - OPEN
PARTIALLY OPEN FWD HATCH

FINAL PREP FOR EGRESS
PLSS FEEDWATER - OPEN, FWD HATCH - OPEN
VERIFY CWEA & PGA STATUS
RELEASE PLSS ANTENNAS, LOWER VISOR

CDR EGRESS AND TRANSFER

DESCEND TO SURFACE
DEPLOY LEC
TRANSFER ETB TO SURFACE AND
STOW ON MESA

RECEIVE AND HOOK UP LEC
LOAD ETB FOR TRANSFER

MET LOAD

MOVE MET NEAR MESA
OPEN SRC AND STOW EQUIPMENT
ON MET

LMP EGRESS
CLOSE HATCH AND DESCEND

MET LOAD ASSIST
STOW CAMERAS AND TOOLS ON
MET. PULL MET TO SEQ BAY

MAGNETOMETER OFFLOAD
MET TRACK & FOOTPRINT EVAL

MAGNETOMETER OFFLOAD,
STOW ON MET

TRAVERSE TO STATION A
PHOTOGRAPH AND COMMENT ON
MET TRACKS

TRAVERSE TO STATION A

STATION A
TDS EXPERIMENT

STATION A
LMP POINT MEASUREMENT

-0:10

0:00 START EVA

0:10

0:20

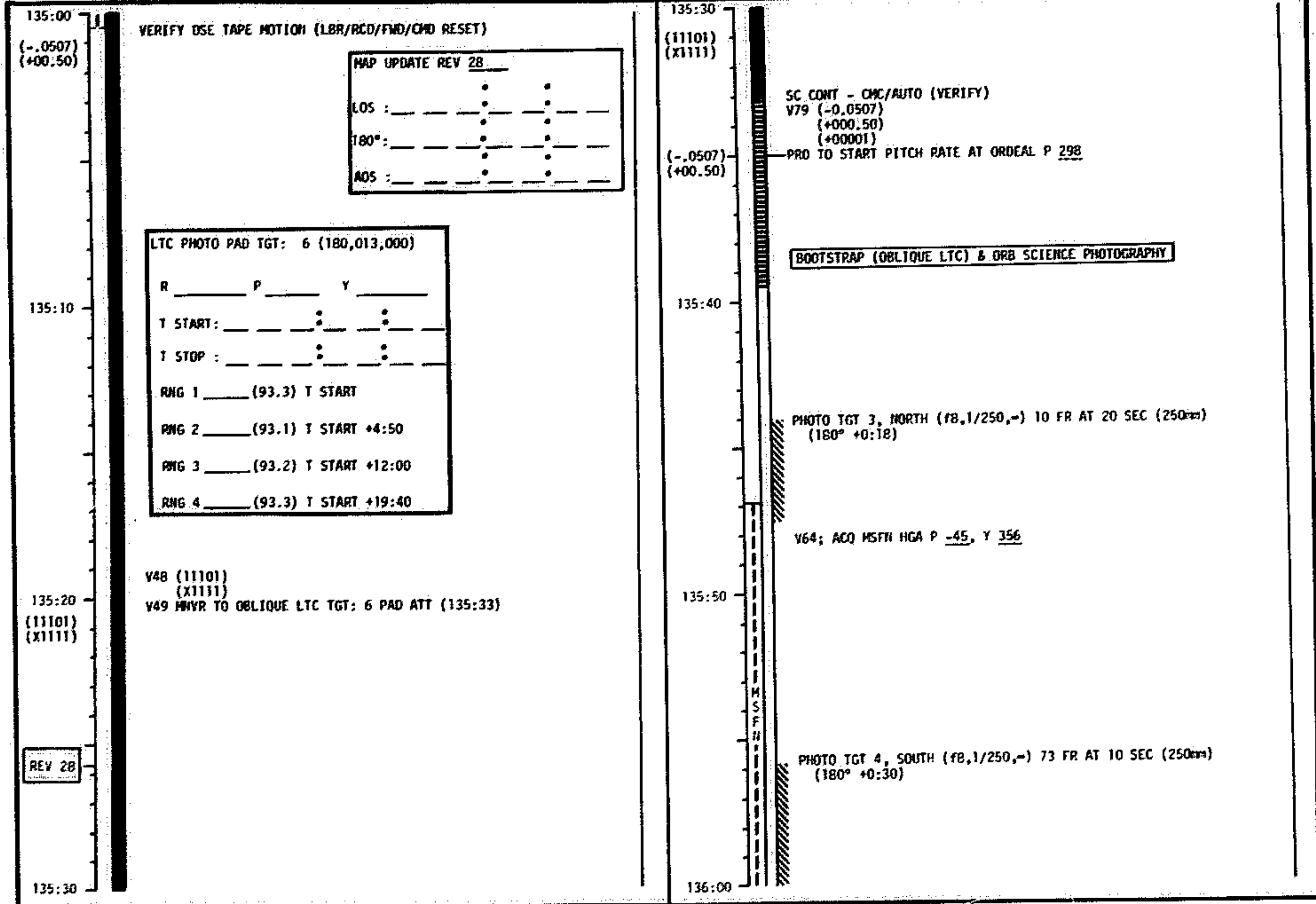
0:30

0:40

UPDATE TO CSM
LTC PHOTO PAD
MAP UPDATE REV 28

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	134:00 - 135:00	6/27	3-183

CSM FLIGHT PLAN



LM FLIGHT PLAN

MCC-H

0523 CST

CDR

LMP

NOTES

<p>135:00 (12102)</p> <p>:10</p> <p>:20</p> <p>135:30</p> <p>:40</p> <p>:50</p> <p>136:00</p>	<p>M S T F V N</p>	<p>REBAG AND STOW TDS SAMPLES</p> <p>PHOTO PANORAMA</p> <p>SITE DESCRIPTION</p> <p>COLLECT SAMPLES</p>	<p>REPORT X,Y,Z READINGS AT EACH OF THREE POSITIONS</p> <p>PHOTOGRAPH SITE</p>	0:50
		<p>DOUBLE CORE</p> <p>PLACE GNOMON</p> <p>HAMMER TUBES INTO SURFACE</p> <p>STOW HAMMER & GNOMON</p>	<p>DOUBLE CORE</p> <p>ASSEMBLE TUBES</p> <p>PHOTOGRAPH TUBES IN SURFACE</p> <p>REMOVE AND STOW TUBES</p>	1:00
		TRAVERSE TO STATION B		1:10
		<p>STATION B</p> <p>SAMPLE COLLECTION</p>	<p>STATION B</p> <p>PHOTO PANORAMA</p> <p>SITE DESCRIPTION</p> <p>SAMPLE COLLECTION</p>	1:20
		TRAVERSE TO BEND AREA		1:30
		BEND AREA: PHOTO PANORAMA AND SITE DESCRIPTION		1:40
		TRAVERSE TO CONE CRATER VIA STATION D		1:50
		REST EN ROUTE		2:00
		<p>CONE CRATER RIM</p> <p>SITE DESCRIPTION</p> <p>SAMPLE COLLECTION</p> <p>PROCEED TO SOUTH RIM</p>	<p>CONE CRATER RIM</p> <p>PHOTO PANORAMA</p> <p>SAMPLE COLLECTION</p> <p>PROCEED TO SOUTH RIM</p>	2:10
				2:20

DUMP DSE

GO/NO-GO FOR EVA-2
EXTENSION

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	135:00 - 136:00	6/27-28	3-185

CSM FLIGHT PLAN

<p>136:00 (-.0507) (+00.50)</p> <p>RECORD FR # _____</p> <p>VERIFY: LTC MODE - STBY/PWR - ON, ZERO DET (T START -1 MIN)</p> <p>LTC TGT 6 (SHUT 1/100, RING 1-PAD, INT 5.9) (183 FR) LTC MODE - AUTO, DET - UP/START (T START)</p> <p>136:10</p> <p>CHANGE TO RING 2 (T START +4:50)</p> <p>CHARGE BATTERY A</p> <p>136:20</p> <p>CHANGE SHUTTER TO 1/50 SEC CHANGE TO RING 3 (T START +12:00)</p> <p>136:30</p> <p>CHANGE TO RING 4 (T START +19:40)</p>	<p>136:30 (-.0507) (+00.50)</p> <p>ACQ MSFN OMNI <u>C</u></p> <p>LTC MODE - STBY/PWR - OFF (T STOP)</p> <p>136:40</p> <p>RECORD FR # _____</p> <p>V48 (11111) (X1111)</p> <p>MSFN UPDATE: MAP UPDATE REV 29 LDMK TRK PAOS (RP-4, ANSGARIUS II, DE-2, ENCKE E) (137:30 - 138:30)</p> <p>MSFN UPLINK: CSM S.V.</p> <p>136:50</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>MAP UPDATE REV <u>29</u></p> <p>LOS : _____</p> <p>180° : _____</p> <p>AOS : _____</p> </div> <p>STOP ORB RATE AT INERTIAL P 122</p> <p>VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)</p> <p>137:00</p>
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MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-186

LM FLIGHT PLAN

MCC-H

0623 CST

CDR

LMP

NOTES

UPDATE TO CSM
MAP UPDATE REV 29
LDMK TRACK PADS
UPLINK TO CSM
CSM S.V.

136:00
(12102)

:10

:20

136:30

:40

:50

137:00

M
S
F
V
N

SAMPLE COLLECTION

SAMPLE BOULDER TRACKS

ROLL BOULDERS INTO CRATER

EVA COMM EVALUATION

SITE DESCRIPTION

TRAVERSE TO STATION D

SAMPLE COLLECTION

STATION D

SITE DESCRIPTION
SAMPLE COLLECTION

TRAVERSE TO STATION E

REST EN ROUTE

STATION E

DIG TRENCH 10° OFF DOWNSUN

PHOTOGRAPH TRENCH

SAMPLE COLLECTION

SAMPLE BOULDER TRACKS

PARTIAL PANORAMA TO WEST

PHOTO PANORAMA

STATION D

PHOTO PANORAMA
SAMPLE COLLECTION

STATION E

LPM MEASUREMENT (SINGLE)

1:50

2:00

2:10

2:20

2:30

2:40

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	136:00 - 137:00	6/28	3-187

CSM FLIGHT PLAN

137:00

(11111)
(X1111)

PS2 (OPTION 3)
(LIFT-OFF ORIENT)

PS2 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

GDC ALIGN
VERIFY ORDEAL

(11101)
(X1111)

CYCLE CMC MODE - FREE/AUTO

V48 (11101)

(X1111)

V49 PHVR TO LDMK TRK ATT (137:30)
(000,053,000)

CONFIGURE CAMERA (LDMK TRK)
CM/DAC/SXT/CEX (EXP - PAD) 1 fps (15.2% MAG)

MAG (B) _____, MAG % _____
UTILITY POWER - ON

LTC REMOVAL (DECAL) & STOW

137:10

137:20

PEV 29

137:30

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-188

LM FLIGHT PLAN

MCC-H

0723 CST

CDR

LMP

NOTES

137:00 (12102)		MAKE BOOTPRINT IN FILL	PHOTOGRAPH TRENCH	
		SPECIAL ENVIRONMENTAL SAMPLE	SPECIAL ENVIRONMENTAL SAMPLE	
:05		SAMPLE TRENCH INTERIOR	SAMPLE TRENCH INTERIOR	2:50
:10				
137:15	M S T F V N	TRAVERSE TO STATION F		3:00
:20		STATION F SITE DESCRIPTION	STATION F PHOTO PANORAMA	
		SAMPLE COLLECTION	SAMPLE COLLECTION	
:25		TRIPLE CORE SAMPLE	TRIPLE CORE SAMPLE	3:10
137:30				

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	137:00 - 137:30	6/28-29	3-189

CSM FLIGHT PLAN

137:30
(11101)
(X1111)

P24 (RP-4)
OPT ZERO - OFF, OPT MODE - CMC
SC CONT - CMC/AUTO
V79 (N16 LOAD ALL ZERO'S)
(-0.0507)
(+000.50)
(+00001)

PRO TO START PITCH RATE (000,338/053,000)

0:00 - T1 (HORIZON) DET - ZERO/UP/START

137:40

3:50 - DAC - ON
4:50 - T2 (LDMK ACQ) OPT MODE - MAN, TAKE MARKS 10 SEC APART

6:30 - TCA
7:18 - T3 (LDMK LOSS) DAC - OFF

ACQ MSFTI OMNI D

P24 (ANSGARIUS N)
V79E, PRO, PRO
OPT ZERO - OFF, OPT MODE - CMC

137:50

0:00 - T1 (HORIZON) DET - ZERO/UP/START

3:50 - DAC - ON
4:50 - T2 (LDMK ACQ) OPT MODE - MAN, TAKE MARKS 10 SEC APART

6:30 - TCA
7:18 - T3 (LDMK LOSS) DAC - OFF

138:00

P24 LDMK TRACKING
TGT: RP-4 (1/125)

T₁ — — — — —
T₂ — — — — —
TCA — — — — —
T₃ — — — — —
R — — — — — *P — — — — — *Y — — — — — (T2 ACQ)

N or S NN — — — / SA — — — TA — — — (T2 ACQ)

N89
LAT -05.850
LONG/2 +60.125
ALT +000.00

P24 LDMK TRACKING
TGT: ANSGARIUS N (1/250)

T₁ — — — — —
T₂ — — — — —
TCA — — — — —
T₃ — — — — —
R — — — — — *P — — — — — *Y — — — — — (T2 ACQ)

N or S NN — — — / SA — — — TA — — — (T2 ACQ)

N89
LAT -11.633
LONG/2 +40.533
ALT +000.00

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-190

LM FLIGHT PLAN

MCC-H

0753 CST

CDR

LMP

NOTES

RECORD PCM LBR
ON DSE DURING P24's

137:30 (12102)			
:35		TRAVERSE TO STATION G	3:20
:40		<div>STATION G</div> <div>SITE DESCRIPTION</div> <div>SAMPLE COLLECTION</div>	<div>STATION G</div> <div>PHOTO PANORAMA</div> <div>SAMPLE COLLECTION</div>
137:45	M S T F V N	TRAVERSE TO LM	3:30
:50		<div>AT LM</div> <div>CONTAMINATED SAMPLE COLLECTION</div>	
:55		<div>EVA CLOSEOUT</div> <div>STOW CAMERA FILM</div> <div>STOW DOCUMENTED SAMPLES</div>	<div>EVA CLOSEOUT</div> <div>STOW CAMERA FILM</div>
138:00			3:40

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	137:30 - 138:00	6/29	3-191

CSM FLIGHT PLAN

138:00

(-.0507)
(+00.50)

P24 (DE-2)
V79E, PRO, PRO
OPT ZERO - OFF, OPT MODE - CMC

138:10

0:00 - T1 (HORIZON) DET - ZERO/UP/START

3:50 - DAC - ON

4:50 - T2 (LDMK ACQ) OPT MODE - MAN, TAKE MARKS 10 SEC APART

6:30 - TCA

7:18 - T3 (LDMK LOSS) DAC - OFF

138:20

P24 (ENCKE E)
V79E, PRO, PRO
OPT ZERO - OFF, OPT MODE - CMC

REPORT: GYRO TORQUING ANGLES
(FROM P52 AT 137:00)

138:30

P24 LDMK TRACKING

TGT: DE-2

(1/250)

T₁ — — — — —
T₂ — — — — —
TCA — — — — —
T₃ — — — — —
R — — — — — *P — — — — — *Y — — — — — (T2 ACQ)
N or S NM — — — — — / SA — — — — — TA — — — — — (T2 ACQ)
N89
LAT — — — — — -09.250
LONG/2 — — — — — +09.796
ALT — — — — — +000.00

P24 LDMK TRACKING

TGT: ENCKE E

(1/60)

T₁ — — — — —
T₂ — — — — —
TCA — — — — —
T₃ — — — — —
R — — — — — *P — — — — — *Y — — — — — (T2 ACQ)
N or S NM — — — — — / SA — — — — — TA — — — — — (T2 ACQ)
N89
LAT — — — — — +00.283
LONG/2 — — — — — -20.150
ALT — — — — — +000.00

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-192

LM FLIGHT PLAN

MCC-H

0823 CST

CDR

LMP

NOTES

138:00 (12102)			RETRIEVE AND STOW SWC FOIL	
:05		PACK AND SEAL SRC	ASSIST CDR	
		STOW WEIGH BAGS IN ETB		3:50
		CLEAN AND CHECK EMU'S	<u>EVA TERMINATION</u>	
:10			CLEAN EMU'S	
		HAND SRC TO LMP	ASCEND TO MIDDLE LADDER RUNG	
		TRANSFER ETB VIA LEC	RIG LEC FOR ETB AND TRANSFER	
138:15	M S T F V N		INGRESS TRACKING LIGHT TEST	4:00
			PLACE ETB ON ASC ENG COVER CHECK EMU & LM SYSTEMS	
:20		<u>EVA TERMINATION</u> ASCEND TO PLATFORM	PASS LEC TO CDR	
		DISCARD LEC	STOW SRC ON ASC ENG COVER	
:25		INGRESS	ASSIST CDR	4:10
			CLOSE HATCH	
138:30		REPRESSURIZE CABIN		4:15/0:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	138:00 - 138:30	6/29	3-193

CSM FLIGHT PLAN

138:30	0:00 - T1 (HORIZON) DET - ZERO/UP/START
(-.0507)	
(+00.50)	
	3:50 - DAC - ON
	4:50 - T2 (LDKX ACQ) OPT MODE - MAN, TAKE MARKS 10 SEC APART
	6:30 - TCA
	7:18 - T3 (LDKX LOSS) DAC - OFF
(11112)	V48 (11112)
(X1111)	(X1111)
138:40	V49 MIVR TO COMPT ATT (138:42)
	(110,216,000) HGA P -2, Y 194
	RECORD MAG : _____
	MSFN UPDATE:
	MAP UPDATE REV 30
	ZERO PHASE PADS (139:20, 140:15)
138:50	
	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> MAP UPDATE REV <u>30</u> LOS : _____ 180° : _____ AOS : _____ </div>
	VERIFY DSE TAPE MOTION (LBR/PCD/FWD/CMD RESET)
139:00	H ₂ PURGE LINE HEATERS - ON

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-194

LM FLIGHT PLAN

MCC-H

0853 CST

CDR

LMP

NOTES

	138:30 (12102)		<u>POST-EVA SYSTEMS CONFIGURATION</u> CONFIGURE LM ECS, DOFF GLOVES	4:15/0:00
	:35		CONNECT LM ECS HOSES TO SUIT	
			CONNECT TO LM COMM AND RECONFIGURE BIOMED - LEFT, RECORDER - OFF	
DUMP DSE	:40			0:10
			<u>PLSS/OPS DOFFING</u>	
			DISCONNECT OPS & RCU FROM PLSS	
UPDATE TO CSM MAP UPDATE REV 30 ZERO PHASE PADS	138:45	M S T F V N	DISCONNECT AND DOFF PLSS/OPS (LMP FIRST)	
	:50		CDR, THEN LMP, DISASSEMBLE PLSS/OPS CHECKOUT AND STOW OPS	0:20
	:55		VERIFY POWER DOWN CB CONFIGURATION	
			<u>PREP FOR EQUIPMENT JETTISON</u> DOFF LUNAR BOOTS, STOW IN DISPOSABLE CONTAINER STOW RCU'S IN DISPOSABLE CONTAINER STOW PLSS CONDENSATE CONTAINER IN DISPOSABLE CONTAINER	
	139:00			0:30

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	138:30 - 139:00	6/29	3-195

CSM FLIGHT PLAN

139:00 (-0.0507) (+00.50)	<p>CONFIGURE CAMERA: (ZERO PHASE) CM3/DC/80/MBM-BRKT, IYL, PCM CABLE (F5.6, 1/250, -) (41 FR) MAG (R) _____, FR # _____</p> <p>RR XPHDR ACTIVATION AND SELF-TEST (DECAL)</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>ZERO PHASE PAD (BACKWARD)</p> <p>R _____ "P" _____ "Y" _____</p> <p>T START: _____</p> <p>START DET AT 1ST TGT AREA ACQ -5 MIN</p> </div> <p>V48 (11101) (X1111) V49 PRVR TO ZERO PHASE TGT 5 & 6 ATT (139:30) (196.1, 341.6, 359.3)</p> <p>H₂ & O₂ FUEL CELL PURGE WASTE WATER DUMP H₂ PURGE LINE HEATERS - OFF TYPICAL ZERO PHASE OBSERVATION PASS-BACKWARD LOOKING</p>	139:30 (11101) (X1111) (-0.0507) (+00.50)	<p>SC CONT - CM3/AUTO (VERIFY) V79 (-0.0507) (+000.50) (+00001) PRO TO START PITCH RATE (196.1, 268/341.6, 359.3)</p> <p>TERMINATE WASTE WATER DUMP</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>ZERO PHASE OBSERVATIONS - BACKWARD LOOKING</p> </div> <p>139:40:12 - DET - ZERO/UP/START (T START) REVIEW TGT 5 & 6 MAPS</p> <p>ACQ MSFN HGA P -68, Y 34</p> <p>5:00 - DC - ON, START OBSERVATIONS (TGT AREA 5)</p> <p>6:40 - ZERO PHASE POINT (TGT AREA 5)</p> <p>8:06 - STOP OBSERVATIONS START OBSERVATIONS (TGT AREA 6)</p> <p>8:46 - ZERO PHASE POINT (TGT AREA 6)</p> <p>11:48 - STOP OBSERVATIONS DEBRIEF (~ 30 SEC)</p> <p>12:18 - DC - OFF</p> <p>CONFIGURE CAMERA: (ORBITAL SCIENCE) CM/EL/250/CEX (F2.8, 1/250, -) (31 FR) MAG (N) _____, FR # _____</p> <p>V48 (11102) (X1111)</p>	139:40 139:50 140:00
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MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE # (JAN)	1/27/71	3-196

D&I

1/27/71

LM FLIGHT PLAN

MCC-H

0923 CST

CDR

LMP

NOTES

139:00 (12102)		REMOVE AND STOW ARMREST IN DISPOSABLE CONTAINER POSITION PLSS'S FOR JETTISON DON EV GLOVES	0:30
:10		PRESSURE INTEGRITY CHECK	0:40
		CABIN DEPRESS FOR JETTISON	
		OPEN HATCH, JETTISON DISPOSABLE CONTAINER AND PLSS'S CLOSE HATCH	
:20		DUMP VALVES - AUTO REPRESSURIZE CABIN	0:50
		<u>POST-EVA CABIN CLEANUP</u>	
		SECURE OPS ON CABIN FLOOR	
139:30	M S T F V N	STOW EQUIPMENT FOR RETURN	1:00
		WEIGH SRC, ISA, & WEIGH BAGS, REPORT TO MCC-H	
:40		STOW SCALE & SRC	1:10
		STOW LM EVA ANTENNA	
		INSTALL ISA IN AFT CABIN	
:50		STOW EVA ONBOARD DATA IN FLIGHT DATA FILE	1:20
140:00			1:30

DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	139:00 - 140:00	6/29-30	3-197

CSM FLIGHT PLAN

140:00 (11102) (X1111) V49 HVR TO ZERO PHASE TGT 7 & 8 ATT (140:06) (347.0,222.4,358.7) OMNI D

PHOTO TGT 7, NORTH (1/1/250,-) 31 FR AT 10 SEC (250mm) (180° + 1:15)

SC CONT - CMC/AUTO (VERIFY)
V79 (-0.0507)
(+000.50)
(+00001)

PRO TO START PITCH RATE (347.0,276/222.4,358.7)

ZERO PHASE OBSERVATIONS - FORWARD LOOKING

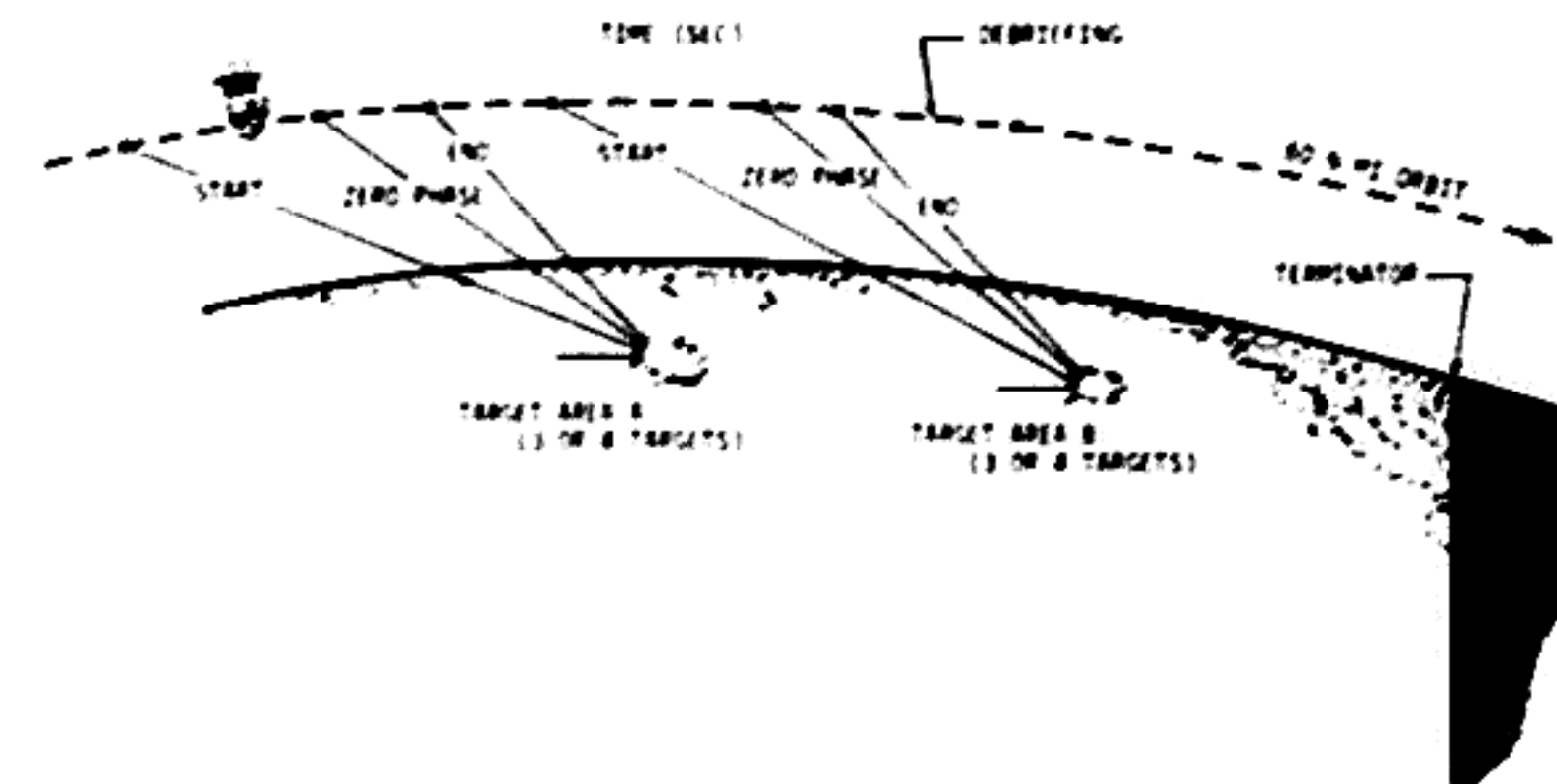
140:17:24 - DET - ZERO/UP/START (T START)
REVIEW TGT 7 & 8 MAPS

5:00 - DC-ON, START OBSERVATIONS (TGT AREA 7)

8:40 - ZERO PHASE POINT (TGT AREA 7)
9:00 - STOP OBSERVATIONS
START OBSERVATIONS (TGT AREA 8)
9:56 - ZERO PHASE POINT (TGT AREA 8)
10:38 - STOP OBSERVATIONS
DEBRIEF (~ 30 SEC)
11:08 - DC-OFF, REMOVE CAMERA FROM WINDOW

RECORD FR # _____

TYPICAL ZERO PHASE OBSERVATION PASS - FORWARD LOOKING



ZERO PHASE PAD (FORWARD)

R _____ *P _____ *Y _____

T START: _____

START DET AT 1ST TGT AREA ACO -5 MIN

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE C	18/71	3-198
	CHANGE C	DECEMBER 2, 1970	

LM FLIGHT PLAN

1023 CST

MCC-N

CDR

LMP

NOTES

- 140:00
(12102)

POST-EVA DEBRIEFING

:05

:10

140:15

:20

:25

. 140:30

MT
ST
FT
NT

CREW STATUS REPORT (MEDICATION, DOSIMETER)

EAT PERIOD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	140:00 - 140:30	6/30	3-199

CSM FLIGHT PLAN

140:30
(11112)
(X1111)

V48 (11112)
(X1111)

V49 MNR TO P52 COAS CALIB ATT (140:38)
(180,254,348)

V64: ACC MSFN HGA P -52, Y 173

MSFN UPLINK:

LM S.V. (INS + 18)

CSM S.V. (L/O)

RESET SURFACE FLAG

MSFN UPDATE:

CONSUMABLES (IF REQ'D)

MAP UPDATE REV 31

CSM S.V. (L/O) COPY AT 141:15

MSFN UPDATE TO LM WITH CSM COPY:

ASCENT PADS AND CSM WEIGHT COPY AT 142:10

P52 (OPTION 3)

(LIFT-OFF ORIENT)

REPORT: GYRO TORQUING ANGLES

P52 (COAS CALIB)

USE STAR NO. 22

VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)
MSFN ENABLES MSFN S-BAND RELAY

140:50

141:00

CSM CONSUMABLES UPDATE

GET: _____

RCS TOTAL _____

QUAD A _____ B _____

C _____ D _____

H₂ TANK 1 _____ 2 _____

O₂ TANK 1 _____ 2 _____

3 _____

P52(IMU) REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

COAS CALIB - N92

SHAFT: _____

TRIM: _____

MAP UPDATE REV 31

LOS: _____

180°: _____

AOS: _____

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-200

LM FLIGHT PLAN

MCC-H

1053 CST

CDR

LMP

NOTES

UPLINK TO CSM
LM S.V. (INS +18)
CSM S.V. (L/O)
RESET SURFACE FLAG

:35

UPDATE TO CSM
CONSUMABLES
(IF REQ'D)
MAP UPDATE REV 31
CSM S.V. (L/O)

:40

UPDATE TO CSM
ASCENT PADS

140:45

CSM WEIGHT

UPDATE TO LM

LM CONSUMABLES

ASCENT PADS

CSI PAD

UPLINK TO LM

:50

CSM S.V. (L/O)

ZERO POS/NEG CELLS

:55

ENABLE MSFN
S-BD RELAY

141:00

M
S
T
F
V
N

EAT PERIOD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	140:30 - 141:00	6/30	3-201

CSM FLIGHT PLAN

141:00
(11112)
(X1111)

CONFIGURE CAMERAS FOR DOCKING:

CM2/DAC/18/CEX-BRKT,MIR (T8,1/250,7) 6 fps (100% MAG)

MAG (D) _____, MAG : _____
UTILITY PWR - ON

CM/EL/80/CEX (T8,1/250,FOCUS) (10 FR)

MAG (N) _____, FR # _____

CM/TV/PEAK, BRKT
(f44) 11 MIN

141:10

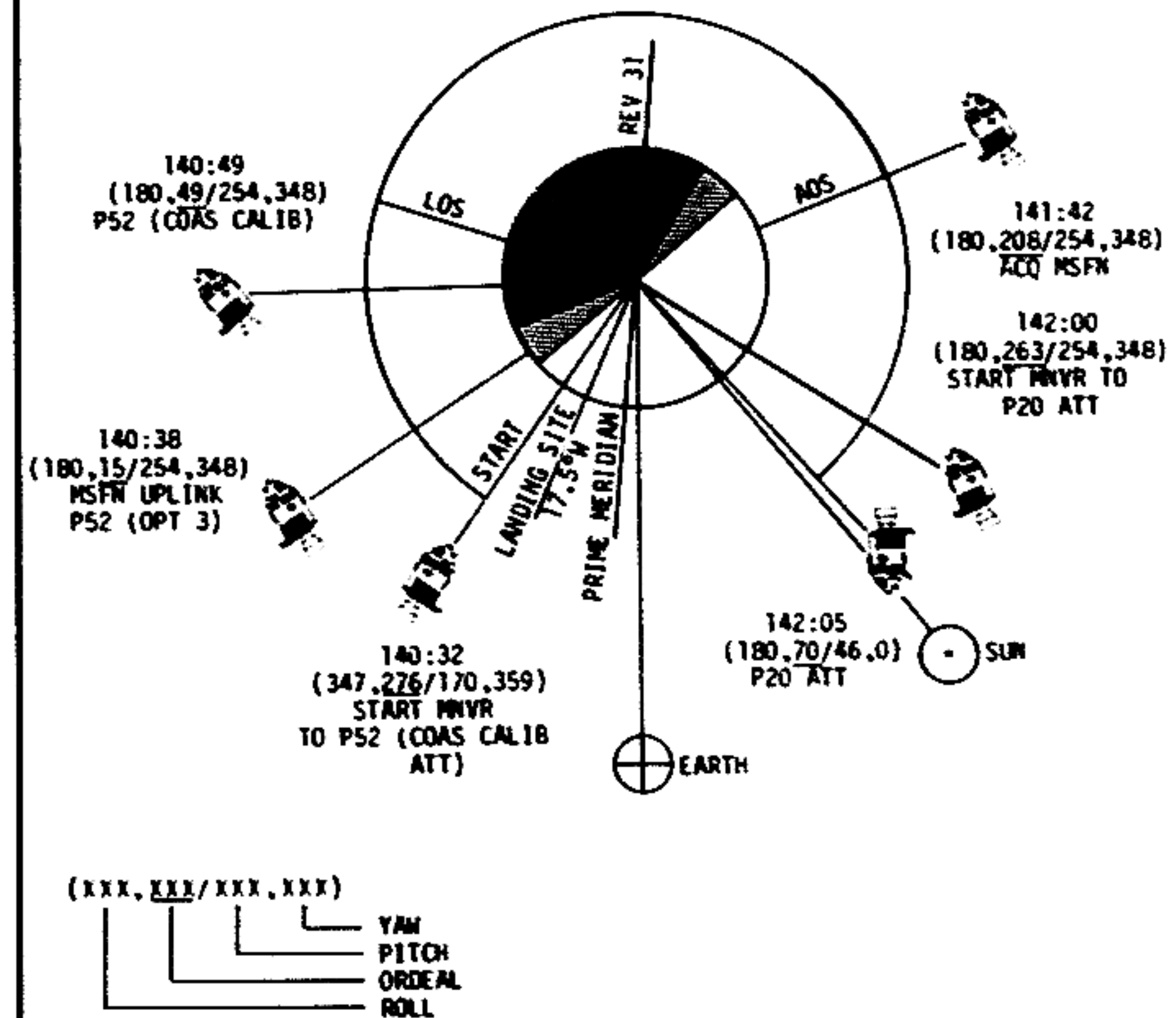
141:20

REV 31

141:30

EAT PERIOD

CSM S.V. (L/O)		P27 UPDATE	
PURP	V	V	
GET	:	:	:
304 01	INDEX	INDEX	
02			
03			
04			
05			
06			
07			
10			
11			
12			
13			
14			
15			
16			
17			
20			
21			
22			
23			
24			



LM FLIGHT PLAN

MCC-H

1123 CST

CDR

LMP

NOTES

141:00 (12102) :05 :10 141:15 :20 :25 141:30	TV M S F N	EAT PERIOD	
		VERIFY GUIDANCE CONFIGURATION CONFIGURE CB'S (TV-OFF) V63 RR SELF-TEST	CONFIGURE COMM CONFIGURE CB'S FOR L/O PREP AGS STATUS-OPERATE ALIGN AGS TO PGNS AGS GYRO CALIBRATION LOAD AGS ASCENT TARGETING

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	141:00 - 141:30	6/30-31	3-203

CSM FLIGHT PLAN

141:30
(11112)
(X1111)

DON PGA WITHOUT HELMET AND GLOVES

UNSTOW JETTISON BAG (R13)
PACK JETTISON ITEMS
INSTALL CABIN FAN LUNAR DUST FILTER (PGA BAG)
INSTALL SPRINGS AND CLIPS ON A8, A6, A3, AND PNL 350
INSTALL TEMP STORAGE BAGS ON LH AND RH SIDES OF LEB
REMOVE B5 AND B6 POUCHES
REMOVE COVERALLS, CMG AND INSTALL T-ADAPTERS
UNSTOW AND ASSEMBLE:
VACUUM CLEANER, PWR CABLE, HOSE AND BAG (SIDE A12, SIDE A8)
REMOVE DECONTAMINATION BAGS (A8, U1)

141:40

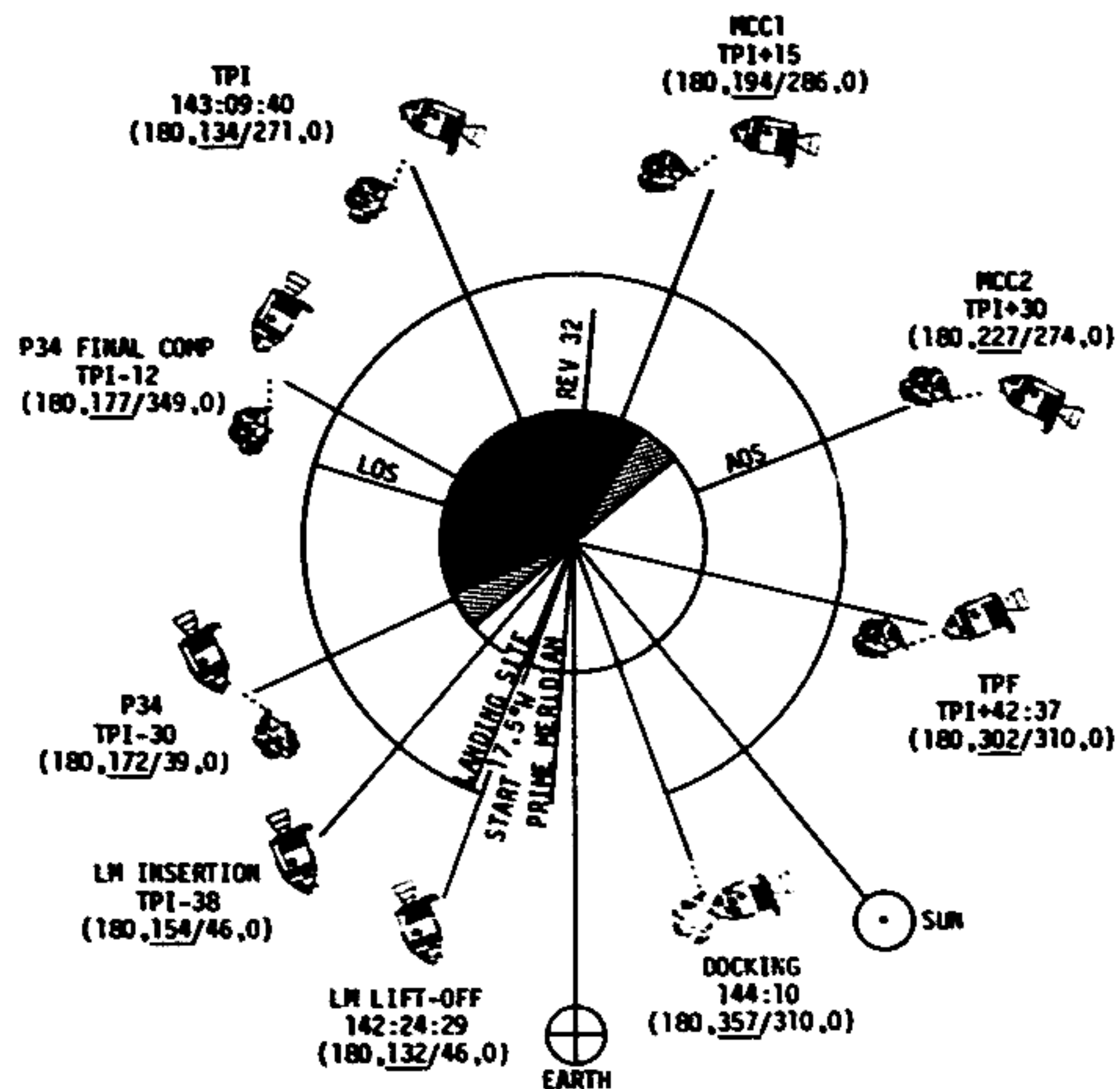
ACQ MSFN HGA P -52, Y 173
MSFN UPDATE TO LM WITH CSM COPY:
ASCENT UPDATE PAD (IF REQ'D) COPY AT 142:15

EAT PERIOD

141:50

VHF AM B - DUPLEX (VERIFY)
VHF AM A - OFF (VERIFY)
VHF RANGING - ON (UP)
VHF AM T/R - OFF (PANEL 9)
VHF ANT - LEFT
RNDZ XPNDR - PWR (VERIFY)
EXT RNDZ LT - ON
EXT RUN/EVA LT - ON

142:00



(XXX,XXX/XXX,XXX)

YAW
PITCH
ORDEAL
ROLL

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE 8 (JAN)	JANUARY 11, 1971	3-204

LM FLIGHT PLAN

MCC-H

1153 CST

CDR

LMP

NOTES

UPDATE TO LM
AGS K-FACTOR

DUMP DSE
UPDATE TO CSM

ASCENT PAD
(IF REQ'D)

UPDATE TO LM
ASCENT PAD
(IF REQ'D)

UPLINK TO LM

CSM S.V. (L/O)
(IF REQ'D)

RLS (IF REQ'D)

LGC GYRO COMP
(IF REQ'D)

141:30
(12102)

:35

:40

141:45

:50

:55

142:00

M
S
F
N

RATE GYRO TEST

LGC CLOCK SYNC
V47 AGS INITIALIZATION
(SET BIAS)

RCS CHECKOUT

P57 LUNAR SURFACE ALIGN
OPTION 4 LANDING SITE
A/T 3 - GRAVITY AND CELESTIAL BODY
(LIFT-OFF ORIENTATION)

PT2 POWERED ASCENT

ALIGN AGS TO PGNS
BATS 5&6-ON, 1&3-OFF/RESET
SET CAMERA: LM3/DAC

PRELAUNCH SWITCH CHECKS

AGS LUNAR ALIGN
PRELAUNCH SWITCH CHECKS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	141:30 - 142:00	6/31	3-205

CSM FLIGHT PLAN

142:00
(11102)
(X1111)
CYCLE CMC MODE - FREE/AUTO
V48 (11102)
(X1111)
V49 MNVR TO P20 ATT (142:05)
(180,46,0) OMNI D

GDC ALIGN
VERIFY ORDEAL

GO/NO GO FOR LM LIFT-OFF
AND DIRECT ASCENT RNDZ
MSFN UPDATE:
MAP UPDATE REV 32
COPY AT 142:50

V67 (+10000, +00100, +00001)
LOAD N37 AND N55

VHF VOICE CHECK

VHF ANT - RIGHT
VHF RING - RESET

LM LIFT-OFF

142:24:29

CONFIGURE SWITCHES FOR BAILOUT:

FOAT SCALE - 5/5	SCS TVC (2) - RATE CMD
MAN ATT (3) - RATE CMD	TVC GMBL DRIVE (BOTH) - AUTO
ATT DB - MIN	SPS He VLVS (2) - AUTO
RATE - HIGH	AUTO RCS SEL (16) - MNA/MNB
THC PWR - ON (UP)	
RHC PWR DIR (BOTH) - MNA/MNB	
BMAG MODE (3) - RATE 2	

DIRECT ASCENT RNDZ PAD						UPDATE (IF REQ'D)					
GETI	HRS	+	0	0		+	0	0			
LIFT-OFF	MIN	+	0	0	0	+	0	0	0		
	SEC	+	0			+	0				
GETI	HRS	+	0	0		+	0	0			
TPI	MIN	+	0	0	0	+	0	0	0		
N37	SEC	+	0			+	0				

CSM WT	+					
LM WT	+	0	5	7	0	0

COELLIPTIC RNDZ PAD						UPDATE (IF REQ'D)					
GETI	HRS	+	0	0		+	0	0			
LIFT-OFF	MIN	+	0	0	0	+	0	0	0		
	SEC	+	0			+	0				
GETI	HRS	+	0	0		+	0	0			
CSI	MIN	+	0	0	0	+	0	0	0		
N11	SEC	+	0			+	0				
GETI	HRS	+	0	0		+	0	0			
TPI	MIN	+	0	0	0	+	0	0	0		
N37	SEC	+	0			+	0				

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-206

LM FLIGHT PLAN

MCC-H

1223 CST

CDR

LMP

NOTES

GO/NO-GO FOR LIFT-
OFF ON REV 31,
GUIDANCE RECOMMEN-
DATION & DIRECT
ASCENT
UPDATE TO CSM
MAP UPDATE REV 32

142:00 (12102)		VENT DPS FUEL, OXID, & SHe DON HELMET & GLOVES PRESSURIZE APS	DON HELMET & GLOVES
:05		CONFIGURE ASCENT FEEDS	
:10		GO/NO-GO FOR LIFT-OFF VERIFY CB STATUS FOR LIFT-OFF	V47 VERIFY AGS BIAS LIFT-OFF COMM, RECORDER - ON BATS 2 & 4 - OFF/RESET DEADFACE DES BATS VERIFY CB STATUS FOR LIFT-OFF
142:15	M S F N		
:20		CHECK APS BURN CARD	CHECK APS, RCS, EPS, ECS VHF VOICE CHECK
		LM TIMELINE BOOK	
:25		LM LUNAR LIFT-OFF	DAC-ON
		YAW RIGHT 30°	
142:30			

TIG: 142:24:29
BT: 7 MIN 10.7 SEC
ΔVT: 6053.4 FPS
ULLAGE: NONE
ORBIT: 50.96x9.14 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	142:00 - 142:30	6/31	3-207

CSM FLIGHT PLAN

142:30
(11102)
(X1111)
-38

LM INSERTION

142:31:40
R=146.76
R=-449.5

142:31:40

COMPUTE LM RDOT IF REQ'D

*IF LM BAILOUT REQ'D:
* COPY P76 DATA FROM LM

*33
*84

MSFN UPLINK:
LM S.V.
MSFN DISABLES MSFN
S-BAND RELAY
GO VHF COMM

*GO TO RESCUE BOOK PG 4

*IF CSM BAILOUT REQ'D:

P20(TRIM)(180,171/44,0)
P34: VERIFY N37 AND N55
V57;V87

*MSFN UPDATE:
* CSM BAILOUT P30 PAD
*P30
*P40 (TRIM): SET UP EMS
*SPS BURN CUE CARD (BACKUP PROCEDURES)
*CSM BAILOUT BURN
*GO TO RESCUE BOOK PG 4

VERIFY LM TRACK LT-ON

(IF NO SAT. V77; V54; VHF ONLY UNTIL TPI-18. THEN VHF/COAS(6))

BEFORE STEADY STATE

PRE-TPI: N49 > (+00020,+00120) REJECT/REPEAT
POST-TPI: N49 > (+00008,+00050) REJECT/REPEAT
AFTER STEADY STATE
ANYTIME: N49 > (+00003,+00020) REJECT/REPEAT

142:45
R=91.27
R=-370.0

VHF/RR COMPARISON

MAP UPDATE REV 32

LOS :
TEG*:
AOS :

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

P34 FINAL COMP (COPY ON NEXT PAGE)

143:00
R=47.77
R=-212.3

BACKUP RR CHECK

R ₁	.	R = $\frac{100 \times \Delta R}{\text{MIN}}$
R ₂	.	R = .
ΔR	.	

P30 MANEUVER

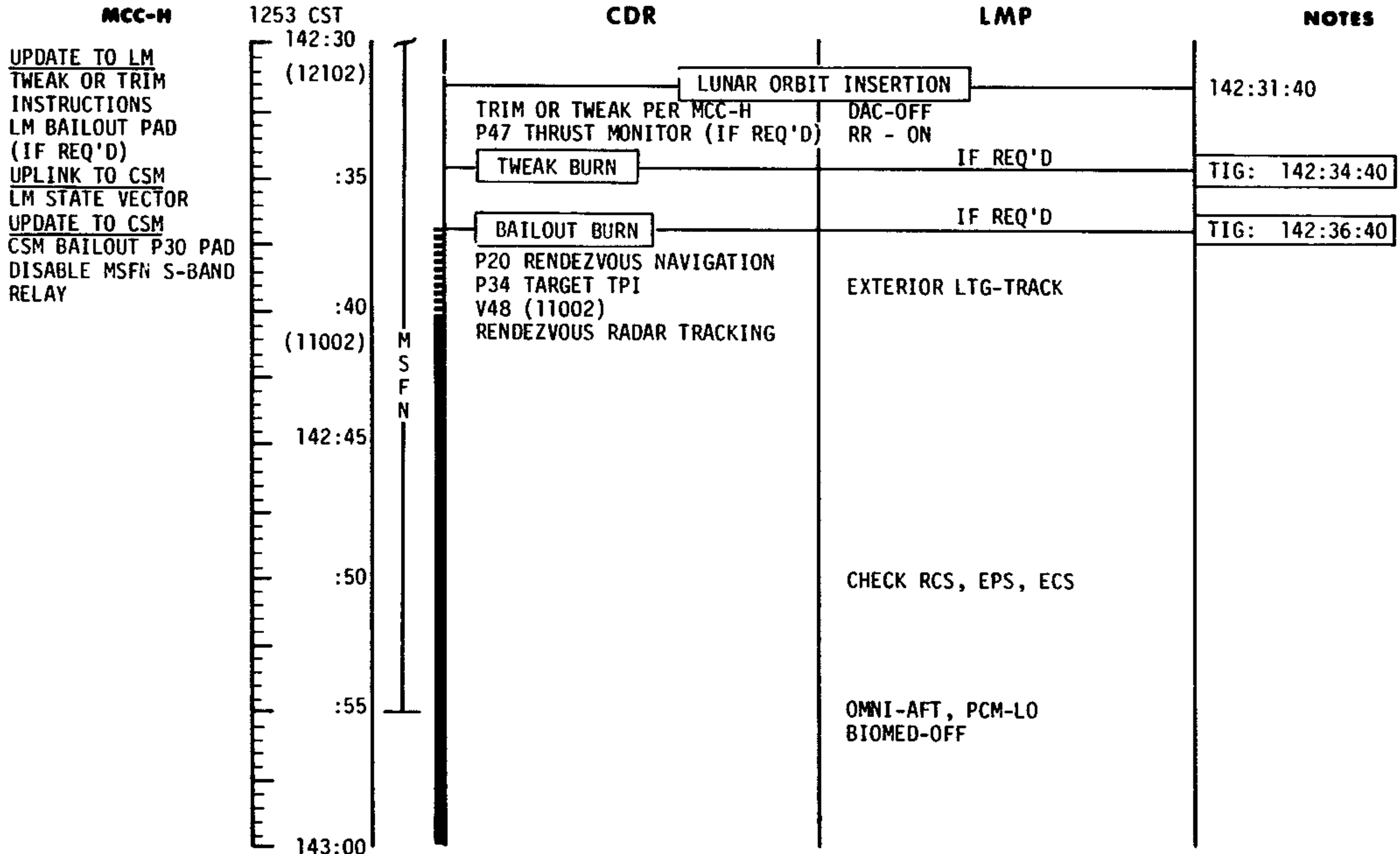
N/A SET STARS	C	S	M	B	/	O	PURPOSE
	S	P	S	G	B	N	PROP/GUID
R ALIGN N / A	+			N	/	A	WT N47
P ALIGN N / A		0	0	N	/	A	P TRIM N48
Y ALIGN N / A		0	0	N	/	A	Y TRIM
	+	0	0				HRS GETI
	+	0	0	0			MIN N33
	+	0					SEC
ULLAGE	-						ΔV _X N81
4 JET, 11 SEC	+	0	0	0	0	0	ΔV _Y
	+	0	0	0	0	0	ΔV _Z
	X	X	X	1	8	0	R
	X	X	X				P
	X	X	X	0	0	0	Y
ΔVC	+			N	/	A	H _A N44
				N	/	A	H _P

P34 INPUT

37	LM GETI-TPI	:	:	.
55	INTEG OPT	ELEVATION }	TRANSFER }	
	+00000	+000.00	+130.00	

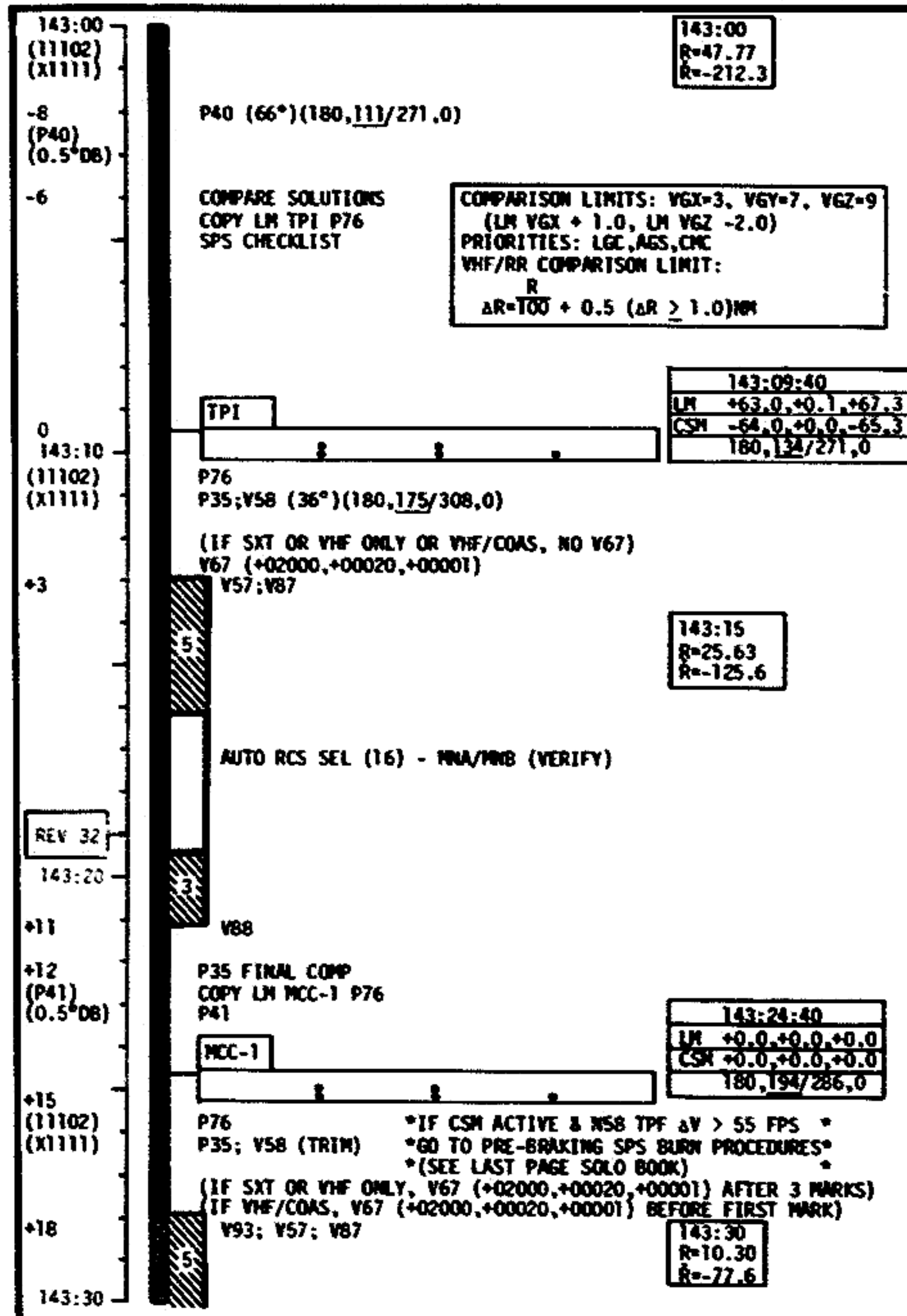
MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-208

LM FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	142:30 - 143:00	6/31	3-209

CSM FLIGHT PLAN



GROUND TM FOR LM

						ΔV_X
						ΔV_Y
						ΔV_Z

P34 FINAL COMP

	INTEG OPT	ELEVATION δ	TRANSFER δ
55	+00000	.	+130.00
58	PERILUNE ALT	TPI ΔV	TPF ΔV
81	TPI ΔV -LV	.	.
59	TPI ΔV -LOS	.	.

TPI P76

ADD FOR LM RCS TPI		:	21.00
33	LM GETI-TPI	:	.
84	LM TPI ΔV -LV	.	.

P35 FINAL COMP

81	MCC1 ΔV -LV	.	.
59	MCC1 ΔV -LOS	.	.

MCC1 P76

33	LM GETI-MCC1	:	.
84	LM MCC1 ΔV -LV	.	.

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-210

LM FLIGHT PLAN

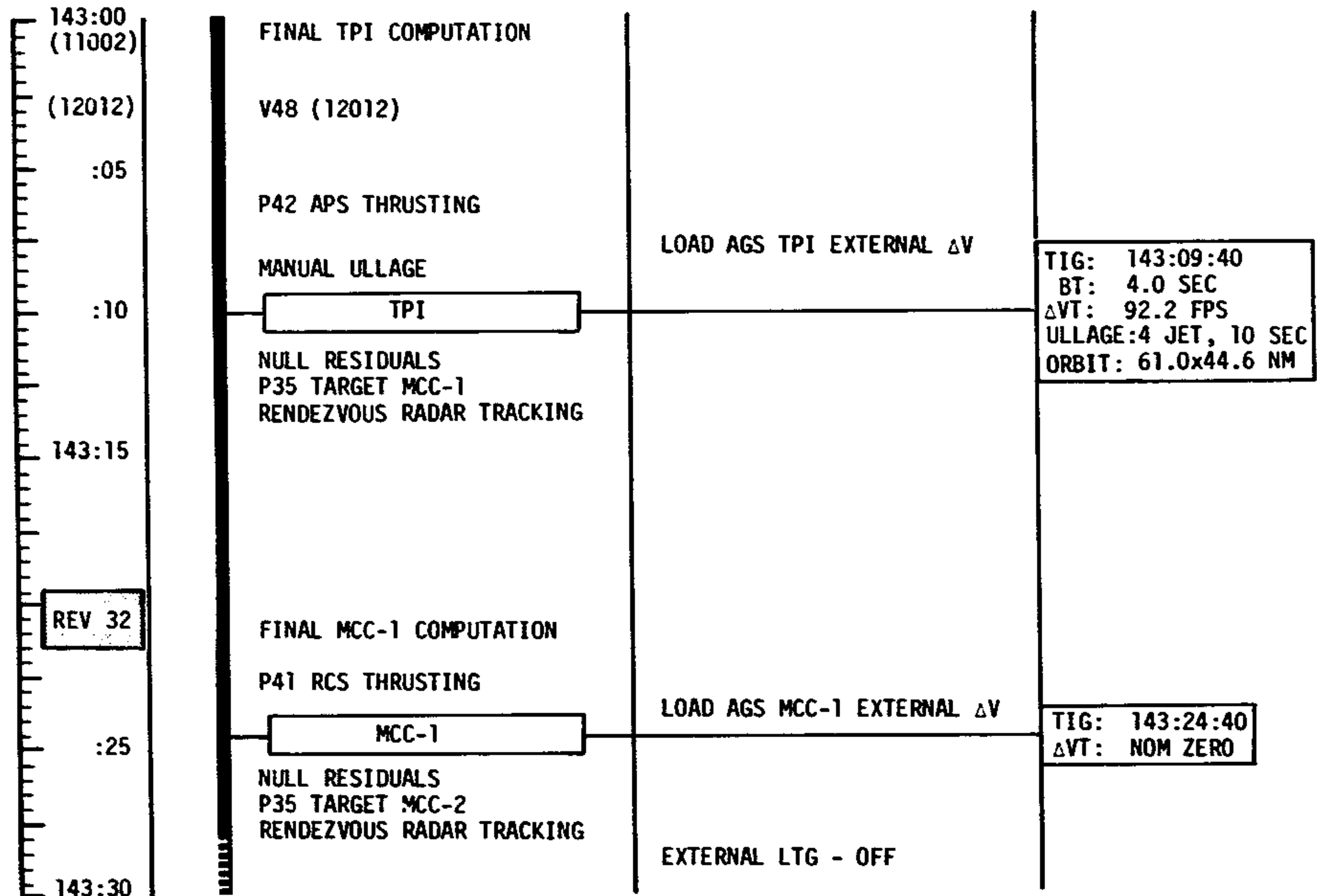
MCC-H

1323 CST

CDR

LMP

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	143:00 - 143:30	6/31-32	3-211

CSM FLIGHT PLAN

DID Get
and VHF
Rmk
effn.

CSM TPI SRT -67.4
+0.5
-69.2

143:30
(11102)
(X1111)

+26
+27
(P41)
(0.5° DB)

+30
143:40
(11102)
(X1111)

143:50

+42

144:00

143:30
R=10.30
R=-77.6

Y88

P35 FINAL COMP
COPY LM MCC-2 P76
P41

MCC-2

143:39:40
LM +0.0,+0.0,+0.0
CSM +0.0,+0.0,+0.0
180,227/274,0

P76
P00;V89 (R2=2)(35°)(180,271/310,0)

V64; ACQ MSFN HGA P -73, Y 349
V83

PERFORM PRE-DOCK CHECKLIST

143:45
R=2.40
R=-35.4

IF CSM ACTIVE:

P47 AT R=1.25 NM

SEC PRPLNT FUEL PRESS (4) - OPEN

V83E
V83E
KEY REL

UTILITY PWR - ON (VERIFY)
TV - ON
DAC - ON
LM PHOTOS WITH DAC/TV

143:52:17
LM 31.3 (TOTAL)
CSM 32.5 (TOTAL)
180,302/310,0

TPF

EMS MODE - STBY
EMS FUNC - OFF
EXT RNDZ LT - OFF

LM STATIONKEEP

P00
DAC/TV - OFF
CONFIGURE SWITCHES FOR PHOTO MNYR:
EMAG MODE (ROLL,YAW) - ATT 1/RATE 2
SC CONT - SCS
MAN ATT (PITCH) - ACCEL CMD
CSM PITCH UP 360° AT 2°/SEC
NULL RATES AFTER PHOTO MNYR

P35 FINAL COMP			
81	MCC2 LV-LV	.	.
59	MCC2 LV-LDS	.	.

MCC2 P76			
33	LM GETI-MCC2	.	.
84	LM MCC2 LV-LV	.	.

PRE-DOCK CHECKLIST

MAN ATT (3) - RATE CMD (VERIFY) LIMIT CYCLE - OFF (VERIFY) ATT DB - MIN RATE - LOW (VERIFY) TRANS CONTR PWR - ON (UP) ROT CONTR PWR DIRECT (BOTH) - MNA/MNB SC CONT - CMC (VERIFY) CMC MODE - AUTO (VERIFY) AUTO RCS SEL (16) - MNA/MNB (VERIFY)	CB DOCK PROBE (2) - CLOSED PROBE RETR (2) - OFF (VERIFY) PROBE EXT/REL - RETR PROBE EXT/REL TB (2) - GRAY (VERIFY) (IF TB NOT GRAY, GO TO PG S/2-12, E) CB SECS LOGIC (2) - CLOSED (VERIFY) CB SECS ARM (2) - CLOSED EXT LIGHTS RUN/EVA - ON (UP) (VERIFY) COAS PWR - ON (UP) (VERIFY)
--	--

BRACING GATES			
R,NM	R,FPS	RETICLE ANG,DEG	R,FT
1.50	45	.08	9000
1.00	30	.13	6000
.50	20	.26	3000
.25	10	.54	1500
.08	5	1.60	500
.05		2.70	300
.03		4.00	200
.02		8.50	100

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-212

LM FLIGHT PLAN

MCC-H

1353 CST

CDR

LMP

NOTES

143:30
(12012)

:35

FINAL MCC-2 COMPUTATION

P41 RCS THRUSTING

LOAD AGS MCC-2 EXTERNAL ΔV

:40

MCC-2

TIG: 143:39:40
 ΔV : NOM ZERO

NULL RESIDUALS
TPI BURN REPORT (IF REQ'D)

BIOMED - RIGHT, PCM-HIGH
STEERABLE ANTENNA
P 114, Y -46

NOM -
MCC 1 1.9
2 1.1 TOT

143:45
(11002)

V48 (11002)

P47 THRUST MONITOR

TIG: 143:48:44 to
143:54:44
TOTAL ΔV : 32.6 FPS
ORBIT: 60.2x58.1 NM

BRAKING GATES

:50

M
S
F
R

:55

144:00

CSM PHOTOGRAPHY
LM 3/DC, LM 3/DAC

DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	143:30 - 144:00	6/32	3-213

CSM FLIGHT PLAN

144:00
(11102)
(X1111)

SC CONT - CMC
MAN ATT (PITCH) - RATE CMD
BMAG MODE (3) - RATE 2
CMC MODE - AUTO

DOCKING ATTITUDE
VERIFY HGA P -73, Y 349

BMAG MODE (3) - ATT 1/RATE 2
CUE MSFN FOR LOGIC ARM
SECS LOGIC (BOTH) - ON (UP)
MSFN GO FOR PYRO ARM
SECS PYRO ARM (2) - ON (UP)

P47
DAC/TV - ON
LM PITCH DOWN 90°

TRANSLATE TO CAPTURE LATCH
PERFORM DOCKING CHECKLIST

DOCKING

144:10

DAC/TV - OFF
POD
V48 (61111)
(11111)

CMC MODE - AUTO
SC CONT - CMC
BMAG MODE (3) - RATE 2

RNDZ XPNDR - OFF

~~REMOVE DECONTAMINATION BAGS (A8)~~
~~UNSTOW AND ASSEMBLE~~
~~VACUUM CLEANER, PUR GABLE, HOSE, AND BAG (SIDE A12, SIDE A0)~~
~~CONNECT PUR GABLE (PWL 207)~~

144:20

PREPARE COUCH FOR HATCH

REMOVE PROBE STRAPS (A1)

CDR - VERIFY FWD DUMP VLV - AUTO
CABIN FAN (2) - ON (UP)

EQUALIZE CSM/LM PRESSURE (LOD DECAL) ✓ 144:32:42

REMOVE HATCH AND STOW (DECAL)

VERIFY DOCKING LATCHES (AT LEAST 3)

REMOVE AND TEMP STOW PROBE AND DROGUE (DECAL)

144:30

DOCKING CHECKLIST

AT CAPTURE

PROBE EXT/REL TB (2) - BP
(IF TB NOT BP, GO TO PG 5/2-11, A)
REPORT CAPTURE TO LM
SC CONT - CMC
CMC MODE - FREE
ALLOW PROBE TO DAMP SC MOTION (10 SEC)
WHEN WITHIN ± 3° OF DOCKING ATTITUDE
PROBE RETRACT SEC - 1 (PRIM - 2 IF REQ'D)

AT DOCK LATCH

PROBE EXT/REL TB (2) - GRAY

AFTER HARD DOCK

SECS PYRO ARM (2) - SAFE	EXT RWI/EVA LIGHT - OFF
SECS LOGIC (BOTH) - OFF	EXT RNDZ LIGHT - OFF
CB SECS ARM (2) - OPEN	COAS PWR - OFF
CB DOCK PROBE (2) - OPEN	LIMIT CYCLE - ON
THC - LOCKED	ATT DB - MAX
RHC - LOCKED	SC CONT - SCS
BMAG MODE (3) - RATE 2	BMAG MODE (3) - ATT 1/RATE 2
PROBE EXT/REL - OFF	AUTO RCS SEL B/D ROLL (4) - OFF
PROBE RETRACT (2) - OFF	THC PWR - OFF
	RHC PWR DIR (2) - OFF

MISSION	EDITION	DATE	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	3-214

CHANGE 2

1/11/71

LM FLIGHT PLAN

MCC-H

1423 CST

CDR

LMP

NOTES

GO/NO-GO FOR PYRO ✓
ARM

UPLINK TO LM
LM S.V. (TIG-10) ✓
P30 TARGET LOAD ✓
P99 LM DEORBIT ✓
UPDATE TO LM
DEORBIT BURN PAD ✓
DAP LOAD (WEIGHTS) ✓

144:00
(11002)
:05
:10
(12021)
144:15
:20
:25
144:30

MSFN

COAS TO OVHD WINDOW

RR-OFF

PITCH 90°, YAW TO DOCK ATT

DOCKING

CONFIGURE PGNS
V48 (12021)
PREP FOR TRANSFER

VERIFY TUNNEL PRESSURIZED FROM CSM ✓
OVHD DUMP VALVE-OPEN
DOFF HELMETS & GLOVES

WHEN TUNNEL/LM PRESSURES EQUAL, OVHD DUMP VALVE - AUTO
VERIFY PRESS REGS A&B - EGRESS
OPEN HATCH

144:10:00

LM S.V. IS TIME
TAGGED FOR DEORBIT
BURN MINUS 10 MIN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	144:00 - 144:30	6/32	3-215

CSM FLIGHT PLAN

144:30
(61111)
(11111)

TRANSFER TO CDR AT HIS REQUEST:
PROBE
DROGUE
VACUUM CLEANER (ASSEMBLED)
DECONTAMINATION BAGS ~~(4) (R6)~~
HELMET & ACCESSORY BAG (2) (R6)

144:40

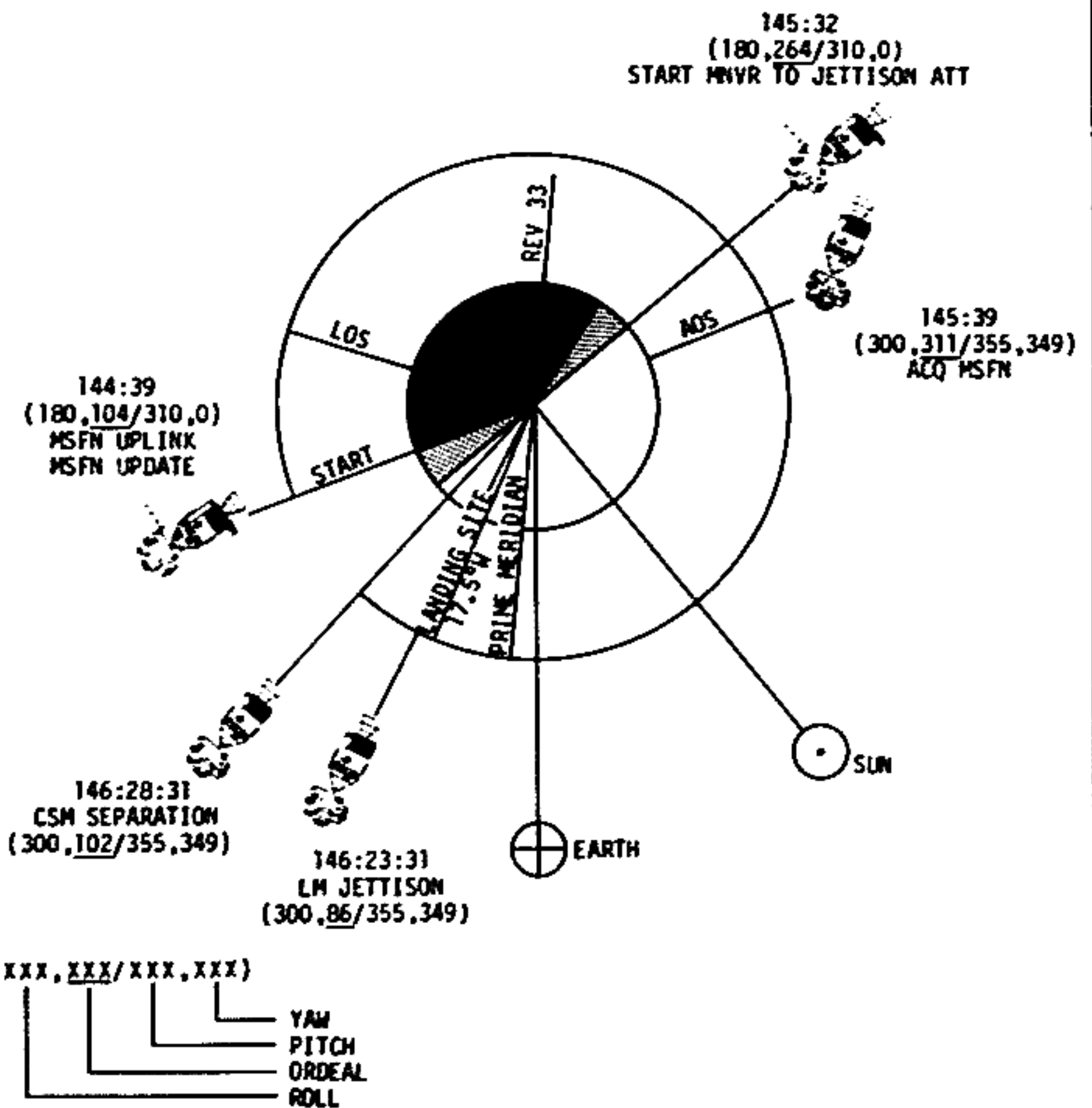
MSFN UPLINK:
CSM S.V. (CSM SEP-10)
LM S.V. (TIG LM DEORBIT -10)
MSFN UPDATE:
MAP UPDATE REV 33
DAP LOAD - UPDATE WEIGHTS COPY AT 145:25
CSM SEPARATION PAD COPY AT 145:35
LM JETTISON PAD COPY AT 145:45

144:50

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

145:00

MAP UPDATE REV 33			
LOS :	---	---	---
180°:	---	---	---
AOS :	---	---	---



MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE 1 (JAN)	DECEMBER 29, 1970	3-216

1/11/71

LM FLIGHT PLAN

MCC-H

1453 CST

CDR

LMP

NOTES

144:30
(12021)

:35

:40

144:45

:50

:55

145:00



RECEIVE PROBE FROM CMP AND STOW

RECEIVE DROGUE FROM CMP AND STOW OVER PROBE

RECEIVE DECONTAMINATION BAGS & VACUUM CLEANER FROM CSM

UNSTOW, VACUUM/WET-WIPE, BAG AND TRANSFER TO CSM:

70 MM MAG BAG (3 MAGS)

SURFACE 16 MM BAG (6 MAGS)

2 SAMPLE ROCK BAGS

HELMETS (WITH IV GLOVES)

ISA

LM S.V. IS
TIME TAGGED FOR
DEORBIT BURN MINUS
10 MIN

CSM S.V. IS
TIME TAGGED FOR
CSM SEP MINUS
10 MIN

JPLINK TO CSM
CSM S.V. (SEP-10)
LM S.V. (TIG-10)

UPDATE TO CSM
~~MAP UPDATE REV 33~~
CSM SEP BURN PAD
LM JETTISON PAD
DAP LOAD (WEIGHTS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	144:30 - 145:00	6/32	3-217

CSM FLIGHT PLAN

145:00
(61111)
(11111)

RECEIVE ITEMS FROM LM & STOW

145:10

REV 33

145:20

TRANSFER B5 & B6 CONTAINERS TO LM

(61102)
(11111)

CYCLE CMC MODE - FREE/AUTO
V48 (61102)
(11111)
LOAD CSM & LM WEIGHTS

145:30

CSM WT	+						
LM WT	+						

LM TO CSM TRANSFER LIST

ITEM	CM STOWAGE LOCATION
16MM MAGS (6) w/DECOM BAG	R13
70MM MAGS (3) w/DECOM BAG	R13
B1 BAG	TEMP STOWAGE (ON A8)
PURSE	TEMP STOWAGE (ON A8)
ISA w/DECOM BAG	ON A1
ROCK BAGS w/DECOM BAG (2)	ON A10, ON A13
ROCK BOXES w/DECOM BAG (2)	B5, B6
VACUUM CLEANER	SIDE A12
VACUUM HOSE, BRUSH, CABLE	SIDE A8
PGA (2)	PGA BAG
UCTA (2)	PGA BAG
FCS (2)	PGA BAG
LCG (2)	U1
HELMET & ACCESSORY BAGS (2)	PGA BAG
GLOVES (2 PR.)	
HELMET (2)	
BIO INSTRUMENTATION EQUIP (2)	ON CREW
COMM. CARRIER (2)	ON CREW

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE B (JAN)	JANUARY 11, 1971	3-218

LM FLIGHT PLAN

MCC-H

1523 CST

CDR

LMP

NOTES

145:00
(12021)

:05

:10

145:15

REV 33

:20

:25

145:30

UNSTOW SRC'S, VACUUM AND BAG, TRANSFER TO CSM

RECEIVE B5 & B6 FROM CMP AND STOW IN SRC RACK

VACUUM PGA'S

TRANSFER VACUUM CLEANER TO CSM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	145:00 - 145:30	6/32-33	3-219

CSM FLIGHT PLAN

145:30
(61102)
(11111)

P30: LOAD CSM SEP PAD DATA

Y49 HRYR TO LM JETTISON PAD ATT (145:38)

DOFF PGA

ZIP SUIT & INSTALL ELECTRICAL COVER PRIOR TO STOWING (PGA BAG)

STOW COMM CARRIERS & UCTA (PGA BAG)

ACQ MSFN OMNI D

145:40

145:50

CDR - TRANSFER CM JETTISON ITEMS TO LM

WARNING

NO URINE/FECES
ALL OPENED FOOD MUST
BE TREATED AND
STORED IN BETA BAG

GO/NO-GO FOR LM CLOSEOUT

LMP - CLOSE LM HATCH

DIRECT O₂ VLV - CLOSED (CM)

UNSTOW AND INSTALL FORWARD HATCH (DECAL)

PERFORM HATCH INTEGRITY CHECK (DECAL)

146:00

P30 MANEUVER

SET STARS	C	S	M	S	E	P	PURPOSE	
	R	C	S	G	A	N	PROP/GUID	
	+			N	/	A	MT	N47
R ALIGN		0	0				P TRIM	N48
P ALIGN		0	0				Y TRIM	
Y ALIGN	+	0	0	1	4	6	HRS	GETI
	+	0	0	0	3	0	MIN	N33
	+	0	0	0	0	0	SEC	
ULLAGE	-	0	0	0	1	0	ΔV_X	NBT
	+	0	0	0	0	0	ΔV_Y	
	+	0	0	0	0	0	ΔV_Z	
	X	X	X	3	0	1	R (300)	
	X	X	X	3	5	5	P (355)	
	X	X	X	3	4	8	Y (349)	

LM JETTISON PAD

+	0	0	1	4	6	HRS	GETI
+	0	0	0	2	5	MIN	N33
+	0	0	0	0	0	SEC	
X	X	X	3	0	1	R (300)	N22
X	X	X	3	5	5	P (355)	
X	X	X	3	4	8	Y (349)	

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-220

LM FLIGHT PLAN

MCC-H

1553 CST

CDR

LMP

NOTES

GO/NO-GO FOR
LM CLOSEOUT

145:30 (12021)			
:35			
:40		VERIFY LM JETTISON ATTITUDE	STEERABLE ANTENNA P <u>-40</u> , Y <u>49</u> CONFIGURE S-BAND VERIFY COMM
145:45		DISABLE AUDIO COMM DISCONNECT LM HOSE AND STOW	
		DOFF SUIT	INITIALIZE AGS ALIGN AGS TO PGNS DOFF SUIT
:50	M S F N	IVT TO CSM WITH SUITS	P30 TARGET PGNS TARGET AGS ΔV FOR DEORBIT CONFIGURE LM FOR JETTISON STOW CSM JETTISON ITEMS
:55			CLOSE HATCH, IVT TO CSM
146:00			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	145:30 - 146:00	6/33	3-221

CSM FLIGHT PLAN

146:00
(61102)
(11111)

LM PWR - OFF (VERIFY)
CB SECS ARM (2) - CLOSED
CUE MSFN FOR LOGIC ARM
SECS LOGIC (BOTH) - ON (UP)

MSFN GO FOR PYRO ARM

146:10

CONFIGURE CAMERA FOR LM JETTISON PHOTOS
CM2/DAC/18/CEX-BRKT, MIR (f8,250.7) 12 fps (50% MAG)
MAG (E) _____, MAG I _____
UTILITY PWR - ON

LOAD ΔV IN EMS TO + 100.0
CHECK NULL BIAS
GDC ALIGN
VERIFY ORDEAL

PERFORM PRE-JETTISON CHECKLIST

146:20
(11102)
(11111)

V48 (11102)
(11111)
SECS PYRO ARM (2) - ARM
P47 (JETT - 1 MIN)
EMS MODE NORMAL (JETT - 30 SEC)
DAC - ON

CSM/LM FINAL SEP (BOTH) - ON (0.4 FPS SEP)

LM JETTISON

(P41)
(0.5°DB)

146:23:31
300,85/355,349

P00
DAC - OFF

PERFORM PRE-SEPARATION CHECKLIST
EMS MODE - NORMAL (SEP - 30 SEC)

CSM SEPARATION

146:28:31
-1.0,+0.0,+0.0
300,102/355,349

(11102)
(11111)

146:30

P00;V66;V49 MNVR TO P52 ATT (146:36)
(180,245.0) HGA -39, Y 185

PRE-JETTISON CHECKLIST

BMAG MODE (3) - ATT 1/RATE 2
ATT DB - MIN
RATE - LOW
SC CONT - SCS
EMS FUNC - ΔV
AUTO RCS SEL (16) - MMA/MRB
THC PWR - ON
RHC PWR DIR - MMA/INB
THC - ARMED
RHC - ARMED

PRE-SEPARATION CHECKLIST

EMS MODE - STBY
SC CONT - CMC
BMAG MODE (3) - RATE 2
P41 (BYPASS MNVR)
SECS PYRO ARM (2) - SAFE
SECS LOGIC (BOTH) - OFF
CB SECS ARM (2) - OPEN

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-222

CSM FLIGHT PLAN

146:30
(11102)
(11111)

EMS MODE - STBY
EMS FUNC - OFF
THC PWR - OFF
AUTO RCS SEL 8/D ROLL (4) - OFF
RHC PWR DIR - OFF
THC - LOCKED
RHC - LOCKED

SC CLEAN-UP
MSFN: DUMP DSE

MSFN UPLINK:
DESIRED ORIENT (TEI)

~~MAP UPDATE:~~
~~270 PHOTO RAD (TGT 11) (COPY IN FLIGHT PLAN AT 147:00)~~
~~MAP UPDATE REV 34~~

146:40

PS2 (OPTION 3)
(LIFT-OFF ORIENT)
REPORT: GYRO TORQUING ANGLES

PS2 (OPTION 1)
(TEI ORIENT)

146:50

GDC ALIGN
VERIFY ORDEAL

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

WIPE EXCESSIVE MOISTURE FROM TUNNEL HATCH AREA

147:00

PERFORM CONTAMINATION CONTROL PROCEDURE

PS2 INJ REALIGN

N71: 24 31
N05: 000.00
N93: 01.8
+ 09.1
+ 05.0
GET 146:58:25

MAP UPDATE REV 34

LOS :
180° :
AOS :

CONTAMINATION CONTROL

NOTE: IF WATER IS TO BE COLLECTED,
USE WATER COLLECTION PROCEDURE,
UNSTOW VAC CLEANER & COMPONENTS
AC UTIL PWR - OFF (VERIFY)
ASSEMBLE COMPONENTS & CONNECT PWR CABLE
AC UTIL PWR - ON (UP)
VAC CLEANER PWR SW - ON
VACUUM/BRUSH CM INTERIOR WITH SPECIAL
ATTENTION TO THE FOLLOWING:
TRANSFER TUNNEL WALL AND TOP HATCH SURFACES
OPEN B5 AND B6 COVER AND CLEAN COMPARTMENT
AND SRC BAGS SURFACES
OPEN A5 AND CLEAN COMPARTMENT AND CSC BAG AND
FILM CASSETTE BAGS SURFACES
OPEN R13 AND CLEAN COMPARTMENT AND FILM
MAGAZINE BAG SURFACE
OPEN FOOD CONTAINERS AND CLEAN COMPARTMENT
AND HELMET STORAGE BAGS SURFACES
PGA BAG SURFACES
MOVE VACUUM CLEANER BRUSH INTO ALL POTENTIAL
"DEAD AIR" POCKETS TO ENSURE THOROUGH
MIXING OF CM ATMOSPHERE,
VAC CLEANER PWR SW - OFF
AC UTIL PWR - OFF
DISCONNECT PWR CABLE & DISASSEMBLE COMPONENTS
STOW VAC CLEANER & COMPONENTS

MISSION	EDITION	DATE	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	3-223

FLIGHT PLAN

MCC-H

1723 CST

NOTES

L10H CANISTER CHANGE
(12 INTO B, STOW 10 IN A3)

V49 MNVR TO LTC PHOTO PAD ATTITUDE (147:30)

EAT PERIOD

ACQ MSFN HGA P-31, Y178

CONFIGURE CAMERA: (S-IVB/LM IMPACT)
CM3/LTC/MBW/SEF (SHUT 1/50, RNG 90.5, INT 8.1)
(73 FR), MAG (V) FR #
LTC INSTALLATION (DECAL)
LTC CHECKOUT (DECAL)

LANSBURG B - COAS

Hb 500m #4 window

LTC PHOTO PAD TARGET 11

T START: _____:_____:_____
APOLLO 12 LM (208.8, 126.1, 014.4)

R _____, P _____, Y _____

RNG (90.5) _____

T START +2:33
APOLLO 13 S-IVB (213.1, 120.6, 010.3)

R _____, P _____, Y _____

RNG (90.6) _____

T START +4:31
APOLLO 14 S-IVB (214.3, 115.6, 008.0)

R _____, P _____, Y _____

RNG (90.6)

T STOP: _____:_____:_____

MAP UPDATE REV 35

LOS : _____:_____:_____

180° : _____:_____:_____

AOS W/TEI : _____:_____:_____

AOS W/O TEI : _____:_____:_____

LM DEORBIT BURN

TIG: 147:52:58.9

BT: 77 SEC

ΔV: 183.7 FPS

DUMP DSE
UPDATE TO CSM
TEI 34 MNVR PAD
TEI 35 MNVR PAD
MAP UPDATE REV 35

147:00
(11102)
(X1111)

:10

REV 34

:20

147:30

:40

:50

148:00

M
S
F
N

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	147:00 - 148:00	6/33-34	3-224

FLIGHT PLAN

MCC-H

1823 CST

NOTES

UPLINK TO CSM
CSM S.V. & V66
TEI 34 TGT LOAD

RECORD VG_{IMU} DATA

148:00
(11102)
(X1111)

:10

:20

148:30

:40

:50

149:00

CSM SYSTEMS CHECKLIST

C&WS OPERATIONAL CHECKS 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

CABIN FAN (2) - OFF; REMOVE AND STOW
CABIN FAN LUNAR DUST FILTER WITH BAG (PGA BAG)
LTC MODE-STANDBY/POWER-ON
ZERO DET (T START -1 MIN)
LTC MODE - AUTO, DET - UP/START (T START)
PHOTO TGT 11 (APOLLO 12 LM, APOLLO 13 S-IVB, APOLLO 14 S-IVB)
MNVR BETWEEN TARGETS PER LTC PHOTO PAD
LTC MODE-STANDBY, RECORD FR # _____
LTC REMOVAL (DECAL), AND STOW _____
P30 EXTERNAL ΔV
V49 MNVR TO PAD BURN ATTITUDE (148:35)
(180,000,000) OMNI D

P40 SPS THRUSTING

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

LM LUNAR IMPACT
GET: 148:20:58
LAT: 3.5°S
LONG: 19.2°W

NOTE: IF APOLLO 14
ALSEP IS INOPERABLE,
THE LM WILL BE IM-
PACTED NEAR APOLLO
12 ALSEP AT:
LAT ~~3.32°S~~ 3.04°S
LONG ~~23.38°W~~ 26.64°W

MISSION	EDITION	DATE 1/11/71	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	148:00 - 149:00	6/34	3-225

FLIGHT PLAN

TEI BURN TABLE

P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME		RESIDUALS
		UNDERBURN	OVERBURN	
10°/SEC COMPLETE	+10° COMPLETE	FOR G&N C/O >3 SEC EARLY & $\Delta VC > +50$ FPS SWITCH TO SCS AUTO & RESTART SPS	BT + 2 SEC & $\Delta VC = -40$ FPS	TRIM X AND Z AXIS TO 0.2 FPS

TABLE 3-8
3-226

FLIGHT PLAN

MCC-N

1923 CST

NOTES

*ITEMS TO BE REPORTED
TO MSFN
**REPORT IF OFF MORE
THAN ONE SECOND
***REPORT IF >0.2 FPS

TIG: 149:14:50
BT: 2 MIN 27.4 SEC
ΔVT: 3449.55 FPS
ULLAGE: 4 JET, 12 SEC
ORBIT: N/A

BURN STATUS REPORT

[illegible]

DUMP DSE

UPLINK TO CSM
DESIRED ORIENT (PTC)

149:00
(11102)
(X1111)

:10

REV 35

:20

149:30

=40

:50

150:00

SXT STAR CHECK
P40 SPS THRUSTING

TEI

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

UNSTOW DC & EL CAMERAS AND PREPARE FOR LUNAR PHOTOS
CM3/DC/80/MBW (f2.8,250,∞) (11 FR)

MAG (R) , FR #

CM3/EL/250/MBW (f5.6, 1/250, ∞) (4 FR)

MAG (T) , FR #

V49 MNVR TO PHOTOGRAPH LUNAR SURFACE (149:35)
(127,226,330) HGA P -14, Y 303

TEI BURN STATUS REPORT

LUNAR SURFACE PHOTOGRAPHY, TEI +26 (149:41) (5 FR)
HAND-HELD, OVERLAPPING, PAN OF VISIBLE DISC,
RAPID SEQUENCE

V49 MNVR TO PHOTOGRAPH LUNAR SURFACE (149:47)
(128,222,331) CHANGE APERTURE TO f4

LUNAR SURFACE PHOTOGRAPHY, TEI +32 (149:47) (4 FR)
HAND-HELD, OVERLAPPING, PAN OF VISIBLE DISC,
RAPID SEQUENCE

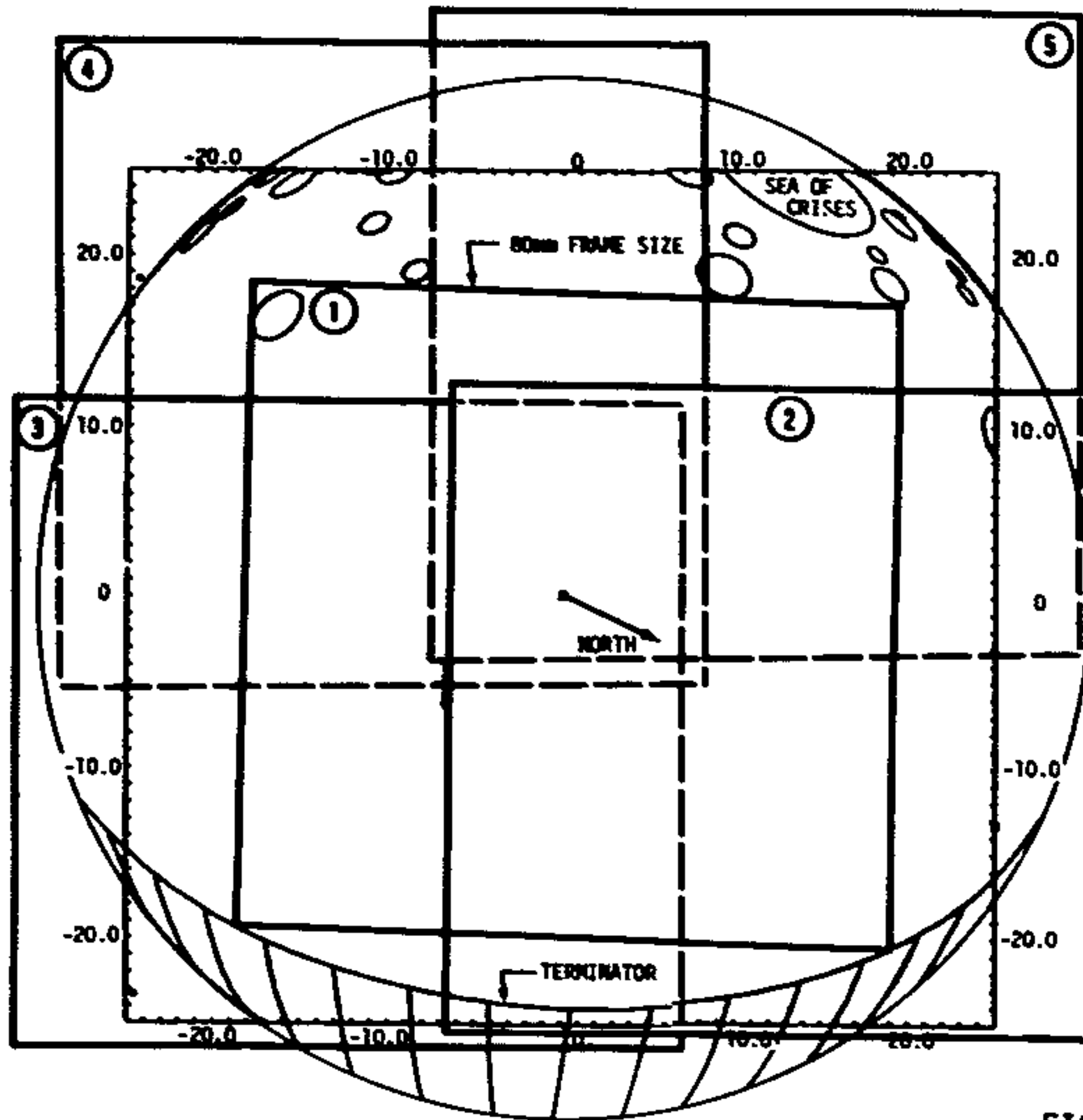
V49 MNVR TO PHOTOGRAPH LUNAR SURFACE (149:57)
(131,215,332)

LUNAR SURFACE PHOTOGRAPHY, TEI +42 (149:57) (2 FR)
HAND-HELD, COVER VISIBLE DISC
STOW DC CAMERA, RECORD FR # ———

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	149:00 - 150:00	6/34-35/TEC	3-227

POST-TEI PHOTO SEQUENCE

TEI + 26 MIN



TEI + 32 MIN

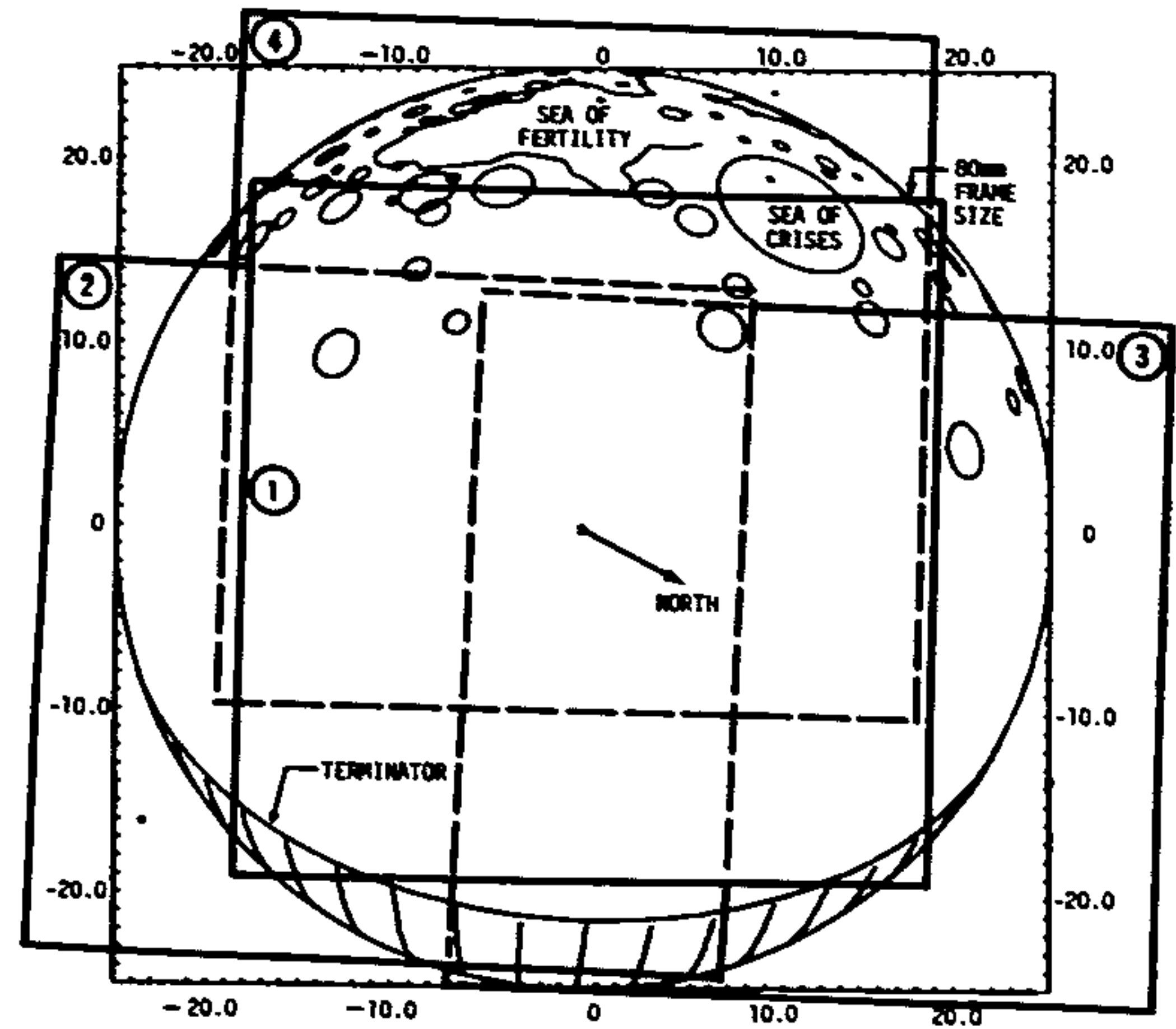
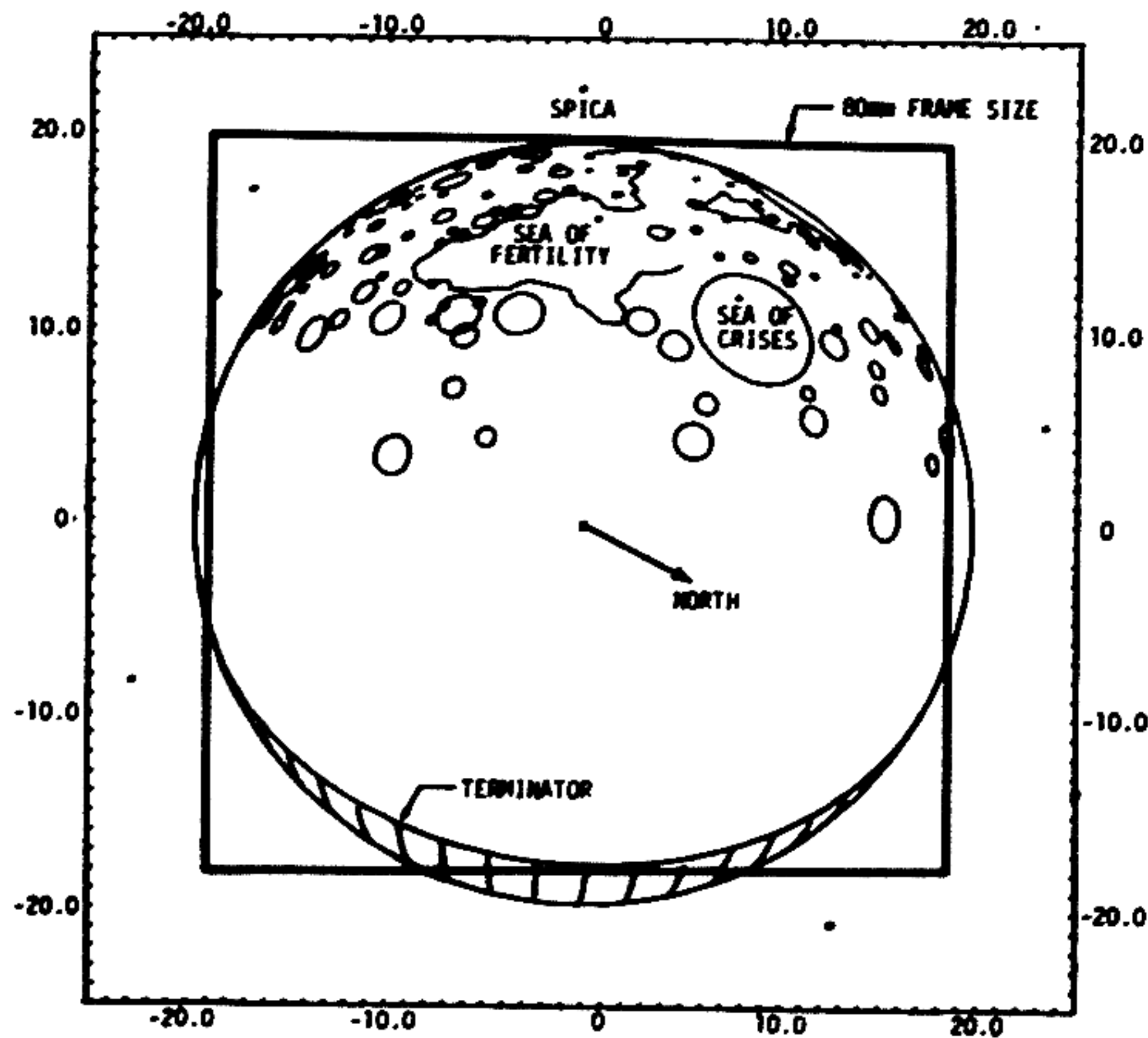


FIGURE 3-3
3-228

POST-TEI PHOTO SEQUENCE

TEI + 42 MIN

(TWO PHOTOS, CENTER LUNAR DISC IN FRAME)



TEI + 1 HR

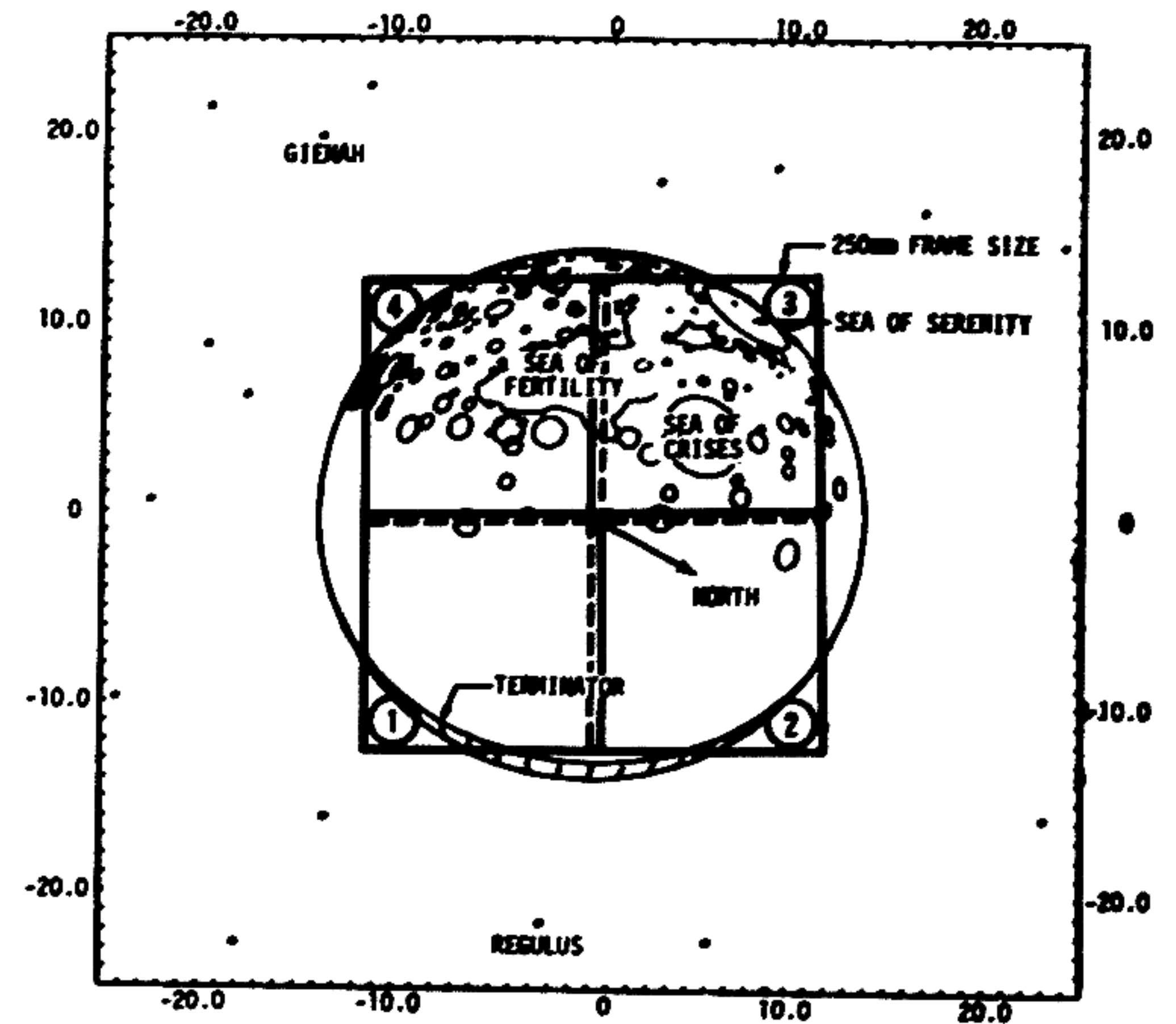
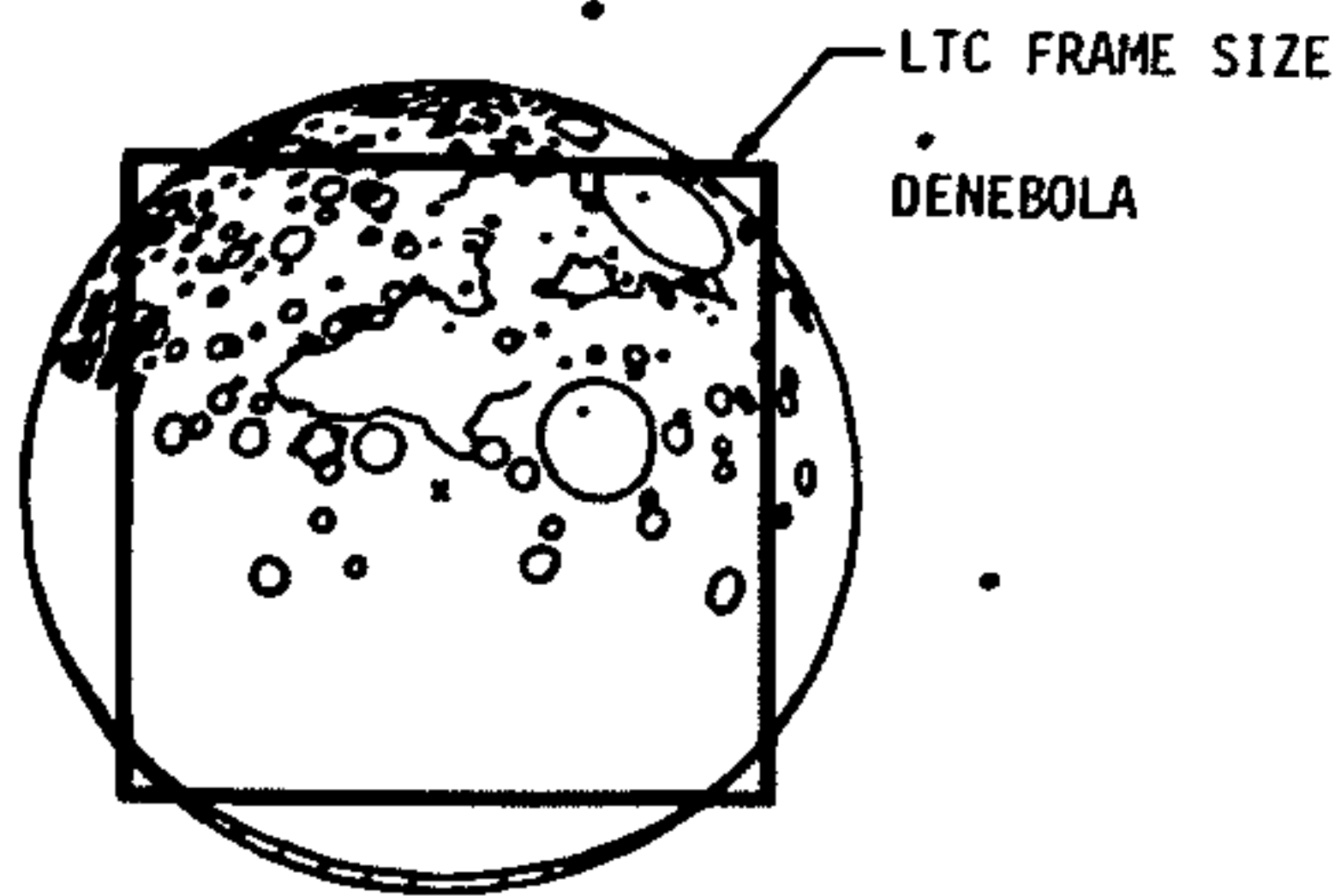


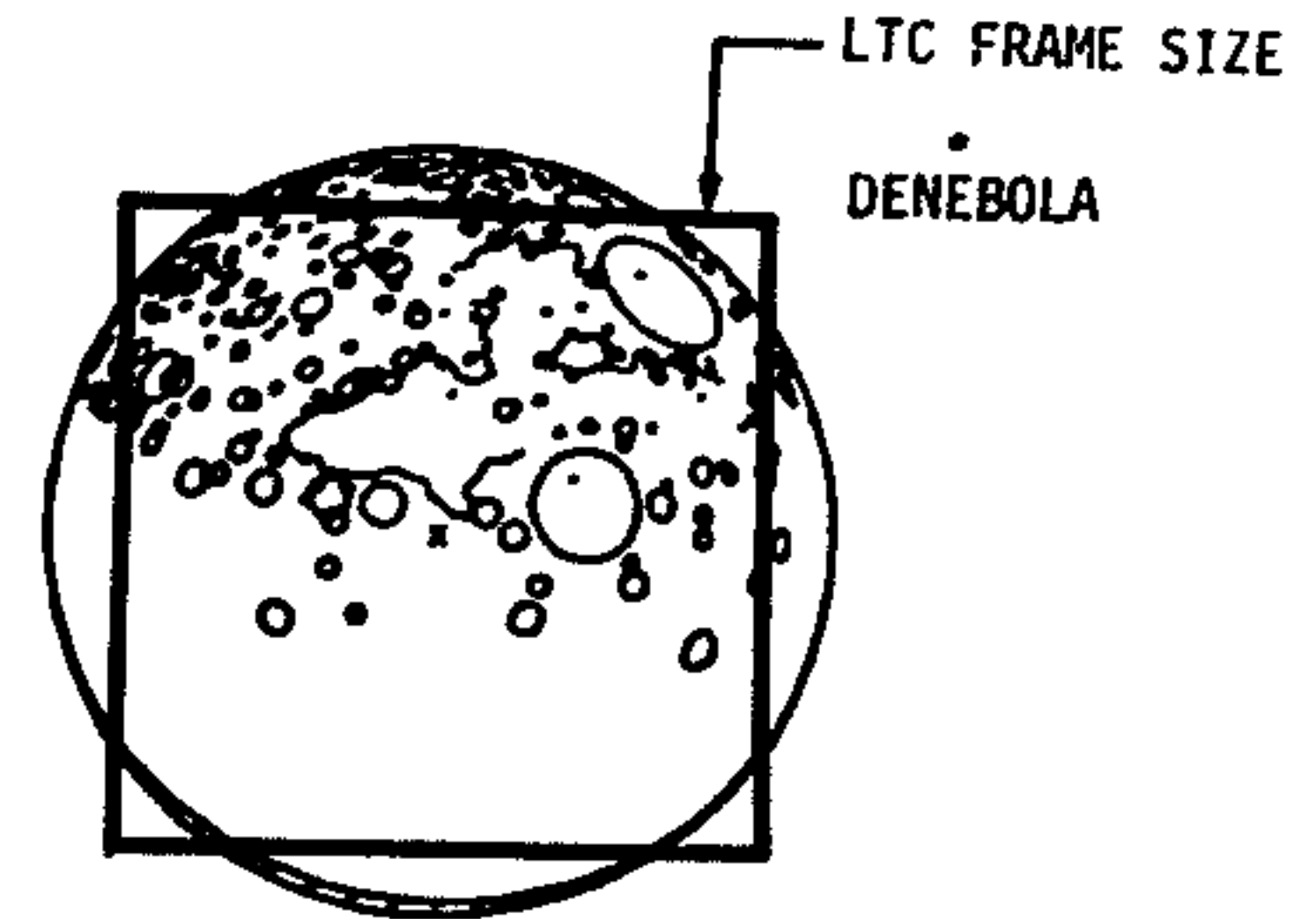
FIGURE 3-4
3-229

POST-TEI PHOTO SEQUENCE

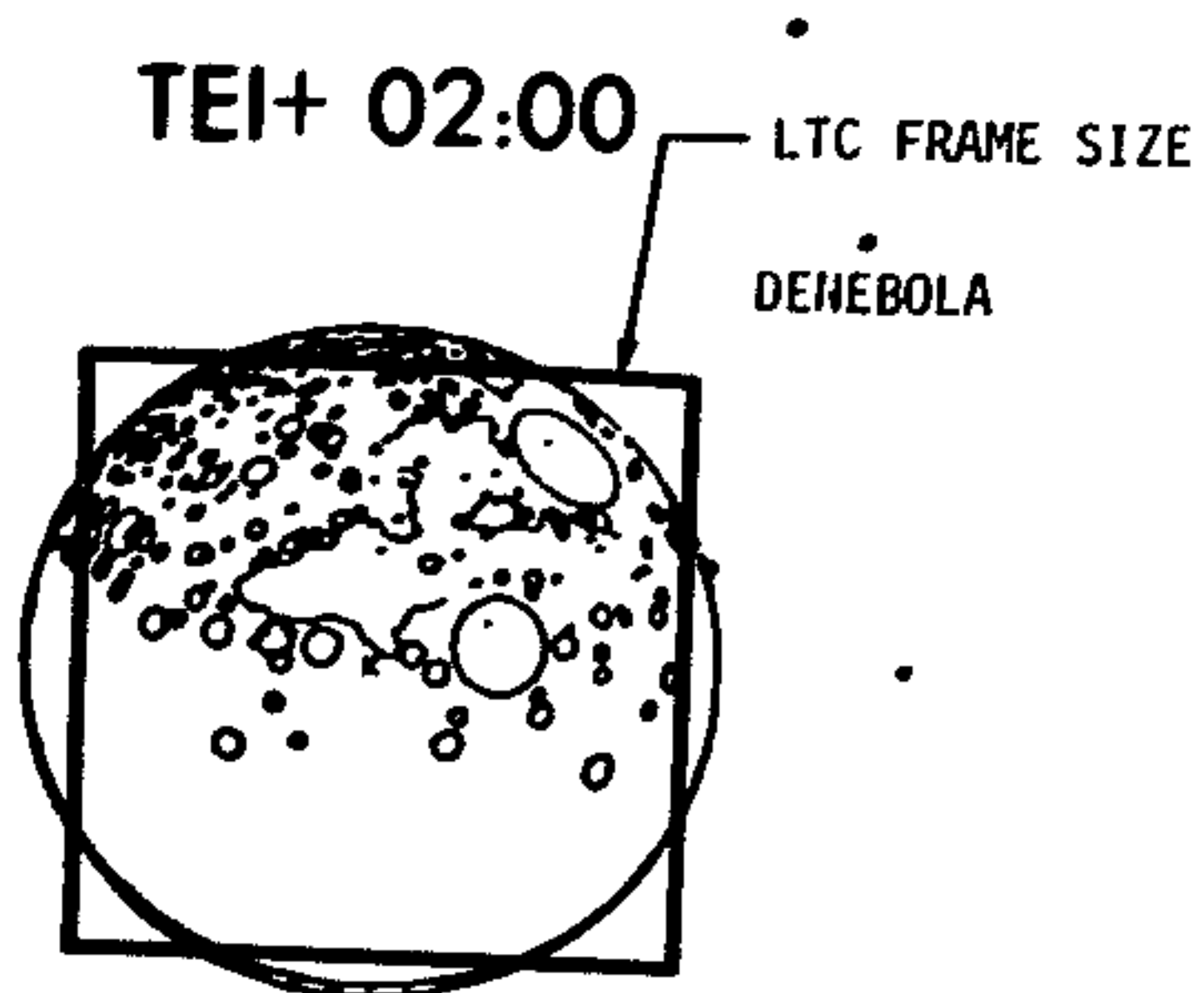
TEI+ 01:40



TEI+ 01:50



TEI+ 02:00



TEI+ 02:10

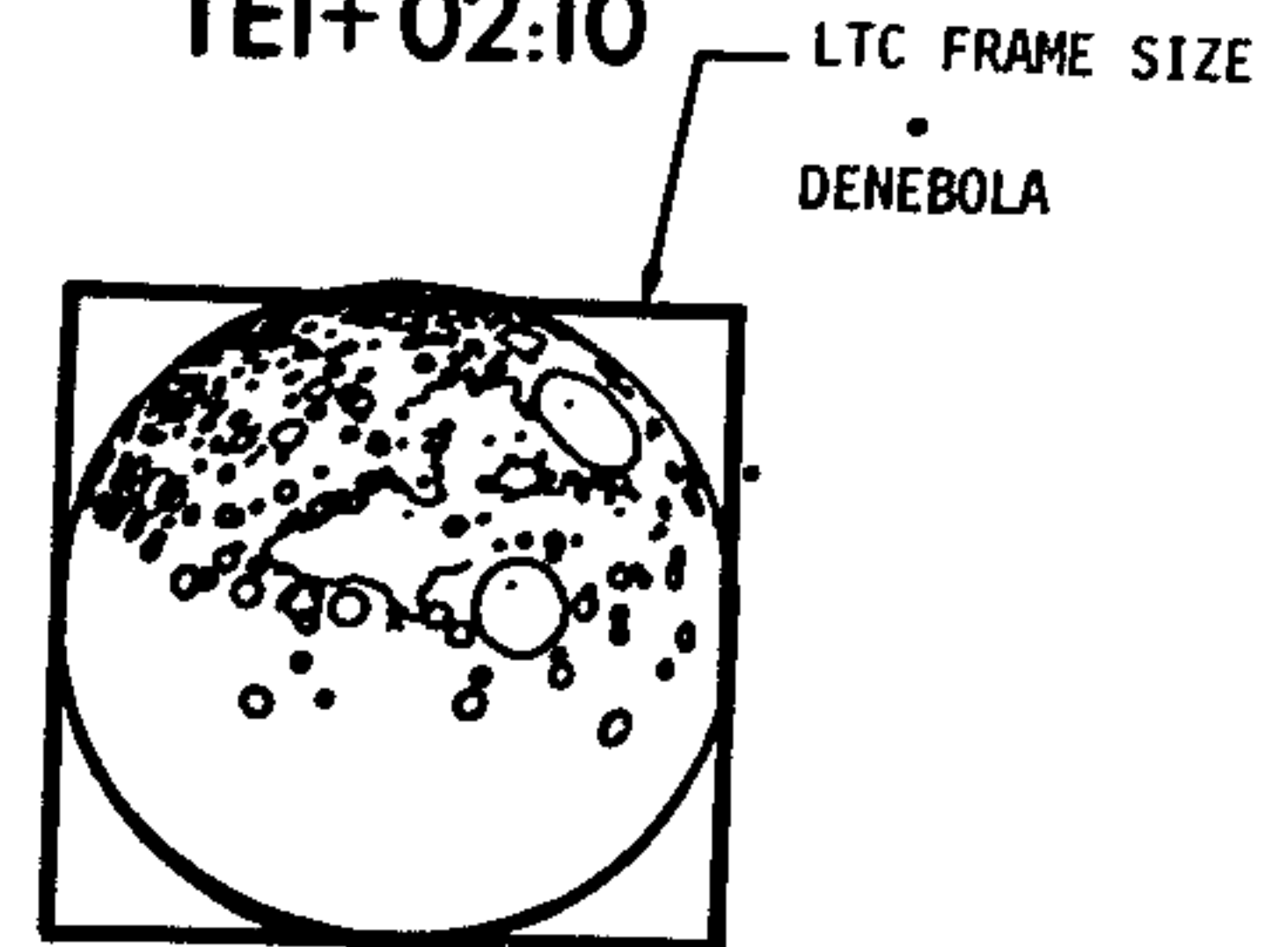


FIGURE 3-5
3-230

MCC-H

2023 CST

FLIGHT PLAN

NOTES

150:00
(11102)
(X1111)

:10

:20

150:30

(11101)
(X1111)

:40

:50

151:00

M
S
F
N

P52 IMU ALIGN
 OPTION 3 REFSMMAT
 (TEI ORIENTATION)
 REPORT GYRO TORQUE ANGLES
 OPTION 1 PREFERRED
 (PTC ORIENTATION)

STARS _____

SA _____

TA _____

V49 MNVR TO PHOTOGRAPH LUNAR SURFACE (150:15)
 (040,314,352) HGA P -33, Y 29
 LUNAR PHOTOGRAPHY TEI + 1 HR (150:15)
 CM3/EL/250/MBW (f5.6,1/250,∞) (4 FR)
 HAND-HELD, COVER VISIBLE DISC
 STOW EL CAMERA, RECORD FR # _____

VISUAL ASSESSMENT OF VISUAL TARGETS 1 & 2

V48 (11101)(X1111)

V49 MNVR LTC PHOTO PAD ATTITUDE (150:50)
 (046.8,315.7,359.1)
 CONFIGURE CAMERA: (LUNAR SURFACE PHOTOS)
 CM3/LTC/MBW/SEF-(SHUT 1/200, RNG 99.9 CW, INT-SINGLE FRAME) (12 FR)
 MAG (V) _____, FR # _____
 LTC INSTALLATION (DECAL)
 LTC CHECKOUT (DECAL)
 VERIFY LTC MODE-STANDBY/POWER-ON (T START -1 MIN)
 LTC MODE-SINGLE
 TEI +1 HR 40 MIN (150:55) SINGLE FRAME
 GET OF EXPOSURE: _____:_____:_____
 V49 MNVR TO LTC PHOTO PAD ATTITUDE (151:00)
 (047.8,315.8,000.1)

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X + 00.037
 Y - 00.106
 Z - 00.043

GET _____:_____:_____

LTC PHOTO PAD (TEI +01:40)

R _____, P _____, Y _____

LTC PHOTO PAD (TEI +01:50)

R _____, P _____, Y _____

UPDATE TO CSM
 LTC PHOTO ATT
 (IF REQ'D)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	150:00 - 151:00	6/TEC	3-231

FLIGHT PLAN

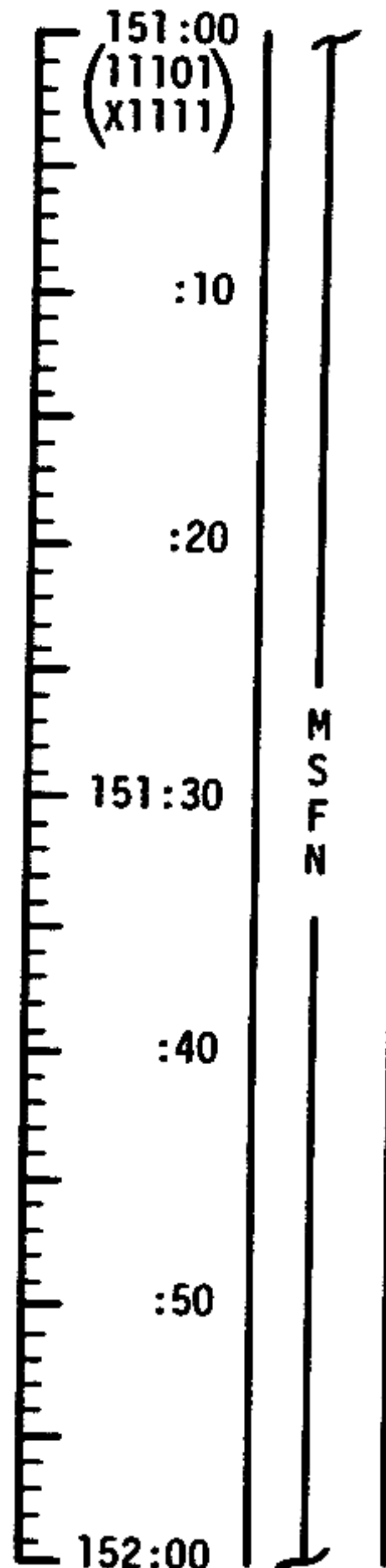
MCC-H

2123 CST

NOTES

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP
CSM S.V.

UPLINK TO CSM
CSM S.V. (MSFN)
(NO V47)



TEI + 1 HR 50 MIN (151:05) SINGLE FRAME
GET OF EXPOSURE ____:____:____

V49 MNVR TO LTC PHOTO PAD ATTITUDE (151:10)
(048.6,315.9,001.0)
TEI + 2 HR (151:15) SINGLE FRAME
GET OF EXPOSURE ____:____:____

V49 MNVR TO LTC PHOTO PAD ATTITUDE (151:20)
(049.3,316.0,001.7)
TEI + 2 HR 10 MIN (151:25) SINGLE FRAME
GET OF EXPOSURE ____:____:____
LTC MODE-STANDBY, RECORD FR # ____
LTC REMOVAL (DECAL), AND STOW ____

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N)
V49 MNVR TO PTC ATTITUDE
(N20,270,000)
V79 (-0.3750)
(+030.00)
(+00000)

PAGE G 8-2

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST
COMM - OMNI'S

PAGE S 1-26

LTC PHOTO PAD (TEI + 02:00)

R____, P____, Y____

LTC PHOTO PAD (TEI + 02:10)

R____, P____, Y____

EARTH DISTANCE
≈ 206 148 NM
DAP LOAD STATUS
(11101)(X1111)

ONBOARD READOUT

BAT C	37.0
PYRO BAT A	37.2
PYRO BAT B	37.2
RCS A	60
B	58
C	60
D	60

DC IND SEL - MNA OR B

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	151:00 - 152:00	6/TEC	3-232

MSC FORM 809B (APRIL 1970) OT

FLIGHT PLANNING BRANCH

NASA — MSC

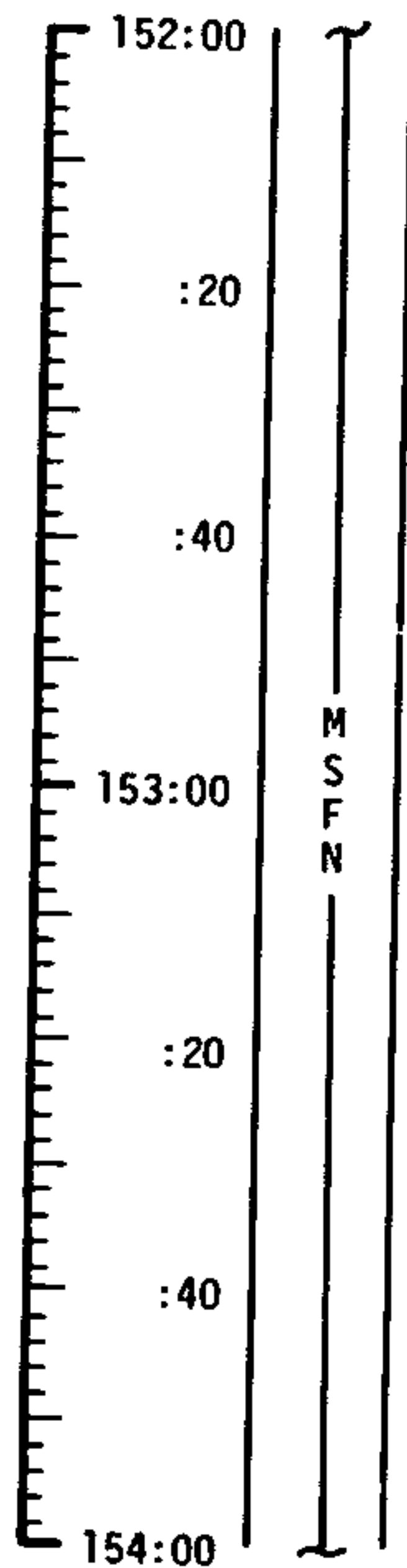
MCC-H

2223 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)



REST PERIOD
(10 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	152:00 - 154:00	6/TEC	3-233

MSC Form 29 (May 69)

FLIGHT PLANNING BRANCH

NASA — MSC

MCC-H

023 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)

154:00
:20
:40
155:00
:20
:40
156:00

M
S
F
NREST PERIOD
(10 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	154:00 - 156:00	6/TEC	3-234

MSC Form 29 (May 69)

FLIGHT PLANNING BRANCH

NASA — MSC

MCC-H

0223 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)

156:00
:20
:40
157:00
:20
:40
158:00

M
S
F
N

REST PERIOD
(10 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	156:00 - 158:00	6/TEC	3-235

MCC-H

0423 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)

158:00
:20
:40
159:00
:20
:40
160:00

M
S
F
N

REST PERIOD
(10 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	158:00 - 160:00	6/TEC	3-236

MSC Form 29 (May 69)

FLIGHT PLANNING BRANCH

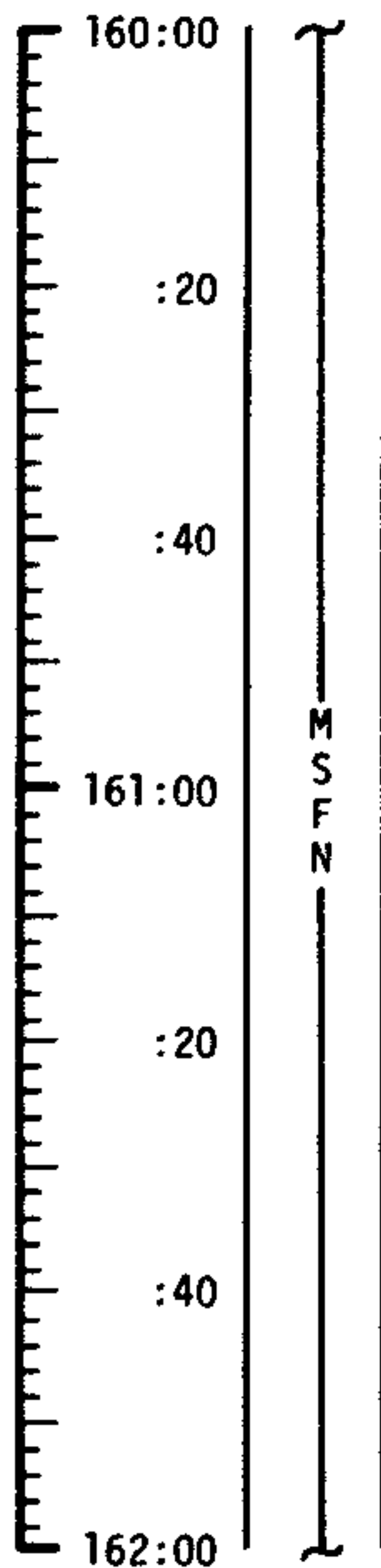
NASA — MSC

MCC-H

0623 CST

FLIGHT PLAN

NOTES



REST PERIOD
(10 HOURS)

PTC

DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	160:00 - 162:00	6/TEC	3-237