

Apollo 15 Flight Plan

Please note that most of the hand-written additions to this document were added during the compilation of the Apollo 15 Flight Journal in 1998 to 2000. To a large extent, they reflect changes read up to the crews during the course of the mission.

David Woods – Editor: Apollo Flight Journal



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FINAL

FLIGHT PLAN

PREPARED BY

FLIGHT PLANNING SECTION
FLIGHT PLANNING BRANCH
CREW PROCEDURES DIVISION



MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

JUNE 21, 1971

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SUBMITTED BY:

Spencer H. Gardner
SPENCER H. GARDNER
BOOK MANAGER

APPROVED BY:

John W. O'Neill
JOHN W. O'NEILL, CHIEF
FLIGHT PLANNING BRANCH
CREW PROCEDURES DIVISION

James W. Bilodeau
JAMES W. BILODEAU, CHIEF
CREW PROCEDURES DIVISION

Donald K. Slayton
DONALD K. SLAYTON
DIRECTOR OF FLIGHT CREW OPERATIONS

CONCURRENCE:

James A. McDivitt
JAMES A. MCDIVITT, MANAGER
APOLLO SPACECRAFT PROGRAM OFFICE

Sigurd A. Sjoberg
SIGURD A. SJOBERG
DIRECTOR OF FLIGHT OPERATIONS

It is requested that any organization having comments, questions, or suggestions concerning this document contact Spencer H. Gardner, Flight Planning Branch, CG52, Building 4, room 232, telephone 483-4271.

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ABBREVIATIONS

ABB	abbreviation or abbreviated
AC	alternating current
ACCEL	accelerometer
ACN	Ascension
ACT	activation
ACQ	acquisition or acquire
AEA	abort electronics assembly
AGS	abort guidance subsystem
AH	ampere hours
ALSCC	Apollo lunar surface close-up camera
ALSD	Apollo lunar surface drill
ALSEP	Apollo lunar surface experiment package
ALT	altitude
ALTM	altimeter
AM	amplitude modulation
AMP or amp	amperes
AMPL	amplifier
ANG	Antigua
ANT	antenna
AOH	Apollo Operations Handbook
AOL	Atlantic Ocean line
AOS	acquisition of signal or acquisition of site
AOT	alignment optical telescope
AP	alpha particle spectrometer
APS	ascent propulsion subsystem
ARIA	Apollo range instrumentation aircraft
ARS	atmosphere revitalization system
ASC	ascent
A/T	alignment technique
ATT	attitude
AUX.	auxiliary
AZ	azimuth
BAT	battery
BEF	blunt end forward
BD	band
BDA	Bermuda
BIOMED	bio-medical data
BKWD	backward
BMAG	body mounted attitude gyro
BP	barber pole
BRKT	bracket
BSLSS	buddy secondary life support system
BT	burn time
BU	backup
BW	black and white (Film 3400)

BWD	backward
BW1	black and white (Film 3401)
CAP COM	capsule communicator
CAL	calibration
CAMR or CAM	camera
CB	circuit breaker
CCGE	cold cathode gage experiment
CCIG	cold cathode ion gage
CCW	counter clockwise
CDH	constant delta altitude
CDR	Commander
CDU	coupling data unit
CEX	color exterior (S0368)
CIN	color interior (S0168)
CIRC	circulation
CK	check
CKT	circuit
C/L	centerline or checklist
CM	command module
CMC	command module computer
CMD	command
CMP	Command Module Pilot
CNTL	control
C/O	check out
COAS	crew optical alignment sight
COMM	communications
CONFIG	configuration
COMP	compare or compensate
CONT	continue or contingency
CP	control point
CPLEE	charged particle lunar environment experiment
CRO	Carnarvon, Australia
CRYO	cryogenic
CS	contingency sample
CSI	coelliptic sequence initiation
CSM	command and service modules
CST	central standard time
C/S	central station
CTR	center
C&WS	caution and warning system
CW	clockwise
CWEA	caution and warning electronics assembly
CWG	constant wear garment
CYI	Grand Canary Island

DAC	data acquisition camera
DAP	digital auto pilot
DB	deadband
DC	direct current or data camera (70mm)
DCA	digital command assembly
DEDA	data entry and display assembly
DEG	degrees
DEPL	depletion
DES	descent
DET	digital event timer
DIFF	difference
DIR	direct
DK	docked
DO	detailed objective
DOI	descent orbit insertion
DPLY	deployment
DPS	descent propulsion system
DR	door
DRT	dome removal tool
DS	documented sample
DSCRM	discriminator
DSE	data storage equipment(CSM)
DSEA	data storage equipment assembly (LM)
DSKY	display and keyboard
DSM	deep space measurement
DTO	detailed test objective
DUA	digital uplink assembly
DWN	down
E	erasable or enter
ECS	environmental control system
ED	explosive device
EDT	eastern daylight time
EFH	earth far horizon
EI	earth (atmosphere) interface and entry interface
EKG	electrocardiogram
EL	electric Hasselblad camera
ELEV	elevation
EMER	emergency
EMS	entry monitor system
EMU	extravehicular mobility unit
ENG	engine
ENH	earth near horizon
ENT	entry
E.O.	earth orbit
EOM	end of mission
EPO	earth parking orbit
EPHEM	Ephemeris

EPS	electrical power subsystem
EQUIP	equipment
ERECT	erectable
ERR	error
EST	eastern standard time
ETB	equipment transfer bag
EV	extravehicular
EVA	extravehicular activity
EVAP	evaporator
EVCS	extravehicular communications system
EVT	extravehicular transfer
EXP	experiment
EXT	external or extend
f	f-stop
FAM	familiarize or familiarization
FC	fuel cell
FCS	fecal containment system
FDAI	flight director attitude indicator
FLT	flight
FM	frequency modulated
FOV	field of view
FPS	feet per second
fps	frames per second
FR	frame(s)
FREQ	frequency
FT or ft	feet
FTO	flight test objective
FTP	full throttle position
FTT	fuel transfer tool
FWD	forward
G.A.	gas analysis
GA	gimbal angle
GBI	Grand Bahama Islands
GBM	Grand Bahama (MSFN)
GDC	gyro display coupler
GDS	Goldstone, California
GET	ground elapsed time
GETI	ground elapsed time of ignition
GETIL	ground elapsed time of landing for TIG time of abort burn
GLY	glycol
GMT	Greenwich mean time
G&C	guidance and control
G&N	guidance and navigation
GNCS	guidance, navigation and control system (CSM)
GR	gamma ray spectrometer
GWM	Guam
GYM	Guaymas, Mexico

H2	hydrogen
HA	apogee altitude
HAW	Hawaii
HBR	high bit rate (TLM)
HD	highly desirable
HDC	hasselblad data camera
HFE	heat flow experiment
HGA	high-gain antenna
HI	high (switch position)
HOR	horizon
H2O	water
HP	perigee altitude
HR	hour(s)
HSK	Honeysuckle (Canberra, Australia)
HTC	hand tool carrier
HTR	heater
HTV	USNS Huntsville
ICDU	inertial coupling data unit
ID	identification
ICG	inflight coverall garment
IGA	inner gimbal angle
IGN	ignition
IMU	inertial measurement unit
INCR	increase
IND	indicator
INIT	initialization
INT	interval
IP	initial point
ISA	interim stowage assembly
IU	instrumentation unit
IVC	intervehicular communications
IVL	intervalometer
IVT	intravehicular transfer
iR	inclination of the ascending return
JETT	jettison
KG	kilogram
KM	kilometer
kwh	kilowatt hour
LA	launch azimuth or laser altimeter
LAT	latitude
LBR	low bit rate (TLM)
LB or lb	pound(s)
LCG	liquid cooled garment
LCRU	Lunar communications relay unit

L/D	lift/drag
LD	lunar day (TV lens)
LDG	landing
LDMK	landmark
LEB	lower equipment bay
LEC	lunar equipment conveyor
LEVA	lunar extravehicular visor assembly
LFH	lunar far horizon
LGC	LM guidance computer
LH	left-hand
L/H	local horizontal
LHEB	left-hand equipment bay
LHFEB	left-hand forward equipment bay
LHSSC	left-hand side storage container
LiOH	lithium hydroxide
LLM	lunar landing mission
LLOS	landmark line of sight
LM	lunar module
LMP	Lunar Module Pilot
LNH	lunar near horizon
L/O	lift-off
LOI	lunar orbit insertion
LONG	longitude
LOS	loss of signal or loss of site
LPD	landing point designator
LPO	lunar parking orbit
LPM	lunar portable magnetometer
LR	landing radar
LRRR or LR3	laser ranging retro-reflector
LRV	lunar roving vehicle
L/S or LS	landing site or lunar surface
LSM	lunar surface magnetometer
LT	light
LTG	lighting
LUB	lubrication
LV	launch vehicle
L/V	local vertical
LVPD	launch vehicle pressure display
M	mandatory
MAD	Madrid, Spain
MAG	magazine (camera)
MAN	manual
MAX	maximum
MAX Q	maximum dynamic pressure
MBW	medium black and white film
MC	mapping camera
MCC	midcourse correction

MCC-H	Mission Control Center - Houston
MDC	main display console
MEAS	measurement
MED	medical
MESA	modular experiment stowage assembly
MET	mission event timer
MGA	middle gimbal angle
M/I	minimum impulse
MIN	minimum or minutes(s)
MIR	mirror
MLA	Merrit Island, Florida, launch area
mm or MM	millimeter
MNA or MNB	main electrical bus A or B
MNVR	maneuver
MON	monitor
MONO	monaural
MPL	mid-Pacific line
MPS	main propulsion system
M/R	mixture ratio (fuel to oxidizer)
MS	mass spectrometer
MSFN	Manned Space Flight Network
MSO	mass spectrometer outgasing
MTVC	manual thrust vector control
MULT	multiple
N2	nitrogen
NAV	navigation
NK	nikon camera
NM	nautical miles
NO.	number
NOM	nominal
NXX	Noun XX
O2	oxygen
OBS	observation
O/F	oxidizer to fuel ratio
OGA	outer gimbal angle
OID	octal identifier
OMNI	omnidirectional antenna
OPR	operate
OPS	oxygen purge system
OPT	option
ORB	orbital
ORDEAL	orbit rate display earth and lunar
ORIENT	orientation
OVBD	overboard
OVHD	overhead

P	pitch or program
PAD	voice update
PAN	panoramic
PART	particle
PCM	pulse code modulation
PC	plane change or chamber pressure
PDI	powered descent initiation
PER or PC	Pericynthion
PGA	pressure garment assembly
PGNCS	primary guidance, navigation and control system (LM)
PGNS	primary guidance navigation system (LM)
PHOTO	photograph
PIPA	pulse integrating pendulous accelerometer
PKG	package
PLSS	portable life support system
PM	phase modulated
POL	polarity or polarizing
PRD	passive radiation dosimeter
PREF	preferred
PREP	preparation
PRESS	pressure
PRIM	primary
PROP	proportional
PRN	pseudo random noise
PRPLNT	propellant
PSE	passive seismic experiment
PSIA	pounds per square inch absolute
PSID	pounds per square inch differential
PSIG	pounds per square inch gage
PT	point
PTC	passive thermal control
PU	propellant utilization
PUGS	propellant utilization gaging system
PWR	power
PXX	Program XX
PYRO	pyrotechnic
QTY	quantity
QUAD	quadrant
R	roll or range
R&B	red and blue
RAD	radiator, radial, or radiation
RCDR	recorder
RCS	reaction control system
RCU	remote control unit
RCV	receiver
REACQ	reacquire

REFSMMAT	reference stable member matrix
REG	regulator
REL	release
REQD	required
RETR	retract
REV	revolution
RH	right-hand
RHC	rotational hand controller
RING	ringsight
RLS	radius of landing site
RMT	
RNDZ	rendezvous
RNG	range or ranging
ROD	rate of descent
RR	rendezvous radar
RSI	roll stability indicator
RSLV	resolver
RT	realtime
RTC	realtime command
RTG	radioisotope thermoelectric generator
RXX	Routine XX
SA	shaft angle
SATT	satellite
S-BD	S-BAND
SC	spacecraft
SCE	signal conditioning equipment
SCS	stabilization control system
SCT	scanning telescope
SE	southeast or subearth
SEC	secondary
SECO	S-IVB engine cutoff
SECS	sequential events control system
SEF	sharp end forward
SEL	select
SEP	separate
SEQ	sequence
SEVA	standup extravehicular activity
SIDE	suprathermal ion detector experiment
SII	Saturn II (second stage)
SIM	scientific instrument module
S-IVB	Saturn IVB(third stage)
SLA	service module LM adapter
SLOS	star line-of-sight
SM	service module
SPECT	spectrometer
SPOT	spot meter

SPS	service propulsion system
SR	sunrise
SRC	sample return container
SRX	S-Band receiver mode no. X
SS	sunset or subsolar
STBY	standby
STX	S-Band transmit mode no. X
SUBSAT	subsattellite
S.V.	state vector
SW	switch
SWC	solar wind composition
SWE	solar wind experiment
SXT	sextant
SYS	system
T EPHEM	time of Ephemeris update
TA	trunnion angle
TAN	Tananarive, Madagascar
TB	time base or talkback
TCA	time of closest approach
TD	touchdown
T&D	transposition and docking
TD&E	transposition docking and LM ejection
TDS	thermal degradation sample
TEC	transearth coast
TECH	technique
TEI	transearth injection
TEMP	temperature
TERM	terminate
TEX	Corpus Christi, Texas
TGT	target
THC	translation hand controller
TIG	time of ignition
TLC	translunar coast
TLI	translunar injection
TLH or TM	telemetry
TPF	terminal phase final
TPI	terminal phase initiation
TPM	terminal phase midcourse
T/R	transmitter/receiver
TRANS	translation
TRK	track or tracking
TRUN	trunnion
TV	television
TVC	thrust vector control
TWR	tower

UCTA	urine collection transfer assembly
UHT	universal hand tool
ULL	ullage
UMB	umbilical
UNBAL	unbalance (meter)
UNDK	undock
US	United States
UV	ultraviolet
V	velocity
VG _{IMU}	velocity to be gained as related to IMU orientation
VGX	velocity to be gained (X-body axis)
VGY	velocity to be gained (Y-body axis)
VGZ	velocity to be gained (Z-body axis)
VR	resultant velocity
VX	velocity along the X-axis
VY	velocity along the Y-axis
VZ	velocity along the Z-axis
VAN	USNS vanguard
VHBW	very high speed black and white film
VHF	very high frequency
VLV	valve
VOX	voice keying
VXX	Verb XX
WRT	with respect to
X	time of closest approach (symbol)
XDOT	rate of change along the X-axis
XFER	transfer
XMIT	transmit or transmitter
XPNDER	XPNDERtransponder
XR	X-ray spectrometer
Y	yaw
YDOT	rate of change along the Y-axis
ZDOT	rate of change along the Z-axis
ZPN	impedance pneumogram

ΔAz	azimuth change (difference)
ΔH	altitude change (difference)
ΔP	pressure change (difference)
ΔR	position change (difference)
ΔV	velocity change (difference)
ΔVC	velocity change at engine cutoff
ΔVT	velocity change loaded pre-burn
#	frame number(s) (for camera data)
ϕ	latitude
λ	longitude

PHOTOGRAPHIC NOMENCLATURE

AAA/BBB/CCC/DDD - EEE, EEE, (fGG, HHH, III) (JJ fps or JJ FR) (KK MIN)
(LL% MAG)

AAA - Location from which photography is to be accomplished

BBB - Camera

CCC - Lens

DDD - Film Type

EEE - Photography aids (i.e., brackets, intervalometer, mirror, etc.)

fGG - Lens Aperture Setting

HHH - Shutter Speed

III - Focus Distance in Feet

JJ - Number of frames for DC, EL & NK cameras or

JJ - Frame Rate for the DAC only

KK - Magazine percent for the DAC only

KK - Operating time (minutes) for TV

LL - Magazine percent for the DAC only

CODE EXAMPLE:

1. CM4/DAC/18-CEX-BRKT, SPOT (S,1/250,∞)(12 fps)(4 min)(50% MAG)

Meaning: Photos are taken from CM right hand rendezvous window using the DAC with 18mm lens and S0368 film. The camera will be bracket mounted with the following camera settings: f-stop from spotmeter reading, shutter speed 1/250 of a second, focus at infinity, 12 frames per second, 50% MAG for 4 min to be used.

2. CM4/EL/80/BW-BRKT, IVL (f5.6,1/250,∞) 10 FR

Meaning: Photos are taken from CM right hand rendezvous window using the Electric Hasselblad camera with the 80mm lens and black & white film (3400). The camera will be bracket mounted with the following settings f-stop (aperture) f5.6, shutter speed 1/250, and focus at infinity. The operation of the shutter will be controlled by the intervalometer. Ten frames have been allotted for this sequence.

PHOTOGRAPHIC NOMENCLATURE (CONT)

CAMERA LOCATIONSCOMMAND MODULE

CM-1	LH Side Window
CM-2	LH Rendezvous Window
CM-3	Hatch Window
CM-4	RH Rendezvous Window
CM-5	RH Side Window

LUNAR MODULE

LM-1	LH Window
LM-2	Docking Window
LM-3	RH Window

CAMERA MOUNTSCSM

Electric Hasselblad (EL) +X axis +12°

Electric Hasselblad (EL) normal to RH Side Window

Data Acquisition Camera with right angle mirror (DAC) +X axis

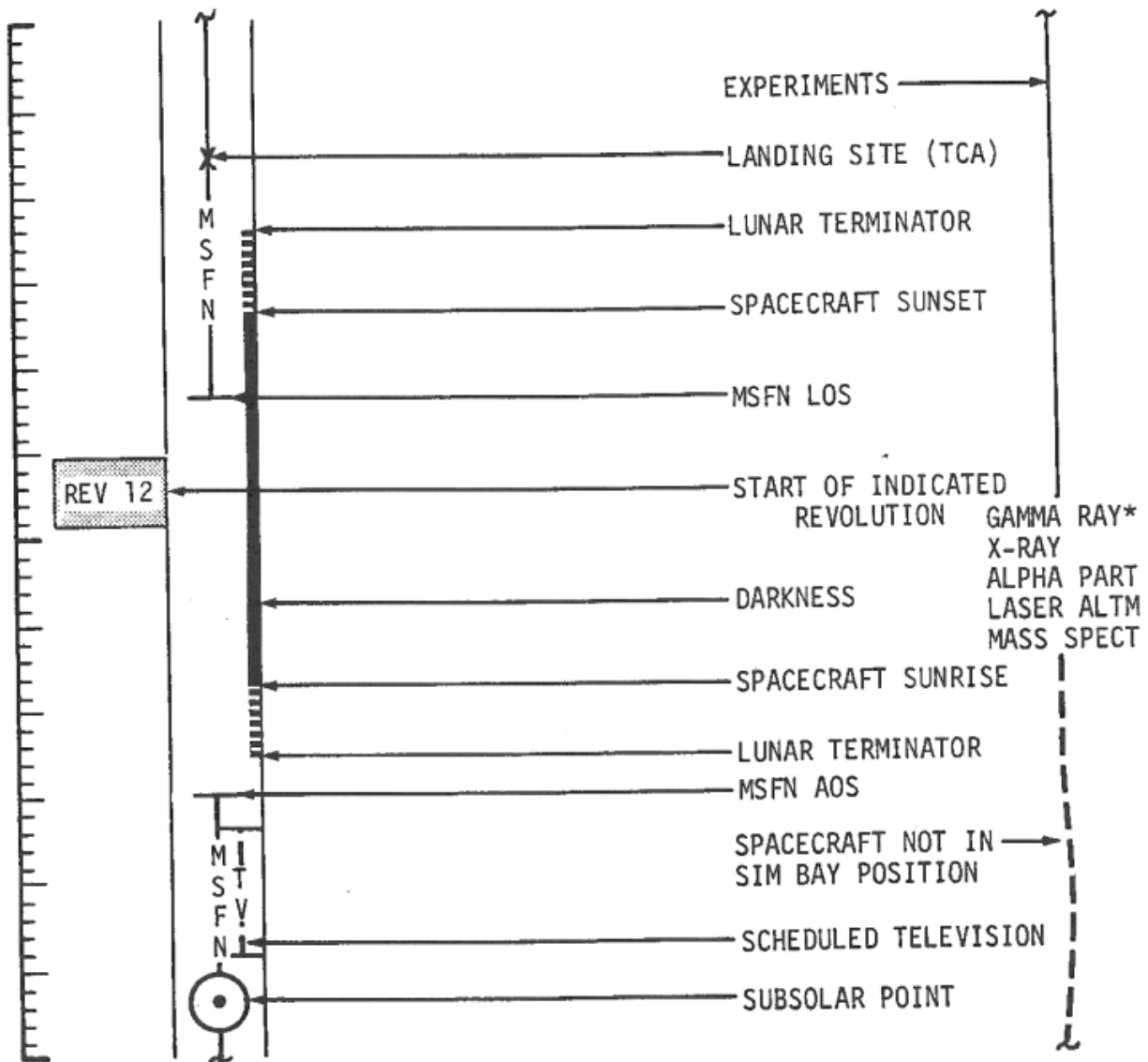
Data Acquisition Camera with SXT Adapter - same as SXT shaft & trunnion

NIKON (NK) Two positions

parallel to +X axis

+X axis +30°

SYMBOL NOMENCLATURE



*DEGRADED SIM BAY DATA

FLIGHT PLAN NOTES

I. Crew

A. Crew designations are as follows:

<u>Designation</u>	<u>Prime</u>	<u>Backup</u>
Commander (CDR)	Scott	Gordon
Command Module Pilot (CMP)	Worden	Brand
Lunar Module Pilot (LMP)	Irwin	Schmitt

B. The nominal CM couch positions are:

<u>Activity</u>	<u>Left</u>	<u>Center</u>	<u>Right</u>
Launch thru TLI	CDR	CMP	LMP
T&D thru Entry	CMP	CDR	LMP

C. The PGA's are worn as shown in Table 2-1.

D. The Crew Biomedical Harness and sensor wearing schedule is shown in Table 2-2.

E. Crew status reports are voiced to MCC-H before and after crew sleep periods. After waking, the crew reports sleep obtained during the last 24 hours and personal dosimeter readings. Before going to sleep, the crew reports medication used and any other pertinent information on activities performed.

F. Negative reporting is used in reporting completion of each checklist.

G. All onboard gauge readings are read directly from the gauges with no calibration bias applied.

II. CSM Systems

A. Communications

1. The preferred S-Band communication modes are:
 - (a) Uplink Mode 6 (Voice, PRN, and Udata)
 - (b) Downlink Mode 2 (Voice, PRN, TLM-HBR)
2. VHF Duplex B is used for launch, and Simplex A is used for earth-orbit operations.
3. Table 2-3 summarizes the MSFN coverage available for the CSM.

4. Table 2-4 contains a summary of the scheduled CSM & LM TV transmissions.
5. MCC-H switches OMNI antennas during TLC and TEC rest periods and TLC PTC awake periods. MCC-H switches OMNI and HGA during TEC PTC awake periods. The crew manages antenna operations during all other TLC and TEC periods.
6. To optimize the return of SIM Bay data, the crew will manually acquire with the HGA during awake period.

B. DSE

1. During the earth-orbit phase, the CSM LBR data is recorded when the CSM is not within MSFN coverage. The DSE is dumped during the pass over the US prior to TLI if possible.
2. CSM HBR data will be recorded during all P24 landmark tracking.
3. CSM HBR will be recorded during all CSM engine burns, at Sim Door Jettison, TD&E, and during DAC/SXT Photo test.
4. LM LBR data will be recorded during LOS periods between CSM/LM Separation and PDI.
5. Along with manually acquiring MSFN with the HGA, the crew, instead of the ground, will rewind the DSE prior to the manual HGA acquisition to optimize the return of SIM Bay data. The crew will rewind manually for playback at a specific time.
6. All entry data will be recorded in HBR during the blackout.

C. Electrical Power

1. The CSM normally remains powered up throughout the mission.
2. Table 2-5 lists the fuel cell purges.
3. Based on cryo purity and performance, the time between fuel cell O₂ purges may be increased to coincide with water dump times. The O₂ purge at 10.5 hours allows a judgement to be made on the defined purge schedule.

4. The cryogenic heaters are managed such that the planned usage is obtained out of each O_2 . The H_2 fans are operated manually for one minute before and after each sleep cycle, prior to SPS or S-IVB thrusting and pre-CSM/LM ejection.
5. Table 2-6 contains the battery charge schedule.

D. ECS and Water Management

1. Potable water is chlorinated once a day after the eat period prior to each sleep period.
2. Waste water dump and fuel cell purge criteria:
 - (a) Waste water dumps, fuel cell purges, and urine dumps in lunar orbit are scheduled at the following times: (see table 2-5 for the scheduled fuel cell purges and waste water dumps)
 - (1) Once during each 24 hours, if possible, following the initial dump and purge
 - (2) H_2 fuel cell purges are scheduled at every other O_2 fuel cell purge after the first O_2 fuel cell purge
 - (b) The most opportune time to perform waste water dumps and fuel cell purges are as follows:
 - (1) Immediately after the sextant star check in maneuver preparation or cislunar navigation
 - (2) Behind the moon, with completion of dump or purge before AOS
 - (c) If possible, dumps and purges are not scheduled during the following periods:
 - (1) Ten hours before MCC-2 or a TLC P23 or until just before the midcourse change only
 - (2) Eight hours before MCC-5

(d) Dumps and purges are not scheduled during the following MSFN tracking periods:

- (1) Between MCC-4 and LOI
- (2) Four hours before DOI
- (3) Ten hours before MCC-7 until entry

(e) All waste water dumps are manual.

3. Only one CO₂ absorber filter (LiOH canister) is changed at a time. Table 2-7 lists the LiOH canister change schedule. There are 30 filters on board, with 28 stowed at launch, only 23 are required.
4. At lift-off, the cabin contains 60% O₂ and 40% N₂. The CM is purged after launch. The purge is terminated prior to LM pressurization after TLI. After the LM is configured for ejection, it is isolated and the CM is purged for eight more hours.
5. CSM O₂ pressurizes the LM after transposition and docking; and repressurizes the LM before TLC LM entry, Sim Door Jett and LM activation.

E. Guidance and Navigation

1. REFSMMAT Definitions

- (a) The "Launch Pad" REFSMMAT is used for launch, TLI, and TD&E. This REFSMMAT places the IMU X-axis along the launch azimuth at the pad and the Z-axis along the negative radius vector. The FDAI, at launch, will display roll 170° (launch azimuth +90°), pitch 90°, and yaw 0°.

- (b) The "PTC" REFSMMAT is used for all midcourse maneuvers (except MCC-7) and for other operations during TLC and TEC. This REFSMMAT places the X-axis in the ecliptic plane and perpendicular to the earth-moon line projection in the ecliptic plane at the average time of transearth injection for the monthly launch window and azimuth range. The Z-axis is then perpendicular to the ecliptic and directed south. At the beginning of the PTC Mode the spacecraft maneuvers to an FDAI display of pitch 90° .
- (c) A "Preferred" REFSMMAT is used by the CSM for LOI, Lunar-Orbit Plane Change, and TEI. The CSM IMU X-axis aligns normally with the spacecraft X-body axis at the vehicle attitude for ignition with the thrust directed through the center of gravity. At burn ignition, the FDAI displays roll 0° , pitch 0° , and yaw 0° . In the case of the DOI TRIM burn, the IMU X-axis may be aligned 45° from the spacecraft body axis at ignition attitude. The Z-axis is in the plane formed by the X-axis and the position vector and directed down toward the moon.
- (d) The "Landing Site" REFSMMAT is used for DOI, PDI, landing, and CSM lunar orbit activities up to the second plane change. This REFSMMAT places the CSM IMU X-axis along the positive lunar radius vector at the landing site at the predicted landing time and places the Z-axis in the direction of flight parallel to the CSM orbital plane. At nominal touchdown, the LM FDAI displays roll 0° , pitch 0° , and yaw 0° .
- (e) The "Lift-Off" REFSMMAT is used for all lunar activities after plane change 2, through rendezvous, and LM jettison. This REFSMMAT places the CSM IMU X-axis along the positive lunar radius vector at the landing site at predicted lift-off time, with the Z-axis down range parallel to the CSM orbital plane. At nominal lift-off time, the LM FDAI displays roll 0° , pitch 0° , and yaw 0° with slight differences reflecting actual touchdown yaw and slope tilt angles.
- (f) The "Entry" REFSMMAT aligns the IMU X-axis in the local horizontal plane in the direction of flight at entry interface. The entry REFSMMAT is used for MCC-7 and all remaining activities. The Z-axis is down along the negative radius at entry interface. At entry interface, with wings level, local horizontal, heat shield for-

ward, inplane, lift up, heads down, the FDAI displays roll 0°, pitch 180°, and yaw 0°.

2. The CSM external lighting is operated during the rendezvous from lift-off to docking. The running lights only are on from CSM/LM separation to PDI.
3. The time tags on maneuvers in Section 3 indicate the completion time of the maneuvers unless otherwise stated. All maneuver angles are the angles read on the FDAI after the maneuver has been completed.
4. CSM/LM and CSM attitude maneuvers are normally performed at the rate of 0.2°/sec (0.5°/sec after rendezvous and docking) unless other rates are required. LM maneuvers are normally performed at 2°/sec unless otherwise specified.
5. The SIM Bay jett configuration provides single jet control authority in each axis to eliminate RCS contamination of the SIM experiments. See Table 2-8 for the period in lunar orbit when the CSM is in a non-SIM Bay configuration.
6. Undocking is done radially, CSM below, using the soft undocking procedure. The probe is extended its full length with the LM held on by the capture latches. When the rates are nulled, the CSM releases the LM. The separation maneuver is then performed immediately.
7. LM jettison is done radially, CSM below, with final sep pyros providing approximately 0.4 foot per second thrust radial. The separation burn is performed five minutes after jettison, providing one foot per second thrust retrograde.

F. Propulsion Systems

1. In order to conserve SM RCS, the SPS engine is used to "back-up" all nominal LM rendezvous burns. The SPS gimbal motors are not turned on during the normal maneuver preparation.
2. The SPS is always started using a single bank, however, the other bank will be opened 2 to 5 seconds after ignition for burns longer than 6 seconds.
3. Table 2-9 lists the CSM propulsion burns.

III. LM Systems

A. Communications

1. The preferred S-Band communications are:
 - (a) Uplink Mode 7 (Voice, Updata)
 - (b) Downlink Mode 2 (Voice, TLM-HBR, PRN, BIOMED)
2. The LM DSEA schedule is shown in Table 2-10.

B. ECS

1. The LM contains ambient air at lift-off. During launch the pressure bleeds to zero psia. CSM O2 pressurizes the LM after T&D. After T&D, the LM is isolated and allowed to bleed down via leakage. After the first LM egress, the LM is isolated and allowed to leak down. For the entry into the LM before undocking, the CSM O2 is used to pressurize the LM. This procedure insures a higher percentage of oxygen in the LM at the first EVA.
2. LM O2 is used to pressurize the LM five times; after the SEVA, EVA-1, EVA-2, EVA-3, and after equipment jettison.

C. Guidance Systems

1. The LGC and CMC use the same landing site and lift-off REFSMMATS.
2. The AGS is placed in standby after the "GO" is given for lunar stay at T3.
3. The IMU is powered down and the LGC placed in standby approximately 1 hour after TD until prior to Post EVA-3 cabin cleanup. The LGC is placed in operate several times to update the computer clock.
4. To prevent overheating of the antenna, the rendezvous radar is pointed away from the sun and turned off when no functional use is required.
5. Lunar gravity measurement data are provided by putting the LGC in P00 for 10 minutes prior to surface powerdown, and for approximately 45 minutes prior to the P22 Lunar Surface Navigation before ascent.
6. The LM tracking light is operated continuously in the S/C dark period during rendezvous.

D. Propulsion Systems

1. The APS/RCS interconnect is used during the lunar lift-off and ascent only.
2. Table 2-11 lists the LM propulsion burns.

E. Electrical Power System

1. The LM is powered down to a minimum level to conserve battery consumables on the lunar surface from PDI +1:15 to lift-off -1:15.
2. LM battery management is scheduled on the lunar surface to equalize the usage of the five descent stage batteries. Battery management periods are at 105:35, 118:10, 127:45, 148:50, 160:15 and 169:40.

IV. Procedures

A. CSM - Crew procedures called out in the Flight Plan may be found in the following documents:

1. Apollo Operations Handbook - CSM 112 (AOH), Volume 2
2. Crew Checklists
3. CSM Rendezvous Procedures
4. Photographic and TV Procedures
5. Lunar Landmark Tracking Attitude Studies
6. Lunar Orbit Attitude Sequence for Mission J-1

B. LM - Crew procedures called out in the flight plan may be found in the following documents:

1. Apollo Operations Handbook LM-10, Volume 2
2. Crew Checklists
3. LM Rendezvous Procedures
4. LM Descent/Ascent Procedures
5. Photographic and TV Procedures
6. EVA Procedures
7. Lunar Surface Procedures

V. Synchronization of Ground Elapsed Time (GET)

The realtime GET is synchronized with the Flight Plan GET. In TLC, the GET is synchronized at 53:00 if the difference is more than +1 minute. In lunar orbit the GET is synchronized at 96:50 and at 150:20 if the difference is more than +2 minutes. The time changes are based on the expected difference between realtime and flight plan GET's at the start of lunar orbit revs. The synchronization is performed by a V70 uplink from the ground followed by the crew synchronizing the mission timer to the CMC clock.

VI. Miscellaneous

- A. Table 2-12 contains a summary of the expected block data update times.
- B. Table 2-13 contains landmark tracking and landing site data.
- C. Table 2-14 is a schedule of the P23 cislunar navigation sightings.
- D. Table 2-15 contains a film budget for the Mapping Camera.
- E. Table 2-16 contains a film budget for the Panoramic Camera.

TABLE 2-1
SUIT WEARING SCHEDULE

ACTIVITY	PRESSURIZED (HARD SUIT)	SUITED (SOFT SUIT)	PARTIAL SUIT WITH- OUT HELMET & GLOVES	SHIRTSLEEVES (ICG)
LAUNCH		ALL		
EARTH ORBIT THRU S-IVB EVASIVE MNVR			ALL	
SIM DOOR JETTISON	ALL			
TLC & TEC EXCEPT TEC EVA				ALL
LM ACTIVATION			ALL*	
UNDOCKING -40MIN TO UNDOCKING +5MIN		CDR & LMP*	CMP**	
UNDOCKING +5MIN THRU CIRC			ALL*	
CIRC TO TD - 1 HR			CDR & LMP*	CMP
TD - 1 HR TD +15MIN		CDR & LMP*		CMP
LUNAR STAY EXCEPT SEVA & EVA				ALL
SEVA* & SURFACE EVA's	CDR & LMP			CMP
LIFTOFF -25MIN THRU DOCKING		CDR & LMP	CMP	
LM JETT THRU TEI				ALL
TEC EVA	ALL			
ENTRY				ALL

*The CDR & do not wear the LCG during these phases.

**The CMP dons helmet and gloves for latch cocking and then doffs.

TABLE 2-2
CREW BIOMED HARNESS WEARING SCHEDULE
(7/26)

<u>Time, g.e.t.</u>	<u>CDR</u>	<u>CMP</u>	<u>LMP</u>
Prelaunch	on	on	on
13:30	off	off	
26:10	on		off
37:30	off	on	
49:00		off	on
60:00	on		off
71:15	off	on	
85:50		off	on
97:05	on		
97:30		on	
107:19			off*
117:50			on*
127:50	off*		
139:18	on*		
149:30			off*
159:45			on*
178:05	off	off	
189:00	on		off
202:14	off	on	
211:42		off	on
226:40		on	off
240:50	on		on
243:25		off	off
249:30	off		on
261:38		on	off
274:41	on	off	
288:30	off		on

*Crew option - the CDR & LMP may elect to wear their biosensors throughout the period of lunar surface activities.

TABLE 2-3
(7/26)
SC COVERAGE BY MSFN STATIONS USING 85FT/210FT DISH ANTENNA

	GOLDSTONE (GDS)		PARKS (PKS)		HONEYSUCKLE (HSK)		MADRID (MAD)	
	AOS	LOS	AOS	LOS	AOS	LOS	AOS	LOS
EARTH ORBIT	01:28	01:33						
TLI (2:50)	02:57	16:09					03:16	08:01
TRANSLUNAR COAST			13:15	21:21				
					10:45	23:49		
	30:00	40:31					22:27	32:47
					34:59	48:19		
			37:45	45:52				
	54:17	64:36					46:52	56:54
LOI (78:31) TEI (233:46)					59:03	72:29		
			61:35	70:03			71:05	78:23
	78:20	78:23						
	227:58	237:05					223:58	229:18
TRANSEARTH COAST					231:34	246:11		
			234:18	243:30				
	252:13	261:04					244:55	253:13
					255:35	270:35		
			258:24	267:47				
EI (294:58)	276:56	285:12					269:05	277:13
					279:55	299:52		
			282:56	292:49				

TABLE 2-3 (CONT)

SC COVERAGE BY MSFN STATIONS USING 85FT/210FT DISH ANTENNA

REV	GET AT END OF REV	GOLDSTONE (GDS)		PARKS (PKS)		HONEYSUCKLE (HSK)		MADRID (MAD)	
		AOS	LOS	AOS	LOS	AOS	LOS	AOS	LOS
LOI	78:31								
1	80:41	78:55	80:20					78:56	80:20
2	82:49	81:03	82:28						
3	84:43	83:16	84:21			83:16	84:21		
4	86:39	85:09	86:14	85:43	86:14	85:09	86:14		
5	88:30	87:03	88:08	87:03	88:08	87:03	88:08		
6	90:23			88:57	90:02	88:57	90:02		
7	92:17			90:50	91:56	90:50	91:56		
8	94:11			92:44	93:49	92:44	93:49		
9	96:04					94:38	95:43	95:42	95:42
10	97:58					96:31	97:10	96:31	97:36
11	99:52							98:24	99:30
12	101:45							100:18	101:23
13	103:43	103:19	103:21					102:10	103:22
14	105:41	104:08	105:20					104:08	105:20
15	107:40	106:06	107:18						
16	109:38	108:04	109:16			108:04	109:16		
17	111:36	110:02	111:14	110:18	111:14	110:02	111:14		
18	113:34	112:01	113:13	112:00	113:13	112:00	113:13		
19	115:32			113:59	115:11	113:59	115:11		
20	117:30			115:56	117:09	115:56	117:09		
21	119:28			117:55	119:07	117:55	119:07		
22	121:27					119:53	121:06	120:46	121:05
23	123:25					121:51	122:09	121:51	123:03
24	125:23							123:49	125:01
25	127:21							125:47	126:59
26	129:19	128:18	128:58					127:46	128:58
27	131:17	129:43	130:56					129:44	129:57

TABLE 2-3 (CONT)

SC COVERAGE BY MSFN STATIONS USING 85FT/210FT DISH ANTENNA

REV	GET AT END OF REV	GOLDSTONE (GDS)		PARKS (PKS)		HONEYSUCKLE (HSK)		MADRID (MAD)	
		AOS	LOS	AOS	LOS	AOS	LOS	AOS	LOS
28	133:15	131:42	132:54			132:15	132:54		
29	135:14	133:40	134:52			133:40	134:52		
30	137:12	135:38	136:50	135:38	136:50	135:38	136:50		
31	139:10	137:26	137:57	137:36	138:48	137:36	138:48		
32	141:08			139:34	140:47	139:34	140:47		
33	143:06			141:33	142:45	141:32	142:45		
34	145:04			143:31	144:28	143:31	144:43		
35	147:03					145:28	146:41	145:48	146:40
36	149:01							147:27	148:39
37	150:59							149:25	150:37
38	152:57							151:23	152:35
39	154:55	153:21	154:33					153:21	154:33
40	156:53	155:19	156:31						
41	158:51	157:17	158:29			157:17	158:29		
42	160:50	159:15	160:28	159:50	160:28	159:15	160:28		
43	162:48	161:14	162:26	161:13	162:26	161:13	162:26		
44	164:46			163:12	164:24	163:12	164:24		
45	166:44			165:10	166:22	165:10	166:22		
46	168:42			167:08	168:21	167:08	168:21		
47	170:40			169:06	169:24	169:06	170:19		
48	172:39					171:04	172:14	171:04	172:16
49	174:37							173:00	174:14
50	176:35							175:00	176:13
51	178:33							176:58	178:11
52	180:31	178:56	180:09					178:57	179:29
53	182:29	180:54	182:07			181:53	182:07		
54	184:27	182:53	184:05			182:52	184:05		
55	186:25	184:51	186:03	184:50	186:03	184:50	186:03		
56	188:23	186:49	187:40	186:48	187:59	186:48	187:59		

TABLE 2-3 (CONT)

SC COVERAGE BY MSFN STATIONS USING 85FT/210FT DISH ANTENNA

REV	GET AT END OF REV	GOLDSTONE (GDS)		PARKS (PKS)		HONEYSUCKLE (HSK)		MADRID (MAD)	
		AOS	LOS	AOS	LOS	AOS	LOS	AOS	LOS
57	190:22			188:47	189:59	188:47	189:59		
58	192:20			190:45	191:57	190:45	191:57		
59	194:17			192:42	193:55	192:43	195:55		
60	196:16					194:41	195:54	195:49	195:53
61	198:14					196:39	197:09	196:39	197:31
62	200:12							198:37	199:49
63	202:10							200:35	201:47
64	204:08	203:16	203:45					202:33	203:46
65	206:06	204:31	205:43						
66	208:04	206:29	207:41			206:53	207:41		
67	210:02	208:27	209:39			208:27	209:39		
68	212:00	210:26	211:38	210:25	211:37	210:25	211:37		
69	213:58	212:23	212:41	212:23	213:35	212:23	213:35		
70	215:56			214:21	215:33	214:21	215:33		
71	217:54			216:19	217:32	216:19	217:32		
72	219:52			218:18	219:18	218:18	219:30		
73	221:51					220:15	221:28	220:37	221:28
TEI	223:46							222:13	223:25

TABLE 2-4
APOLLO 15 TV SCHEDULE
(7/26)

DAY	DATE	CDT	GET HR:MIN	DURATION HR:MIN	ACTIVITY SUBJECT	VEHICLE	STATION
Monday	26 July	11:59 AM	03:25	00:25	TRANSPOSITION & DOCKING	CSM	GDS
Tuesday	27 July	6:19 PM	33:45	00:45	INTERIOR & IVT TO LM	CSM	GDS
Friday	30 July	7:32 AM	94:58	00:10	LANDING SITE	CSM	HSK
Saturday	31 July	8:34 AM	120:00	06:40 *	LUNAR SURFACE EVA-1	LM/LRV	HSK/MAD
Sunday	1 Aug	6:04 AM	141:30	06:30 *	LUNAR SURFACE EVA-2	LRV	PKS/HSK/MAD
Monday	2 Aug	2:44 AM	162:10	05:40 *	LUNAR SURFACE EVA-3	LRV	PKS
Monday	2 Aug	12:04 PM	171:30	00:15	LM LIFTOFF	LRV	MAD
Monday	2 Aug	1:44 PM	173:10	00:06	RENDEZVOUS	CSM	MAD
Monday	2 Aug	2:05 PM	173:31	00:05	DOCKING	CSM	MAD
Thursday	5 Aug	10:41 AM	242:07	00:30	TRANSEARTH EVA	CSM	HSK/PKS
Friday	6 Aug	2:54 PM	270:20	00:30	PRESS CONFERENCE	CSM	MAD

*SEE SECTION 3 FOR DETAILED START/STOP TIMES DURING EVA

TABLE 2-5
FUEL CELL PURGE, URINE DUMP AND WASTE WATER DUMP SCHEDULE
(7/26)

GET (HR:MIN)	O ₂ FUEL CELL PURGE & WASTE H ₂ O DUMP		URINE DUMP		H ₂ FUEL CELL PURGE	
	NUMBER	ΔTIME (HR:MIN)	NUMBER	ΔTIME (HR:MIN)	NUMBER	ΔTIME (HR:MIN)
11:40	1	11:40	1	11:40*		
30:40	2	19:00	2	19:00*	1	30:40
56:15	3	25:35	3	25:35*		
73:15	4	17:00	4	17:00*	2	42:35
97:38	5	24:23	5	24:23		
125:20	6	27:42	6	27:42	3	52:05
146:59	7	21:39	7	21:39		
170:25	8	23:26	8	23:26	4	45:05
193:58	9	23:33	9	23:33		
221:41	10	27:43	10	27:43	5	51:16
238:18			11	16:37		
244:00	11	22:19				
272:27			12	32:54		
272:40	12	28:40			6	50:59

*URINE DUMP NOT CRITICAL PERFORM AT THE SAME TIME AS WASTE H₂O DUMP

TABLE 2-6
BATTERY CHARGE SCHEDULE
(7/26)

GET HR:MIN	BATTERY
4:30	B
25:10	A
31:00 (IF MCC 2 IS PERFORMED)	A
50:00	B
120:30	B
141:51	A
189:02	B
214:24	A
239:02	B
270:30	A

TABLE 2-7
CSM L10H CANISTER CHANGE SCHEDULE (7/26)

CHANGE NO.	APPROXIMATE GET, HR:MIN	APPROXIMATE AT, HR	INSTALL		REMOVE & STOW	
			CANISTER	POSITION	CANISTER NO.	STOWAGE LOCATION
1	12:10	14	3	A	1	B5
2	26:00		4	B	2	B5
3	38:00	12	5	A	3	B5
4	51:00	13	6	B	4	B5
5	61:45	11	7	A	5	B6
6	75:55	14	8	B	6	B6
7	85:55	10	9	A	7	B6
8	98:08	12	10	B	8	B6
9	122:00	24	11	A	9	A9
10	146:00	24	12	B	10	A9
11	169:00	23	13	A	11	A9
12	179:38	11	15	B	12	A3
13	191:59	12	16	A	13	A3
14	203:30	12	17	B	15	A3
15	215:27	12	18	A	16	A3
16	226:35	11	19	B	17	A4
17	238:57	12	20	A	18	A4
18	251:00	12	21	B	19	A4
19	263:02	12	22	A	20	A4
20	274:57	12	23	B	21	A5
21	288:35	14	24	A	22	A5

LM L10H CARTRIDGE CHANGE:GET (HR:MIN) 161:30 & 151:10

TABLE 2-8

LUNAR ORBIT NON-SIM BAY RCS JET CONFIGURATION PERIODS
(7/26)

<u>REASON</u>	<u>FROM</u>	<u>TO</u>	<u>TOTAL</u>	<u>ULLAGE</u>
LOI TRACKING & LOI THRU BAILOUT	74:00	83:55	9:55	16 SEC (DOI), 16 SEC (BAILOUT)
LM ACT DAY*	94:58	105:40	10:42	14 SEC (CIRC)
UV & DIM LIGHT PHOTOGRAPHY	123:15	125:30	2:15	NONE
LOPC 1**, RNDZ, & DOCKING	164:08	174:00	9:52	13 SEC (LOPC1)
LM JETT & CSM SEP	176:16	177:45	1:29	NONE
SHAPING BURN & TEI	222:42	224:03	1:21	13 SEC

NOTES:

SIM BAY SINGLE JET AUTHORITY WILL BE USED IN ALL LUNAR ORBIT PERIODS EXCEPT AS IDENTIFIED ABOVE
SIM BAY SINGLE JET AUTHORITY INHIBITS ALL JETS EXCEPT A1 & C2 or B2 & D1 FOR ROLL, A3 & C4 FOR
PITCH AND B3 & D4 FOR YAW CONTROL

*AN SPS DOI TRIM MAY BE REQUIRED WHICH WILL REQUIRE AN ULLAGE FOR ~14 SEC.

**IF Y&Z TRIMS ARE REQUIRED FOR LOPC 1, THE CMP WILL ROLL THE CSM SO THAT JETS B1 AND A2 ARE NOT USED.

TABLE 2-9
CSM BURN/EVENT SCHEDULE
(7/26)

BURN/ MNVR	GETI/ BURN TIME	ΔV_T (FPS)	ULLAGE/ ΔV (FPS)	REFSMAT	RESULTANT HA/HP(NM)	REMARKS
TLI	2:49:58 5 MIN 56 SEC	10421.0		LAUNCH		S-IVB BURN
CSM EJECTION	4:16:00 3 SEC	0.4	-----	LAUNCH		RCS BURN
MCC-1	11:55:54	-----	-----	PTC		NOM ZERO
MCC-2	30:55:54	-----	-----	PTC		NOM ZERO
MCC-3	56:31:14.7	-----	-----	PTC		NOM ZERO
MCC-4	73:31:14.7	-----	-----	PTC		NOM ZERO
LOI	78:31:14.7 6 MIN 32 SEC	2997.9	NOT REQ'D	LOI	HA 170.0 HP 58.3	SPS BURN
DOI	82:39:32.6 22.9 SEC	207.6	4 JET 16 SEC	LDG SITE	HA 58.4 HP 9.6	SPS BURN
BAILOUT BURN	82:26:16.9 10.2 SEC	94.0	4 JET 16 SEC	LDG SITE	HA 71.0 HP 3.9	SPS BURN
DOI TRIM	96:17:00			LS OR PC AS REQ'D		SPS BURN NOM ZERO
UNDOCK & SEP	100:13:56.1 3.3 SEC	1.0	-----	LDG SITE	HA 59.8 HP 8.4	RCS BURN
CSM CIRC	101:34:55.1 3.9 SEC	70.8	4 JET 14 SEC	LDG SITE LDG SITE	HA 64.7 HP 54.5	SPS BURN
LOPC	165:12:50.6 16.5 SEC	308.6	4 JET 13 SEC	PLANE CHANGE	HA 59.8 HP 59.2	SPS BURN
LM JETT	177:20:45	~0.4		LIFTOFF		NO BURN
CSM SEP	177:25:45 6.4 SEC	1.0	-----	LIFTOFF	HA 59.9 HP 58.7	RCS BURN
CSM SHAPE	221:25:52 3.4 SEC	64.2	4 JET 13 SEC	TEI	HA 77.6 HP 57.5	SPS BURN
TEI	223:46:06 2MIN 17.8 SEC	3049.7	4 JET 13 SEC	TEI		SPS BURN
MCC-5	238:46:06	-----	-----	PTC		NOM ZERO
MCC-6	272:58:20	-----	-----	PTC		NOM ZERO
MCC-7	291:58:20	-----	-----	ENTRY		NOM ZERO
EI	294:58:20			ENTRY		NO BURN

TABLE 2-10

APOLLO 15/LM - 10 DSEA SCHEDULE (7/26)

<u>ACTIVITY</u>	<u>MODE</u>	<u>GET (HR:MIN)</u>	<u>RECORD TIME X DUTY CYCLE = TAPE USED (HR:MIN)</u>	<u>ACCUM. TAPE USED (HR:MIN)</u>
LM COMM ACTIVATION PDI PREP	ICS/PTT (VOX)	98:24 104:20	5:56 X 100% = 5:56	5:56
PDI PREP POST TOUCHDOWN	VOX OFF	104:20 104:49	0:29 X 63% = 0:17	6:13
EVA-1 FINAL PREP	VOX OFF	119:10 120:00	0:50 X 63% = 0:32	6:45
EVA-2 FINAL PREP	VOX OFF	140:28 141:18	0:50 X 63% = 0:32	7:17
EVA-3 FINAL PREP	VOX OFF	161:07 161:57	0:50 X 63% = 0:32	7:49
ASCENT COMM (L/O-17) LIFTOFF - 2 MIN	ICS/PTT (VOX)	171:20 171:35	0:15 X 100% = 0:15	8:04
LIFTOFF - 2 MIN INSERTION	VOX (ICS/PTT)	171:35 171:45	0:10 X 63% = 0:06	8:10
INSERTION POST-DOCKING	ICS/PTT OFF	171:45 173:35	1:50 X 100% = 1:50	10:00*

*END OF TAPE

TABLE 2-11
LM BURN SCHEDULE
(7/26)

BURN/ MNVR	GETI/ BURN TIME	ΔV_T (FPS)	ULLAGE/ ΔV (FPS)	REFSMAT	RESULTANT HA & HP	REMARKS
PDI	104:28:54.8 12 MIN 2.1 SEC	6700.0	4 JET 7.5 SEC	LDG SITE	---	DPS BURN
ASCENT	171:37:23.9 7 MIN 15.2 SEC	6055.5	NONE	LIFT-OFF	HA 45.6 HP 9.0	APS BURN
TPI	172:29:39.1 2.6 SEC	73.6	4 JET 10.0 SEC	LIFT-OFF	HA 61.5 HP 43.9	APS BURN
LM DEORBIT	179.06:22.7 1 MIN 22.3 SEC	195.4	N/A	LIFT-OFF	HA 62.0 HP-52.8	RCS BURN

TABLE 2-12
APOLLO 15 RETURN TO EARTH BLOCK DATA SCHEDULE (7/26)

DATA	GET UPDATE	GETI	PAD TYPE
TLI+90	1:30	4:16:34.32	Complete P-30
LO+8	1:30	8:00:00	P-37
LO+15	6:00	15:00:00	P-37
LO+25	13:30	25:00:00	P-37
LO+35	13:30	35:00:00	P-37
LO+45	13:30	45:00:00	P-37
LO+60	13:30	60:00:00	P-37
LOI-5	35:00	73:29:25.00	Complete P-30 (docked)
FLYBY			
PER+2	72:00	80:28:20.99	ABBRR-30 (docked)
TEI-4	76:50	87:12:24.45	ABBRR-30
TEI-5	81:40	88:25:54.66	
TEI-12	85:38	101:47:06.57	
TEI-19	95:25	115:28:46.69	
TEI-26	108:57	129:21:36.43	
TEI-37	126:44	150:57:57.96	
TEI-45	150:20	166:38:52.24	
TEI-52	163:35	180:20:15.47	
TEI-58	179:36	192:13:36.08	
TEI-60	189:05	196:11:15.16	
TEI-62	193:42	200:08:54.90	
TEI-64	196:50	204:06:34.11	
TEI-69	203:20	213:49:29.41	
TEI-71	213:28	217:47:07.83	
TEI-73	216:54	221:43:59.16	ABB P-30
PREL.			
TEI-74	220:22	223:43:57.86	Complete P-30
NOM			
TEI-74	222:43	223:43:57.86	Complete P-30
TEI-75	222:43	225:43:00.96	ABB P-30

Data are based on MCS IN71-FM112,S/C OT, Vol II.,
dated March 26, 1970.

NOTES:

1. All block data maneuvers are to the MPL line except:
 - a. TLI+90^m abort is to the AOL.
 - b. Nominal TEI (TEI₇₄) is to EOM target ($\lambda = 158^\circ W$).
 - c. TEI₇₅ is also to EOM target ($\lambda = 158^\circ W$).

TABLE 2-12 (CONT)

2. Pass flyby early if pericynthion is not clear of moon.
3. The flyby and PER+2 maneuvers are docked. All other aborts are undocked.
4. PER+2 fast return to MPL assumes MCC₄.
5. TEI₄ assumes LOI and no DOI.
6. TEI₅ assumes DOI.
7. TEI₁₂ assumes no circ.
8. TEI₁₉ assumes circ but no LOPC.
9. TEI₄₅ assumes no LOPC.
10. TEI₅₂ assumes LOPC.
11. TEI₇₃ assumes no shaping maneuver.
12. All TEI's are constrained to 40° inclination.

TABLE 2-13

LANDMARK AND LANDING SITE DATA

SITE	REV	LATITUDE DEG	LONGITUDE DEG	ALTITUDE** NM
J-1	3 & 10	25.958 N	11.3278 E	0.000
15-1	12* 13	26.065 N	3.671 E	-1.935
15-2	12* 47	25.991 N	3.613 E	-1.744
15-3	12	26.039 N	3.496 E	-1.795
15-4	12*	26.352 N	3.323 E	-1.867
15-5	12*	25.809 N	2.808 E	-1.854
15-6	12*	25.541 N	2.818 E	-1.877
HADLEY		26.074 N	3.654 E	-1.917

** Difference between landmark radius vector and 938.4935 NM (Mean Lunar Radius)

* Landing Site Landmark to be determined in real-time

TABLE 2-14
P23 CISELUNAR NAVIGATION (7/26)

GET	STAR/HORIZON	COMMON NAME
8:00	1/ENH 45/EFH 131/ENH 224/EFH	ALPHERATZ FOMALHAUT BETA ARIETIS MARKAB
236:20	57/EFH 50/ENH 13/EFH	BELLA TRIX POLLUX CAPELLA
251:10	50/ENH 11/EFH 13/EFH	POLLUX ALDEBARAN CAPELLA
263:15	142/EFH 11/EFH 13/EFH	ZETA TAURI ALDEBARAN CAPELLA
267:48	60/EFH 13/EFH 21/ENH	EL NATH CAPELLA ALPHARD
273:05	60/EFH 13/EFH 21/ENH	EL NATH CAPELLA ALPHARD
276:00	60/EFH 13/EFH 21/ENH	EL NATH CAPELLA ALPHARD
289:00	40/MFH 221/MFH 223/MNH 224/MNH 126/MNH	ALTAIR DELTA CAPRICORN BETA PEGASI MARKAB GAMMA PEGASI
292:02	126/MNH 120/MFH 40/MFH	GAMMA PEGASI ALPHA GRUIS ALTAIR

TABLE 2-15
MAPPING CAMERA FILM BUDGET (7/26)

REV	START		STOP		REMARKS	FRAMES USED	FILM USED FT	FILM REMAINING FT
	GET (H:M:S)	LONG(DEC)	GET (H:M:S)	LONG(DEC)				
3/4	84:42:35	179.6W (E TERM)	84:54:15	142.5°E		36	15	1445.0
15	105:52:20	144.5E	106:17:20	74.0°E		59	24.6	1420.4
15/16	106:56:15	49.8W	108:54:40	50.8W	FULL REV	295	122.9	1297.5
22/23	119:33:35	162.7E (E TERM)	121:32:02	161.7E (E TERM)	FULL REV	297	123.8	1173.7
23	121:37:04	143.7E	122:31:28	18.8W (W TERM)	FORWARD OBLIQUES	118	49.2	1124.5
27	129:26:27	157.7E (E TERM)	130:26:00	22.8W (W TERM)	LIGHTSIDE PASS	152	63.4	1061.1
33/34	141:16:34	151.6E (E TERM)	143:15:02	150.6E (E TERM)	FULL REV	298	124.2	936.9
34	143:15:02	150.6E (E TERM)	144:09:00	11.8W	BKWD OBLIQUES	118	49.2	887.7
35	145:13:30	149.6E (E TERM)	146:12:55	30.8W (W TERM)	NORTH OBLIQUES	130	54.2	833.5
37/38	150:08:58	32.9W (W TERM)	152:08:20	33.9W (W TERM)	FULL REV	303	126.4	707.1
44	162:59:44	140.6E (E TERM)	163:59:10	39.9W (W TERM)	LIGHTSIDE PASS	152	63.4	643.7
50	174:50:06	134.6E (E TERM)	175:49:22	45.9W (W TERM)	LIGHTSIDE PASS	152	63.4	580.3
58/59	190:37:25	126.6E (E TERM)	192:35:51	125.6E (E TERM)	FULL REV	303	126.4	453.9
62/63	199:30:22	57.9W (W TERM)	201:28:11	58.9W (W TERM)	FULL REV	303	126.4	327.5
69	212:19:43	115.6E (E TERM)	214:18:10	114.6E (E TERM)	FULL REV	313	130.5	197.0
71	216:16:37	113.6E (E TERM)	217:15:47	66.9W (W TERM)	SOUTH OBLIQUES	130	54.2	142.8
71/72	217:20:00	82.9W (W TERM)	219:14:14	67.9W (W TERM)		292	121.7	21.1

TABLE 2-17

CRYO MANAGEMENT SCHEDULE				
GET (HRS:MIN)	(TANK NUMBERS)			
	OXYGEN HEATERS		HYDROGEN HEATERS	
	AUTO	OFF	AUTO	OFF
0:00	1,2	3	1,2	3*
13:25	3	1,2	1,2,3	
25:18			3	1,2
74:20	1,2	3	1,2	3
95:00	3	1,2		
109:00	1,2	3		
190:00	3	1,2		
194:00	1,2	3		
218:00	3	1,2		
222:00	1,2	3		
241:25	1,2,3			
243:30	1,2	3		

* Manual Mode

TABLE 2-18

PDI 2 ABORT PADS

I

PURPOSE		PDI ₂ PAD					
GETI PDI	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

J

PURPOSE		PDI ₂ ABORT EARLY PAD					
GETI TPI N37	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

K

PURPOSE		PDI ₂ ABORT LATE PAD					
GETI TPI N37	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

E

F

G

H

PURPOSE		NO PDI ₂ + 12 ABORT					
GETI N33	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				
N84 LOCAL VERT	ΔVX						
	ΔVY						
	ΔVZ						
GETI CSI N11	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				
GETI TPI N37	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

L

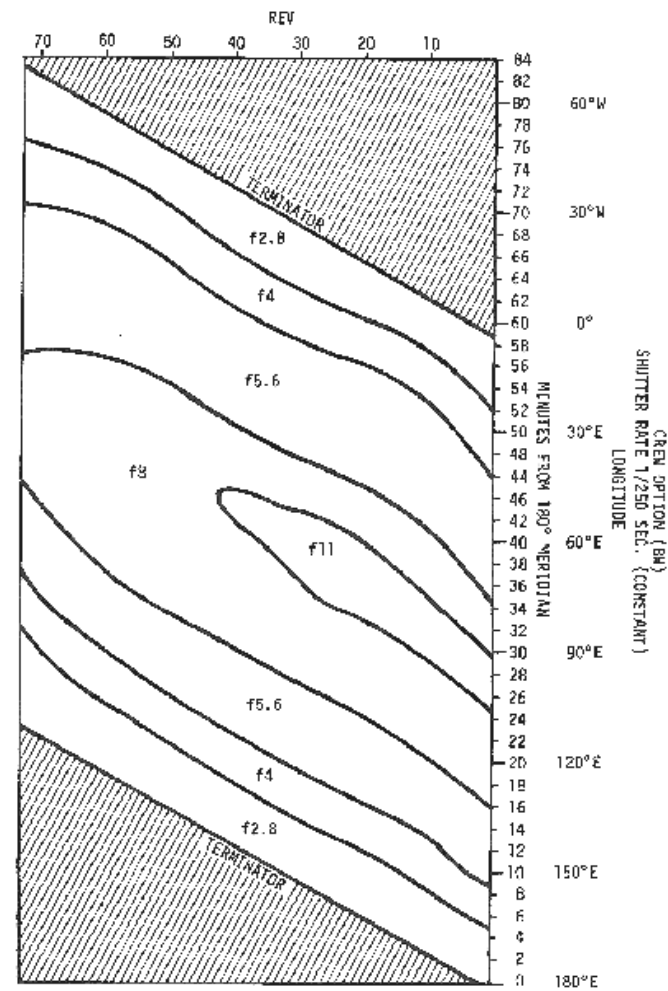
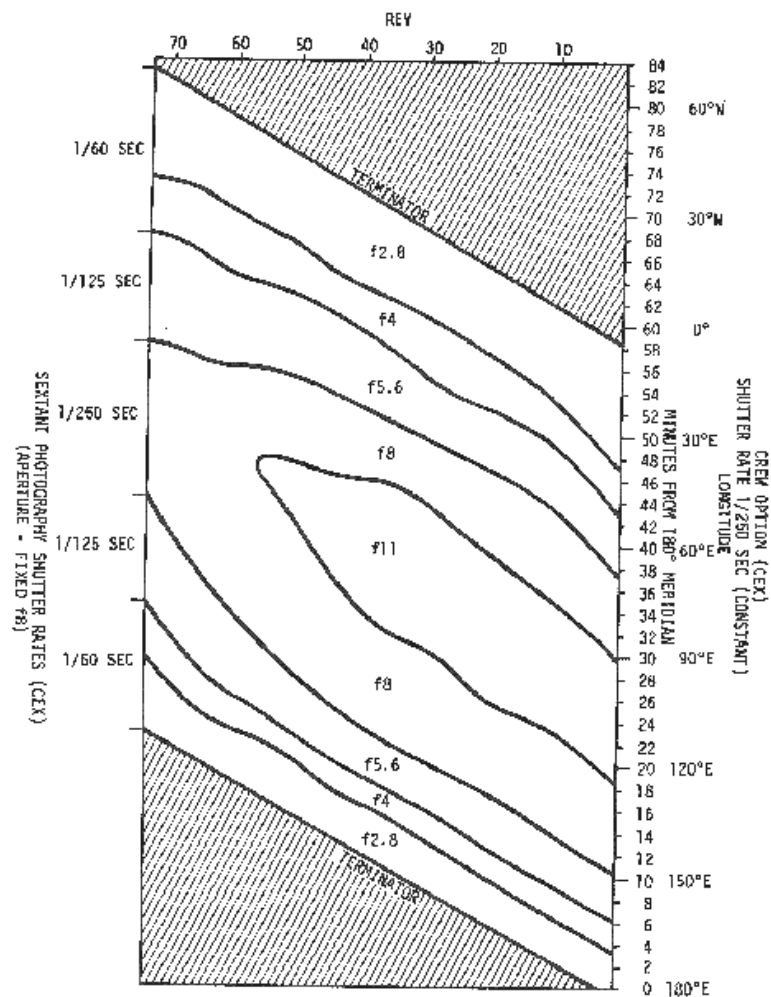
M

PURPOSE		T2-2 ABORT PAD					
GETI T2	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				
GETI TPI N37	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

N

PURPOSE		T3 ABORT PAD					
GETI T3	HRS	+	0	0			
	MIN	+	0	0	0		
	SEC	+	0				

TABLE 2-19
FLIGHT PLAN CREW OPTION PHOTO CHARTS



FLIGHT PLAN

MCC-H

0834 CDT

NOTES

UPDATE TO CSM
Z TORQUING ANGLE

00:00
(31102)
(01111)

:10

:20

00:30

:40

:50

01:00

T
M
S
F
N

T
C
Y
I

T
C
R
O

LIFT-OFF JULY 26, 1971

CSM LAUNCH CHECKLIST

SECO

INSERTION AND SYSTEM CHECKS PAGE L/2-11

P52 IMU REALIGN
OPTION 3 REFSMMAT
(LAUNCH ORIENT)

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN

N71: _____

N05: _____

N93:

X _____

Y _____

Z _____

GET _____

L/O CREW POSITIONS
LEFT COUCH - CDR
CENTER COUCH - CMP
RIGHT COUCH - LMP
AT SECO+20 SEC, S-IVB
MNVRS TO LH AND
INITIATES ORB RATE
(HEADS DOWN)

THE DAP LOAD WILL
BE SHOWN WHEN
APPLICABLE IN THE
TIME COLUMN OR
AS A NOTE TO
INDICATE STATUS

THE PANORAMIC AND
MAPPING CAMERAS WILL
BE PLACED IN BOOST
AND STBY MODES RE-
SPECITELY FOR LAUNCH
THROUGH TD&E, AND ALL
SPS BURNS.

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	00:00 - 01:00	1/E.O.	3-1

FLIGHT PLANNING BRANCH

FLIGHT PLAN

NOTES

MCC-H

0934 CDT

01:00
(31102)
(01111)
:10
:20
01:30
:40
:50
02:00

DUMP DSE
UPDATE TO CSM
TLI PAD
TLI +90 MIN ABORT
PAD
P37 (L/O+8) PAD
UPLINK TO CSM
CSM S.V. & V66

GO/NO-GO FOR PYRO
ARM

SCS ATT REF COMPARISON CHECK PAGE L/2-17
EXTEND DOCKING PROBE PAGE L/2-18

UV PHOTOS OF CLOUD COVER, LAND MASSES, OR
WATER AS AVAILABLE

GO/NO-GO FOR PYRO ARM (CUE MSFN)
LOGIC ON

TLI PREPARATION PAGE L/2-23

PYRO ARM

AS A GENERAL RULE,
EXCEPT DURING TEC,
UNDocked PERIODS,
AND WHILE THE LM
IS ON THE LUNAR
SURFACE, MCC-H
WILL UPLINK THE
STATE VECTOR TO
THE CSM SLOT AND
TRANSFER IT VIA
V66 TO THE LM
SLOT IN ORDER TO
HAVE REDUNDANT
STATE VECTORS
ONBOARD.

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	01:00 - 02:00	1/E.O.	3-2

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1034 CDT

NOTES

02:00
(31102)
(01111)

:10

:20

02:30

:40

:50

03:00

T
C
R
O

A
R
I
A

A
R
I
A

T
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A
W

TLI, NOMINAL & MANUAL CHECKLIST PAGE L/2-30

TB6 02:40:20

GO/NO-GO FOR TLI

TLI

POO CMC IDLING
V66 SET CSM S.V. INTO LM S.V.
TLI BURN STATUS REPORT
CDR - TRANS TO CENTER COUCH, CMP - LEFT COUCH
LMP - RIGHT COUCH

TIG: 02:49:58

BT: 5 MIN 56 SEC

ΔVT: 10421 FPS

AT SECO: S-IVB INERTIAL
AT SECO+2 MIN 31 SEC:
S-IVB TO LOCAL
HORIZONTAL, ORB RATE,
HEADS DOWN

GO/NO-GO FOR TLI

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	02:00 - 03:00	1/TLC	3-5

FLIGHT PLANNING BRANCH

FLIGHT PLAN

NOTES

MCC-H

1134 CDT

DUMP DSE

GO/NO-GO FOR T&D

03:00
(11103)
(01111)
:10
:20
(11102)
(01111)
03:30
:40
:50
04:00

M
S
F
N
T
V
L

WASTE STOWAGE VENT - CLOSED PAGE L/2-26
NORMAL SC/BOOSTER SEPARATIONS PAGE L/3-1
DIRECT O₂ VLV - OPEN, UNTIL CABIN IS 5.7 PSI, THEN CLOSE
V48 (11103)(01111)

S-IVB MNVRS TO SEP ATT 03:10:54 53

(359,077,320) OMNI C

GO/NO-GO FOR TRANSPOSITION AND DOCKING
CSM SEPARATION PREPARATION PAGE L/3-1

CSM/S-IVB SEP 03:21

CSM MNVR TO DOCK ATT (301,257,040) (03:29)
V48 (11102)(01111) HGA P -22, Y 276, BEAM WIDE, REACQ
TV (GDS) 3:25 TO 3:50 CM4/TV - PEAK, BRKT (f22)
VISUALLY INSPECT AND PHOTOGRAPH S-IVB AND LM

DOCK 03:31

CSM/LM PRESSURE EQUALIZATION PAGE L/3-5
TUNNEL HATCH REMOVAL PAGE L/3-5
DOCKING LATCH VERIFICATION PAGE L/3-5
LM UMBILICAL CONNECTIONS PAGE L/3-5
HATCH INSTALLATION PAGE L/3-5
PRE LM SEP & EJECTION PAGE L/3-5

S-IVB NON-PROPULSIVE VENT START (03:55:54)

T&D MNVR
+X FOR 3 SEC ($\Delta V \sim 0.5$ FPS)
AFTER 15 SEC PITCH UP AT
0.5°/SEC. V49 AUTO MNVR
TO DOCKING ATT. NULL
TRANSLATION AND RATES,
+X FOR 4 SEC ($\Delta V \sim 0.7$ FPS)

DURING TLC, HGA IS
REQUIRED FOR TD&E,
TV TRANSMISSION,
SIM DOOR JETTISON,
DAC/SXT PHOTO TEST,
FILM CYCLING, CAM-
ERA TEMP SENSING AND
AND MCC'S. THE
ANTENNA WILL BE
STOWED AT OTHER TIMES.
DURING PTC MCC-H
WILL COMMAND OMNI
SELECTION.

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	03:00 - 04:00	1/TLC	3-6

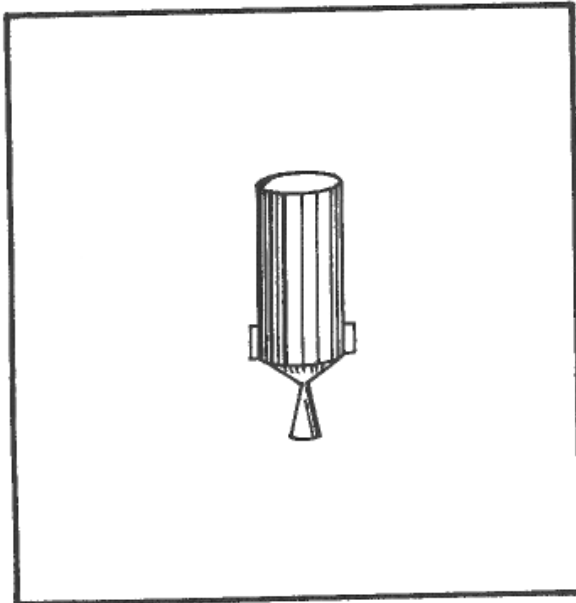
FLIGHT WINNING BRANCH

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FLIGHT PLAN

GET 04:39

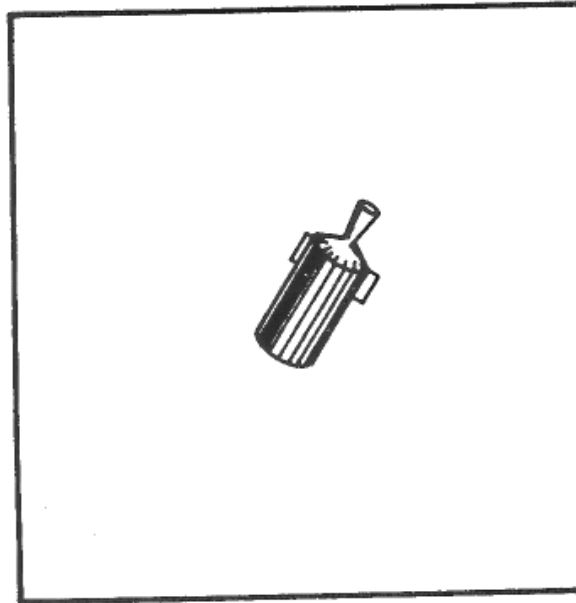
FOV 5°



S-IVB APS EVASIVE INITIATION

GET 05:00

FOV 1°



S-IVB LOX DUMP INITIATION

FLIGHT PLAN

NOTES

MCC-H 1234 CDT

04:00
(21101)
(X1111)

GO/NO-GO FOR
PYRO ARM AND
CSM/LM EJECTION

:10

TLI CUTOFF +
1 HR 20 MIN

:20

GO FOR S-IVB YAW
MNVN INITIATION

04:30

GO/NO-GO FOR S-IVB
EVASIVE BURN

:40

DUMP DSE

:50

05:00

M
S
F
N

V48 (21101) (X1111)
GO/NO-GO PYRO ARM (CUE MSFN)
LOGIC ON
PYRO ARM
P47 THRUST MONITOR

S-IVB NON-PROPULSIVE VENT COMPLETE (04:10:54)

PHOTOGRAPH LM EJECTION

CSM/LM EJECTION

P00, V66 SET CSM S.V. INTO LM S.V.
REPORT: GOOD EJECTION
V49 MNVR TO VIEW S-IVB IN HATCH WINDOW BY 04:29
(090,257,355) OMNI A
REPORT: GO FOR S-IVB YAW MNVR
VISUALLY INSPECT S-IVB/ID THERMAL SHROUD

S-IVB YAW MNVR 04:29 (GROUND COMMAND)

CHARGE BATTERY B

REPORT: GO FOR S-IVB EVASIVE BURN

S-IVB APS EVASIVE BURN 04:39 (GROUND COMMAND)

V49 MNVR TO P52 ATTITUDE (05:25) (215,084,315)
DOFF AND STOW PGA'S HGA P -60, Y 76

TRANSFER ITEMS OUT OF PGA POCKETS
TRANSFER PRD TO CWG

S-IVB MNVRS TO PROPELLANT DUMP ATT (04:49)

REPORT: LM/CM ΔP

S-IVB CONTINUOUS H₂ VENT-ON (04:56)

SPRING ACTUATOR ΔV
~ 0.8 FPS. 5 SEC AFTER
EJECTION THERE IS A
4 JET RCS -X TRANSLA-
TION FOR 3 SEC (ΔV
~ 0.4 FPS). TOTAL ΔV
~ 1.2 FPS.

TIG: 04:16

BT: 3 SEC

ΔVT: 0.4 FPS

ULLAGE: NONE

ORBIT: N/A

THE MNVR TO ACQUIRE
THE S-IVB WILL BE
PERFORMED AT 0.2°/
SEC AND WILL BE INITI-
TIATED AFTER GOOD
EJECTION IS VERIFIED

GO FOR S-IVB YAW MNVR
INDICATES THAT THE
S-IVB IS IN THE CREW
FIELD OF VIEW AND
ADEQUATE SPACECRAFT
SEPARATION HAS BEEN
ACHIEVED.

THE S-IVB YAW MNVR
WILL BE PERFORMED
NOMINALLY AT LM
EJECTION +13 MIN

EVASIVE BURN ΔV
~ 9.4 FPS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	04:00 - 05:00	1/TLC	3-9

FLIGHT PLANNING BRANCH

FLIGHT PLAN

NOTES

MCC-H

1334 CDT

UPLINK TO CSM
DESIRED ORIENTATION
(PTC)
ZERO TRUNNION BIAS

05:00
(21101)
(X1111)
:10
:20
05:30
:40
:50
06:00

M
S
F
N

S-IVB LOX DUMP (05:00)

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

P52 IMU REALIGN
OPTION 3 REFMMAT
(LAUNCH ORIENT)

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN
OPTION 1 PREFERRED
(PTC ORIENT)

SC CONT - CMC
BMAG (3) - RATE 2

VHF A SIMPLEX - OFF
VERIFY WASTE STOWAGE VENT VALVE - VENT

LOX DUMP $\Delta V \sim 28$ FPS

SC INTERIOR PHOTOGRAPHY AT CREW OPTION
CM/DAC/10/CIN- SPOT
(T2.8,1/60,3) 6 fps
(87% MAG)
MAG () ___, FR # __

STARS _____,

SA _____,

TA _____,

P52 IMU REALIGN

N71: _____,

N05: _____,

N93: _____,

X _____,

Y _____,

Z _____,

GET _____:_____:_____

S-IVB APS MCC-1

GET $\sim$ 05:45

$\Delta V \sim 30$ FPS

P37 PAD ASSUMES
NO MCC-1

UPDATE TO CSM
P37 PAD (L/O+15)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	05:00 - 06:00	1/TLC	3-10

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1434 CDT

NOTES

06:00
(21101)
(X1111)
:10
:20
06:30
:40
:50
07:00

M
S
F
N

EAT PERIOD

EARTH DISTANCE
~ 25,527 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	06:00 - 07:00	1/TLC	3-11

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1534 CDT

NOTES

07:00
(21101)
(X1111)

CSM SYSTEMS CHECKLIST

DEACTIVATE PRIMARY EVAP

PAGE S/1-13

:10

:20

07:30

M
S
F
N

CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK
REPORT: BIAS

PAGE G/2-5

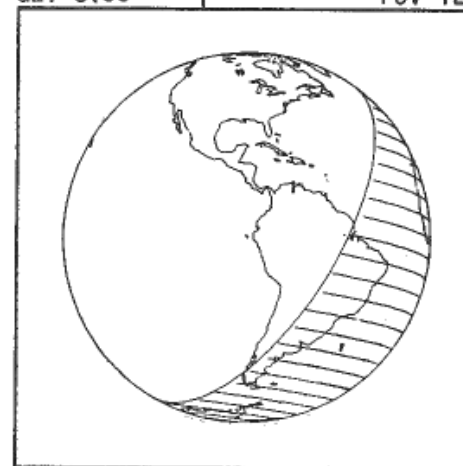
:40

:50

08:00

GET 8:00

FOV 12°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	07:00 - 08:00	1/TLC	3-12

FLIGHT PLANNING BRANCH

MCC-H

1634 CDT

FLIGHT PLAN

NOTES

08:00
 (21101)
 (X1111)
 :10
 :20
 08:30
 :40
 :50
 09:00

M
S
F
N

V49 MNVR TO OPTICS CALIBRATION ATTITUDE (08:06)
 (210,339,330)

P23 CISELUNAR NAVIGATION
 OPTICS CALIBRATION STAR N70 (00001)
 P00

V49 MNVR TO SIGHTING ATTITUDE (08:20)
 (221,327,330)

V67 (+80000) (+00070) (+00003)

P23 CISELUNAR NAVIGATION
 5 MARKS ON EACH STAR, UPDATE STATE VECTOR
 1. N70 (00001) (00000) (00110)

2. N70 (00045) (00000) (00120)

3. N70 (00000) (00000) (00110)
 N88 (+82401)(+44316)(+35301)

EARTH DISTANCE
 ~ 37,581 NM

LOAD W MATRIX

001 ALPHERATZ
 (ENH)

045 FOMALHAUT
 (EFH)

131 BETA ARIETIS
 (ENH)

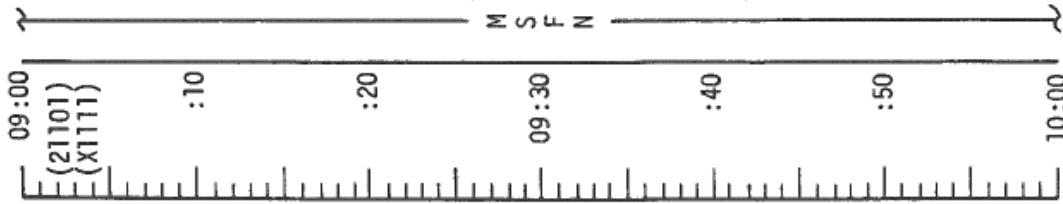
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	08:00 - 09:00	1/TLC	3-13

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1734 CDT



4. N70 (00000) (00000) (00120)
N88 (+93634) (-23622) (+25973)

P00
V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(210,339,330)
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00001)

UV PHOTOS

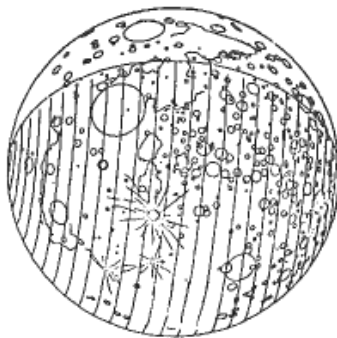
NOTES

224 MARKAB (EFH)

S-IVB APS MCC-2
GET ~09:30
ΔV NOM. ZERO

GET= 10 HOURS

FOV=1°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	09:00 - 10:00	1/TLC	3-14

FLIGHT PLANNING BRANCH

FLIGHT PLAN

UV PHOTOS - CISLUNAR COAST

V49 MNVR TO EARTH UV PHOTO ATT (335,319,331) (09:55)
OMNI D

CONFIGURE CAMERA: (UV)
CM5/EL/105/UV-BRKT, CONT (f4.3,1/60, ∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____
REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES

INHIBIT ALL JETS EXCEPT A1 & C2 OR B2 & D1,
A4, C3, B4, D3
VERIFY FDAI SCALE - 5/1
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ON FDAI ARE $<0.2^\circ/\text{SEC}$ IN ALL AXES
REMOVE CM5 WINDOW COVER, MOUNT UV CARDBOARD SHADE
AND CAMERA
2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
1 2 FRAMES, FILTER 2, EXP TIME 20 SEC (Another for
CHANGE SHUTTER TO 1/250 2 secs
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500 (exp)
2 FRAMES, FILTER 4
RECORD FR # _____

CONFIGURE CAMERA: (UV COLOR)
CM5/EL/105/CEX- CONT (f8,1/250, ∞) (1 FR)
RINGSLIDE
MAG (M) _____, FR # _____
1 FRAME, FILTER 4
RECORD FR # _____

V49 MNVR TO MOON UV PHOTO CAL ATT (169,223,014) (10:20)
HGA P -33, Y 213

CONFIGURE CAMERA: (UV CALIBRATION)
CM5/EL/105/UV-BRKT, CONT (f4.3,1/60, ∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____

DAMP RATES

VERIFY FDAI SCALE - 5/1
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ON FDAI ARE $<0.2^\circ/\text{SEC}$ IN ALL AXES
2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
2 FRAMES, FILTER 2, EXP TIME 20 SEC
CHANGE SHUTTER TO 1/250
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500
2 FRAMES, FILTER 4
RECORD FR # _____
REMOVE CAMERA AND UV CARDBOARD SHADE
COMMENT - CONDITION OF CM5 WINDOW
REPLACE CM5 WINDOW COVER
ENABLE ALL JETS

for
2 secs
(exp)
ch @ 9:23:00

FINAL (7/26)

6/21/71

3-15

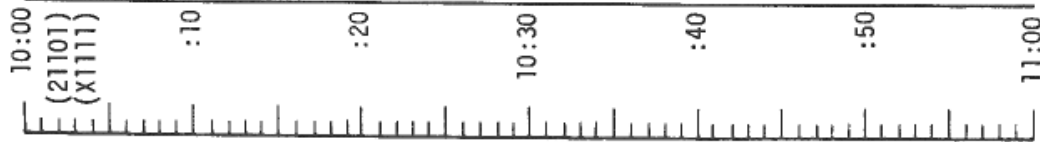
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FLIGHT PLAN

NOTES

MCC-H

1834 CDT



UV PHOTOS

EARTH DISTANCE
~ 51,571 NM

UPDATE TO CSM
MCC-1 MNVR PAD
CSM S.V.
UPLINK TO CSM
CSM S.V. & V66
MCC-1 TGT LOAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	10:00 - 11:00	1/TLC	3-17

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-1
BURN TABLE

P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC TERMINATE	±10° TERMINATE	BT + 1 SEC	IF <2 FPS, TRIM X AXIS TO 0.2 FPS IF >2 FPS, NO TRIM

FLIGHT PLAN

MCC-H

2034 CDT

NOTES

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

12:00
(21101)
(X1111)
:10
:20
12:30
:40
:50
13:00

M
S
F
N

REPORT: LM/CM ΔP
VENT BATTERIES UNTIL SYSTEM TEST METER 7A=0
OMNI B
SECURE HGA, HGA TRACK-MAN HGA P -52, Y 270
LiOH CANISTER CHANGE
(3 INTO A, STOW 1 IN B5)

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G/8-2
V49 MNVR TO PTC ATTITUDE
(N20,090,000)
P20 OPT 2 X-AXIS
N78 (0,0,0)
N79 (-0.3500, 000.50)
N34 (0,0,0)

IF SPS MCC PERFORMED:
PANORAMIC CAMERA PWR - OFF
MAPPING CAMERA ON - OFF
SM SECTOR 1 SM/AC PWR - OFF

PTC

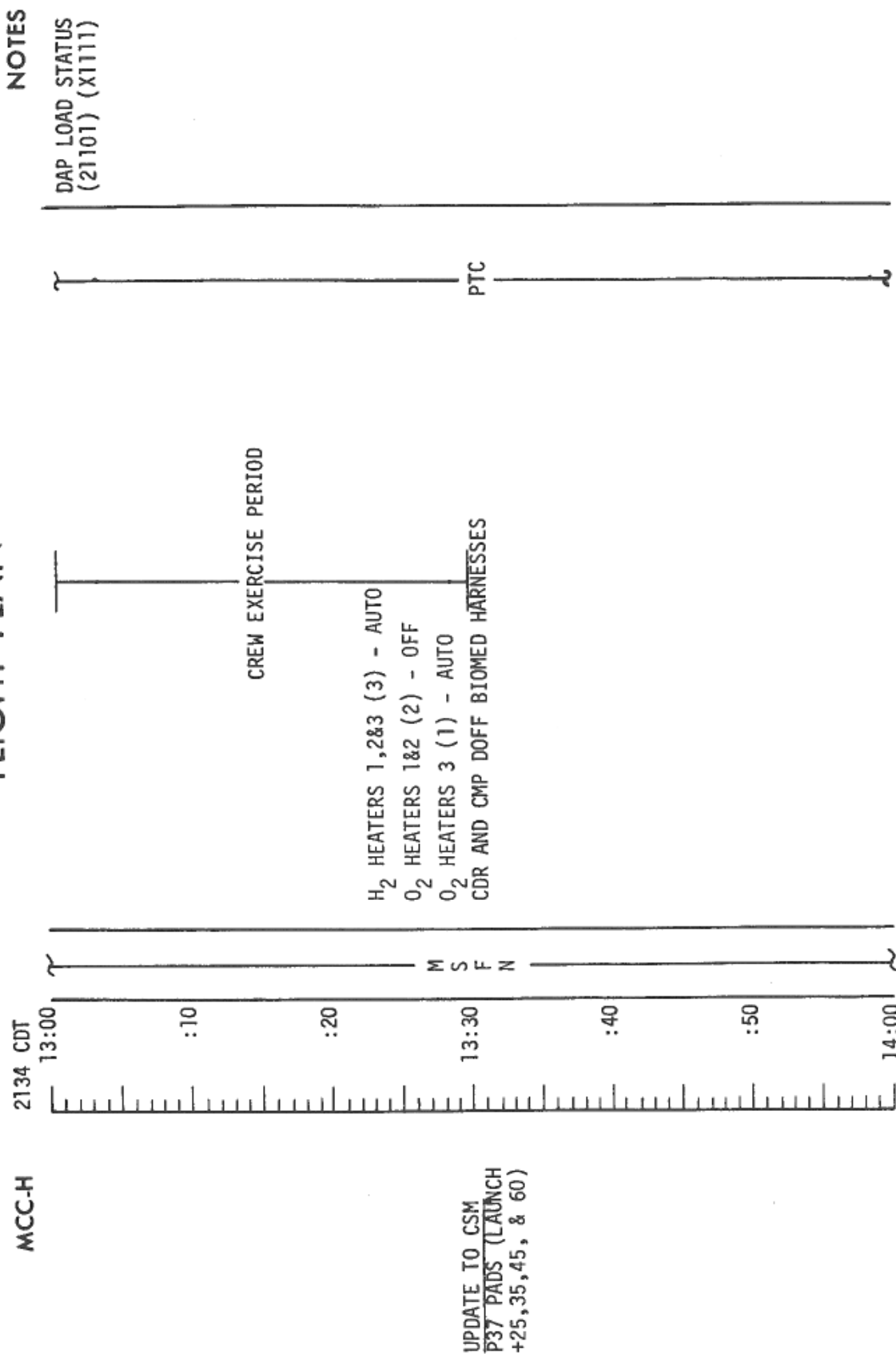
EARTH DISTANCE
~ 57,281 NM

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	12:00 - 13:00	1/TLC	3-20

FLIGHT PLANNING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	13:00 - 14:00	1/TLC	3-21

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2234 CDT

14:00
:20
:40
15:00
:20
:40
16:00

M
S
F
N

CSM SYSTEMS CHECKLIST
PRE-SLEEP CHECKLIST
COMM - OMNI

EAT PERIOD

PAGE S/1-26

REST PERIOD
(10 HOURS)

NOTES

DAP LOAD STATUS
(21101) (X1111)

ONBOARD READOUT	
BAT C	_____
PYRO BAT A	_____
PYRO BAT B	_____
RCS A	_____
B	_____
C	_____
D	_____
DC IND SEL - MNA OR B	

PTC

EARTH DISTANCE
~ 70,000 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	14:00 - 16:00	1/TLC	3-22

FLIGHT PLANNING BRANCH

MCC-H

0034 CDT

FLIGHT PLAN

NOTES

16:00
:20
:40
17:00
:20
:40
18:00

M
S
F
NREST PERIOD
(10 HOURS)

PTC

DAP LOAD STATUS
(21101) (X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	16:00 - 18:00	1/TLC	3-23

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0234 CDT

NOTES

18:00
:20
:40
19:00
:20
:40
20:00

M
S
F
N

REST PERIOD
(10 HOURS)

PTC

DAP LOAD STATUS
(21101) (X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	18:00 - 20:00	1/TLC	3-24

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0434 CDT

NOTES

DAP LOAD STATUS
(21101)(X1111)

PTC

REST PERIOD
(10 HOURS)

M S F N

20:00 :20 :40 21:00 :20 :40 22:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	20:00 - 22:00	1/TLC	3-25

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0634 CDT

NOTES

22:00
:20
:40
23:00
:20
:40
24:00

M
S
F
N

REST PERIOD
(10 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	22:00 - 24:00	1/TLC	3-26

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0834 CDT

NOTES

DAP LOAD STATUS
(21101)(X1111)

CSM CONSUMABLES UPDATE					
GET: ____ : ____					
RCS TOTAL _____					
QUAD A _____		B _____			
C _____		D _____			
H ₂ TANK 1	_____	2	_____	3	_____
O ₂ TANK 1	_____	2	_____	3	_____

PTC

EARTH DISTANCE
~ 105,000 NM

REST PERIOD
(10 HOURS)

EAT PERIOD

CSM SYSTEMS CHECKLIST

POST-SLEEP CHECKLIST
~~CHARGE BATTERY A~~ ch 25:46:51 (retrospective)
 H₂ HEATERS 1&2 (2) - OFF

PAGE S/1-26

UPDATE TO CSM
CONSUMABLES
FLIGHT PLAN

M
S
F
N

REPORT: LM/CM ΔP

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	24:00 - 26:00	1-2/TLC	3-27

FLIGHT PLANNING BRANCH

FLIGHT PLAN

CYCLE FILM IN PANORAMIC AND MAPPING CAMERAS

ACQ MSFN, HGA: REACQ, NARROW (CUE MSFN FOR PITCH AND YAW)
VERIFY:

cb SCI EQUIP SEB 1 & 2 - CLOSE
NON ESS BUS - MNA
cb SM SECTOR 1 AC2 (3) - CLOSE
MAPPING CAMERA IMAGE MTN - OFF

PCM BIT RATE - HIGH
S-BD AUX TV - SCI
SM SECTOR 1 SM/AC PWR - ON (UP)
DATA SYS ON - ON
MAPPING CAMERA ON - STBY/tb-GRAY
PANORAMIC CAMERA MODE - STBY
PANORAMIC CAMERA POWER - ON (UP)/tb-BP (2 SEC), then GRAY

CONFIRM MSFN HAS TLM, CYCLE FILM ON MSFN CUE

MAPPING CAMERA ON - ON (2 MIN) then OFF
PANORAMIC CAMERA SELF TEST - ON (UP)/tb-BP (5 FR), then GRAY
PANORAMIC CAMERA SELF TEST - OFF (CTR)
PANORAMIC CAMERA POWER - OFF

AFTER MAPPING CAMERA OFF FOR 1 MIN:

SM SECTOR 1 SM/AC PWR - OFF
DATA SYS ON - OFF
OMNI B
SECURE HGA, TRACK MAN HGA P -52, Y 270
S-BD AUX TV - OFF (CTR)
PCM BIT RATE - LOW

FINAL (7/26)

6/21/71

3-28

FLIGHT PLAN

MCC-H

1034 CDT

UPDATE TO CSM
HGA ANGLES FOR
FILM CYCLE

MSFN

LiOH CANISTER CHANGE
(4 INTO B, 2 INTO B5)
CYCLE FILM IN PANORAMIC AND MAPPING CAMERAS

CDR DON BIOMED HARNESS
LMP DOFF BIOMED HARNESS

PTC

NOTES

DAP LOAD STATUS
(21101)(X1111)

P52 IMU realign OPT 3 (ch at 25:46:51)

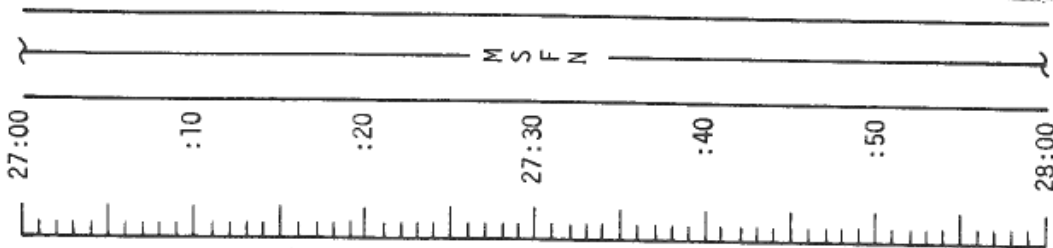
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	26:00 - 27:00	2/TLC	3-29

FLIGHT PLANNING BRANCH

MCC-H

1134 CDT

FLIGHT PLAN



NOTES

DAP LOAD STATUS
(21101)(X1111)

ch @ 25:47:31

PTC

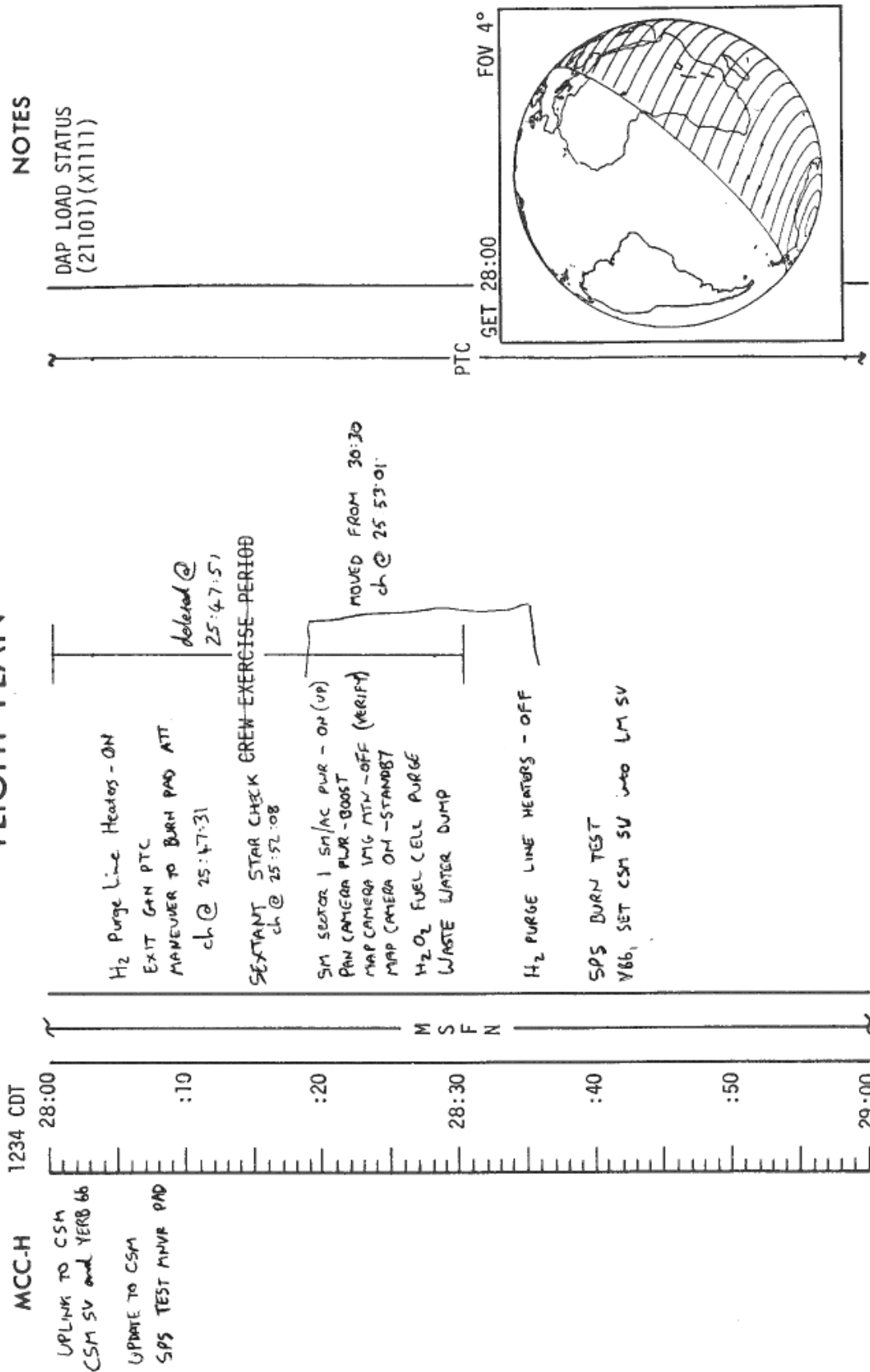
CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK PAGE G/2-5
REPORT: BIAS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	27:00 - 28:00	2/TLC	3-30

FLIGHT PLAN INING BRANCH

FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	28:00 - 29:00	2/TLC	3-31

FLIGHT PLANNING BRANCH

FLIGHT PLAN

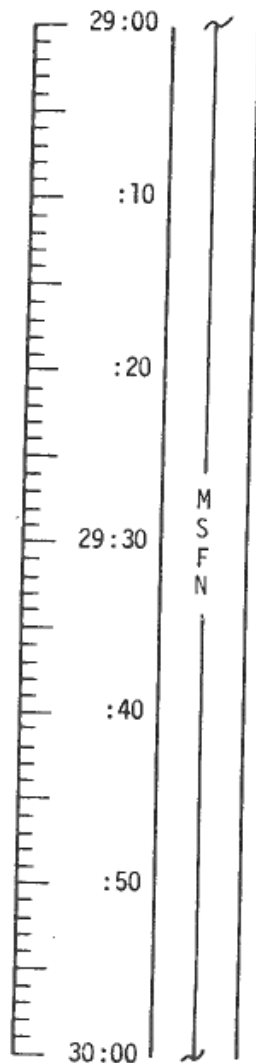
MCC-H

1334 CDT

NOTES

UPLINK TO CSM
CSM S.V. & V66
MCC-2 TGT LOAD

UPDATE TO CSM
GO/NO-GO MCC-2
MCC-2 MNVR PAD



PTC

DAP LOAD STATUS
(21101)(X1111)

EARTH DISTANCE
~ 118,447 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	29:00 - 30:00	2/TLC	3-32

FLIGHT PLANNING BRANCH

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FLIGHT PLAN

MCC-2
BURN TABLE.

P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10 ² / SEC TERMINATE	10 ⁰ TERMINATE	00 01 50	IF < 2 FPS, TRIM A MAX. 1000 FPS. 00 01 50 00 01 50 00 01 50

MCC-H

1434 CDT

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(21101)(X1111)

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES

~~TERMINATE BATTERY CHARGE A~~ IF MCC-2 REQUIRED~~H₂ PURGE LINE HEATERS - ON~~~~EXIT G&N PTC~~ PAGE 6/8-3

P30 EXTERNAL ΔV

V49 MNVR TO PAD BURN ATTITUDE

~~IF SPS MCC REQD:~~

SM SECTOR 1 SM/AC PWR - ON (UP)

PANORAMIC CAMERA PWR - BOOST

MAPPING CAMERA IMAGE MTN - OFF (VERIFY)

MAPPING CAMERA ON STBY

SXT STAR CHECK

P40 SPS THRUSTING OR P41 RCS THRUSTING

~~H₂ & O₂ FUEL CELL PURGE~~~~WASTE WATER DUMP~~

SEVEN LINES MOVED TO 28:20 (25:53:01) (delete; read up @ 25:54:55)

~~H₂ PURGE LINE HEATERS - OFF~~

MCC-2

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

TIG: 30:55:54
BT: NOM ZERO
ΔVT: NOM ZERO
ULLAGE: NONE
ORBIT: N/A

PTC

M
S
F
N

30:00

:10

:20

(21101)

(X1111)

30:30

:40

:50

31:00

TLI CUTOFF +28 HR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	30:00 - 31:00	2/TLC	3-35

FLIGHT PLANNING BRANCH

1534 CDT

FLIGHT PLAN

BURN STATUS REPORT
CHARGE BATTERY A
IF SPS MCC PERFORMED:
PANORAMIC CAMERA PWR - OFF
MAPPING CAMERA ON - OFF
SM SECTOR 1 SM/AC PWR - OFF

EAT PERIOD

IF LM/CM $\Delta P < 2.7$ PSID, TUNNEL VENT VLV - VENT
UNTIL $\Delta P > 2.7$ PSID

FLIGHT PLANNING BRANCH

NOTES

[illegible]

EARTH DISTANCE
~ 123,808 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	31:00 - 32:00	2/TLC	3-36

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FINAL (7/26)

6/21/71

3-37

FLIGHT PLAN

SXT PHOTO TEST

1. V49 MNVR TO SXT PHOTO TEST ATT (32:15)
(040,012,050) HGA P -38, Y 318
2. CONFIGURE CAMERA
CM/DAC/SXT/VHBW-PCM CABLE (EXP 1/500) 24 fps (5% MAG)
MAG (H) _____, MAG % _____
UTILITY POWER - ON
3. DISABLE JETS A3, B3, C4, D4
P52 (NO MARKS)
N70 (00000)
N88 (+78675)(+47868)(+38950)
VERIFY THRU SXT THAT OPTICS BORESIGHTED ON STAR
G&N PWR (AC-PNL 5) - 'OFF
MOUNT DAC ON SXT
DIM INTERIOR LIGHTS, DAC - ON, 24 fps FOR 2 SEC
CHANGE TO TIME & 1/60
1 FRAME - 60 SEC EXP TIME
1 FRAME - 20 SEC EXP TIME
1 FRAME - 5 SEC EXP TIME
1 FRAME - 1 SEC EXP TIME
CHANGE TO 24 fps & 1/500 SEC
RUN DAC FOR 2 SEC, LIGHTS UP
ENABLE JETS
4. V49 MNVR TO SXT PHOTO TEST ATT (32:25)
(090,000,043) HGA P -47, Y 353
5. REPEAT STEP 3
6. RECORD MAG %
REMOVE AND STOW DAC

FINAL (7/26)

6/21/71

UV PHOTOS - CISLUNAR COAST

V49 MNVR TO EARTH UV PHOTO ATT (150,052,033) (32:50)
OMNI D

CONFIGURE CAMERA: (UV)
CM5/EL/105/UV-BRKT, CONT (f8,1/60,∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____
REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES

INHIBIT ALL JETS EXCEPT A1 & C2 OR B2 & D1, A4,
C3, B4, D3
VERIFY FDAI SCALE - 5/1
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ON FDAI ARE <0.2°/SEC IN ALL AXES
REMOVE CM5 WINDOW COVER, MOUNT UV CARDBOARD SHADE
AND CAMERA
2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
1 2 FRAMES, FILTER 2, EXP TIME 20 SEC) @ 2 sec exp.
CHANGE SHUTTER TO 1/250 ch @ 11:40:01
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500
2 FRAMES, FILTER 4
RECORD FR # _____

CONFIGURE CAMERA
CM5/EL/105/CEX- CONT (f8,1/250,∞) (1 FR)
RINGSLIDE
MAG (M) _____, FR # _____
1 FRAME, FILTER 4
RECORD FR # _____

REMOVE CAMERA AND UV CARDBOARD SHADE
COMMENT - CONDITION OF CM5 WINDOW
REPLACE CM5 WINDOW COVER
ENABLE ALL JETS

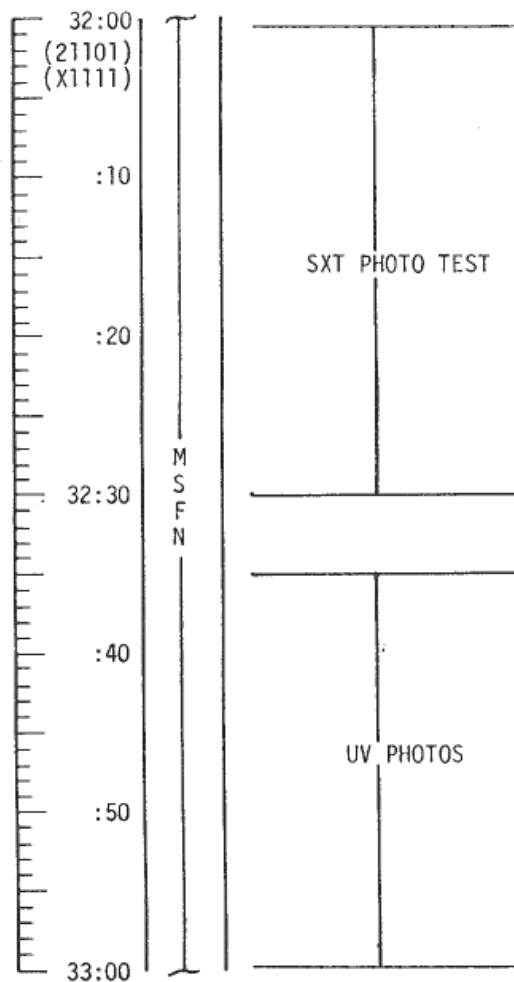
3-38

MCC-H

1634 CDT

FLIGHT PLAN

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	32:00 - 33:00	2/TLC	3-39

FLIGHT PLANNING BRANCH

MCC-H

1734 CDT

FLIGHT PLAN

NOTES

33:00
(21111)
(X1111)
:10
:20
33:30
:40
:50
34:00

M
S
F
NT
I
T
V

V48 (21111)(X1111)

PREPARE TRANSFER ITEMS PER LM ACTIVATION CHECKLIST
REMOVE 16MM & 70MM MAG FROM A8 AND R13

CSM SYSTEMS CHECKLIST

IVT TO LM (CHECKOUT TLC)

PAGE S/2-1

V49 MNVR TO TV/LM CHECKOUT ATTITUDE (305,090,000)(33:45)

ACQ MSFN HGA P -30, Y 276

PRESSURIZE LM

PAGE S/2-3

TV (GDS) 33:45 TO 34:30 CM/TV - AVG (f5.6)

PREPARE FOR LM INGRESS
REMOVE TUNNEL HATCH AND STOW
REMOVE PROBE & DROGUE AND STOW

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	33:00 - 34:00	2/TLC	3-40

FLIGHT PLANNING BRANCH

FLIGHT PLAN

FIG 1 PLAN

CSM

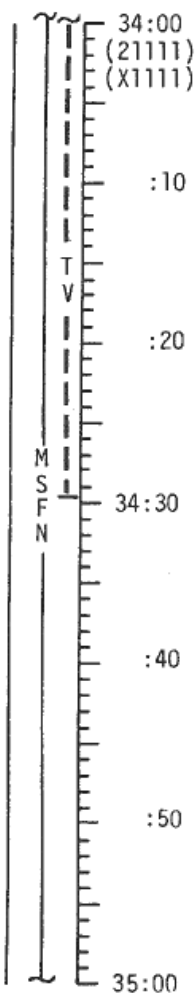
CMP

REPORT: DOCKING
TUNNEL INDEX ANGLE

LM

MCC-H

1834 CDT



CDR

LMP

ACTIVATION CHECKLIST

PAGE 1-1

IVT TO LM	
IVT TO LM	ENTRY STATUS CHECK
	HOUSEKEEPING
HOUSEKEEPING	HOUSEKEEPING

UPDATE TO CSM
LOI -5 HR FLYBY

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	34:00 - 35:00	2/TLC	3-41

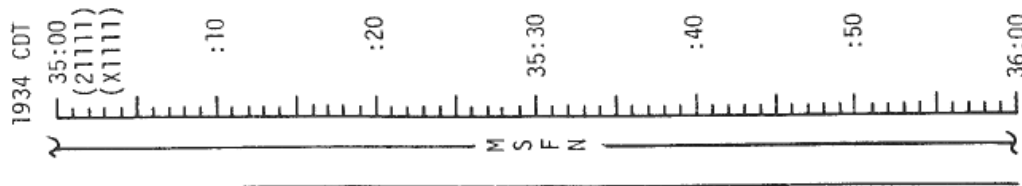
FLIGHT PLAN

MCC-H

CSM
CMP

LM

CDR		LMP	
HOUSEKEEPING		HOUSEKEEPING	
COMM ACTIVATION		COMM ACTIVATION	
		S-BAND/VHF SIMPLEX VOICE TEST	
OPS CHECKOUT		OPS CHECKOUT	
COMM DEACTIVATION		COMM DEACTIVATION	



CSM POWER TO LM-OFF
(AT LMP REQUEST)
GET (: :)

CSM POWER TO LM - ON
(AT LMP REQUEST)
GET (: :)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 11	FINAL (7/26)	6/21/71	35:00 - 36:00		3-1

FLIGHT PLAN

MCC-H

2034 CDT

NOTES

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

36:00
(21111)
(X1111)
:10
(21101)
(X1111)
:20
36:30
:40
:50
37:00

M
S
F
N

LMP & CDR IVT TO CSM & CLOSE LM HATCH
INSTALL PROBE, DROGUE AND CM HATCH

LM TUNNEL VENT VALVE - LM/CM ΔP
CYCLE CMC MODE - FREE/AUTO
V48 (21101)(X1111)
OMNI B
SECURE HGA, TRACK - MAN HGA P -52, Y 270

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G/8-2
V49 MNVR TO PTC ATTITUDE
(N20,090,000)
P20 OPT 2 X-AXIS
N78 (0,0,0)
N79 (-0.3500,000.50)
N34 (0,0,0)

DAP LOAD STATUS
(21101)(X1111)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	36:00 - 37:00	2/TLC	3-43

FLIGHT PLANNING BRANCH

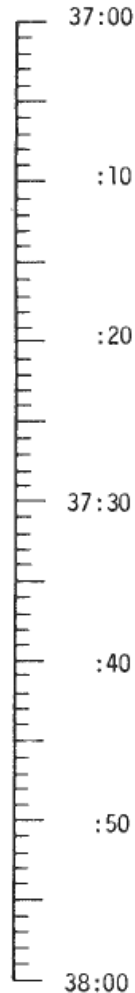
FLIGHT PLAN

MCC-H

2134 CDT

NOTES

DAP LOAD STATUS
(21101)(X1111)



M
S
F
N

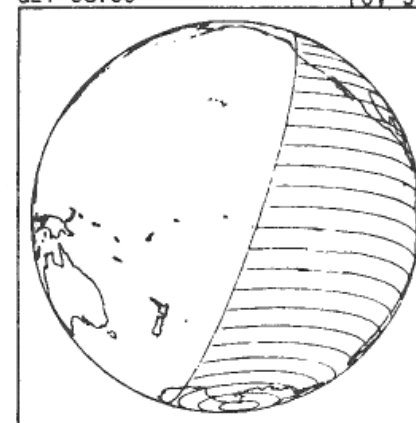
CREW EXERCISE PERIOD

CMP DON BIOMED HARNESS
CDR DOFF BIOMED HARNESS

LiOH CANISTER CHANGE
(5 INTO A, 3 INTO B5)

PTC
GET 38:00

FOV 3°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	37:00 - 38:00	2/TLC	3-44

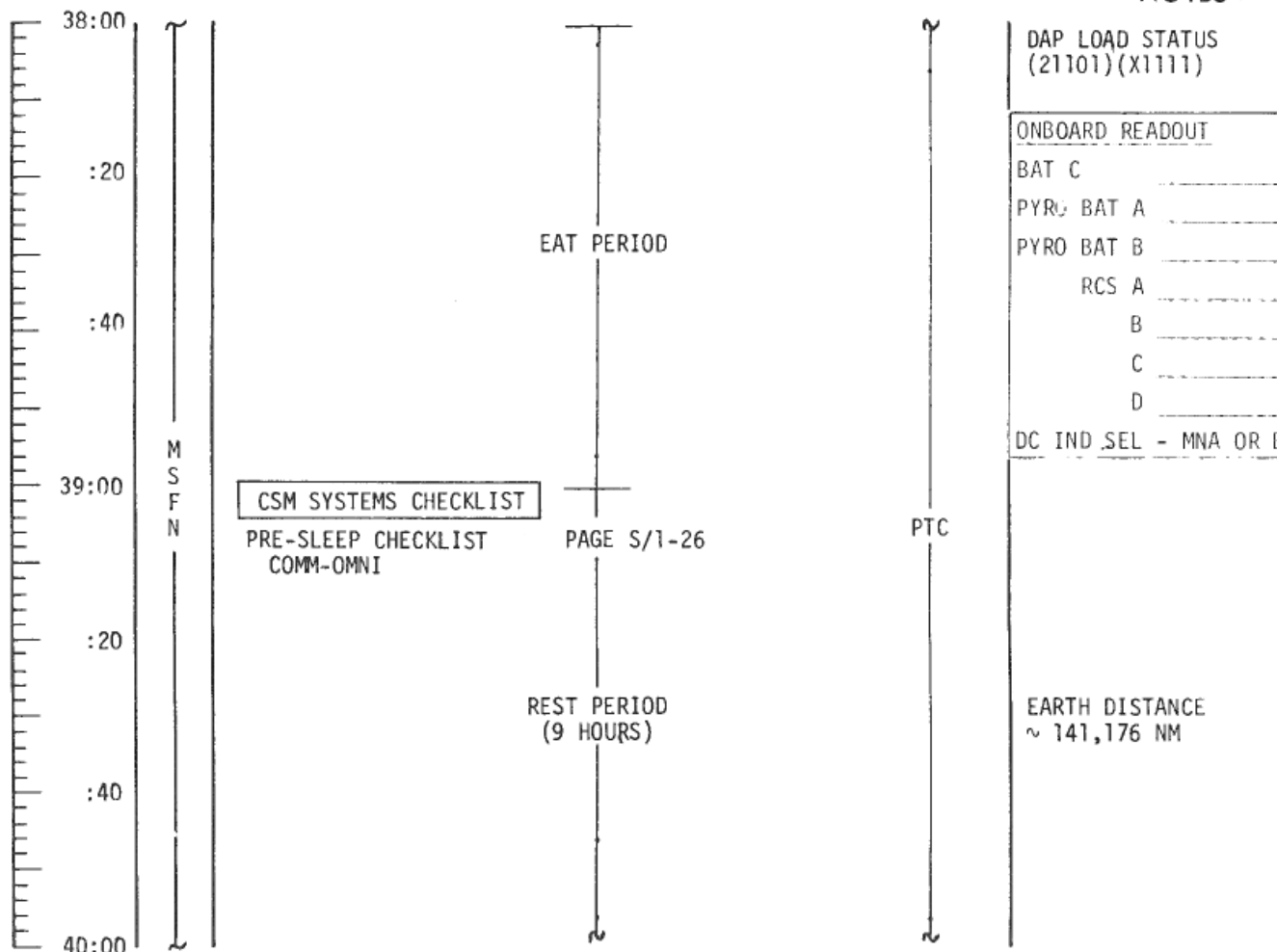
FLIGHT PLAN BRANCH

MCC-H

2234 CDT

FLIGHT PLAN

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	38:00 - 40:00	2/TLC	3-45

FLIGHT PLANNING BRANCH

MCC-H

0034 CDT

FLIGHT PLAN

NOTES

40:00
:20
:40
41:00
:20
:40
42:00

M
S
F
NREST PERIOD
(9 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	40:00 - 42:00	2/TLC	3-46

FLIGHT PLAN BRANCH

FLIGHT PLAN

MCC-H

0234 CDT

NOTES

42:00
:20
:40
43:00
:20
:40
44:00

M
S
F
N

REST PERIOD
(9 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	42:00 - 44:00	2/TLC	3-47

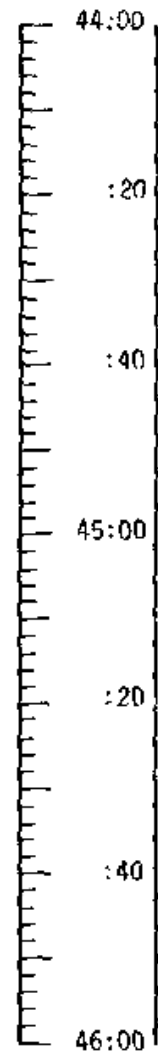
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0434 CDT

NOTES



M
S
F
N

REST PERIOD
(9 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	44:00 - 46:00	2/TLC	3-48

FLIGHT PLANNING BRANCH

MCC-H

0634 CDT

FLIGHT PLAN

NOTES

46:00
:20
:40
47:00
:20
:40
48:00

M
S
F
NREST PERIOD
(9 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	46:00 - 48:00	2/TLC	3-49

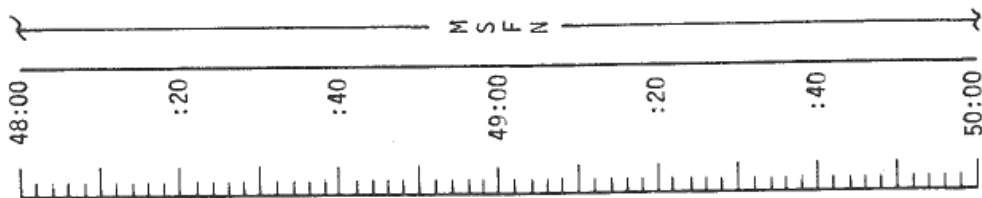
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

UPDATE TO CSM
CONSUMABLES
FLIGHT PLAN

0834 CDT



CSM SYSTEMS CHECKLIST

POST-SLEEP CHECKLIST

PAGE S/1-26

EAT PERIOD

LMP DON BIOMED HARNESS
CMP DOFF BIOMED HARNESS

CHARGE BATTERY B

NOTES

DAP LOAD STATUS
(21101)(X1111)

CSM CONSUMABLES UPDATE	
GET: _____	_____
RCS TOTAL _____	_____
QUAD A _____	B _____
C _____	D _____
H ₂ TANK 1 _____	2 _____ 3 _____
O ₂ TANK 1 _____	2 _____ 3 _____

PTC

EARTH DISTANCE
~ 162,962 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	48:00 - 50:00	3/TLC	3-50

FLIGHT PLANNING BRANCH

MCC-H

1034 CDT

FLIGHT PLAN

NOTES

50:00
:10
:20
50:30
:40
:50
51:00

M
S
F
N

VISUAL LIGHT FLASH PHENOMENON EXPERIMENT
 SET KITCHEN TIMER TO 50 MIN
 ALL CREWMEN DON EYESHIELDS
 REPORT: DON EYESHIELDS (GET __:__:__)
FLASH FREQUENCY
FLASH DESCRIPTION
CREW POSITION W.R.T. X, Y, AND Z AXES
AND LOCATION IN CM

DAP LOAD STATUS
 (21101)(X1111)

DURING FIRST 50
 MINUTES ONE CREW-
 MAN WILL FACE THE
 DIRECTION OF THE
 -X AXIS. DURING
 THE LAST 10 MINUTES
 HE WILL FACE THE
 DIRECTION OF THE
 +X AXIS. EXPERI-
 MENT WILL BE TER-
 MINATED ON MSFN
 CUE.

PTC

REPORT: DOFF EYESHIELDS (GET __:__:__)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	50:00 - 51:00	3/TLC	3-51

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1134 CDT

NOTES

LiOH CANISTER CHANGE
(6 INTO B, 4 INTO B5)

DAP LOAD STATUS
(21101)(X1111)

51:00

:10

:20

51:30

:40

:50

52:00

M
S
F
N

PTC

ACTUAL
START
OF LIGHT RUSH
EXPT →

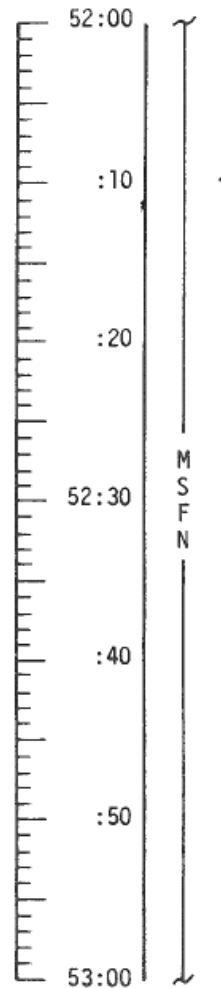
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	51:00 - 52:00	3/TLC	3-52

FLIGHT PL INING BRANCH

FLIGHT PLAN

MCC-H

1234 CDT



CREW EXERCISE PERIOD

PTC

NOTES

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	52:00 - 53:00	3/TLC	3-53

FLIGHT PLANNING BRANCH

FLIGHT PLAN

CYCLE FILM IN PANORAMIC AND MAPPING CAMERAS

ACQ MSFN, HGA: REACQ, NARROW (CUE MSFN FOR PITCH AND YAW)
VERIFY:

cb SCI EQUIP SEB 1 & 2 - CLOSE
NON ESS BUS - MNA
cb SM SECTOR 1 AC2 (3) - CLOSE
MAPPING CAMERA IMAGE MTN - OFF

PCM BIT RATE - HIGH

S-BD AUX TV - SCI

SM SECTOR 1 SM/AC PWR - ON (UP)

DATA SYS ON - ON

MAPPING CAMERA ON - STBY/tb-GRAY

PANORAMIC CAMERA MODE - STBY

PANORAMIC CAMERA POWER - ON (UP)/tb-BP (2 SEC), then GRAY

CONFIRM MSFN HAS TLM, CYCLE FILM ON MSFN CUE

MAPPING CAMERA ON - ON (2 MIN), then OFF

PANORAMIC CAMERA SELF TEST - ON (UP)/tb-BP (5 FR), then GRAY

PANORAMIC CAMERA SELF TEST - OFF (CTR)

PANORAMIC CAMERA POWER - OFF

AFTER MAPPING CAMERA OFF FOR 1 MIN:

~~SM SECTOR 1 SM/AC PWR~~ OFF

OMNI B

SECURE HGA, TRACK-MAN HGA P -52, Y 270

S-BD AUX TV - OFF (CTR)

PCM BIT RATE - LOW

49:35:59

MAPPING CAMERA ON - STBY/tb-GRAY

FINAL (7/26)

6/21/71

3-54

FLIGHT PLAN

MCC-H

1334 CDT

UPLINK TO CSM } NOT
LIFT-OFF TIME } READ.
(IF REQUIRED) } (52:4679)

UPDATE TO CSM
T EPHM
(IF REQUIRED)

UPDATE TO CSM
HGA ANGLES FOR
FILM CYCLE

SYNCHRONIZE MISSION TIMER TO CMC CLOCK (IF REQUIRED)
V05N01E, 1706E

NOTES

DAP LOAD STATUS
(21101)(X1111)

T E P H E M U P D A T E

OID

LOAD B

03

04

05

PTC

LIFT-OFF TIME WILL
BE UPDATED IF THE
TIME PROPAGATED
AHEAD TO START OF
REV 2 DIFFERS FROM
80:40:37.6 BY MORE
THAN 1 MIN

CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK
REPORT: BIAS

PAGE G/2-5

CYCLE FILM IN PANORAMIC AND MAPPING CAMERAS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	53:00 - 54:00	3/TLC	3-55

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1434 CDT

NOTES

54:00
:10
:20
54:30
:40
:50
55:00

M
S
F
N

EAT PERIOD

PTC

DAP LOAD STATUS
(21101)(X1111)

EARTH DISTANCE
~ 173,355 NM

IF LM/CM AP < 2.7 psid, LM TUNNEL VENT VALVE, PANEL 12,
VENT UNTIL AP > 2.7 psid

chd @ 49:33:15

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	54:00 - 55:00	3/TLC	3-56

FLIGHT PLANNING BRANCH

FLIGHT PLAN

UV PHOTOS - CISELUNAR COAST

V49 MNVR TO EARTH UV PHOTO ATT (153,050,030) (55:35)
OMNI D

CONFIGURE CAMERA: (UV)
CM5/EL/105/UV-BRKT, CONT (f4.3,1/60,∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____
REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES
INHIBIT ALL JETS EXCEPT A1 & C2 OR B2 & D1, A4, C3, B4, D3
VERIFY FDAI SCALE - 5/1
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ON FDAI ARE <0.2°/SEC IN ALL AXES

REMOVE CM5 WINDOW COVER, MOUNT UV CARDBOARD SHADE AND CAMERA
2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
1 ~~2~~ FRAMES, FILTER 2, EXP TIME 20 SEC and 1 @ 2 sec exp
CHANGE SHUTTER TO 1/250 *ch @ 11:40:01*
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500
2 FRAMES, FILTER 4
RECORD FR # _____

CONFIGURE CAMERA
CM5/EL/105/CEX-CONT (f8,1/250,∞) (1 FR) *(takeo ?)*
RINGSLIDE
MAG (M) _____, FR # _____
1 FRAME, FILTER 4
RECORD FR # _____

REMOVE CAMERA AND UV CARDBOARD SHADE
COMMENT - CONDITION OF CM5 WINDOW
REPLACE CM5 WINDOW COVER
ENABLE ALL JETS

FLIGHT PLAN

MAPPING CAMERA TO STBY MODE

cb SCI EQUIP SEB 1 & 2 - CLOSE (VERIFY)
NON ESS BUS - MNA (VERIFY)
SM SECTOR 1 SM/AC PWR - ON (UP)
MAPPING CAMERA IMAGE MTN - OFF (VERIFY)
MAPPING CAMERA ON - STBY

PANORAMIC CAMERA TO HTRS MODE

cb SCI EQUIP SEB 1 & 2 - CLOSE (VERIFY)
NON ESS BUS - MNA (VERIFY)
cb SM SECTOR 1 SM/AC2 (3) - CLOSE (VERIFY)
SM SECTOR 1 SM/AC PWR - ON (UP)
PANORAMIC CAMERA POWER - OFF (VERIFY)
PANORAMIC CAMERA MODE - STBY
PANORAMIC CAMERA SELF TEST - HTRS

FLIGHT PLAN

MCC-H

1534 CDT

UPLINK TO CSM
CSM S.V. & V66
MCC-3 TGT LOAD
UPDATE TO CSM
GO/NO-GO FOR MCC-3
MCC-3 MNVR PAD

55:00
:10
(21101)
(X1111)
:20
55:30
:40
:50
56:00

M
S
F
N

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES

EXIT G&N PTC PAGE G/8-3

STOP PTC @ ROLL 50° HGA ANGLES: PITCH -48, YAW +82

MAPPING CAMERA TO STBY MODE

chd @ 49:34:51

PANORAMIC CAMERA TO HTRS MODE

chd @ 49:37:22

UV PHOTOS

P30 EXTERNAL ΔV

chd @ 49:37:22

V49 MNVR TO PAD BURN ATT

V49 MNVR TO LM CHECKOUT ATT

305, 090, 000

HGAANGLE: PITCH -30

YAW, 276

chd @ 49:38:44

NOTES

DAP LOAD STATUS
(21101)(X1111)

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

GET 56 HOURS

FOV 3°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	55:00 - 56:00	3/TLC	3-59

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-3
BURN TABLE

P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC TERMINATE	±10° TERMINATE	BT + 1 SEC	IF <2 FPS, TRIM X AXIS TO 0.2 FPS IF >2 FPS, NO TRIM

MCC-H

1634 CDT

FLIGHT PLAN

NOTES

56:00
(21101)
(X1111)

:10

:20

56:30

:40

:50

57:00

M
S
F
N

IF SPS MCC REQD:
~~SM SECTOR 1 SM/AC PWR - ON (UP) (VERIFY)~~
~~PANORAMIC CAMERA PWR - BOOST~~
~~MAPPING CAMERA IMAGE MTN - OFF (VERIFY)~~
~~MAPPING CAMERA ON - STBY (VERIFY)~~
~~SXT STAR CHECK~~
~~P40 SPS THRUSTING OR P41 RCS THRUSTING~~
 O₂ FUEL CELL PURGE
 WASTE WATER DUMP

chd @ 49:37:51

MCC-3 WILL BE
 DELAYED TO MCC-4
 IF PROPELLANT
 COST IS NOT
 PROHIBITIVE

EARTH DISTANCE
 ~ 177,000 NM

DIRECT O₂ OPEN UNTIL CABIN PRESSURE EQUALS 5.7 psia
 chd @ 50:02:03

MCC-3

TIG: 56:31:14.7
 BT: NOM ZERO
 ΔVT: NOM ZERO
 ULLAGE: NONE
 ORBIT: N/A

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

chd @ 49:38:16

~~IF SPS MCC PERFORMED:~~
~~PANORAMIC CAMERA PWR - OFF~~

CSM SYS CHALIST IVT TO LM PAGE 5/2-1 chd @ 49:42:54
 EARLY LM IVT FOR EXTRA BATTERY CHECKOUT

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

LOI - 22 HR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	56:00 - 57:00	3/TLC	3-61

FLIGHT PLANNING BRANCH

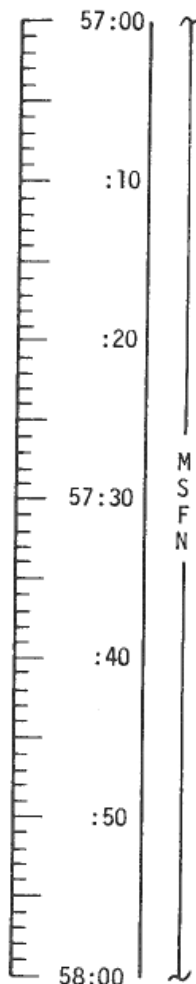
MCC-H

1734 CDT

FLIGHT PLAN

NOTES

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N)

PAGE G/8-2

V49 MNVR TO PTC ATTITUDE
(N20,090,000)

P20 OPT 2 X-AXIS

N78 (0,0,0)

N79 (-0.3500,000.50)

N34 (0,0,0)

MOVED UNTIL AFTER
LM BATTERY CHECKOUT FINISHED
ch@ 49:43:43

CSM SYSTEMS CHECKLIST~~IVT TO LM (CHECKOUT TLC)~~

PAGE S/2-T

~~START AT COUCH CONFIGURATION~~

chid@ 49:42:54
moved to 56:50

M
S
F
N

PTC

S-BND AUX TV - SCIENCE PAN CAMERA PAWR - ON

LM HOUSEKEEPING

chid@ 49:49:38

(5 MIN/OFF)

PREPARE FOR LM INGRESS
REMOVE TUNNEL HATCH AND STOW
REMOVE PROBE & DROGUE AND STOW

S-BND AUX TV - OFF

ch at 49:53:38

CSM - PROCEED WITH
PTC ACTIVATION

About here

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	57:00 - 58:00	3/TLC	3-62

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1834 CDT

NOTES

Note given up at 50:01:02
FOR SUBSEQUENT P23 SIGHTINGS
REDUCE TRNN TO $< 10^\circ$
BEFORE ZEROING OPTICS
ALWAYS DO OPTICS CAL
AFTER OPTICS ZERO IN P23

58:00
:10
:20
58:30
:40
:50
59:00

M
S
F
N

LMP & CDR EVT TO LM

moved to 56:50

PAGE 5/2-7

ALL THIS PROC
DELETED AT
55:03:00

57:45 VACUUM CABIN FAN FILTER

UNSNAP NETTING AROUND CABIN FAN FILTER
VACUUM FILTER
DON'T SCRUB BRISTLES OVER SURFACE OF FILTER
REMOVE REMAINING PARTICLES WITH STICKY TAPE
SAME TO INLET SCREEN OF CLEANER
REPLACE NETTING

NEW INSTRUCTIONS ADDED 55:04:21

VACUUM LM ACCESSIBLE AREAS
TAPE VACUUM CLEANER TO ASCENT ENGINE COVER
AND LEAVE TO RUN DURING HSEKEEP.
CLEAN VC INLET SCREEN WITH STICKY TAPE

DAP LOAD STATUS
(21101)(X1111)

PTC

LM HOUSEKEEPING & INSPECTION

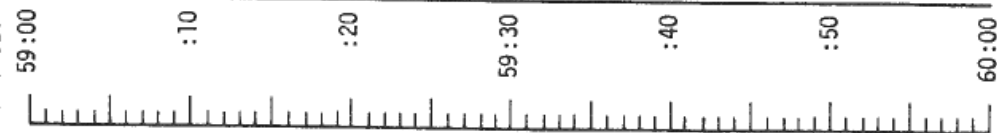
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	58:00 - 59:00	3/TLC	3-63

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1934 CDT



LM HOUSEKEEPING & INSPECTION

M S F N

PTC

LMP & CDR IWT TO CSM & CLOSE LM HATCH
 INSTALL PROBE, DROGUE AND CM HATCH
 LM TUNNEL VENT VALVE - LM/CM ΔP

NOTES

DAP LOAD STATUS
 (21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	59:00 - 60:00	3/TLC	3-64

FLIGHT PLAN BRANCH

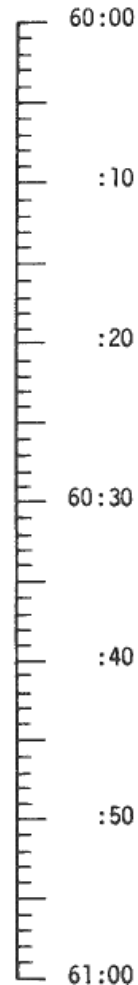
FLIGHT PLAN

MCC-H

2034 CDT

NOTES

UPDATE TO CSM
HGA ANGLES FOR
CAM TEMP MONITOR
MCC-H MONITOR
DATA SYSTEM
FOR CAMERA LENS
TEMPERATURES



PANORAMIC CAMERA POWER - ON (FOR 5 MIN)/OFF
CDR DON BIOMED HARNESS
LMP DOFF BIOMED HARNESS

ch@ 49:58:10
60:00 after S-BAND AUX TV to OFF
added:
PAN CAMERA SELF TEST to OFF
MAP CAMERA ON to OFF

CREW EXERCISE PERIOD

S-170 BISTATIC RADAR FREQUENCY CHECK
VHF AM B - DUPLEX
VHF RANGING - ON
VHF ANT - LEFT (VERIFY)
NOTE: MSFN WILL TURN OFF
S-BAND UPLINK FOR
APPROXIMATELY 5 MIN
WHILE S-BAND DOWNLINK
FREQUENCY IS MEASURED

ON GROUND CUE:
VHF AM B - OFF
VHF RANGING - OFF

DAP LOAD STATUS
(21101)(X1111)

further ch@ 59:48:56
60:00 S-BAND AUX TV - SCIENCE
PAN CAM PLUR - ON (FOR 5 min)/OFF
WAIT FOR MSFN Q
PAN CAM SELF TEST - OFF
MAP CAM, ON - OFF
S-BAND AUX, TV - OFF

FOR THIS TASK
HGA P, -30 Y, 90

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	60:00 - 61:00	3/TLC	3-65

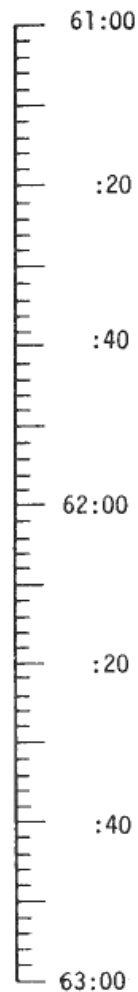
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2134 CDT

NOTES



M
S
F
N

LiOH CANISTER CHANGE
(7 INTO A, 5 INTO B6)

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST
COMM-OMNI

EAT PERIOD

PAGE S/1-26

REST PERIOD
(8 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

ONBOARD READOUT

BAT C

PYRO/ BAT A

PYRO BAT B

RCS A

B

C

D

DC IND SEL - MNA OR B

EARTH DISTANCE
~ 187,336 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	61:00 - 63:00	3/TLC	3-66

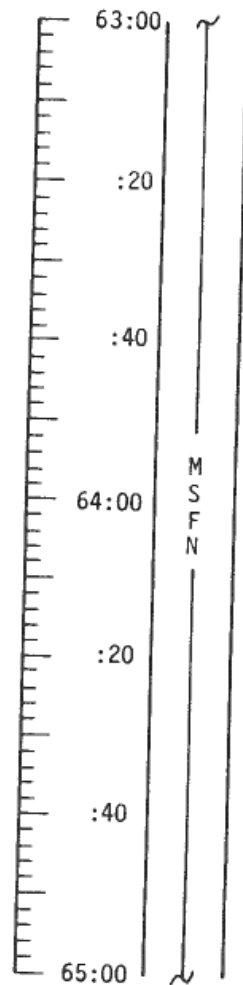
FLIGHT PLANNING BRANCH

MCC-H

2334 CDT

FLIGHT PLAN

NOTES



REST PERIOD
(8 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	63:00 - 65:00	3/TLC	3-67

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0134 CDT

NOTES

65:00
:20
:40
66:00
:20
:40
67:00

M
S
F
N

REST PERIOD
(8 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	65:00 - 67:00	3/TLC	3-68

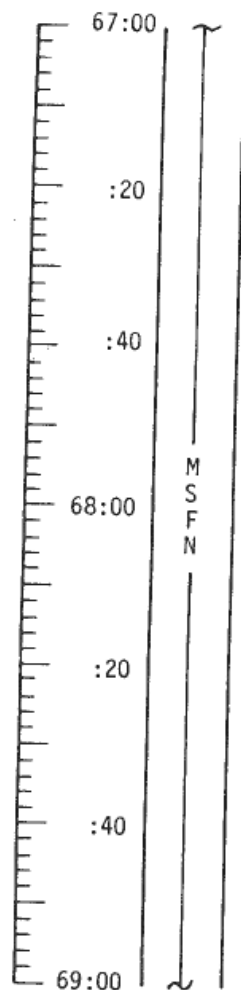
FLIGHT PLAN BRANCH

MCC-H

0334 CDT

FLI HT PLAN

NOTES



REST PERIOD
(8 HOURS)

PTC

DAP LOAD STATUS
(21101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	67:00 - 69:00	3/TLC	3-69

FLIGHT PLANNING BRANCH

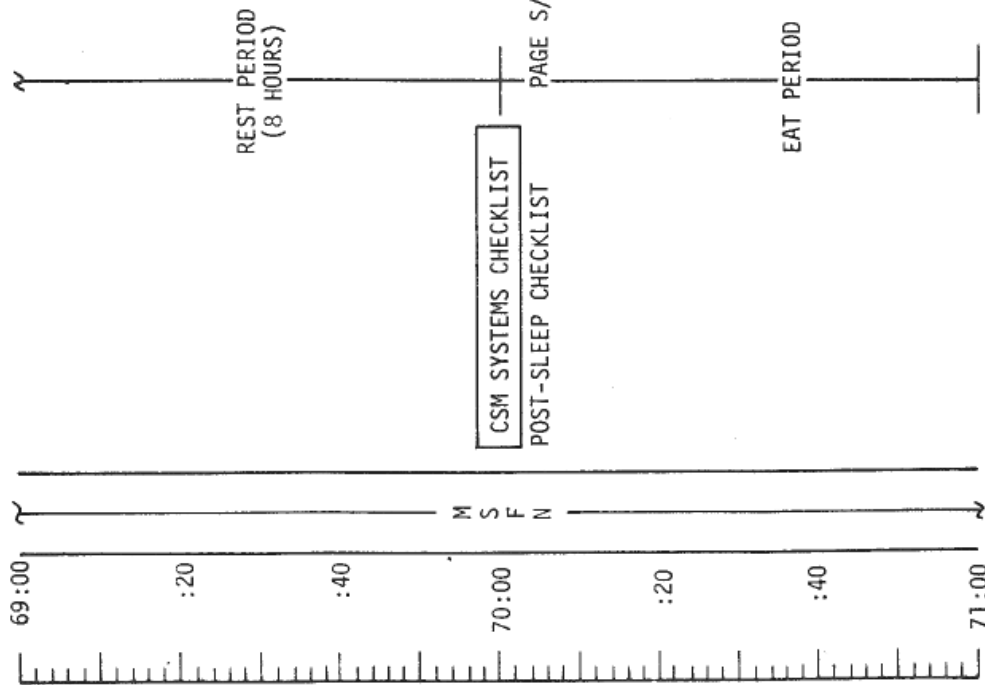
FLIGHT PLAN

MCC-H

0534 CDT

NOTES

DAP LOAD STATUS
(21101)(X1111)



PDATE TO CSM
LIGHT PLAN
CONSUMABLES

CSM CONSUMABLES UPDATE

GET: _____

RCS TOTAL _____

QUAD A _____ B _____

C _____ D _____

H₂ TANK 1 _____ 2 _____ 3 _____

O₂ TANK 1 _____ 2 _____ 3 _____

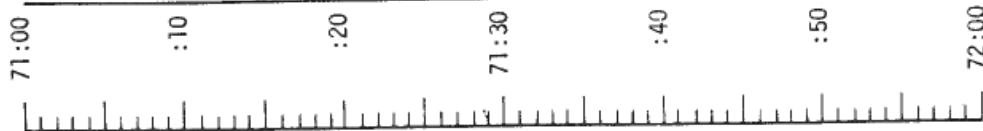
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	69:00 - 71:00	3-4/TLC	3-70

FLIGHT TRAINING BRANCH

FLIGHT PLAN

MCC-H

0734 CDT



CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK
REPORT: BIAS

CSM SYSTEMS CHECKLIST

CM/LM PRESSURE EQUALIZATION (DECAL)
PRESS EQUAL VALV - CLOSE (CL @ 70:34:31)
CMP DON BIOMED HARNESS
CDR DOFF BIOMED HARNESS
DON PGA'S WITHOUT HELMETS AND GLOVES

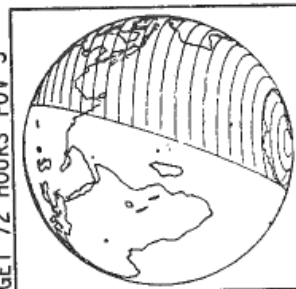
NOTES

DAP LOAD STATUS
(21101)(X1111)

CL @ 70:32:30
HGA ON MSFN EUE
S-BND AUX. TV - SCIENCE
PAN CAMERA MODE - STBY
(VERIFY)
PAN CAMERA PWR - ON
PAN CAMERA SEL TEST - HEATERS
PAN CAMERA ON - STBY
WAIT 5 MINUTE
PAN CAMERA PWR - OFF
S-BND AUX. TV - OFF
PAGE S/2-3

PTC

GET 72 HOURS FOV 3°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	71:00 - 72:00	4/TLC	3-71

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0834 CDT

NOTES

UPDATE TO CSM
MCC-4 MNVR PAD
PERICYNTHION +2 HR
ABORT PAD
UPLINK TO CSM
CSM S.V. & V66
MCC-4 TGT LOAD

72:00
:10
:20
72:30
:40
:50
73:00

M
S
F
N

CONFIGURE CAMERA FOR SIM DOOR JETT PHOTOS
CM5/DAC/75/CEX (f8,1/250,100) 12 fps (5% MAG)

MAG (E) _____, MAG % _____

H₂ PURGE LINE HEATERS - ON

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES

EXIT G&N PTC PAGE G/8-3
P30 EXTERNAL ΔV
V49 MNVR TO PAD BURN ATT

PTC

DAP LOAD STATUS
(21101)(X1111)

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

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____:_____:_____

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	72:00 - 73:00	4/TLC	3-72

FLIGHT TRAINING BRANCH

OPTICS CAL PROCEDURES

(READ UP AT 70:38:11)

IF OPTICS POWER IS OFF
PLACE 'ZERO' SWITCH-OFF
BEFORE OPTICS POWER - ON
AFTER OPTICS POWER ON
DRIVE OPTICS MANUALLY
TO TRUNNION OF $< 10^\circ$
BEFORE 'ZERO' SWITCH - ON

THIS PAGE INTENTIONALLY BLANK

FLIGHT PLAN

MCC-4
BURN TABLE

P OR Y RATE	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC TERMINATE	±10° TERMINATE	BT + 1 SEC	TRIM ONLY X AXIS TO 0.2 FPS

MCC-H

0934 CDT

FLIGHT PLAN

NOTES

EARTH DISTANCE
~ 206,000 NM

BURN STATUS REPORT			
X	X		•
X	X		•
			•
TRIM			
X	X	X	
X	X	X	
X	X	X	
			•
			•
			•
			•
X	X	X	
X	X	X	
X	X	X	

 Δ TIG

BT

V_{gx}

R

P

Y

V_{gx}V_{gy}V_{gz} Δ V_c

FUEL

OX

UNBAL

IF SPS MCC REQD:

SM SECTOR 1 SM/AC PWR - ON (UP) (VERIFY)

PANORAMIC CAMERA PWR - BOOST

MAPPING CAMERA IMAGE MTN - OFF (VERIFY)

MAPPING CAMERA ON - STBY (VERIFY)

SXT STAR CHECK

P40 SPS THRUSTING OR P41 RCS THRUSTING

H₂ & O₂ FUEL CELL PURGE~~WASTE WATER DUMP~~

:10

:20

H₂ PURGE LINE HEATERS - OFF

73:30

M
S
F
N

MCC-4

TIG: 73:31:14.7
BT: NOM ZERO
 Δ VT: NOM ZERO
ULLAGE: NONE
ORBIT: N/A

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

BURN STATUS REPORT

V49 MNVR TO SIM DOOR JETTISON ATTITUDE (73:49)

(353,104,321)

ACQ MSFN HGA P -70, Y 269

:40

DON HELMETS & GLOVES

SUIT CKT INTEGRITY CHECK

:50

WHEN MNVR COMPLETE, BEGIN SIM DOOR JETT. PROCED.

GO/NO-GO FOR SIM DOOR JETTISON (CUE MSFN)

74:00

LOI -5 HR

GO/NO-GO FOR
SIM DOOR JETT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	73:00 - 74:00	4/TLC	3-75

FLIGHT PLANNING BRANCH

FLIGHT PLAN

SIM DOOR JETTISON PROCEDURE

1. VERIFY:
MAPPING CAMERA IMAGE MTN - OFF
MAPPING CAMERA TRACK - OFF/TB-GRAY
 α RAY/X DR - α OFF
SUBSAT EXTEND/LAUNCH - OFF/TB-GRAY
DATA SYS ON - ON
2. PANORAMIC CAMERA PWR - ON (FOR 2 MIN ON MSFN CUE)
PANORAMIC CAMERA PWR - BOOST
3. FC REACS VALVES - LATCH
S-BD AUX TV - SCI
4. SIM DOOR JETTISON
SM SECTOR 1 SM/AC PWR - OFF
cb LOGIC POWER (2) - CLOSE
LOGIC POWER (2) - JETT
GO/NO-GO FOR SIM DOOR JETTISON (CUE MSFN)
DOOR JETT - DOOR JETT 74:01
DAC-ON (FOR 20 SEC)
OBSERVE AND PHOTOGRAPH SIM DOOR THROUGH CM5 WINDOW
DOOR JETT - OFF
LOGIC POWER (2) - OFF (CTR)
SM SECTOR 1 SM/AC PWR - ON
FC REACS VALVES - NORM
SM RCS PRPLNT TB(8)-GRAY (VERIFY)
SM RCS He TB(8)-GRAY (VERIFY)
SM RCS SEC PRPLNT FUEL PRESS (4) - CLOSE
MAPPING CAMERA ON - STBY
X-RAY - STBY
 α RAY/X DR - α ON
MASS SPECT EXP - STBY

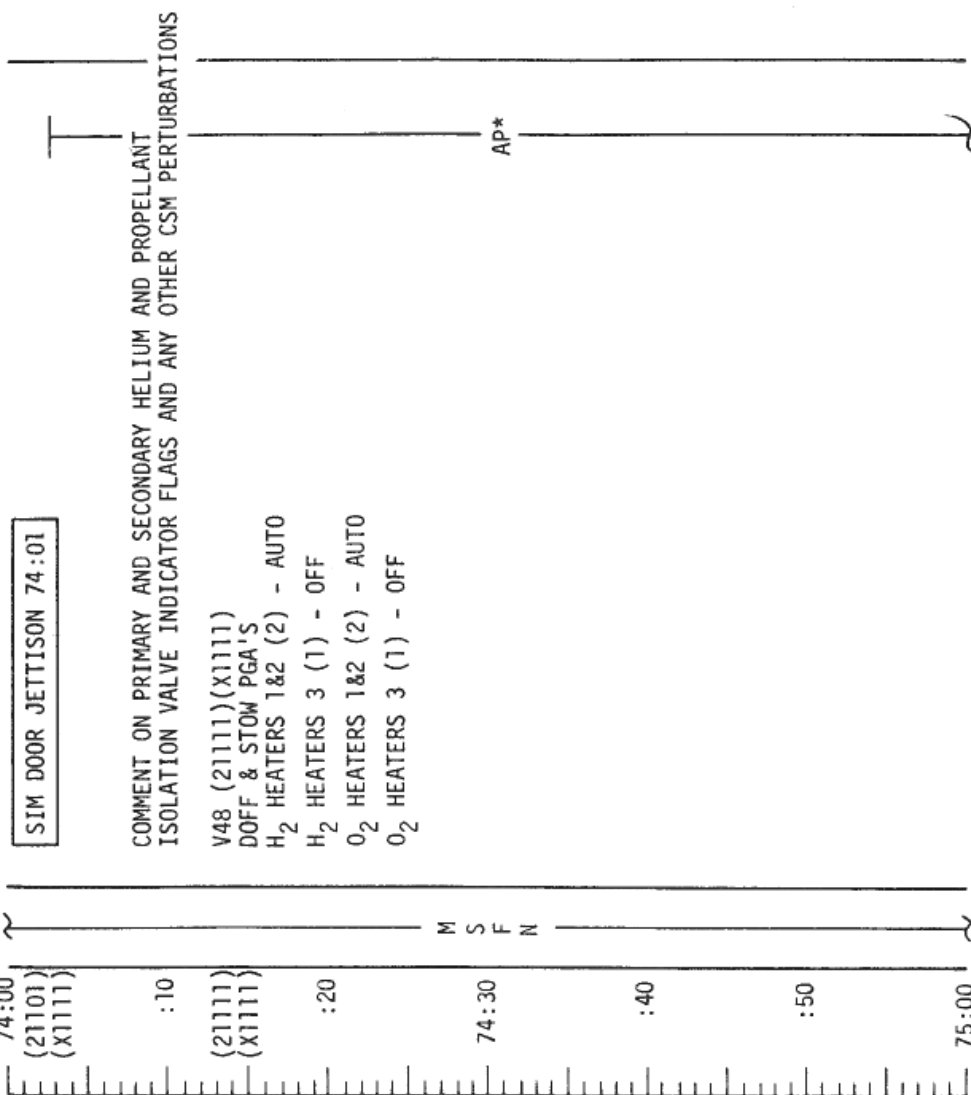
LEXAN SHIELD IN CM5

FLIGHT PLAN

NOTES

1034 CDT

MCC-H



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	74:00 - 75:00	4/TLC	3-77

FLIGHT PLANNING BRANCH

MCC-H

1134 CDT

FLIGHT PLAN

NOTES

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

UPDATE TO CSM
LOI MNVR PAD
(PRELIMINARY)

75:00
(21111)
(X1111)
:10
:20
75:30
:40
:50
76:00

M
S
F
N

V49 MNVR TO P52 ATT (315,107,336) (75:20) HGA P -31, Y 263
CHECK MISSION TIMER AGAINST CMC CLOCK

GAMMA RAY: EXP-ON, GAINSTEP - SHIELD ON

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
(LOI ORIENT)

SC CONT - CMC
BMAG (3) - RATE 2

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

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

GR*
AP*

GET 76 HOURS FOV 3°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	75:00 - 76:00	4/TLC	3-78

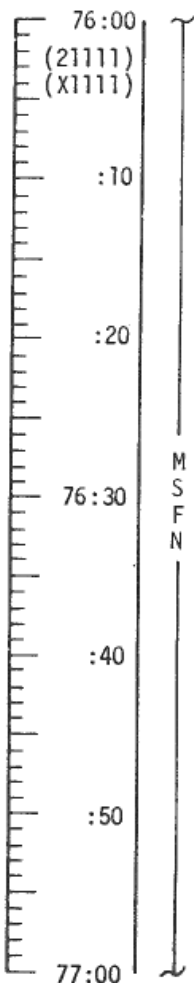
FLIC PLANNING BRANCH

MCC-H

1234 CDT

FLIGHT PLAN

NOTES

M
S
F
N

CSM G&C CHECKLIST

ΔV TEST & NULL BIAS CHECK PAGE G/2-5
REPORT: BIAS

CREW EXERCISE PERIOD

GR*
AP*

CSM SYSTEMS CHECKLIST

PRE-LOI SECONDARY GLYCOL LOOP CHECK PAGE S/1-15
REPORT: LM/CM ΔP

UPDATE TO CSM
TEI 4 PAD

TEI 4 PAD
ASSUMES NO DOI

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	76:00 - 77:00	4/TLC	3-79

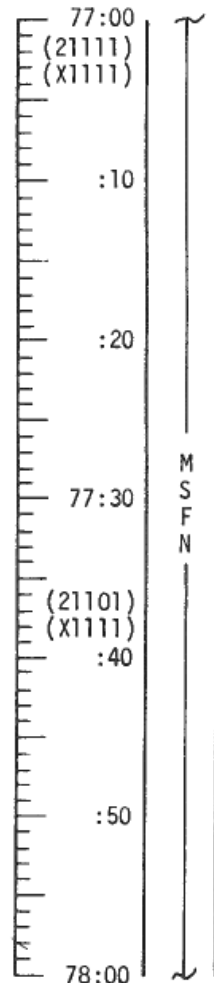
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1334 CDT

NOTES



CSM SYSTEMS CHECKLIST

C&W SYSTEM OPERATION CHECK PAGE S/1-17
 SPS MONITORING CHECK PAGE S/1-1
 SM RCS MONITORING CHECK PAGE S/1-1
 CM RCS MONITORING CHECK PAGE S/1-1
 ECS MONITORING CHECK PAGE S/1-5
 OXIDIZER FLOW VALVE INCR - NORM (VERIFY)

S-BD AUX TV - OFF
 DATA SYS ON - OFF
 GAMMA RAY EXP - OFF
 X-RAY - OFF
 α RAY/X DR - α OFF
 MASS SPECT EXP - OFF

CYCLE CMC MODE - FREE/AUTO
 V48 (21101)(X1111)
 P30 EXTERNAL ΔV

V49 MNVR TO PAD BURN ATTITUDE (78:00)
 (000,000,000)
 OMNI C

MAP UPDATE REV	<u>1</u>
LOS:	_____ : _____ : _____
180°:	_____ : _____ : _____
AOS WITH LOI:	_____ : _____ : _____
AOS WITHOUT LOI:	_____ : _____ : _____

GR*
AP*

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 GREEN BAND (0 + 100 LBS). THE APPROXIMATE TIME OF CROSSOVER IS 04:22 TO 04:29 MINUTES INTO THE LOI BURN.

UPDATE TO CSM
 LOI MNVR PAD
 MAP UPDATE REV 1
 UPLINK TO CSM
 CSM S.V. & V66
 LOI TGT LOAD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	/ 77:00 - 78:00	4/TLÇ	3+80

FLIGHT ANNING BRANCH

P30 MANEUVER

VEGA DENEb	L	0	1				PURPOSE
SET STARS	S	P	S	G	+	N	PROP/GUID
	+	6	6	2	2	4	WT N47
R ALIGN 2 6 4		0	0	1	2	1	P TRIM N48
P ALIGN 0 9 0		0	0	0	1	2	Y TRIM
Y ALIGN 3 4 9	+	0	0	0	7	8	HRS GETI
	+	0	0	0	3	1	MIN N33
	+	0	4	5	9	1	SEC
ULLAGE NONE		2	8	9	7	5	ΔV_X N81
		0	7	7	6	4	ΔV_Y
		0	0	4	4	1	ΔV_Z
	X	X	X	0	0	0	R
	X	X	X	0	0	0	P
	X	X	X	0	0	0	Y
	+	0	1	6	9	6	H _A N44
		0	0	5	8	4	H _P
	+	3	0	0	0	1	ΔVT
	X	X	X	6	4	1	BT
	X	2	9	9	3	9	ΔVC
	X	X	X	X	2	5	SXTS
	+	2	6	7	1	0	SFT
	+	2	2	8	0	0	TRN
	X	X	X				BSS
	X	X					SPA
	X	X	X				SXP

redl-up at
Preliminary (74:51:56)

LOI
SPS/G+N SET stars
66244 VEGA DENEb
+1.21 GDC ALIGN
-012 R 264
78 P 90
31 Y 349
3448
2894.5 NO ULLAGE
766.4
112.3
0
0
0
169.5
58.3
2996.4
6:40
2990.2
25
267.1
228

FLIGHT PLAN

LOI
BURN TABLE

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

FLIGHT PLAN

MCC-H

1434 CDT

RECORD VG_{IMU} DATA
GO/NO-GO FOR LOI

78:00
(21101)
(X1111)

:10

:20

78:30

REV 1

:40

(21111)
(X1111)

:50

79:00

M
S
F
N

SXT STAR CHECK

P40 SPS THRUSTING

GO/NO-GO FOR LOI

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

LOI

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

V48 (21111)(X1111)
V49 MNVR TO COMM ATT (78:55)
(167,048,020)

ACQ MSFN HGA P -46, Y 25
BURN STATUS REPORT

EARTH DISTANCE
~ 215,089 NM

TIG: 78:31:14.7
BT: 6 MIN 32 SECS
ΔVT: 2997.9 FPS
ULLAGE: NONE
ORBIT: 170 x 58.3 NM

NOTES

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

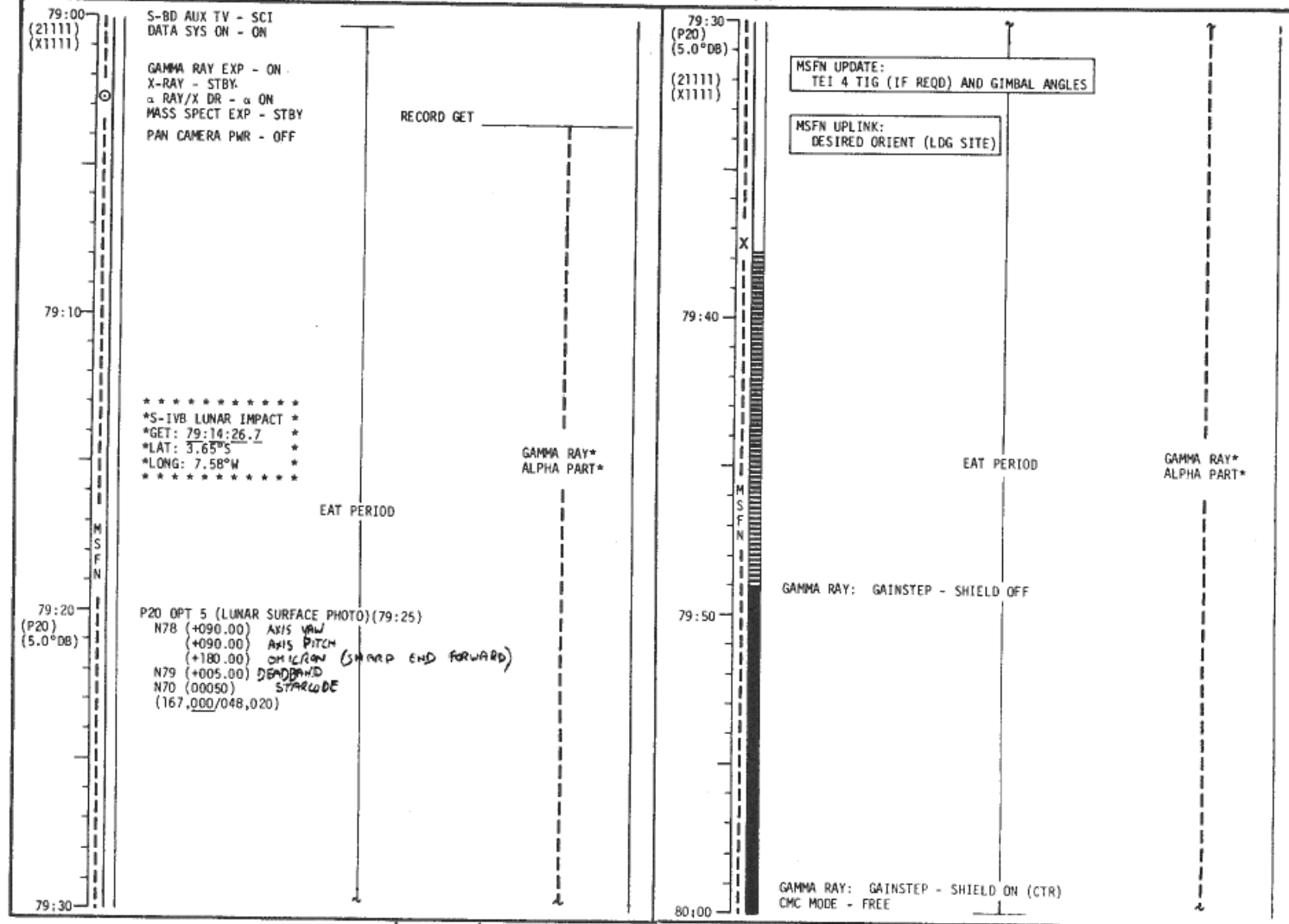
DUMP DSE

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	78:00 - 79:00		3-83

FLIGHT PLANNING BRANCH

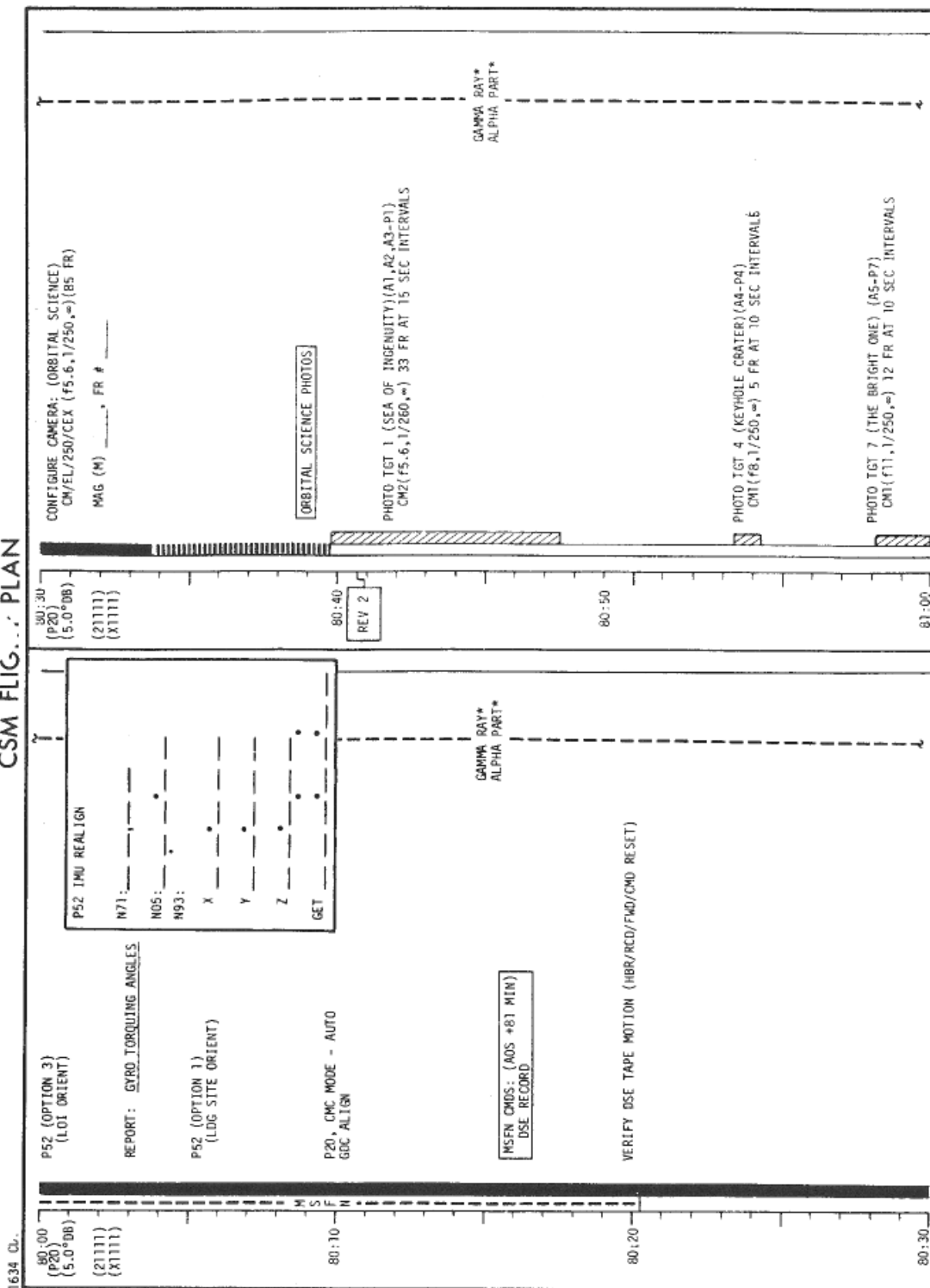
1534 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-84

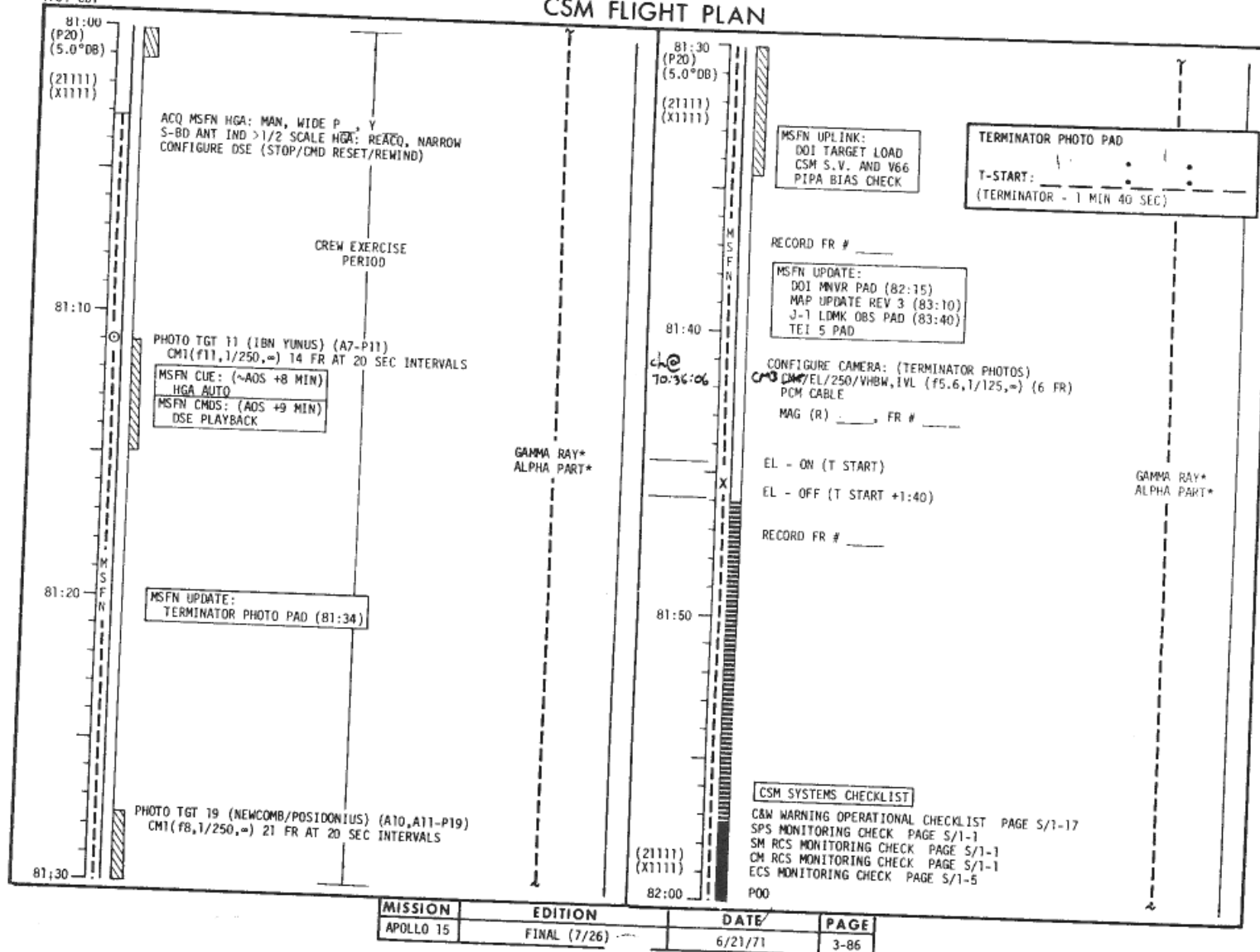
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-85

1734 CDT

CSM FLIGHT PLAN



1834

CSM FLIGHT PLAN

82:00
(21111)
(X1111)

P52 (OPTION 3)
(LDG SITE ORIENT)

REPORT: GYRO TORQUING ANGLES

GDC ALIGN
VERIFY ORDEAL

P30: VERIFY DOI TIG AND ΔV 'S
CYCLE CMC MODE - FREE/AUTO
V48 (21101)(X1111)
P40

MSFN RECORD:
VG IMU DATA

82:10

V49 MNVR TO DOI PAD BURN ATT (82:26)
ACQ MSFN OMNI C

MSFN CMDS:
DSE REWIND

PAN CAMERA PWR - BOOST
MAP CAMERA ON - STBY (VERIFY)
MAP CAMERA IMAGE MTN - OFF (VERIFY)
GAMMA RAY EXP - OFF
X-RAY - OFF
 α RAY/X DR - α OFF
MASS SPECT EXP - OFF
DATA SYS ON - OFF
S-BD AUX TV - OFF (CTR)

82:20

MSFN UPDATE:
GO/NO-GO FOR DOI

MSFN CMDS:
DSE RECORD

SXT STAR CHECK
P40 (TRIM)

82:30

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

P52 IMU REALIGN

N71: _____
N05: _____
N93: _____
X _____
Y _____
Z _____
GET _____

GAMMA RAY*
ALPHA PART*

RECORD GET _____

P30 MANEUVER

SET STARS	DOI					PURPOSE
	S	P	S	G	& N	
	+					WT N47
R ALIGN _____		0	0			P TRIM N48
P ALIGN _____		0	0			Y TRIM
Y ALIGN _____	+	0	0			HRS GETI
	+	0	0	0		MIN N33
	+	0				SEC
ULLAGE _____						ΔV_x N81
						ΔV_y
						ΔV_z
	X	X	X			R (000)
	X	X	X			P (284)
	X	X	X			Y (000)
	+					H _A N44
						H _P
	+					ΔVT
	X	X	X			BT
	X					ΔVC
	X	X	X	X		SXTS
	+				0	SFT
	+				0	TRN
	X	X	X			BSS
	X	X				SPA
	X	X	X			SXP

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/74	3-87

CSM FLIGHT PLAN

1904 CDT

82:30
(P40)
(0-5°08)
(21101)
(X1111)

DOI BURN TABLE			
P OR V 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 AND < 10 FPS PITCH
180° AND TRIM WITH +X RCS THRUSTERS, IF > 10
FPS USE SPS

DOI (000,180/284,000)	TIG: 82:39:32.6
	BT: 22.9 SEC
	AVT: 207.6 FPS
	ULLAGE: 4 JET, 16 SEC
P00: V66 SET CSM S.V. INTO LM S.V.	ORBIT: 58.4 x 9.6

82:40
(21101)
(X1111)

V49 MVR TO BAILOUT BURN ATTITUDE
(340,032,000)

REV 3
82:50

83:00

BURN STATUS REPORT											
ΔTIG											
BT											
V _{gx}											
TRIM											
R	X	X	X	X	X	X	X	X	X	X	X
P	X	X	X	X	X	X	X	X	X	X	X
Y	X	X	X	X	X	X	X	X	X	X	X
V _{gx}											
V _{gy}											
V _{gz}											
ΔV _c											
FUEL	X	X	X	X	X	X	X	X	X	X	X
OX											
UNBAL											

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-88

CUJ
1934 CDT

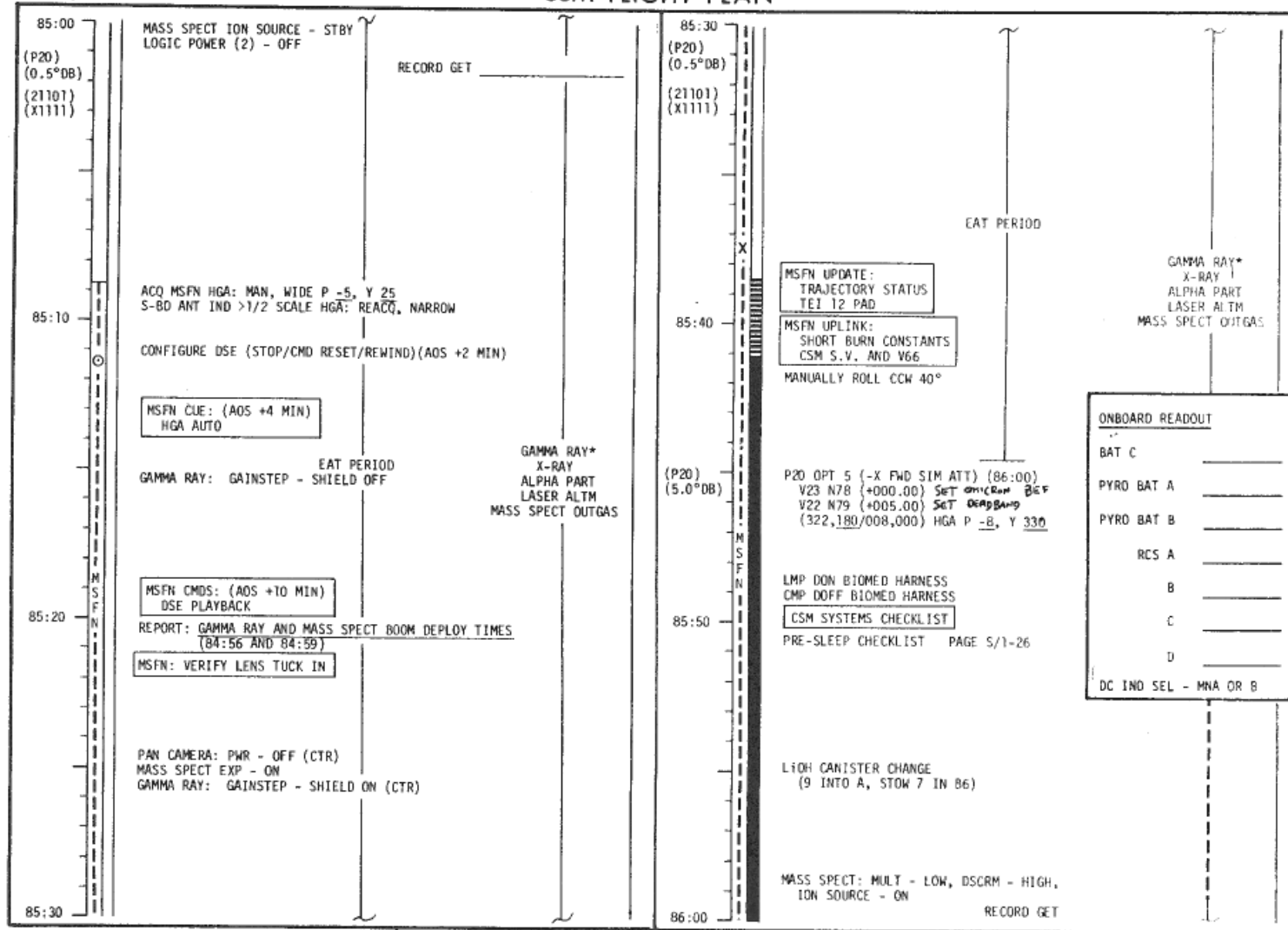
CSM FLIGHT PLAN

83:00 (21101) (X1111) 83:10 83:20 83:30	MAP UPDATE REV <u>3</u> LOS : _____ 180°: _____ AOS : _____ ***** * AOS - NO UP VOICE PROCEDURE * * 1. WAIT 30 SEC, CHECK HGA * * 2. SELECT OMNI B * * 3. SELECT SEC XPDR * * 4. AFTER 3 MIN GO TO LOSS * * OF COMM CUE CARD * ***** ACQ MSFN HGA P -37, Y 318 MSFN CMDS: DSE STOP REPORT: BURN STATUS MSFN CMDS: DSE REWIND MSFN CMDS: DSE PLAYBACK MSFN UPDATE: STAY/BAILOUT SC CONT - SCS P47 THRUST MONITOR <table border="1" style="width: 100%;"> <tr> <td>BAILOUT BURN (340,074/032,000)</td> <td>TIG: 83:26:16.9</td> </tr> <tr> <td></td> <td>BT: 10.2 SEC</td> </tr> <tr> <td></td> <td>ΔVT: 94.0 FPS</td> </tr> <tr> <td></td> <td>ULLAGE: 4 JET, 16 SEC</td> </tr> <tr> <td>P00; V66 SET CSM S.V. INTO LM S.V.</td> <td>ORBIT: 71.0 x 3.9</td> </tr> </table>	BAILOUT BURN (340,074/032,000)	TIG: 83:26:16.9		BT: 10.2 SEC		ΔVT: 94.0 FPS		ULLAGE: 4 JET, 16 SEC	P00; V66 SET CSM S.V. INTO LM S.V.	ORBIT: 71.0 x 3.9	83:30 MSFN CMDS: DSE REWIND V48 (21102)(X1111) V49 MNVR TO LDMK OBS ATT (83:40)(IF NO BAILOUT REQD) (015,291,000) OMNI <u>C</u> P24 (ORB NAV MONITOR LDMK NO MARKS) OPT ZERO - OFF, OPT MODE - CMC OPT TEL TRUN - SLAVE TO SXT OPT COUPLING - RSLV, OPT SPEED - HI LDMK J-1 OBS T HOR: <u>83:39:33</u> TCA -20 SEC: <u>83:41:25</u> LAT: +25.958 LONG/2: +05.664 ALT: +00000 LDMK ACQUISITION TCA V48 (21101)(X1111) MSFN UPDATE: MAP CAMERA PHOTO PAD (84:32) PAN CAMERA PHOTO PAD (84:39) S-BD AUX TV - SCI PCM BIT RATE - HIGH (VERIFY) DATA SYS ON - ON PAN CAMERA PWR - OFF P52 (OPTION 3) (LDG SITE ORIENT) REPORT: GYRO TORQUING ANGLES GDC ALIGN INHIBIT ALL JETS EXCEPT A1 & C2 OR D1 & B2,A3,C4,B3,D4 P20 OPT 5 (+X FWD SIM ATT) (84:14) N78 (+090.00) +052.25 +180.00 SHARP END FORWARD N79 (+000.50) N70 (00050) <u>mean</u> (143,000/163,000) HGA P -12, Y 167 (P20) (0.5°DB) 84:00
BAILOUT BURN (340,074/032,000)	TIG: 83:26:16.9											
	BT: 10.2 SEC											
	ΔVT: 94.0 FPS											
	ULLAGE: 4 JET, 16 SEC											
P00; V66 SET CSM S.V. INTO LM S.V.	ORBIT: 71.0 x 3.9											

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-89

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-90

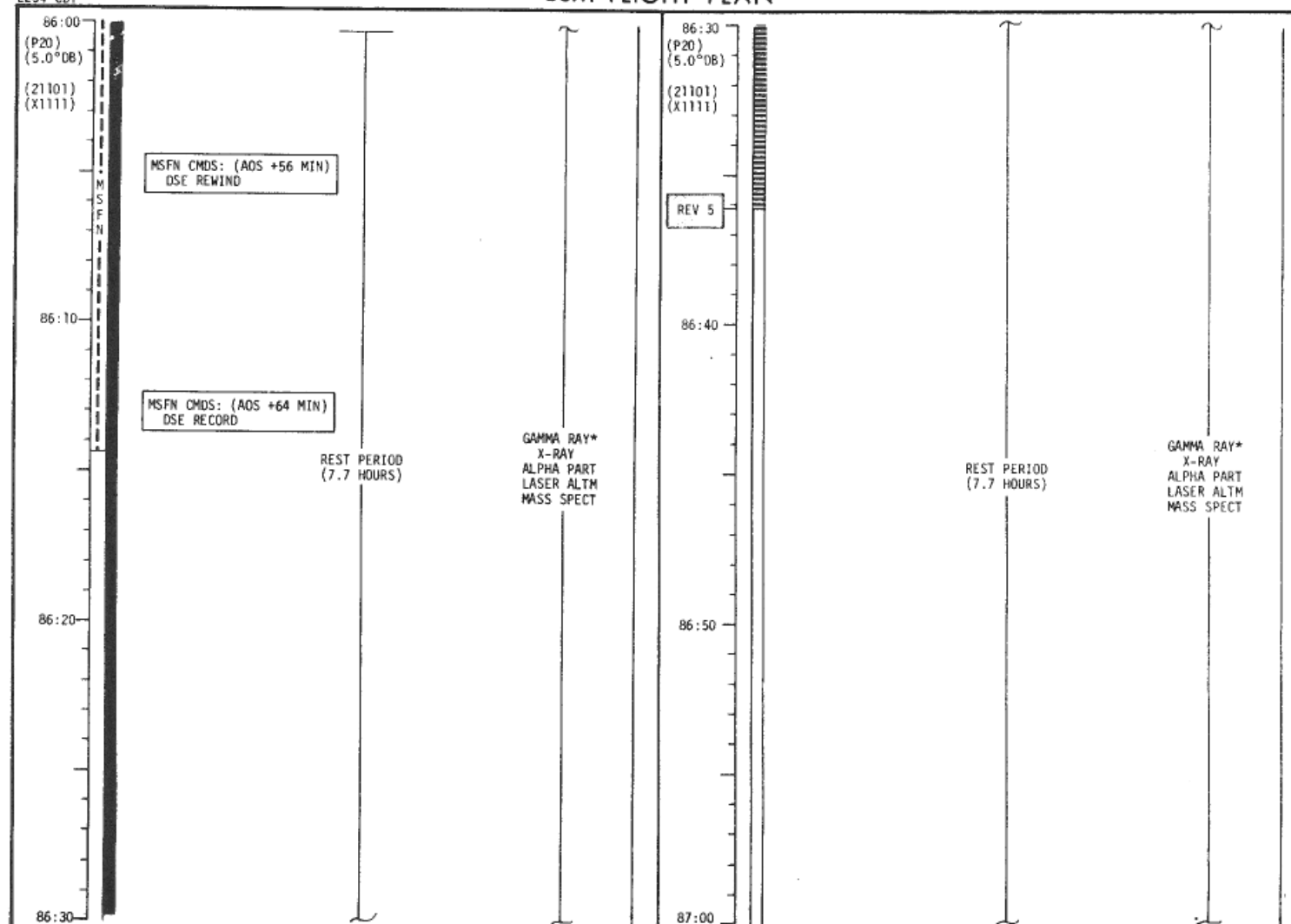
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-91

2234 CDT

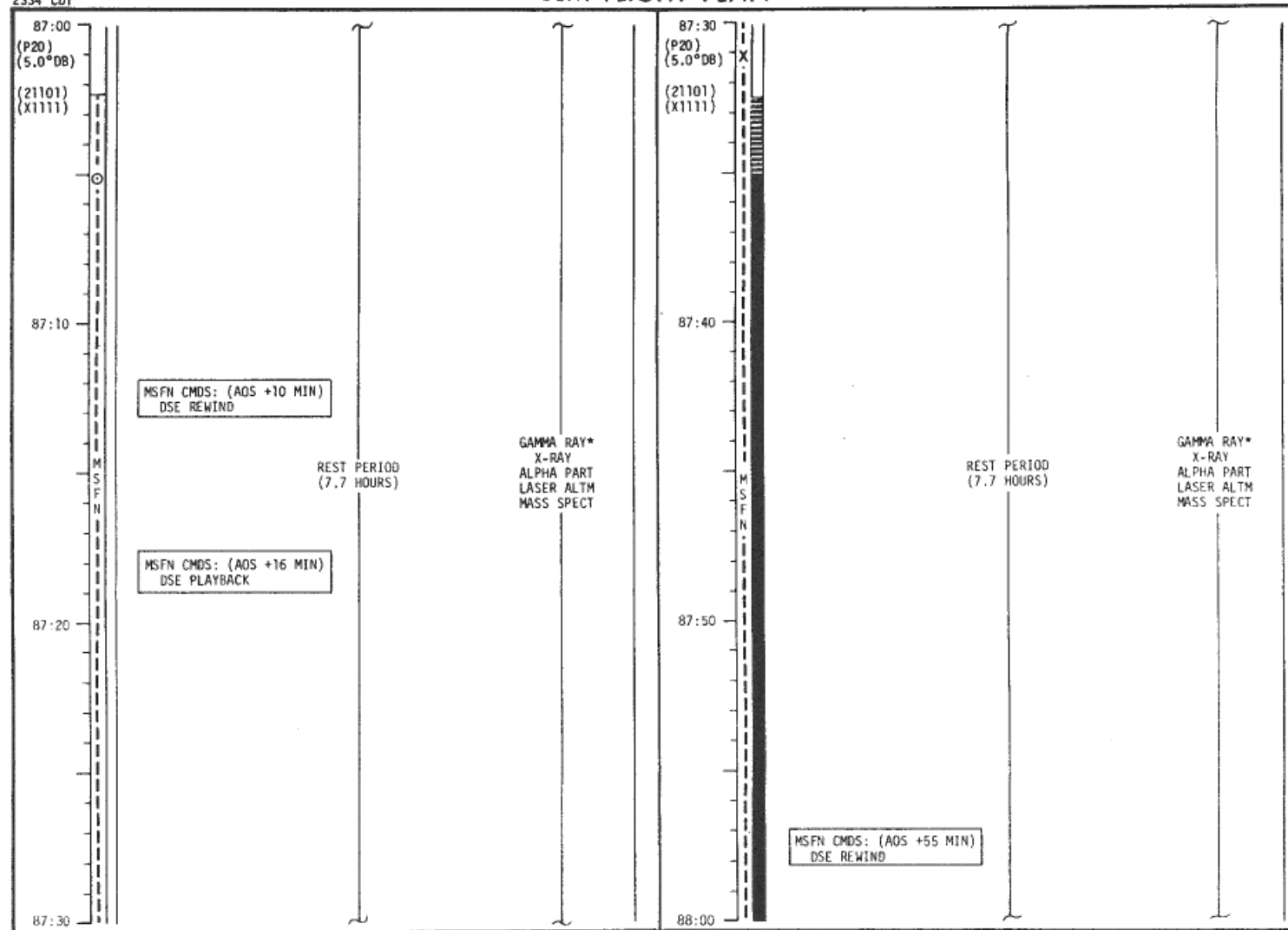
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-92

2334 Cur

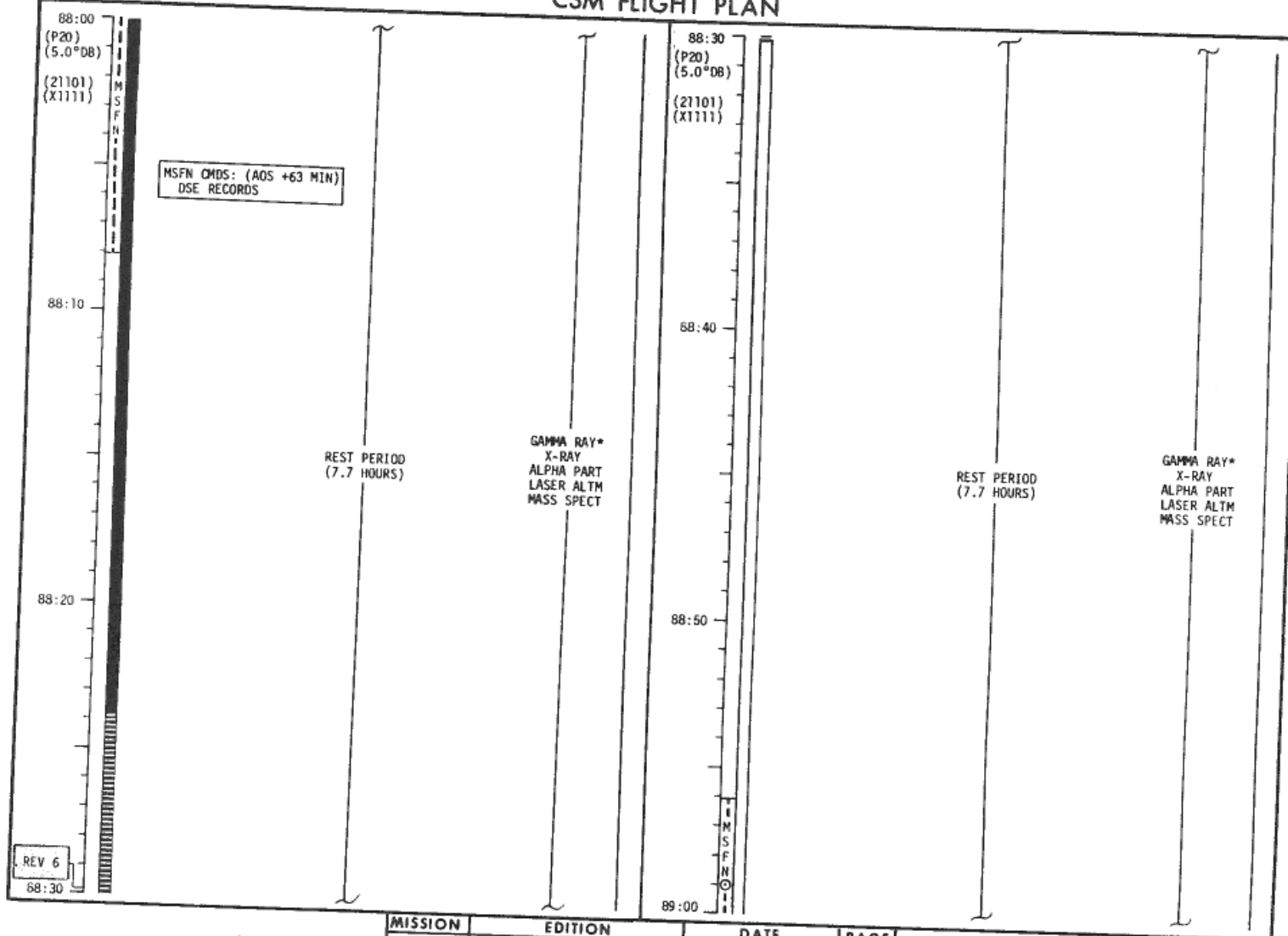
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-93

0034 CDT

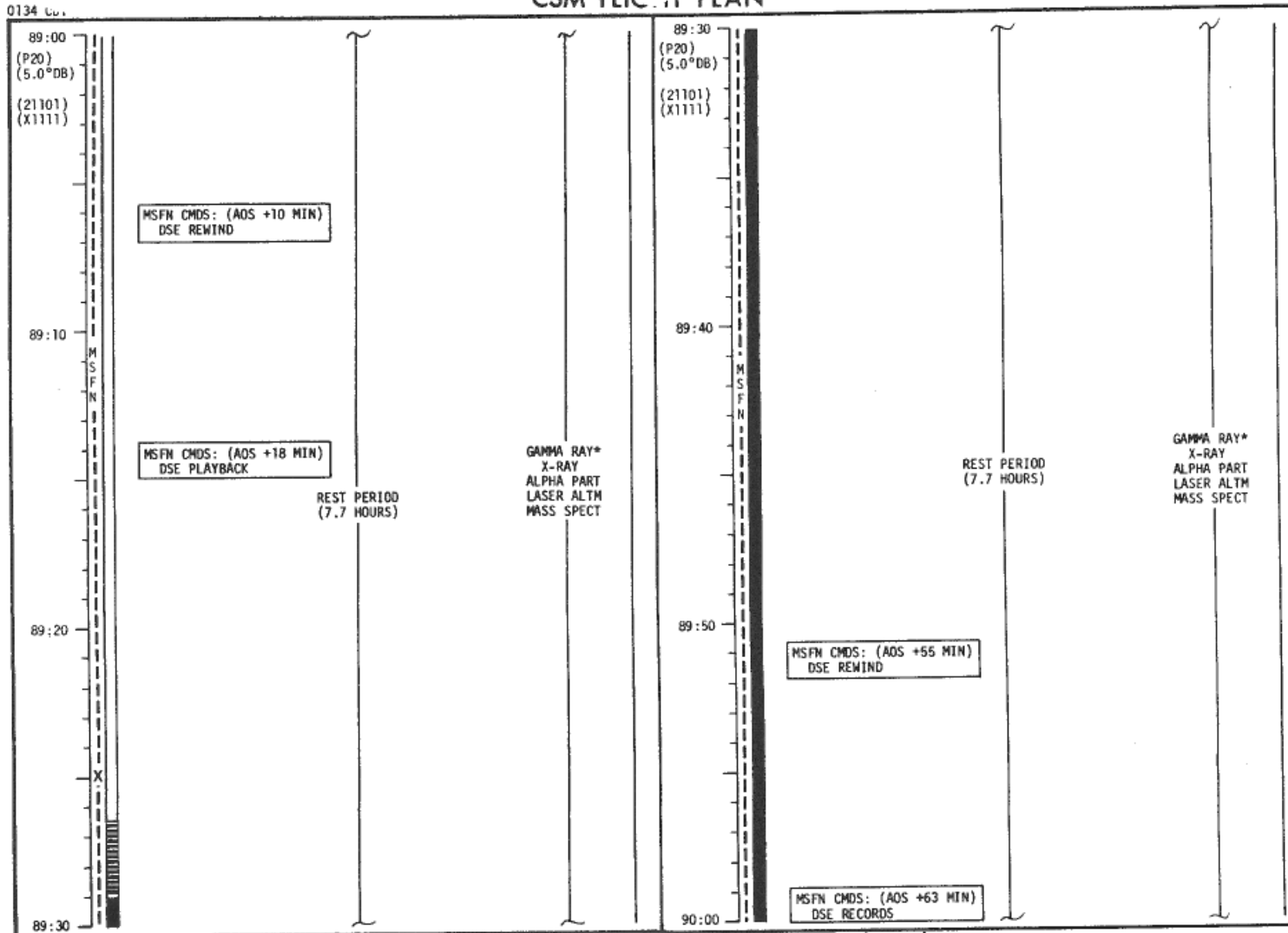
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-94

CSM FLIGHT PLAN

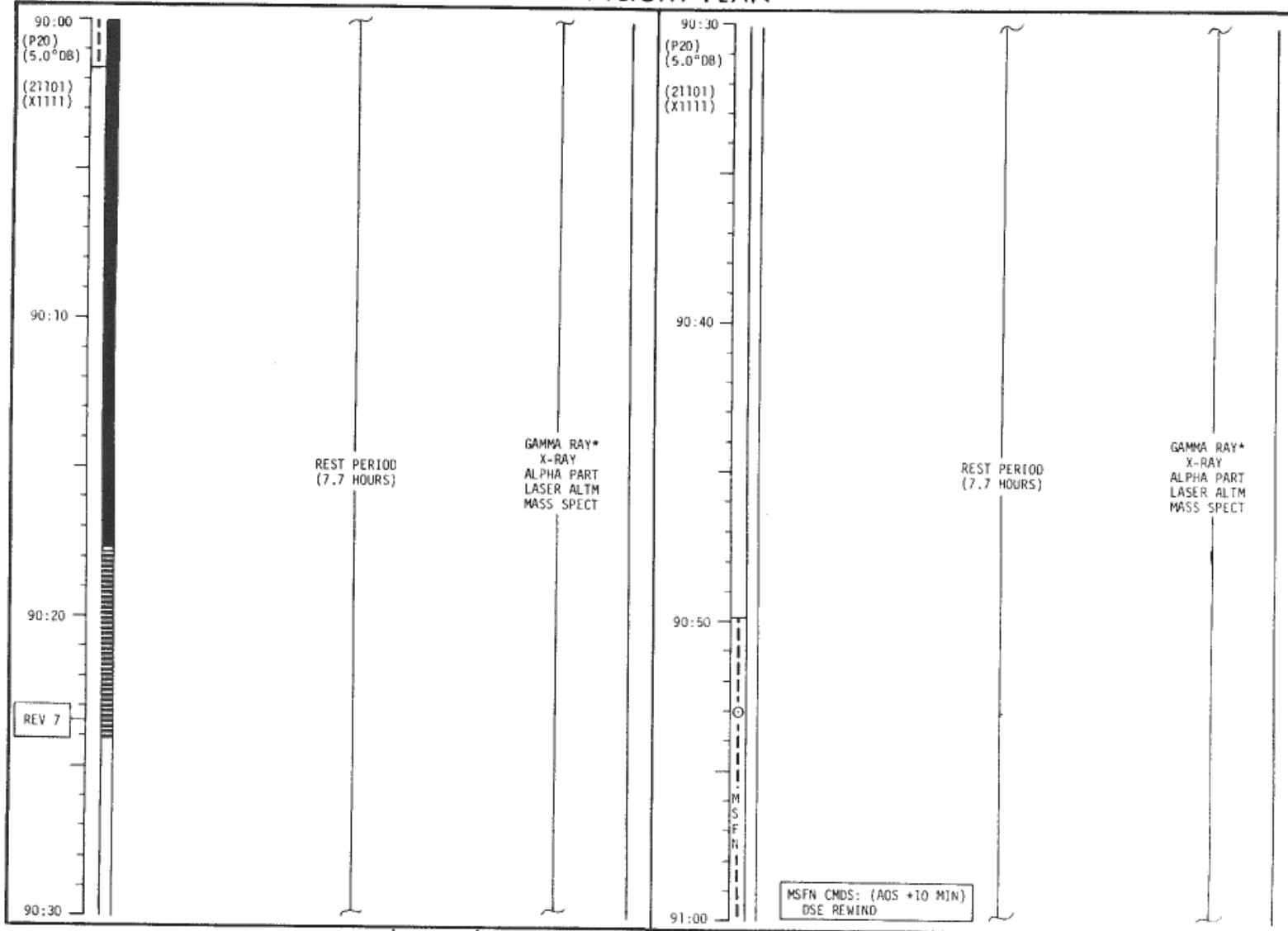
0134 CDR



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-95

0234 CDT

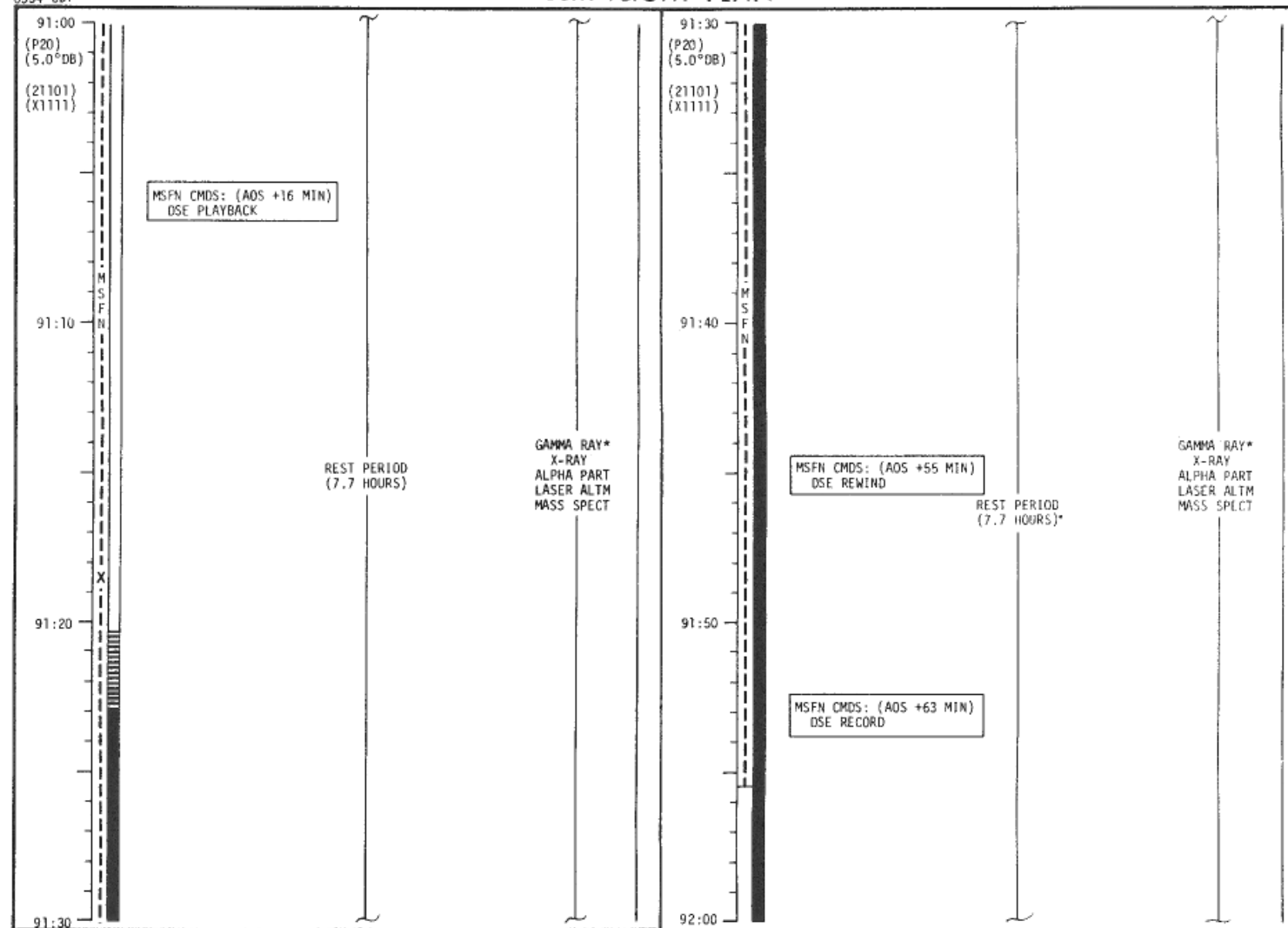
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-96

0334 CDT

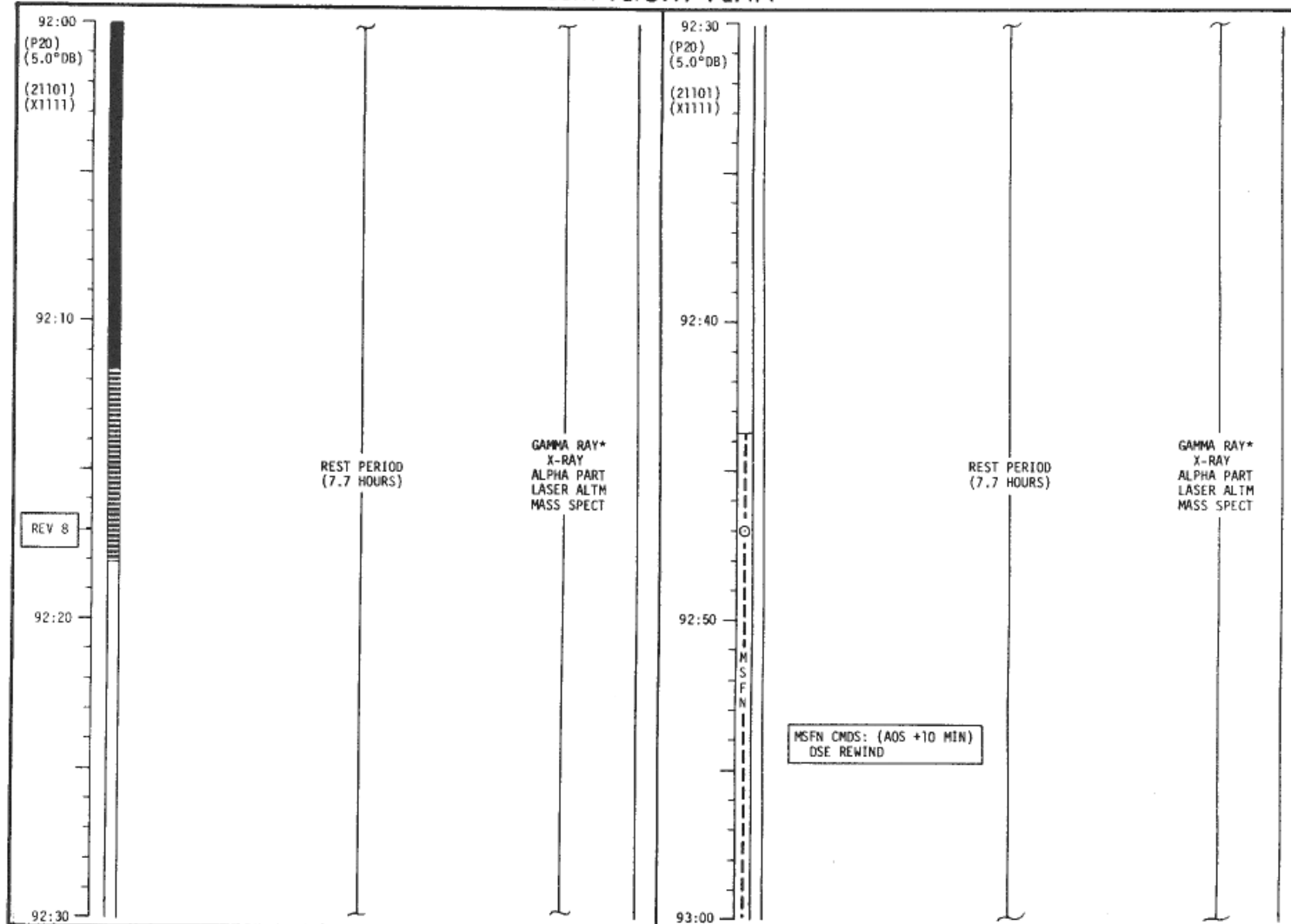
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-97

0434 CDT

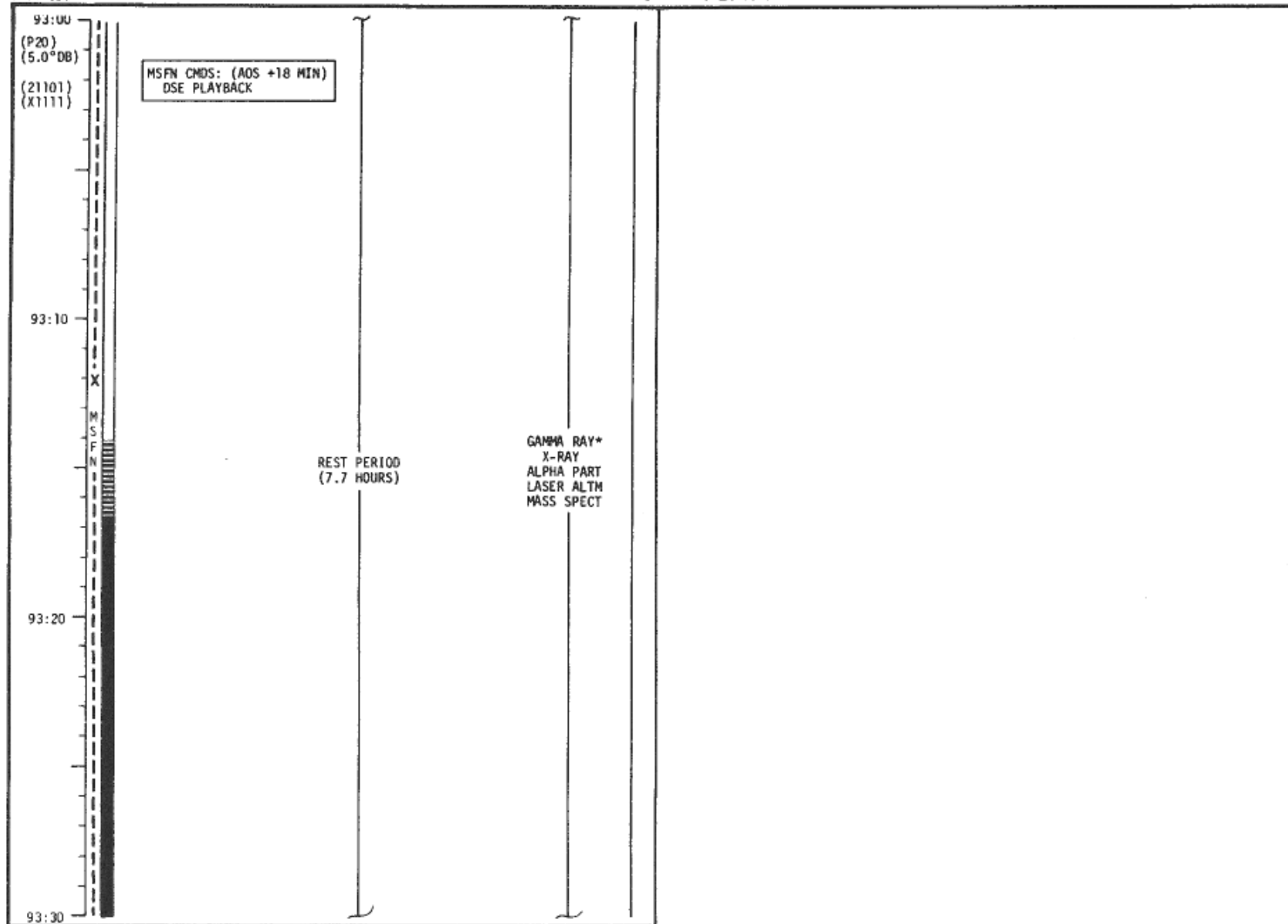
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-98

0534 CD

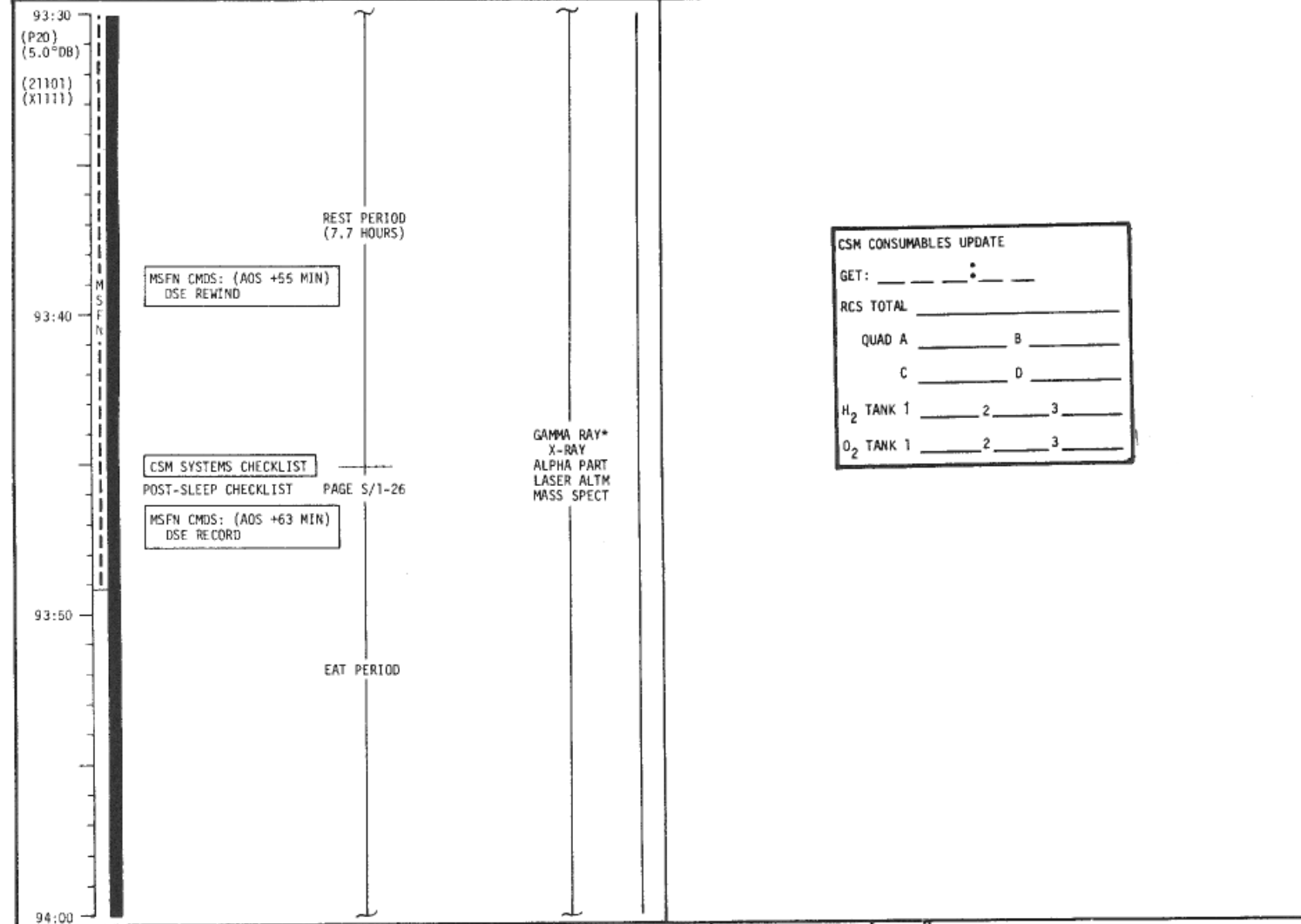
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-99

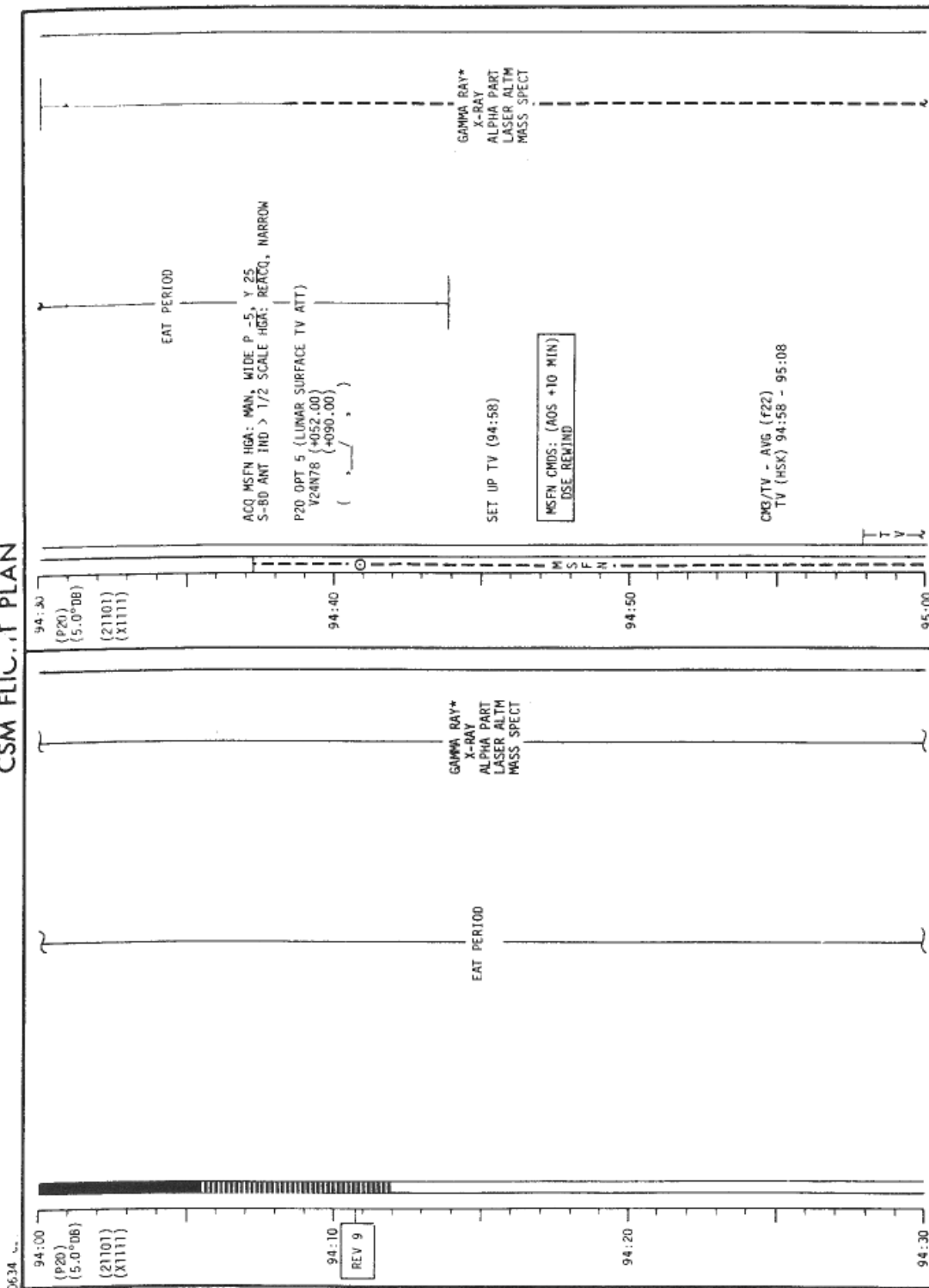
CSM FLIGHT PLAN

0604 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-100

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-101

CSM FLIGHT PLAN

0734 CDT

95:00 (P20) (5.0°DB) (21101) (X1111)	O₂ HEATERS 1&2 (2) - OFF O₂ HEATERS 3 (1) - AUTO CB O₂ TANK 100W HTPS - 3 MAIN B, OPEN (PWL 226) (@96:39:05)
95:10	MSFN CMDS: (AOS +31 MIN) DSE PLAYBACK GAMMA RAY: GAINSTEP - SHIELD OFF MASS SPECT: EXP - STBY, ION SOURCE - OFF CAUTION - WAIT 5 MIN BEFORE RETRACTING MASS SPECT BOOM LASER ALTM - OFF, X-RAY - STBY LOGIC POWER (2) - DPLY/RETR RECORD GET MAP CAMERA TRACK - RETRACT tb-BP (~4 MIN)/GRAY then OFF (CTR) ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR) MAP CAMERA/LASER EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)
95:20	MASS SPECT BOOM - RETRACT tb-BP (~2:30)/GRAY then OFF (CTR) RECORD RETRACT TIME <u>2:33</u> (ΔT IN BP) GAMMA RAY: GAINSTEP - SHIELD ON (CTR) GAMMA RAY BOOM - RETRACT tb-BP (~3:15)/GRAY then OFF (CTR) RECORD RETRACT TIME <u>3:09</u> (ΔT IN BP) LOGIC POWER (2) - OFF ENABLE ALL JETS cb SCS CONTR DIR 1 MNB - CLOSE cb SCS CONTR DIR 2 MNA - CLOSE REPORT: GAMMA RAY AND MASS SPECT BOOM RETRACT TIMES
95:30	MSFN UPDATE: TRAJECTORY STATUS CONSUMABLES FLIGHT PLAN GO/NO-GO FOR DOI TRIM DOI TRIM MNVR PAD (95:50) (IF DOI TRIM REQD) P52 MNVR ATT (96:21) (IF DOI TRIM REQD) TEI 19 PAD MSFN UPLINK: DOI TRIM TARGET LOAD (IF DOI TRIM REQD) CSM S.V. AND V66 (IF DOI TRIM REQD) DESIRED ORIENT (DOI TRIM) (IF DOI TRIM REQD) GAMMA RAY* ALPHA PART* P52 opt 3 @96:48:30

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26/71)	6/21/71	2-102

0804 CD/

CSM FLIGHT PLAN

95:30
(P20)
(5.0°DB)
(21101)
(X1111)

~~P00 @ 94:48:51~~
deleted @ 94:48:51

~~P52 (OPTION 3) (IF DOI TRIM REQD)
(LOG SITE ORIENT)~~
deleted @ 94:49:09
(now 7 mins earlier)

REPORT: GYRO TORQUING ANGLES

MSFN CMDS: (AOS +63 MIN)
DSE REWIND

~~P52 (OPTION 1) (IF DOI TRIM REQD)
(DOI TRIM ORIENT)~~ deleted @ 94:49:21

GAMMA RAY*
ALPHA PART*

THESE ACTIVITIES MOVED UP TO 95:30
at 94:49:35

GDC ALIGN (IF DOI TRIM REQD)
CONFIGURE DSE (LBR/RCD/FWD/CMD RESET)(AOS +71 MIN)
P30; VERIFY DOI TRIM TIG AND ΔV'S (IF DOI TRIM REQD)
S-BD AUX TV - OFF (CTR)
DATA SYS ON - OFF
V49 MNVR TO DOI TRIM BURN PAD ATT (96:07)(IF DOI TRIM REQD)
PAN CAMERA PWR - BOOST (IF DOI TRIM REQD)
MAP CAMERA ON - STBY (IF DOI TRIM REQD)
MAP CAMERA IMAGE MTN - OFF (VERIFY) (IF DOI TRIM REQD)
X-RAY - OFF (IF DOI TRIM REQD)
α RAY/X DR - α OFF (IF DOI TRIM REQD)
GAMMA RAY EXP - OFF (IF DOI TRIM REQD)
MASS SPECT EXP - OFF (IF DOI TRIM REQD)

DOI TRIM BURN (at 94:49:24)

95:40

95:50

96:00

P30 MANEUVER

	D	O	I	T	R	M	PURPOSE
SET STARS	S	P	S	G	&	N	PROP/GUID
	+						WT N47
R ALIGN		0	0				P TRIM N48
P ALIGN		0	0				Y TRIM
Y ALIGN	+	0	0				HRS GET1
	+	0	0	0			MIN N33
	+	0					SEC
ULLAGE							ΔV _X N81
							ΔV _Y
							ΔV _Z
	X	X	X				R
	X	X	X				P
	X	X	X				Y
	+						H _A N44
							H _P
	+						ΔVT
	X	X	X				BT
	X						ΔVC
	X	X	X	X			SXTS
	+					0	SFT
	+				0	0	TRN
	X	X	X				BSS
	X	X					SPA
	X	X	X				SXP

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-103

0834 CDT

CSM FLIGHT PLAN

96:00 SET DET COUNTING UP TO DOI TRIM
(P20)
(5.0°DB)
(21101)
(X1111)

REV TO

SXT STAR CHECK
P40 (TRIM)

96:10

GAMMA RAY*
ALPHA PART*

DOI TRIM (. / .)
95 : 56 : 00 . 00

TIG: 96:17:00
BT: NOM. ZERO
ΔVT: NOM. ZERO
ULLAGE: NONE
ORBIT: N/A

P00; V66 SET CSM S.V. INTO LM S.V.

V49 MNVR TO P52/HGA ATT (96:30) (IF REQD)

R , P , Y

X-RAY - STBY (IF DOI TRIM REQD)
α RAY/X DR - α ON (IF DOI TRIM REQD)
GAMMA RAY: EXP - ON, GAINSTEP - SHIELD ON (IF DOI TRIM REQD)
MASS SPECT EXP - STBY (IF DOI TRIM REQD)
PAN CAMERA PMR - OFF (IF DOI TRIM REQD)

96:20

96:30

DOI TRIM BURN TABLE				
BURN TYPE	P OR Y RATES	ATT DEVIATIONS	SHUTDOWN TIME	RESIDUALS
IN-PLANE BURN	10°/SEC TERMINATE	+ 10° TERMINATE	BT	TRIM X TO 2 FPS DO NOT TRIM Y & Z
OUT-OF-PLANE BURN	10°/SEC TERMINATE	+ 10° TERMINATE	BT	*TRIM V_{gy} TO 2 FPS IF - V_{gy} ROLL 90° CCW AND USE -Z THRUSTERS

*IF OVERBURN >3.2 FPS AND <10 FPS, PITCH 180° AND TRIM WITH +X RCS THRUSTERS.
IF >10 FPS USE SPS

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
					FUEL
X					OX
X					UNBAL

MISSION
APOLLO 15

CSM FLIGHT PLAN

0904 Cdi

96:30 (P20) (5.0°DB) (21101) (X1111)	ACQ MSFN HGA: MAN, WIDE P 25, Y 185 S-BD ANT IND > 1/2 SCALE HGA: REACQ, NARROW REPORT: BURN STATUS (IF REQD) MSFN UPDATE: L/S OBS PAD (96:57) MSFN CMDS: DUMP DSE MSFN UPLINK: CSM S.V. AND V66 LIFT-OFF TIME (IF REQD) DESIRED ORIENT (LDG SITE) NOTE: LIFT-OFF TIME WILL BE UPDATED IF THE TIME OF REV 14 MERIDIAN CROSSING DIFFERS MORE THAN + 2 MIN FROM 103:43:13.3 V49 MNVR TO L/S OBS ATT (96:55) (015,291,000) OMNI <u>C</u> LMP DON PGA WITHOUT HELMET AND GLOVES MSFN UPDATE: T EPHEM (IF REQD) REFSMAT 00 TIME COPY AT (97:25) TEI 12 TIG (IF REQD) TEI 19 TIG (IF REQD) P24 (ORB NAV MONITOR LDMK NO MARKS) OPT ZERO - OFF, OPT MODE - CMC OPT TEL TRUN - SLAVE TO SXT OPT COUPLING - RSLV, OPT SPEED - HI LDMK ACQUISITION TCA	GAMMA RAY* ALPHA PART* T. EPHEM UPDATE <table border="1"> <thead> <tr> <th>OID</th> <th>LOAD B</th> </tr> </thead> <tbody> <tr> <td>03</td> <td>_____</td> </tr> <tr> <td>04</td> <td>_____</td> </tr> <tr> <td>05</td> <td>_____</td> </tr> </tbody> </table> LDMK J-1 OBS T HOR: _____ TCA -20 SEC: _____ LAT: +25.958 LONG/2: +05.664 ALT: +00000	OID	LOAD B	03	_____	04	_____	05	_____	CSM TO LM TRANSFER ITEMS: <table border="1"> <tbody> <tr> <td>SUIT WITH ACCESSORIES (EACH CREWMAN)</td> <td>BIO-INSTRUMENTATION EQUIPMENT</td> </tr> <tr> <td>UCTA</td> <td>SCISSORS</td> </tr> <tr> <td>FCS (U1)</td> <td>PENLIGHT</td> </tr> <tr> <td>LCG (U1)</td> <td>EAR PLUGS</td> </tr> <tr> <td>SUNGLASSES WITH POUCH</td> <td>DOSIMETER</td> </tr> <tr> <td>WRISTWATCH</td> <td>COMM EARMOLD</td> </tr> <tr> <td>PEN</td> <td>FLIGHT DATA IN BAG</td> </tr> <tr> <td>PEN - FELT TIP</td> <td>LM TIMELINE BOOK</td> </tr> <tr> <td>PENCIL</td> <td>LM DATA CARD BOOK</td> </tr> <tr> <td>CHECKLIST POCKET</td> <td>LM LUNAR SURFACE CHECKLIST</td> </tr> <tr> <td>SCISSORS POCKET</td> <td>ORBIT MONITOR CHART</td> </tr> <tr> <td>GLOVES</td> <td>ASCENT MONITOR CHART</td> </tr> <tr> <td>HELMET</td> <td>LM STAR CHARTS (3)</td> </tr> <tr> <td></td> <td>ANCILLARY PKG (A-B)</td> </tr> <tr> <td></td> <td>APOLLO FLIGHT CHART</td> </tr> </tbody> </table>	SUIT WITH ACCESSORIES (EACH CREWMAN)	BIO-INSTRUMENTATION EQUIPMENT	UCTA	SCISSORS	FCS (U1)	PENLIGHT	LCG (U1)	EAR PLUGS	SUNGLASSES WITH POUCH	DOSIMETER	WRISTWATCH	COMM EARMOLD	PEN	FLIGHT DATA IN BAG	PEN - FELT TIP	LM TIMELINE BOOK	PENCIL	LM DATA CARD BOOK	CHECKLIST POCKET	LM LUNAR SURFACE CHECKLIST	SCISSORS POCKET	ORBIT MONITOR CHART	GLOVES	ASCENT MONITOR CHART	HELMET	LM STAR CHARTS (3)		ANCILLARY PKG (A-B)		APOLLO FLIGHT CHART
OID	LOAD B																																								
03	_____																																								
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MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-105

LM FLIGHT PLAN

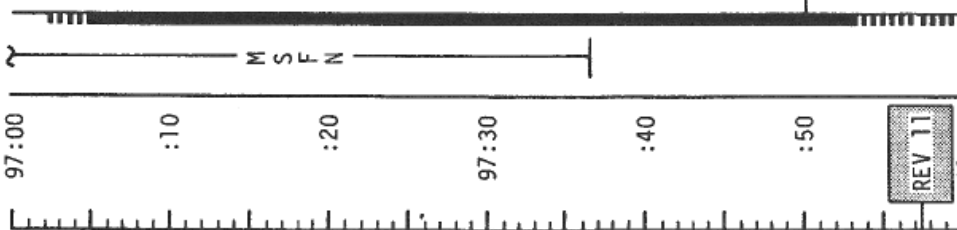
NOTES

LMP

CDR

MCC-H

0934 CDT



LM ACTIVATION CHECKLIST PAGE 2-1

IVT TO LM
OPEN HATCH
VERIFY DOCKING ANGLE
TRANSFER POWER

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	97:00 - 98:00	5/10-11	3-106

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0934 LOT

97:00 (P20) (5.0°DB) (21101) (X1111) 97:10 (21111) (X1111) 97:20 97:30	SYNCHRONIZE MISSION TIME TO CMC (IF REQD) V05N01E, 1706 E VERIFY LM/CM ΔP < 2.4 PSID IF ΔP > 2.4 PSID PRESSURIZE CSM TO 5.7 PSIA REPORT ΔP TO MSFN CDR DON BIOMED HARNESS, PGA WITHOUT HELMET AND GLOVES P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____ CONFIGURE FOR URINE DUMP V48 (21111) (X1111) P00 P52 (OPTION 3) (IF DOI TRIM NOT PERFORMED) (LDG SITE ORIENT) REPORT: GYRO TORQUING ANGLES P52 (OPTION 1) (LDG SITE ORIENT) GDC ALIGN	97:30 (21111) (X1111) MSFN 97:40 97:50 98:00	CMR DON BIOMED HARNESS, PGA WITHOUT HELMET AND GLOVES LMP VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET) O₂ FUEL CELL PURGE WASTE WATER DUMP URINE DUMP V49 MNVR TO UNDOCK ATT (97:55) (000,106,000) PREPARE COUCH FOR HATCH REMOVE PROBE STRAPS (R5) TUNNEL LIGHTS - LIGHTS VERIFY LM/CM ΔP < 0.2 PSID IF ΔP > 0.2 PSID PERFORM CM/LM PRESSURE EQUALIZATION (DECAL) TUNNEL HATCH REMOVAL (DECAL); STOW HATCH PROBE REMOVAL (DECAL); STOW PROBE DROGUE REMOVAL (DECAL); STOW DROGUE RECORD DOCKING TUNNEL INDEX ANGLE _____ LMP IVT TO LM AT LMP REQUEST: LM PWR - RESET/OFF GET _____:_____:_____(RECORD) SYS TEST - 7D SYS TEST ind - 0 volts
--	--	---	--

GAMMA RAY*
ALPHA PART*

GAMMA RAY*
ALPHA PART*

REV 11

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-107

LM FLIGHT PLAN

MCC-H

1034 CDT

CDR

LMP

NOTES

UPDATE TO LM
DAP LOAD
AGS ABORT CONSTANTS

UPLINK TO LM
L/S REFSMMAT
LM S.V. & V66
LGC ABORT CONST
LGC ΔT CLOCK SYNC
(IF REQD)

98:00		LIGHTS ON DES O ₂ AND H ₂ O - OPEN
:10	IVT TO LM TRANSFER HELMETS & GLOVES MISSION TIMER ACTIVATION	EPS ACTIVATION CONNECT TO LM COMM CONFIGURE S-BAND
		PRIMARY GLYCOL LOOP ACT
		CAUTION/WARNING CHECKOUT
:20	CONNECT TO LM ECS CB ACTIVATION ACTIVATE RCS HEATERS PGNS TURN-ON & SELF TEST	ECS ACTIVATION & CHECKOUT CONNECT TO LM ECS CB ACTIVATION TB VERIFICATION
98:30		VHF CHECKOUT RECORDER - ON
(32022)	LGC/CMC CLOCK SYNC T EPHEM UPDATE V48 (32022) E-MEMORY DUMP	PRIM S-BAND VOICE CHECK SEC S-BAND VOICE CHECK STEERABLE ANT. ACTIVATION P +134, Y +6 BIOMED - RIGHT
:40	DEPLOY LDG GEAR	SUIT FAN/H ₂ O SEP CHECK GLYCOL PUMP CHECK
:50	DOCKED IMU COARSE ALIGN	ASCENT BATTERY ACTIVATION AND CHECKOUT
99:00		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	98:00 - 99:00	5/11	3-108

FLIGHT PLANNING BRANCH

99.00

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-109

LM FLIGHT PLAN

MCC-H

1134 CDT

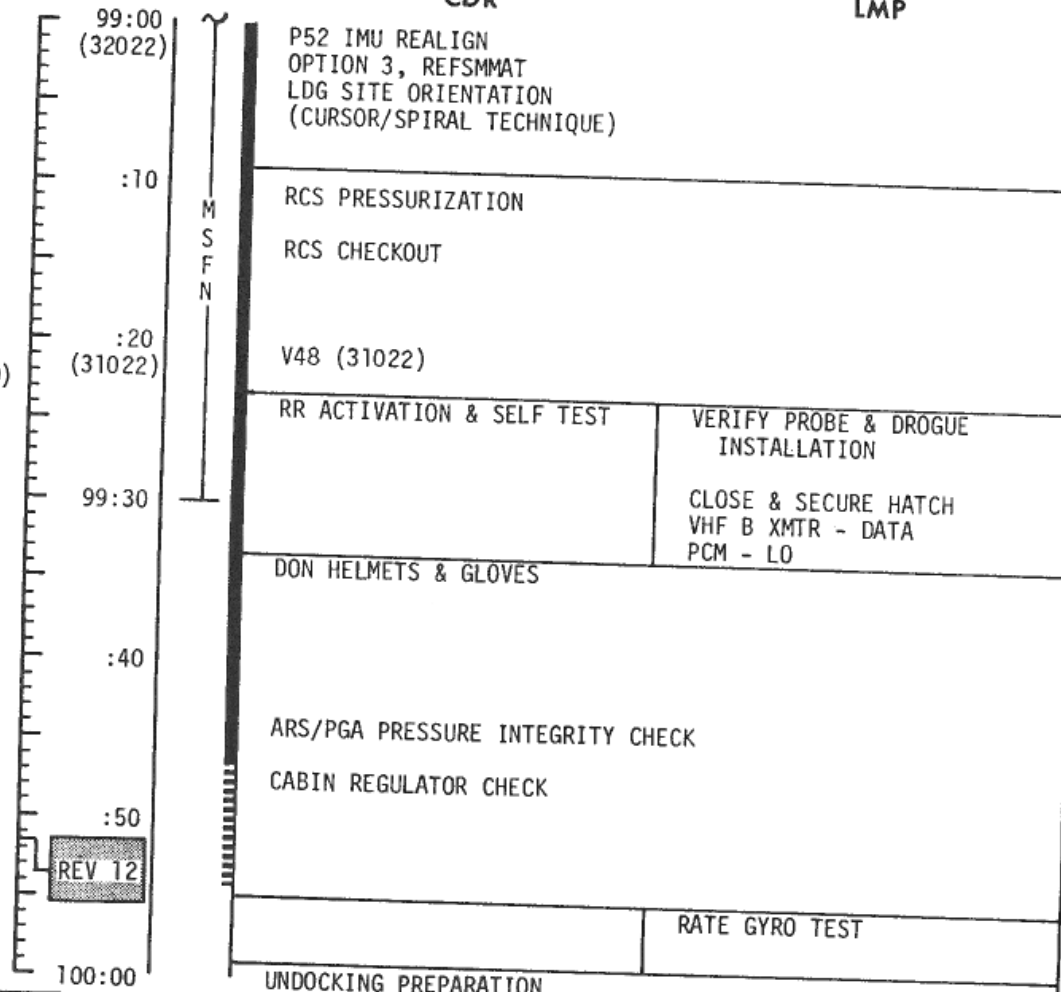
CDR

LMP

NOTES

UPLINK TO LM
E-MEMORY (IF REQD)
PIPA BIAS (IF REQD)

GO/NO-GO FOR
UNDocking &
SEPARATION



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	99:00 - 100:00	5/11-12	3-110

1134 024

CSM FLIGHT PLAN

99:00 (21111) (X1111)	DON HELMET AND GLOVES	99:30 (21111) (X1111)	VHF ANT - RIGHT (VERIFY) VHF RCV ONLY - B DATA VHF AM A - SIMPLEX VHF AM B - OFF DOFF HELMET, GLOVES WHEN LM RR SELF - TEST COMPLETE: AUTO RCS SEL B3 - ON
	SUIT CKT INTEGRITY CHECK (DECAL)		RR XPNDR ACTIVATION AND SELF-TEST (DECAL)
99:10	ON LM CUE: SC CONT - CMC, ATT DB - MAX BMAG (3) - RATE 2 AT CDR'S REQUEST DURING RCS CHECKOUT CMC MODE - FREE FOR RCS HOT FIRE	99:40	VERIFY: CM2/EL/80/CEX (f8,1/250,FOCUS) CM2/DAC/18/CEX-BRKT, MIR (T8,1/250,7) 12 fps UTILITY PWR - ON
	PANEL 10 MODE - VOX VOX SENS tw - 5 S-BD - OFF INTERCOM - OFF VHF AM T/R - T/R (VERIFY)		TUNNEL LIGHTS - OFF ROLL (4) - ON CYCLE CMC MODE - FREE/AUTO V48 (21101) (X1111) LOAD N47 & N48 V49 TRIM MNVR TO UNDOCK PAD ATT (99:55)
99:20	AFTER LM RCS CHECKOUT CMC MODE - AUTO LM RR SELF-TEST RNDZ XPNDR - OFF (VERIFY) AUTO RCS SEL B3 - OFF	99:50	SET DET COUNTING UP TO UNDOCK/SEP UNDOCK CUE CARD
	PRE-LOAD PROBE (DECAL) DOCKING LATCH RELEASE (DECAL) HATCH INSTALLATION (DECAL)		P30; LOAD CSM SEP
	HATCH INTEGRITY CHECK (DECAL) MSFN UPDATE: GO/NO-GO FOR UNDOCK/SEP	100:00	
99:30	VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)		

GAMMA RAY*
ALPHA PART*GAMMA RAY*
ALPHA PART*

+	3	7	6	7	9	WT	N47
+	0	0	0	4	9	P TRIM	N48
+	0	0	1	0	4	Y TRIM	

read up @ 198:4243

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-111

MCC-H

1234 CDT

LM FLIGHT PLAN

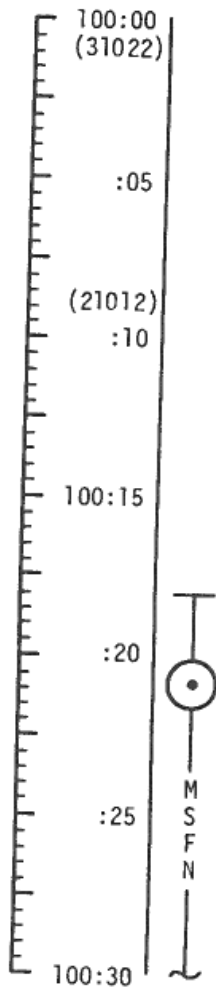
CDR

LMP

NOTES

UPDATE TO LM
REV 12 TCA (L/S)

UPLINK TO LM
CSM S.V.
PIPA BIAS (IF REQD)



CONFIGURE CB'S FOR UNDOCKING

MOUNT DAC ON WINDOW BAR

LM TIMELINE BOOK

V06 N20E
VERIFY UNDOCKING ATTITUDE
(000,286,060)

V48 (21012), LM WEIGHT

P47 THRUST MONITOR

CSM/LM UNDOCKING & SEP

YAW LEFT 60°, PITCH UP 90°

REPORT V06 N20 ANGLES
TO MCC-H

DOFF HELMET & GLOVES (OPT)

SEPARATION PHOTOGRAPHY
LM3/DAC
LM3/DC
STEERABLE P +41, Y -55
BIOMED - LEFT, PCM - HI

DOFF HELMET & GLOVES (OPT)

CAMERA PREP FOR LANDING
SITE OBSERVATIONS

GET: 100:13:56

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	100:00 - 100:30	5/12	3-112

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN

1234 001

LOAD ΔV IN ENS TO -100.0
CHECK NULL BIAS
VERIFY ENS -100.0/ΔV/STBY

GDC ALIGN
VERIFY ORDEAL
ALT SET = 40 NM
VGNZDE (AT LM REQUEST)
PERFORM UNDOCKING SWITCH
CONFIGURATION

P41 (TRIM)

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

V48 (11101)
(X1111)

RHC & THC - ARMED

UNDOCKING CHECKLIST

108°

UNDOCK/SEPARATION (000.090/106.000)
TTC: 100:13:56.1
BT: 3.3 SEC
ΔVT: 1.0 FPS
ULLAGE: N/A
ORBIT: 59.8 x 8.4

100:13:56.00
rad 40 98.4:59

ACQ MSRN HGA P -57, Y 218

GAMMA RAY*
ALPHA PART*

MSRN CMDS:
DSE DUMP

DAC - OFF
V49 MVR TO LOW ALT LDMK TRX PAD ATT (100:33)
(020.296.000) OMNI C

RECORD MAG % _____ FR # _____
GDC ALIGN
VERIFY ORDEAL
ALT SET = 40 NM

MONITOR S-BAND

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

MAG (E) _____ MAG % _____
UTILITY PWR - OR

UNDOCKING CHECKLIST

59:30 EMS MODE - NORM, DAC - ON
THC PWR - ON

00:00 PROBE EXT/REL - EXT/REL (MON)
VERIFY PROBE EXTENDED, LM ATTACHED
ALLOW MOTION TO DAMP (5 SEC)
PROBE EXT/REL - EXT/REL (HOLD) (< 20 SEC)
AFTER 2 SEC X-LATE (4 JET) AFT
FOR ~ 3 SEC (VGA TO +2.0)
AFTER PROBE/DROGUE DISENGAGED,
PROBE EXT/REL - OFF

CB DOCKING PROBE (2) - OPEN
THC & RHC - LOCKED, THC PWR - OFF
POD

SC CONT - CMC, ATT DB - MAX
ΔV CG - CSM

BMAG (3) - RATE 2

RHC PWR DIR - OFF

ROLL (4) - OFF

EMS FUNC - ΔV SET/VHF RING

EMS MODE - VHF RING

VHF ANT - LEFT

VHF AM A - OFF

VHF AM B - DUPLEX

VHF RANGING - RANGING

VHF AM RCV ONLY - OFF

P30 MANEUVER

SET STARS

	C	S	M	S	E	P	PURPOSE
	R	C	S	G	&	N	PROP/GUID
R ALIGN	+			N	/	A	WT N47
P ALIGN			0	0	N	/	A P TRIM N48
Y ALIGN			0	0	N	/	A Y TRIM
	+	0	0				HRS 6ET1
	+	0	0	0			MIN N33
	+	0					SEC
ULLAGE	+	0	0	0	0	0	ΔV X N81
	+	0	0	0	0	0	ΔV Y
	-	0	0	0	1	0	ΔV Z
	X	X	X				R (000)
	X	X	X				P (106)
	X	X	X				Y (000)

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/22/71	3-113

LM FLIGHT PLAN

MCC-H

1304 CDT

CDR

LMP

NOTES

100:30 (21012) :35 :40 100:45 :50 :55 101:00	M S F N X 	DPS THROTTLE CHECK	
		PITCH TO OBSERVE LANDING SITE (100:43), SET ORDEAL (000,340/350,000)	
		PHOTOGRAPH LANDING SITE LM3/DC LM3/DAC	
		V49 MNVR TO RR CHECKOUT ATT (100:50) (000,344/331,000) RR & VHF RNG CHECKOUT	STEERABLE P +126, Y -60
		P52 IMU REALIGN OPTION 3, REFSMMAT (LDG SITE ORIENTATION)	

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	100:30 - 101:00	5/12	3-114

FLIGHT PLANNING BRANCH

1304 CD1



LM FLIGHT PLAN

MCC-H	1334 CDT	CDR	LMP	NOTES
UPDATE TO LM CSM CIRC PAD PDI ₀ ABORT PAD	101:00 (21012)			LM COPIES CSM UPDATE
	:05			
	:10			
UPLINK TO LM LGC GYRO COMP (IF REQD)	101:15	LPD CALIBRATION		
	:20		AGS ACTIVATION INITIALIZE AGS TIME V47 INITIALIZE AGS K FACTOR ALIGN AGS TO PGNS PCM - LO OMNI - FWD, VHF B - DATA	
UPDATE TO LM AGS K FACTOR	:25	V49 MNVR TO AGS CAL ATT (101:40)(024,014,021)	AGS SELF TEST	
	101:30			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	101:00 - 101:30	5/12	3-116

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

101:00
(11101)
(X1111)MSFN UPDATE:
CIRC PAD
PADS A-D COPY AT (102:05)P30; VERIFY CIRC TIG AND ΔV 'S

V49 TRIM TO CIRC BURN PAD ATT

(P40)
(0.5°DB)

SXT STAR CHECK

P40 (TRIM)

GAMMA RAY*
ALPHA PART*

101:10

GDC ALIGN
VERIFY ORDEAL
ALT SET = 50 NMGAMMA RAY EXP - OFF
X-RAY - OFF
 α RAY/X DR - α OFF
MASS SPECT EXP - OFF

RECORD GET

PAN CAMERA PWR - BOOST
MAP CAMERA ON - STBY (VERIFY)
MAP CAMERA IMAGE MTN - OFF (VERIFY)MSFN UPDATE:
GO/NO GO FOR CIRC

SET DET COUNTING UP TO CIRC

101:20

VHF AM B - OFF
VHF AM A - SIMPLEX
VHF RCV ONLY - B DATA
VHF RANGING - OFF

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

101:30

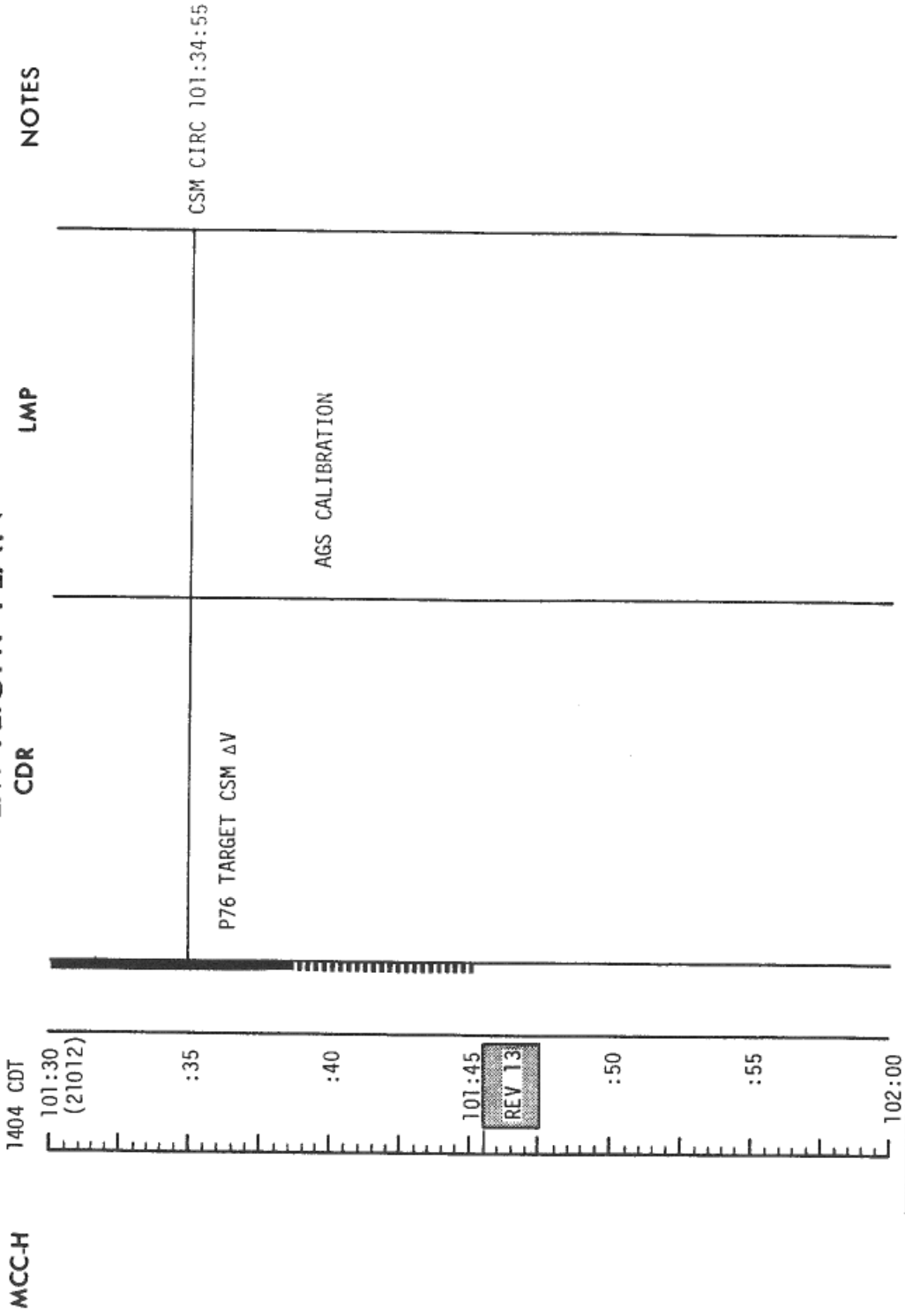
CIRC BURN TABLE			
P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
10°/SEC	$\pm 10^\circ$	BT +1 SEC	TRIM X&Y TO < 0.2 FPS DO NOT TRIM Z
TERMINATE	TERMINATE		

P30 MANEUVER

SET STARS		C	I	R	C		PURPOSE
		S	P	S	G	& N	PROP/GUID
		+					WT N47
R ALIGN			0	0			P TRIM N48
P ALIGN			0	0			Y TRIM
Y ALIGN		+	0	0			HRS GETI
		+	0	0	0		MIN N33
		+	0				SEC
ULLAGE							ΔV_X N81
							ΔV_Y
							ΔV_Z
		X	X	X			R (000)
		X	X	X			P (117)
		X	X	X			Y (358)
		+					H _A N44
							H _P
		+					ΔVT
		X	X	X			BT
		X					ΔVC
		X	X	X	X		SATS
		+				0	SFT
		+				0 0	TRN
		X	X	X			BSS
		X	X				SPA
		X	X	X			SXP

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-117

LM FLIGHT PLAN

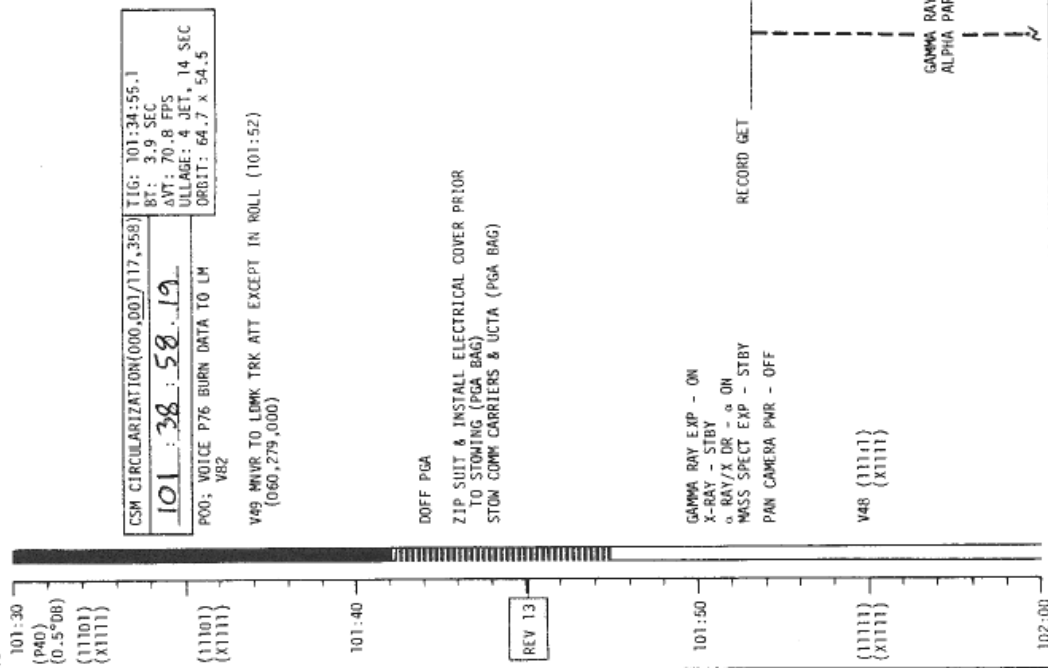


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	101:30 - 102:00	5/12-13	3-118

FLIGHT PLAN NG BRANCH

CSM FLIGHT PLAN

1404 U



CSM CIRCULARIZATION(000,00)/117,359
 TIG: 3.9 SEC
 BT: 3.9 SEC
 ANT: 70.8 FPS
 ULLAGE: 4 JET, 14 SEC
 ORBIT: 64.7 x 54.5

101:38:58.19
 P00; VOICE P76 BURN DATA TO LM
 V82

V49 MWVR TO LDMK TRK ATT EXCEPT IN ROLL (101:52)
 (060,279,000)

DOFF PGA

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

STOW COMM CARRIERS & UCTA (PGA BAG)

GAMMA RAY EXP - ON
 X-RAY - STBY
 RAY/X DR - ON
 MASS SPECT EXP - STBY
 PAN CAMERA PHR - OFF

RECORD GET

GAMMA RAY*
 ALPHA PART*

V48 (11101)
 (X1111)

BURN STATUS REPORT									
ΔTIG									
BT									
V									
gk									
TRIM									
R									
P									
Y									
V									
gx									
gy									
gz									
ΔV C									
FUEL									
OX									
UNBAL									

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-119

LM FLIGHT PLAN

MCC-H

1434 CDT

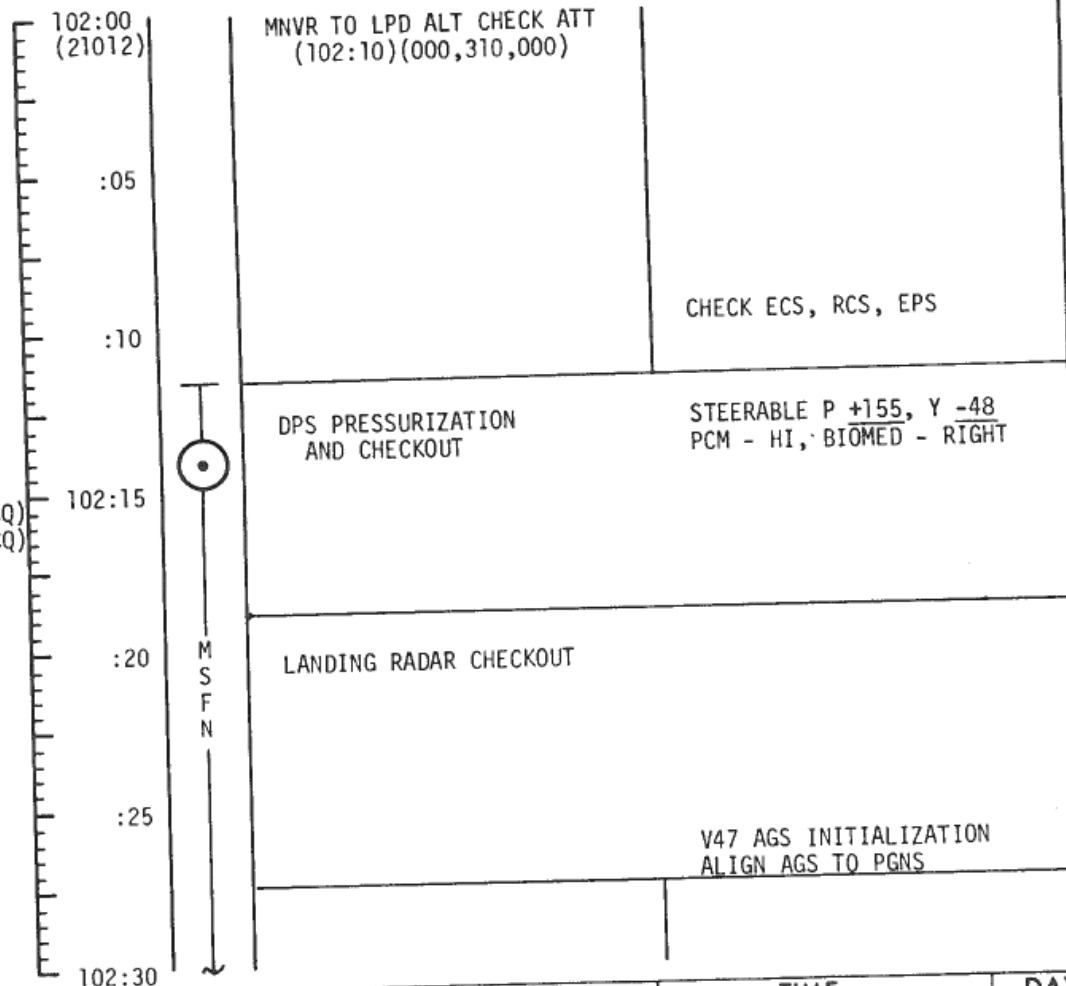
CDR

LMP

NOTES

UPLINK TO LM
CSM S.V. (P24 T2 ACQ)
LM S.V. (P24 T2 ACQ)
PIPA BIAS
DES TARGETING
LPD BIAS (IF REQD)

UPDATE TO LM
NO PDI +12 PAD
PDI PAD
PDI ABORT
EARLY/LATE
T2 ABORT PAD
T3 TIG



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	102:00 - 102:30	5/13	3-120

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

1434

CONFIGURE CAMERA: (LDMK TRK)
CH/DAC/SAT/TEX (EXP PAD) 1 fps (3.8% MAG)

MAG (E) MAG %
UTILITY POWER - ON

VERIFY ORDEAL
ALT SET = 60 NM

ACQ MSFN HGA P 10, Y 288

MSFN CHDS:
DSE DUMP

REPORT: BURN STATUS

MSFN UPDATE:
P24 LDMK TRACK (102:50)

MSFN UPLINK:
CSM S.V. (P24 T2 ACQ)
LM S.V. (P24 T2 ACQ)
PTPA BIAS

MSFN UPDATE TO LM
WITH CSM COPY:
PADS E-N

CYCLE CMC MODE - FREE/AUTO
P20 OPT 5 (LDMK TRK ATT) (102:33)

N78 (+000.00)

(-068.00)

(+000.00)

N79 (+000.50)

N70 (00050)

(000,338/279,000) OMNI C

102:00
(11111)
(X1111)

102:10

102:20

(P20)
(0.5°DB)

102:30

GAMMA RAY*
ALPHA PART*

PURPOSE				PD1 PAD			
GETI	HRS	MIN	SEC	+	0	0	0
PD1				+	0	0	0
N33				+	0	0	0

I

PURPOSE				PD1 ABORT EARLY PAD			
GETI	HRS	MIN	SEC	+	0	0	0
TPI				+	0	0	0
N37				+	0	0	0

J

PURPOSE				PD1 ABORT LATE PAD			
GETI	HRS	MIN	SEC	+	0	0	0
TPI				+	0	0	0
N37				+	0	0	0

K

PURPOSE				T2-1 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
T2				+	0	0	0
N37				+	0	0	0

L

PURPOSE				T3 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
T3				+	0	0	0
N37				+	0	0	0

M

PURPOSE				NO PD1+12 ABORT			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

N

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

A

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

B

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

C

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

D

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

E

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

F

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

G

PURPOSE				PD10 ABORT PAD			
GETI	HRS	MIN	SEC	+	0	0	0
N33				+	0	0	0
N37				+	0	0	0

H

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-121

LM FLIGHT PLAN

MCC-H	CDR	LMP	NOTES
1504 CDT			
102:30 (21012)	LPD ALT CHECK		POI ₀
:35	PITCH TO OBSERVE LDG SITE PHOTOGRAPH LANDING SITE LM3/DC LM3/DAC		
:40		SETUP CAMERA FOR DESCENT	
102:45			
:50	P52 IMU REALIGN OPTION 3 REFSMMAT (LDG SITE ORIENTATION)	ALIGN AGS TO PGNS	
:55			
103:00			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	102:30 - 103:00	5/13	3-122

FLIGHT PLANNING BRANCH

LM FLIGHT PLAN

MCC-H

1534 CDT

CDR

LMP

NOTES

UPLINK TO LM
GYRO DRIFT COMP
(IF REQD)

103:00
(21012)

:10

(22112)

:20

103:30

REV 14

:40

:50

104:00

COAS CALIBRATION
P63 IGNITION ALGORITHM TEST
MNVR TO PDI ATT (103:35)
(000,111,310)

V48 (22112)

COAS TO OVHD WINDOW

DON HELMET & GLOVES

PDI SWITCH CHECK

ALIGN AGS TO PGNS

OMNI-FWD, PCM-LO
VHF B-DATA

VERIFY LOOSE GEAR STOWED
AND RESTRAINTS ATTACHED

ECS CHECKOUT
DON HELMET & GLOVES

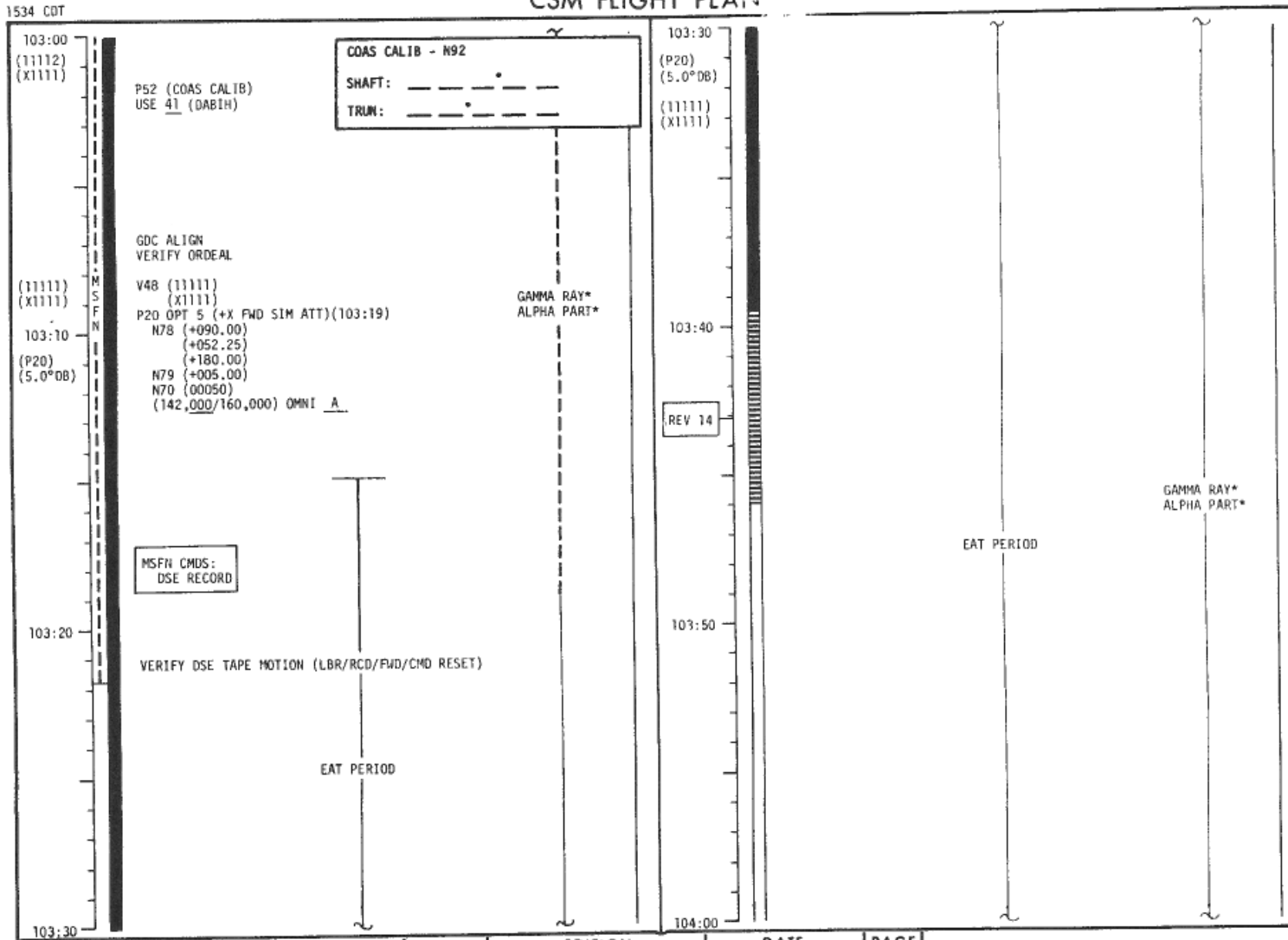
INVERTER-1

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	103:00 - 104:00	5/13-T4	3-124

FLIGHT PLANNING BRANCH

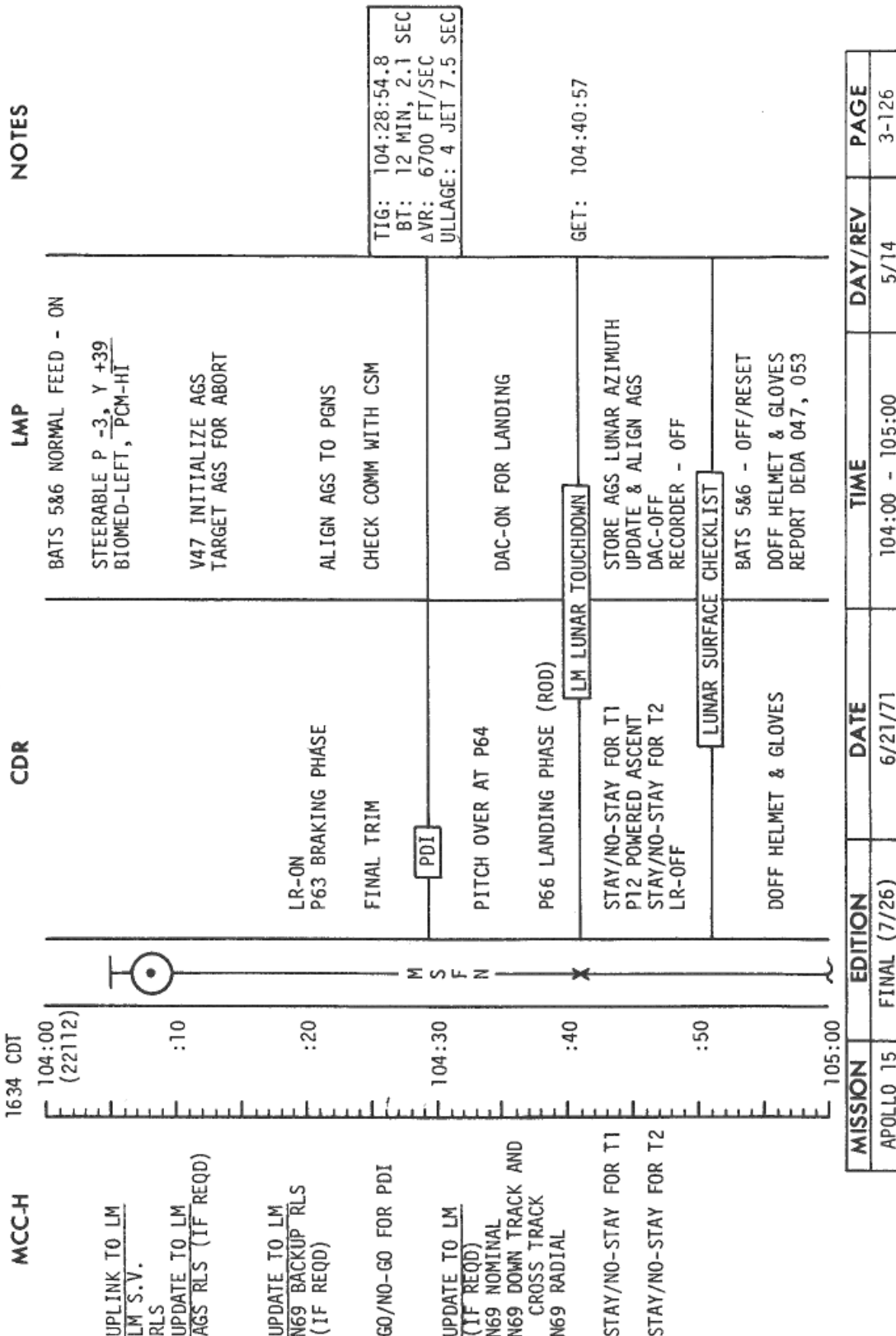
1534 CDT

CSM FLIGHT PLAN



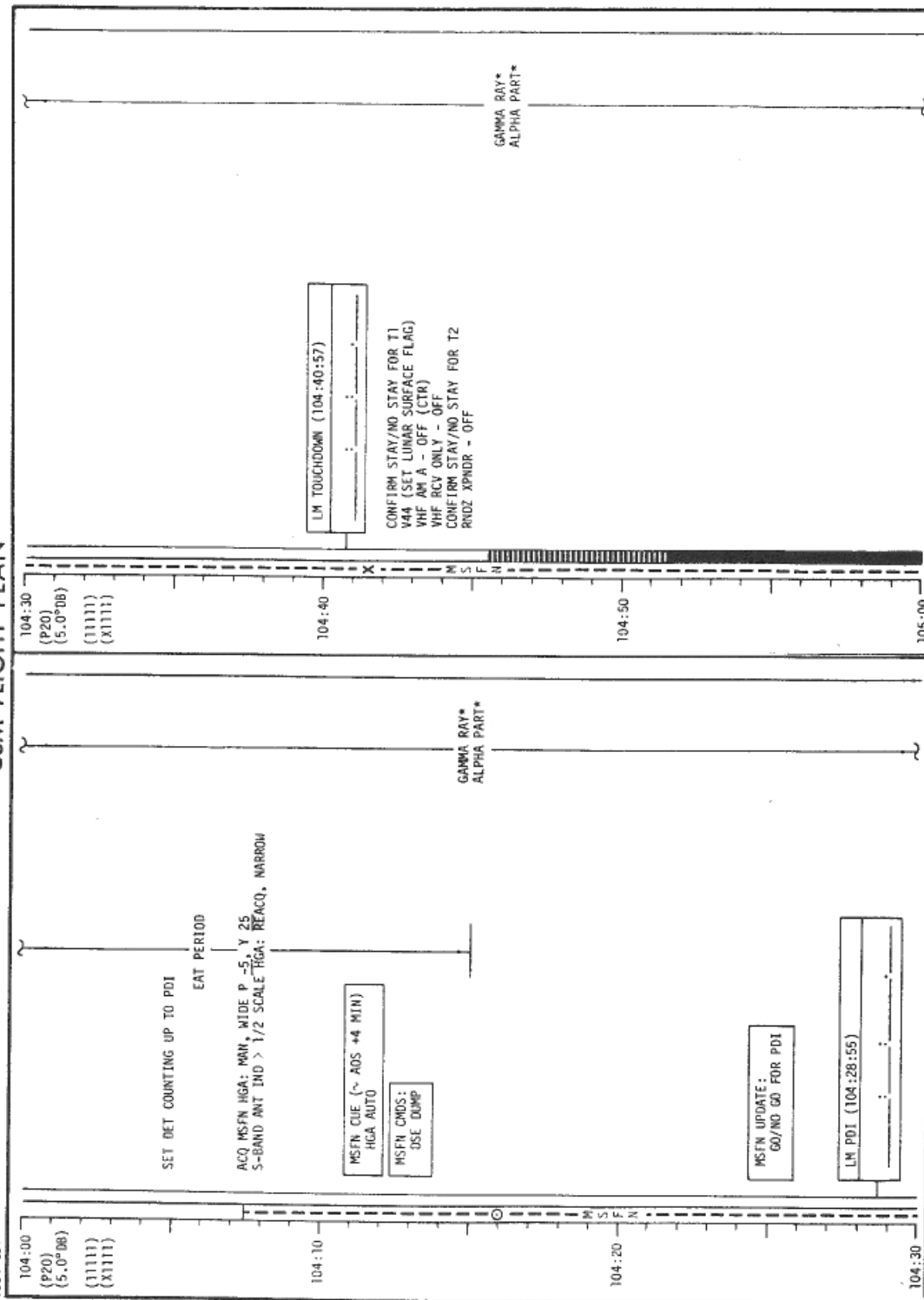
MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-125

LM FLIGHT PLAN



CSM FLIGHT PLAN

1634



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-127

LM FLIGHT PLAN

MCC-H

1734 CDT

CDR

LMP

NOTES

105:00 (22112)	M S F N	P57 LUNAR SURFACE ALIGN OPTION 3 REFSMMAT A/T-1 GRAVITY & LM Z-AXIS (LANDING SITE ORIENT)	AGS LUNAR SURFACE GYRO CALIBRATION
		INSTALL WINDOW SHADES	STEERABLE P <u>+73</u> , Y <u>-62</u>
:10		PARTIAL POWER DOWN	
:20		P57 LUNAR SURFACE ALIGN OPTION 3, REFSMMAT A/T-2, TWO CELESTIAL BODIES (LANDING SITE ORIENT)	
		P57 LUNAR SURFACE ALIGN OPTION 3, REFSMMAT A/T-2, TWO CELESTIAL BODIES (LANDING SITE ORIENT)	
105:30		E-MEMORY DUMP, POO	AGS/PGNS ALIGN AGS STANDBY
:40		CONFIGURE TO POWER DOWN LGC TO STANDBY, IMU PWR DN	BATS 3&4 - OFF/RESET LUNAR BAT (CDR) - ON. CHECK BUS VOLTS
:50		SEVA PREP EQUIPMENT PREP FOR SEVA	
		HELMET/GLOVE DONNING	
106:00		PRESSURE INTEGRITY CHECK	

STAY/NO-STAY FOR T3

UPDATE TO LM
LIFT-OFF TIMES FOR
REVS 16 THRU 20

CSM REV 15

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	105:00 - 106:00	5/14-15	3-128

FLIGHT PLANNING BRANCH

1734 Cw.

CSM FLIGHT PLAN

105:00 (P20) (5.0°DB) (11111) (X1111)	CMC MODE - FREE P52 (OPTION 3) (LDG SITE ORIENT) REPORT: <u>GYRO TORQUING ANGLES</u> P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL MSFN UPDATE: MAP CAMERA PHOTO PADS (105:30 AND 106:50) PAN CAMERA PHOTO PAD (105:35) MSFN UPLINK: CSM S.V. MSFN CMDS: (AOS +69 MIN) DSE RECORD VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMO RESET) CONFIGURE CAMERA: (ORBITAL SCIENCE) CM/EL/250/CEX (5.6,1/250,=) (64 FR) MAG (0) _____, FR # _____	105:30 (P20) (5.0°DB) (11111) (X1111)	MAP CAMERA PHOTO PAD T-START: _____ T-STOP: _____ PAN CAMERA PHOTO PAD T-START: _____ T-STOP: _____ S-BD AUX TV - SCI DATA SYS ON - ON CMC MODE - FREE V22N79 (+000.50) CMC MODE - AUTO SIM EXPERIMENT PREP (CUE CARD) INHIBIT ALL JETS EXCEPT A1 & C2 OR D1 & B2, A3,C4,B3,D4 LOGIC POWER (2) - DPLY/RETR MAP CAMR/LASER EXP COVERS - OPEN tb-BP/GRAY then OFF (CTR) MAP CAMERA TRACK - EXTEND tb-BP (~4 MIN)/GRAY PAN CAMERA: MODE - STBY, PWR - ON tb-BP (2 SEC)/GRAY, STEREO, EXPOSURE - NORMAL (CTR) PCM BIT RATE HIGH/CMO RESET LASER ALTM - ON RECORD GET ORBITAL SCIENCE PHOTOS PHOTO TGT 2 (GAGARIN) (A3-P2) CM3 (f5.6,1/250,=) 36 FR AT 5 SEC INTERVALS MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) MAP CAMERA ON - ON (T START) PAN CAMERA MODE - OPR tb-BP (2 SEC)/GRAY (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP +4 STEPS)/ON REMOVE CM5 WINDOW COVER PHOTO TGT 6 (N.W. TSIOLKOVSKY) (A4,A5-P6) CM5 (f11,1/250,=) 28 FR AT 5 SEC INTERVALS REPLACE CM5 WINDOW COVER RECORD FR # _____
105:10	P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____	105:40 REV 15	GAMMA RAY* ALPHA PART* MAP CAMERA PAN CAMERA GAMMA RAY* ALPHA PART* LASER ALTM
105:20		105:50	
105:30		106:00	

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-129

LM FLIGHT PLAN

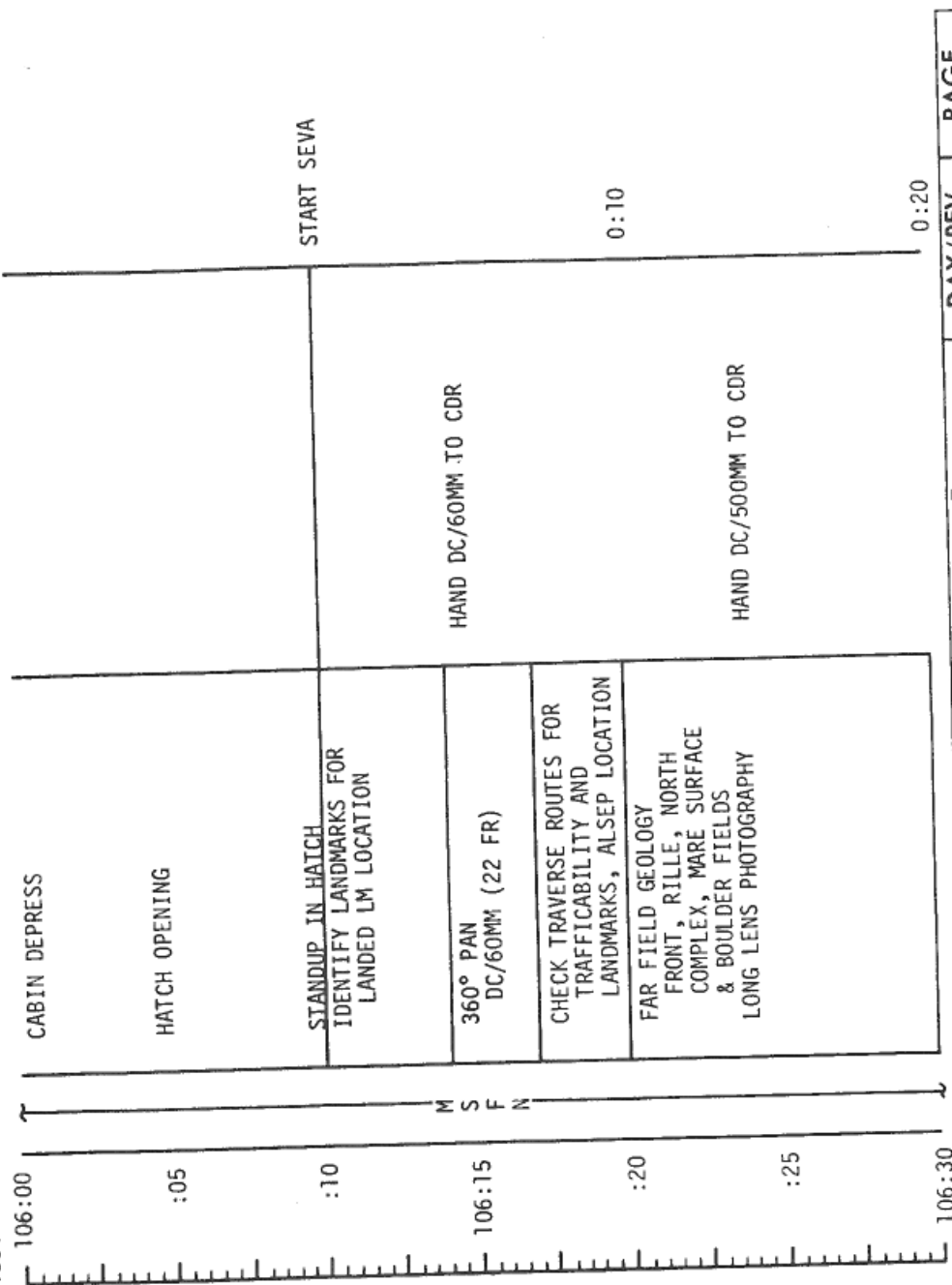
NOTES

LMP

MCC-H

1834 CDT

CDR

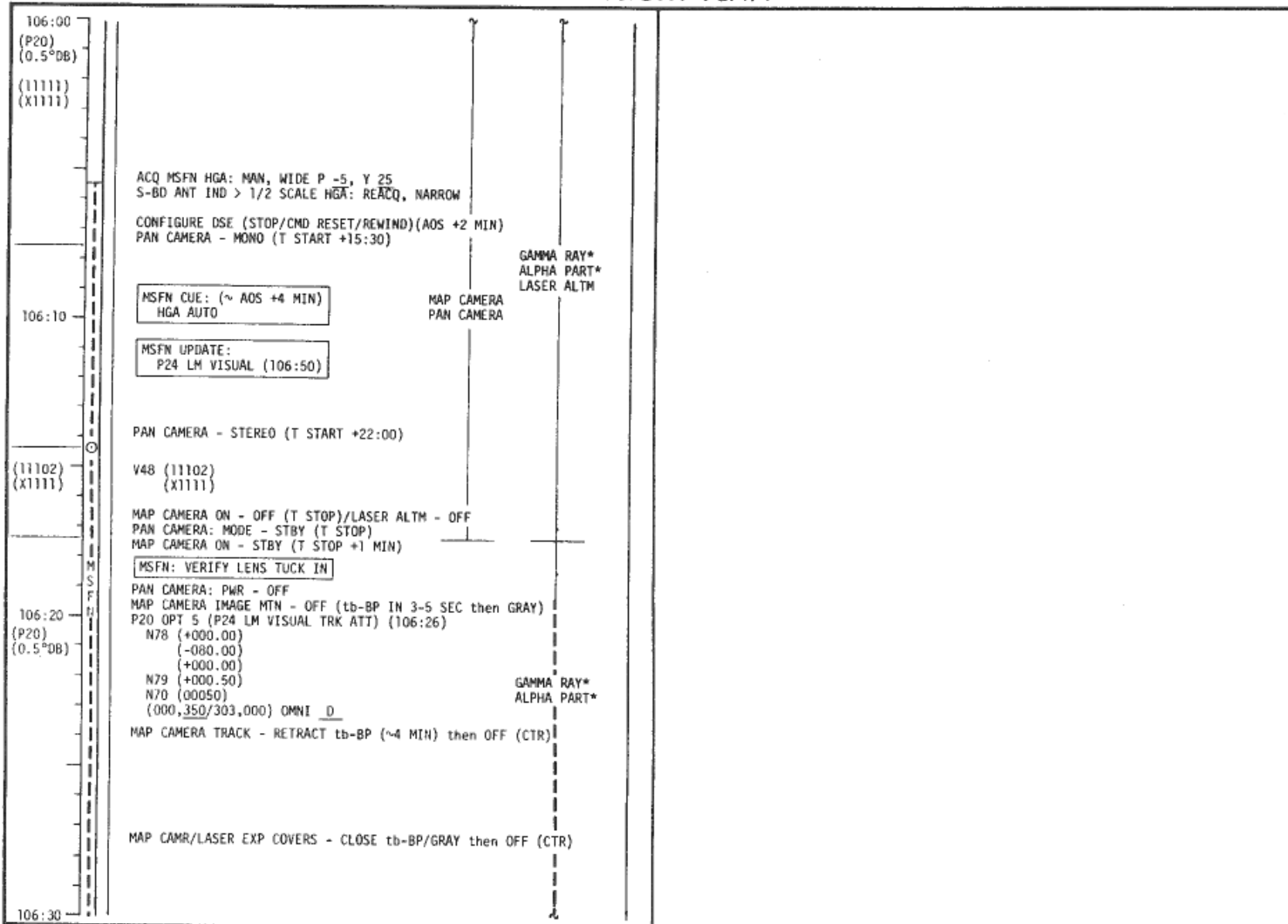


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	106:00 - 106:30	5/15	3-130

FLIGHT PLANNING BRANCH

1834 LL

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-131

LM FLIGHT PLAN

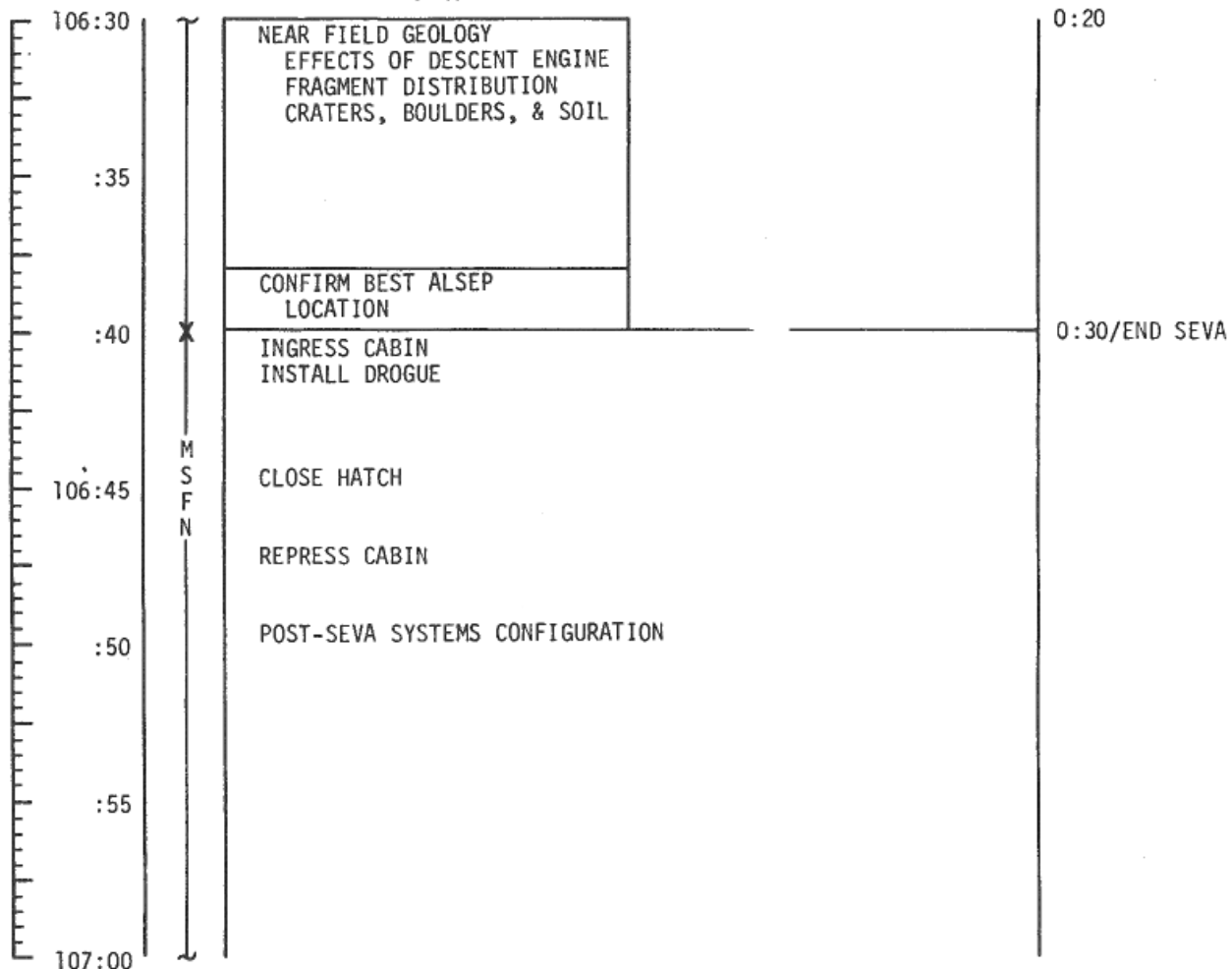
MCC-H

1904 CDT

CDR

LMP

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	106:30 - 107:00	5/15	3-132

FLIGHT PLANING BRANCH

LM FLIGHT PLAN

MCC-H

1934 CDT

CDR

LMP

NOTES

UPDATE TO LM
LM CONSUMABLES

107:00
:10
:20
107:30
:40
:50
108:00

M
S
F
N

POST-SEVA CABIN CONFIGURATION

DOFF SUITS

CDR, THEN LMP DOFF PGA & BIOMED - OFF
LCG, DON CWG & ICG
LMP DOFF BIOMED HARNESS (IF DESIRED)

STOW PGA'S ON ENG COVER AND DRY

BIOMED - LEFT

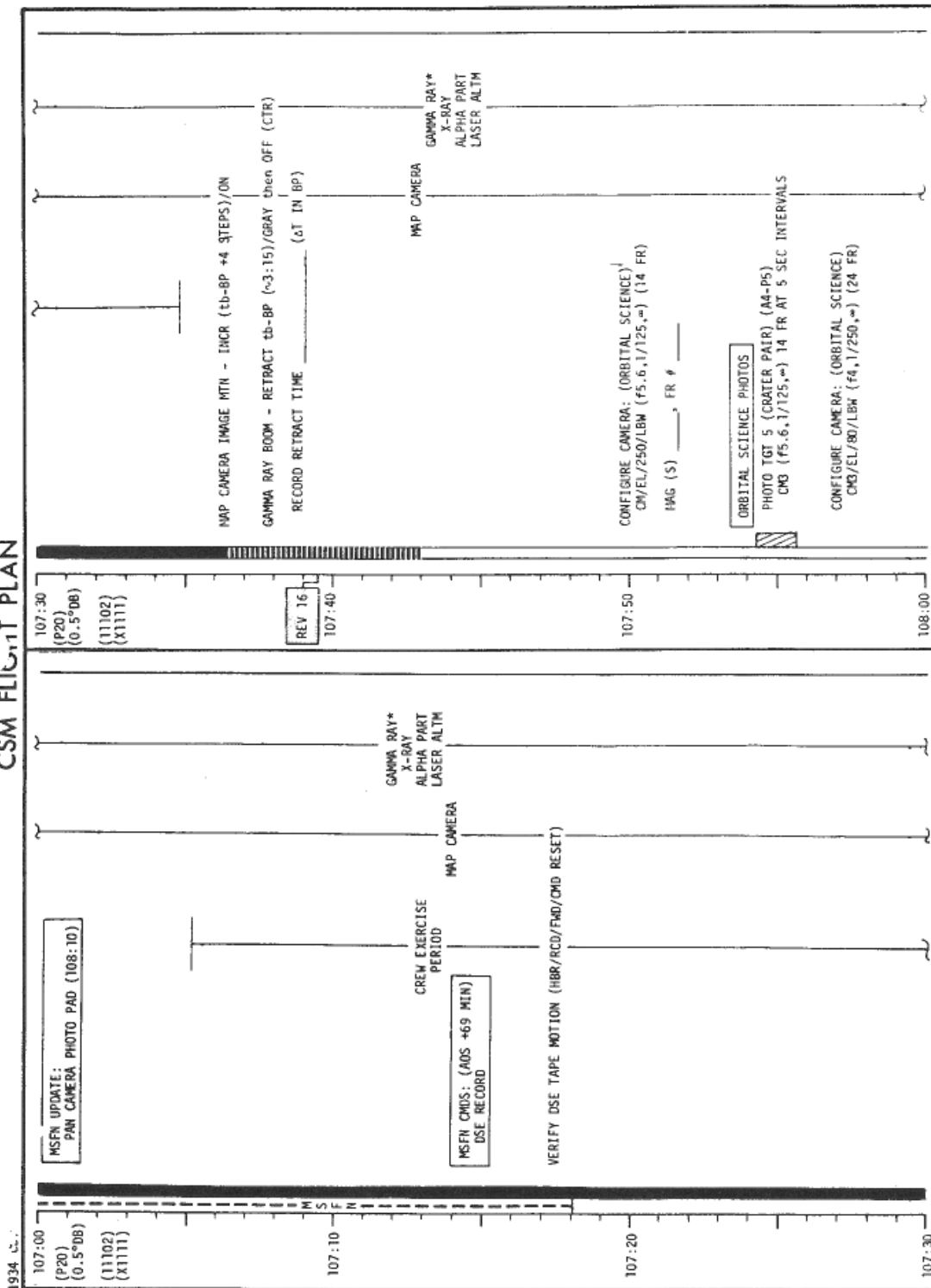
CSM REV 16

EAT PERIOD

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	107:00 - 108:00	5/15-16	3-134

FLIGHT TRAINING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-135

MCC-H

2034 CDT

LM FLIGHT PLAN

CDR

NOTES

LMP

108:00 :10 :20 108:30 :40 :50 109:00

M S F N

EAT PERIOD

PRE-SLEEP PREPARATION
UNSTOW SLEEP RESTRAINTS
PLSS H₂O CHARGE, CDR THEN LMP

STOW (3) ARMRESTS IN JETT BAG

PACK ETB

CREW STATUS REPORT

CONFIGURE HAMMOCKS FOR SLEEP

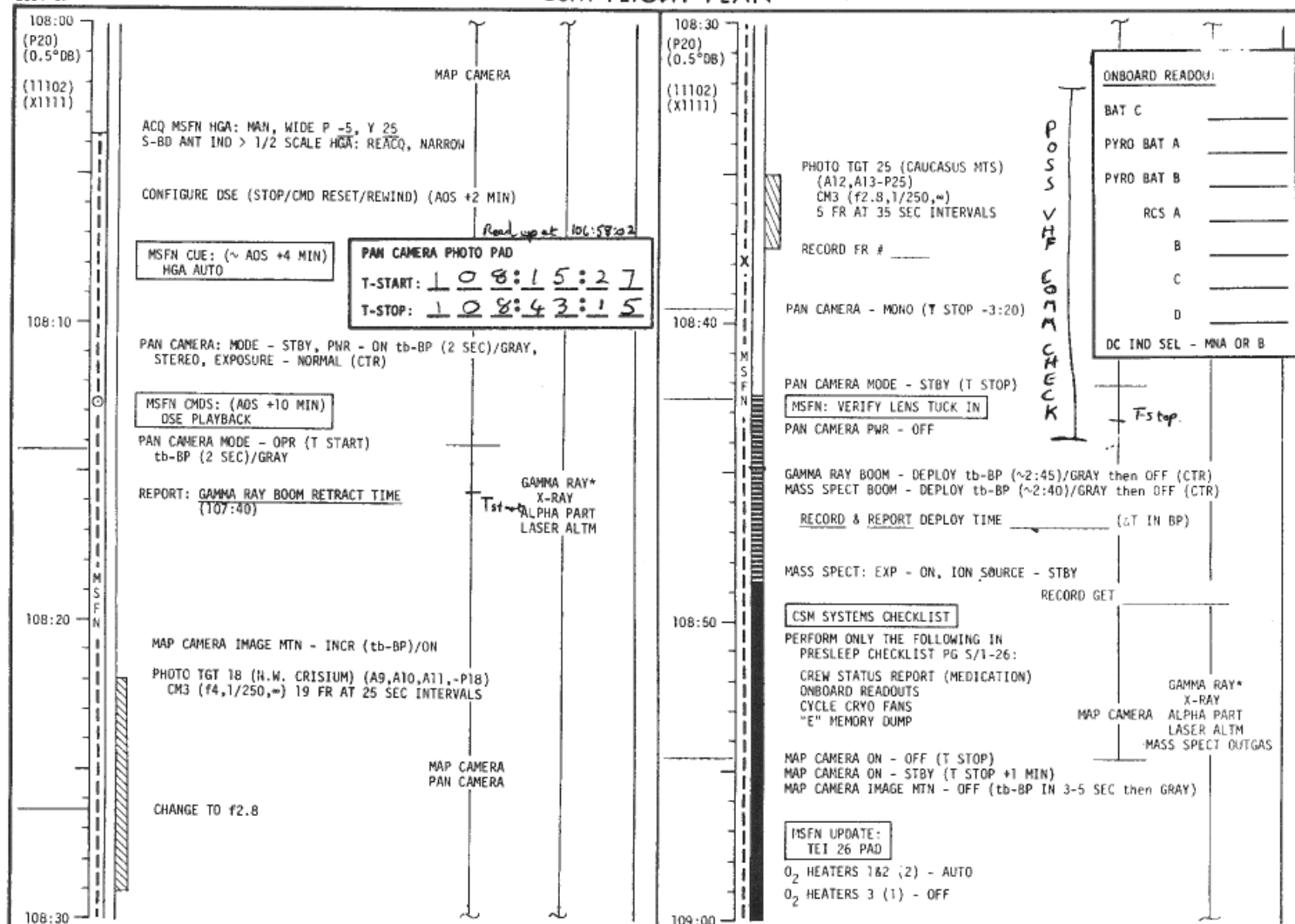
REST PERIOD
(7.5 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	108:00 - 109:00	5/16	3-136

FLIGHT PLANNING BRANCH

2034

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-137

LM FLIGHT PLAN

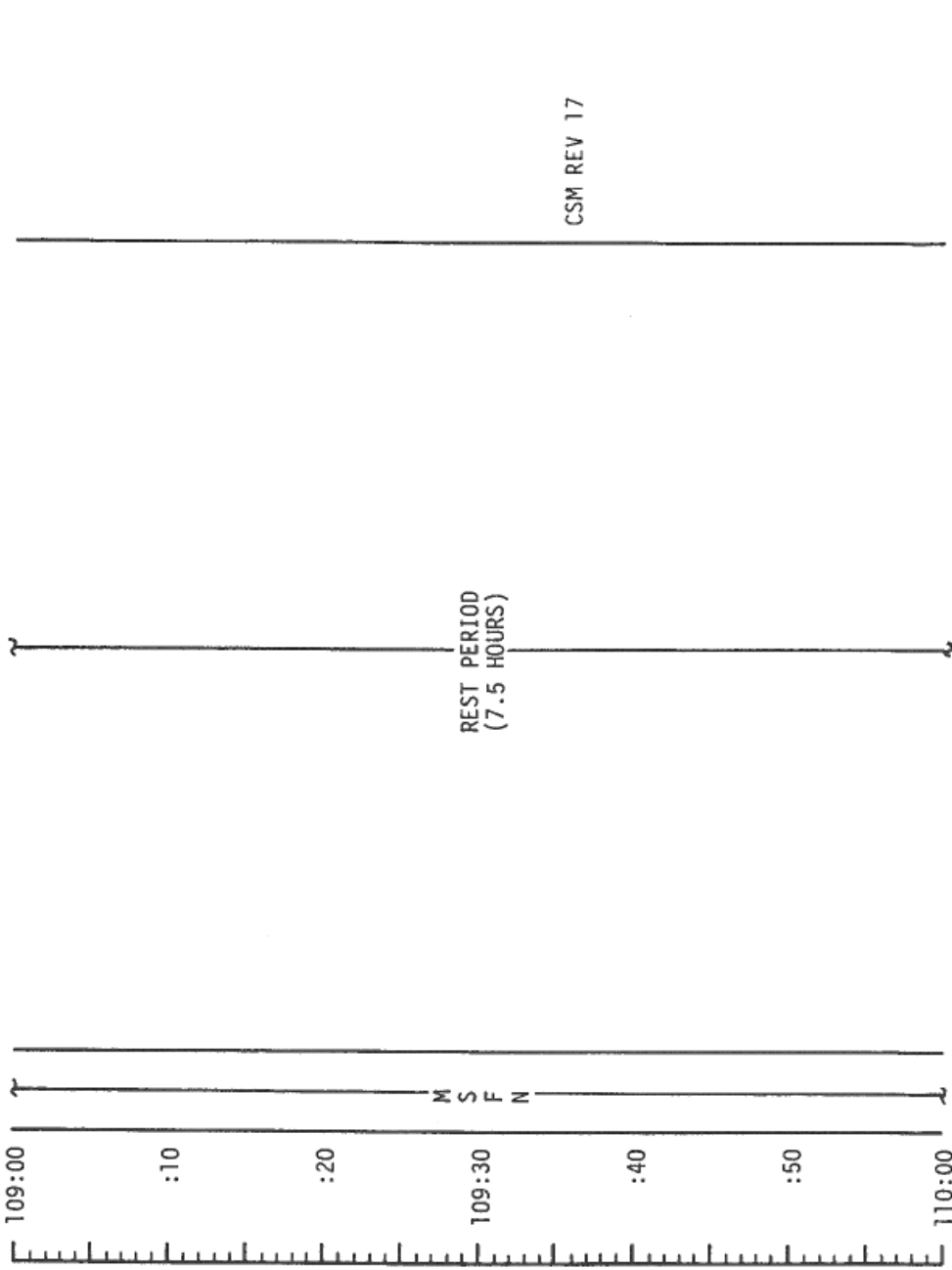
NOTES

LMP

CDR

MCC-H

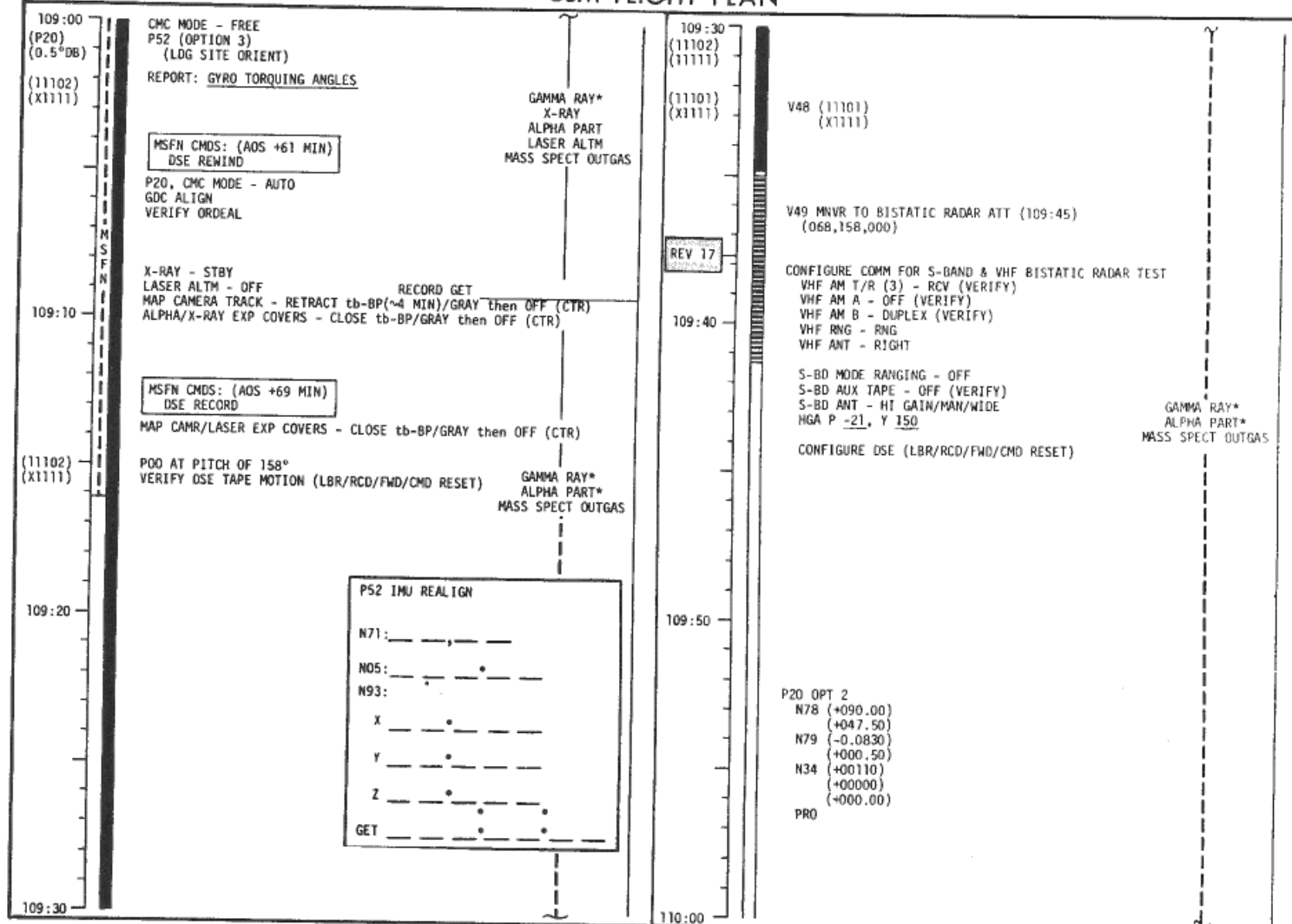
2134 CDT



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	109:00 - 110:00	5/16-17	3-138

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-139

LM FLIGHT PLAN

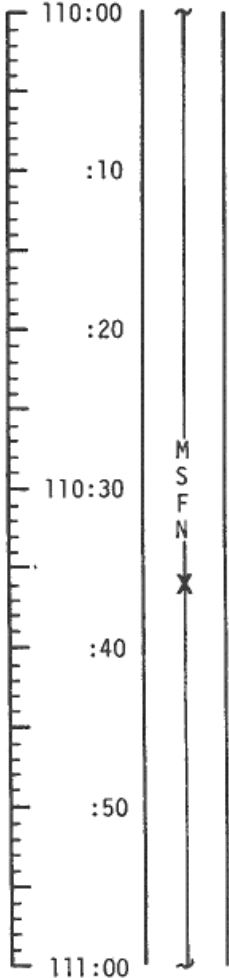
MCC-H

2234 CDT

CDR

LMP

NOTES



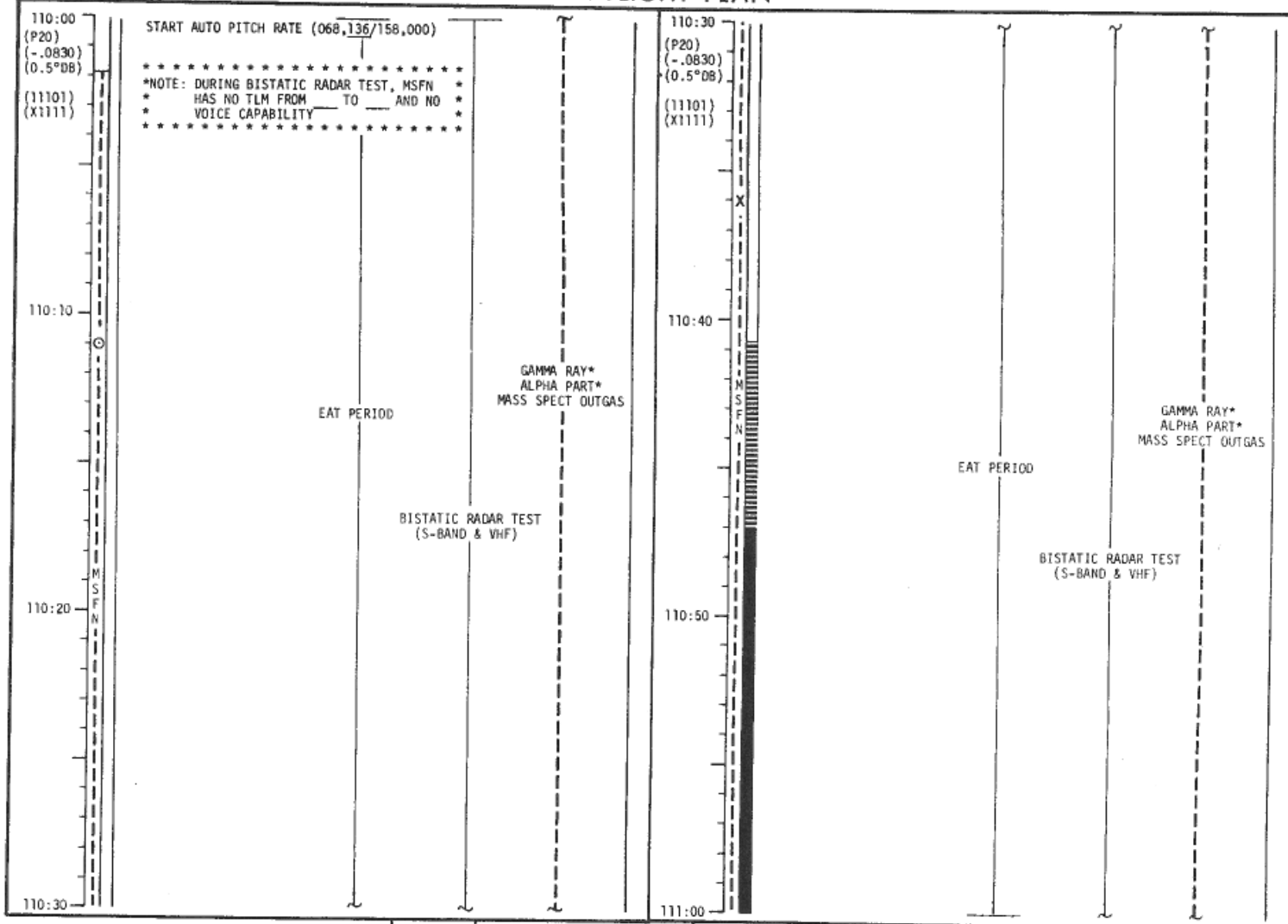
REST PERIOD
(7.5 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	110:00 - 111:00	5/17	3-140

FLIGHT PLAN BRANCH

2234

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-141

CDR

NOTES

2334 CDT

MSFN

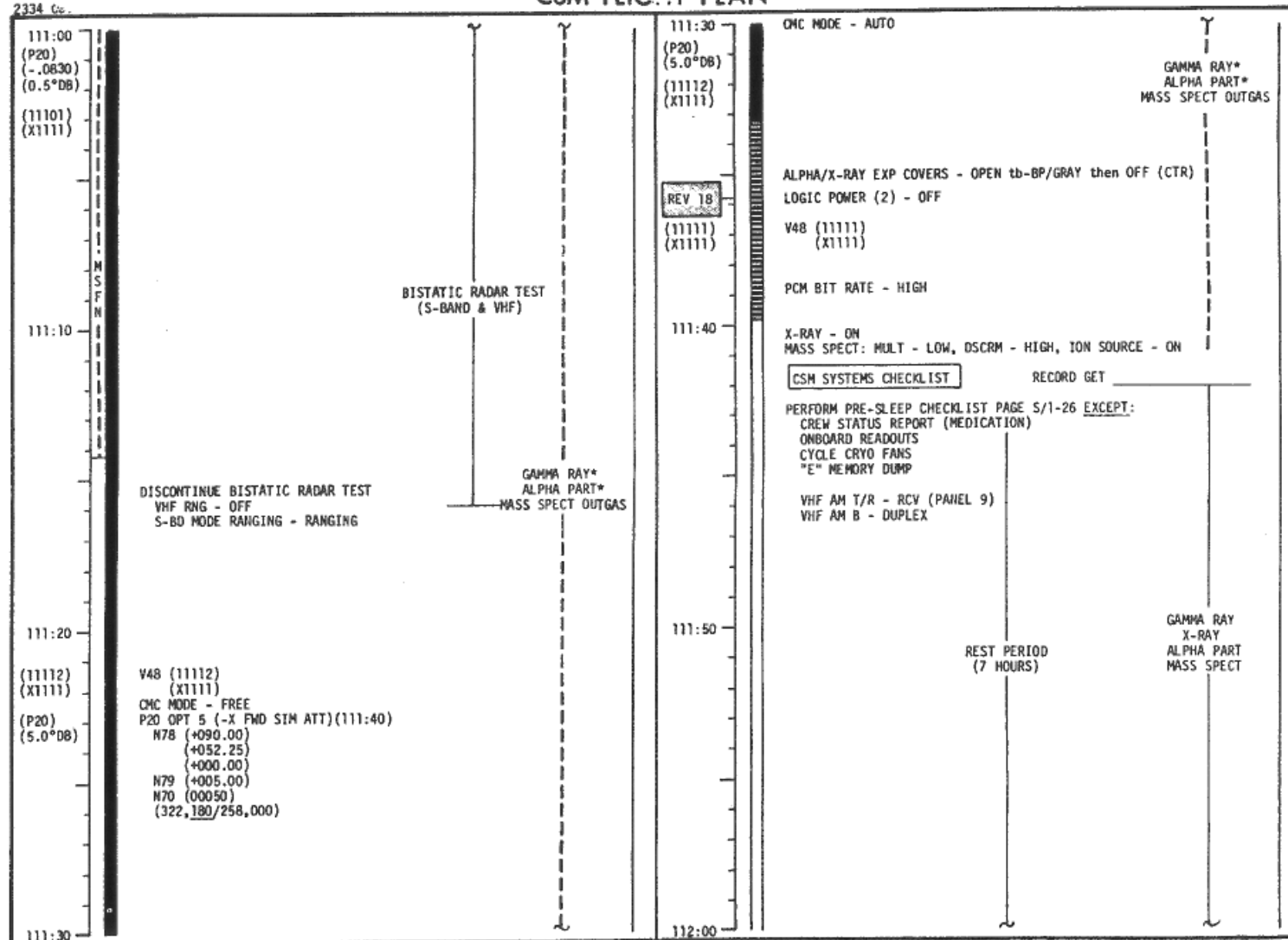
REST PERIOD
(7.5 HOURS)

CSM REV 18

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	111:00 - 112:00	5/17-18	3-142

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-143

LM FLIGHT PLAN

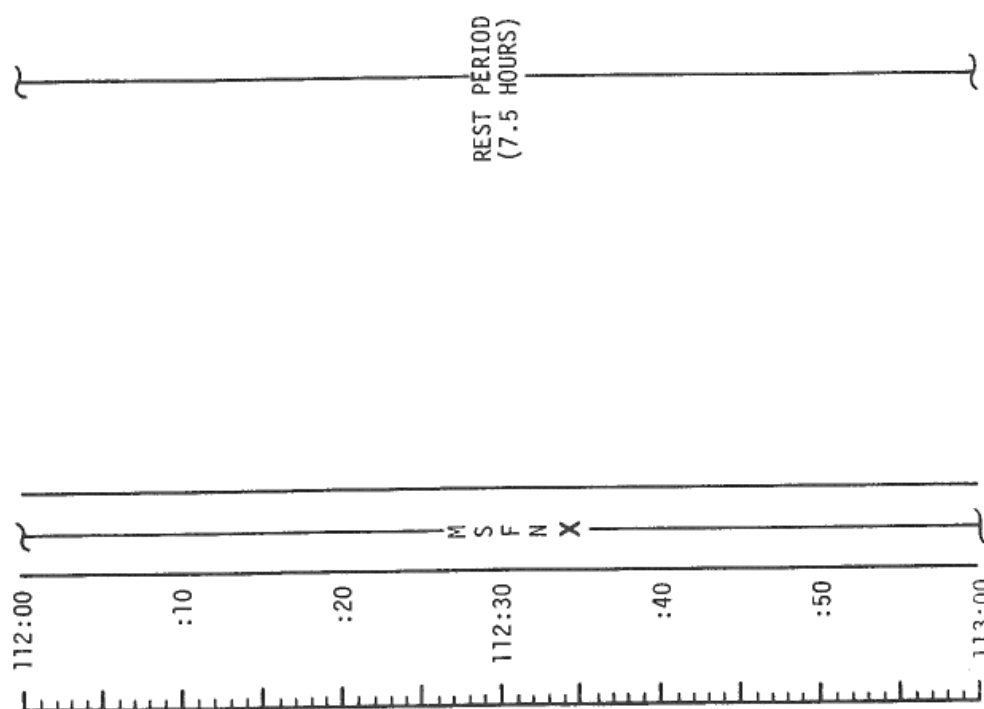
NOTES

LMP

CDR

0034 CDT

MCC-H

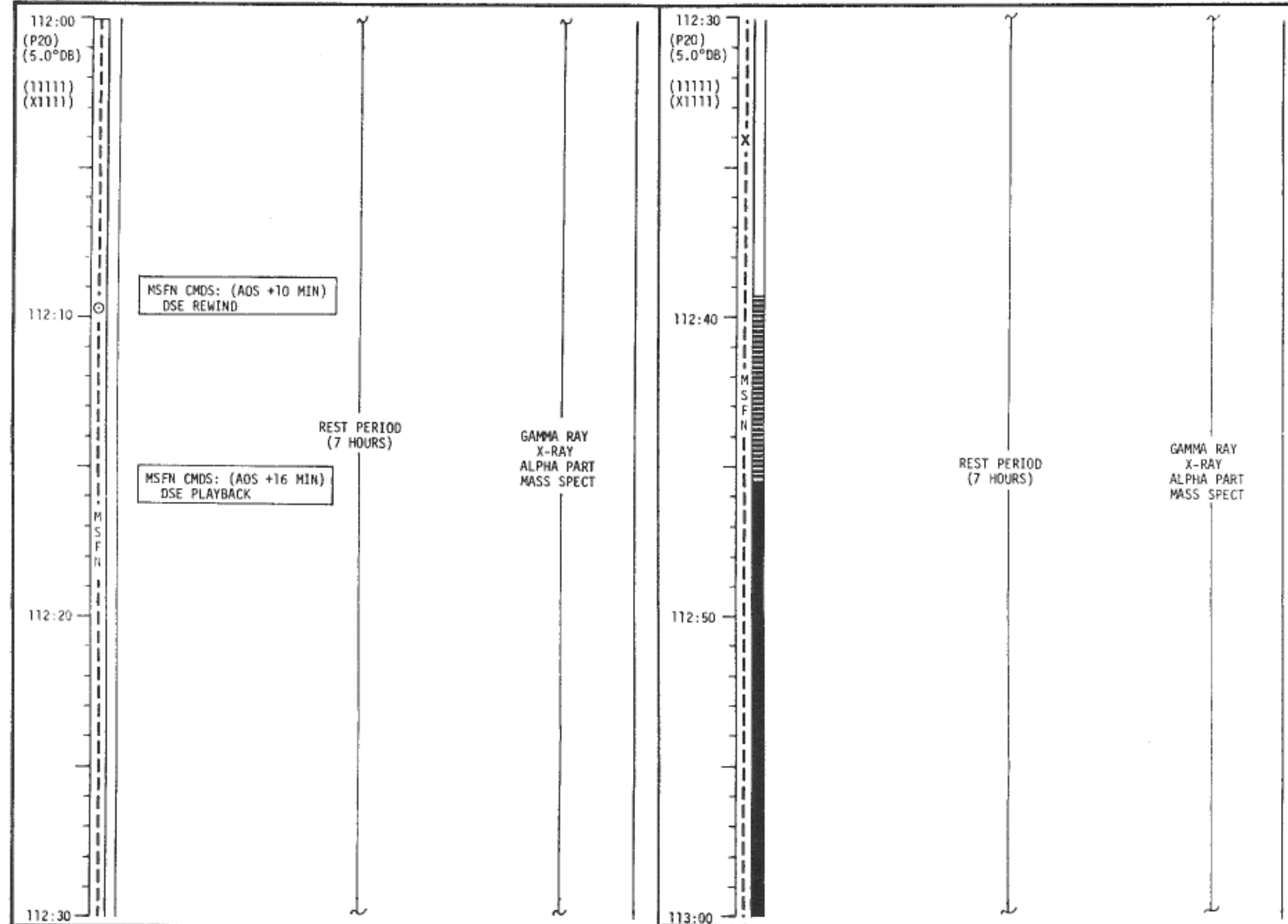


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	112:00 - 113:00	5/18	3-144

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN

0034 Cui



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-145

LM FLIGHT PLAN

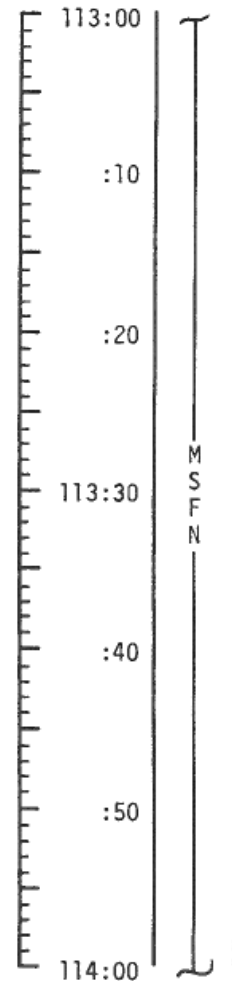
MCC-H

0134 CDT

CDR

LMP

NOTES



REST PERIOD
(7.5 HOURS)

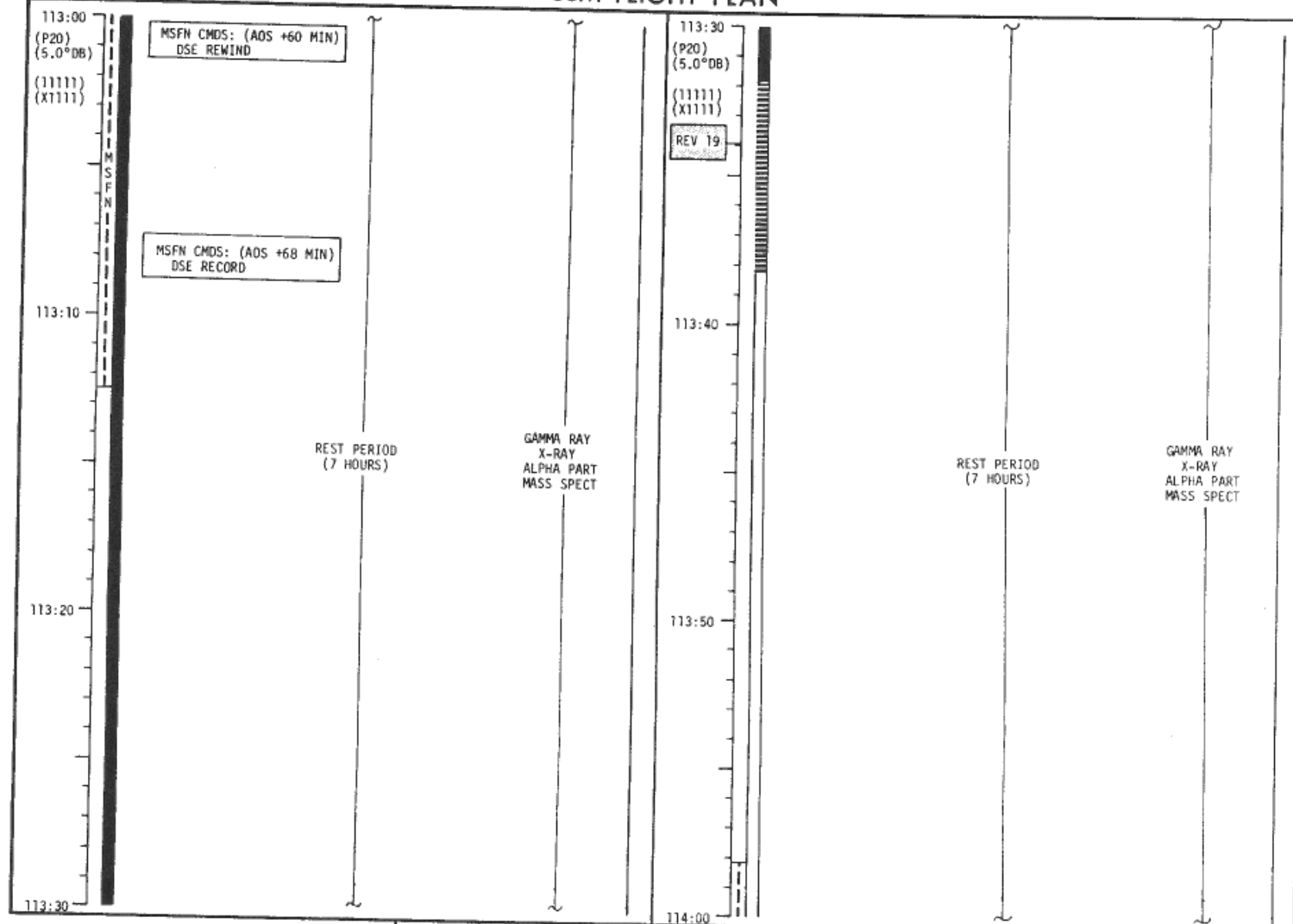
CSM REV 19

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	113:00 - 114:00	5/18-19	3-146

FLIGHT PLANNING BRANCH

0134

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-147

CDR

LMP

NOTES

MCC-H

0234 CDT

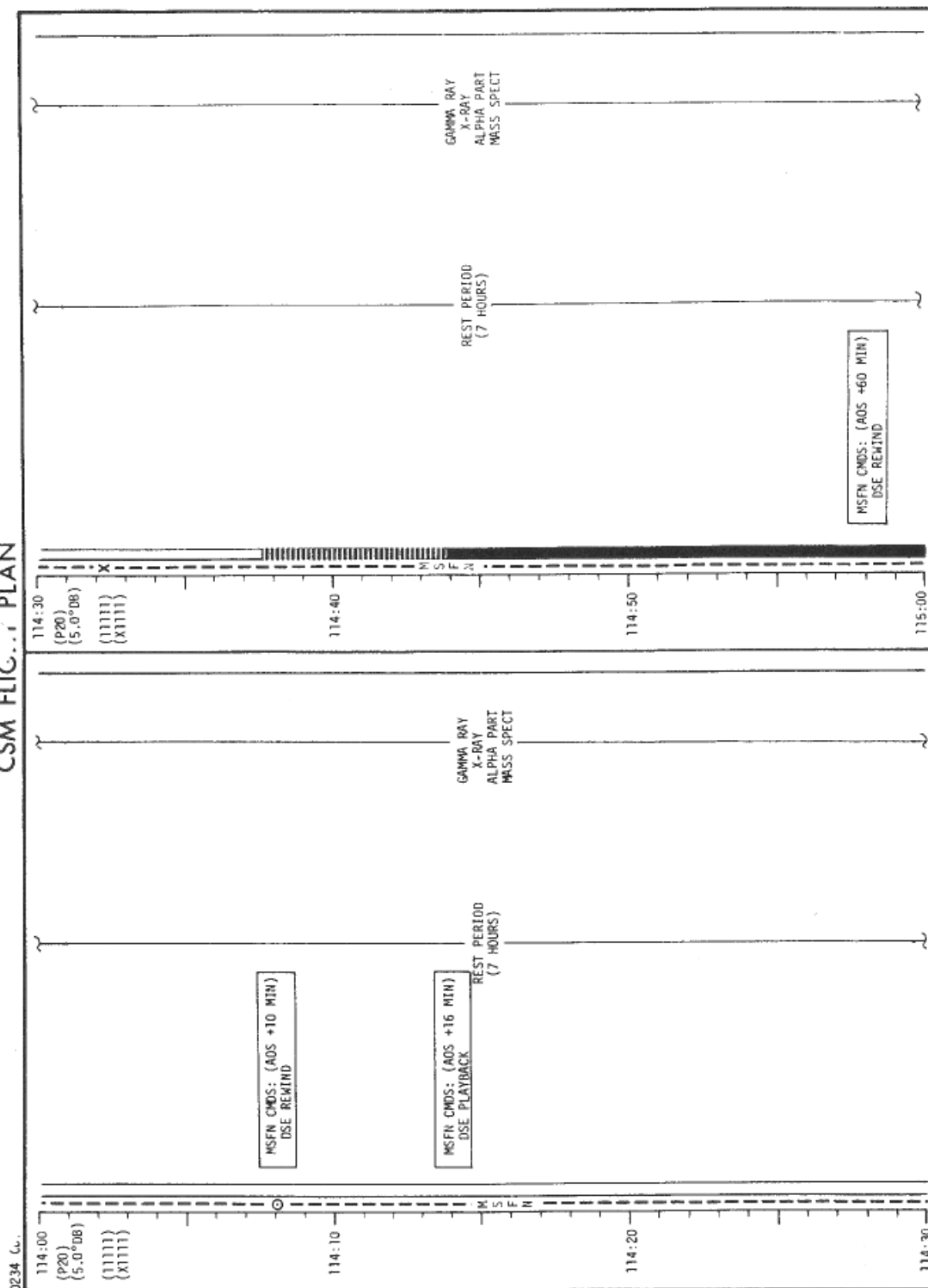
M
S
F
N
I
X

REST PERIOD
(7.5 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	114:00 - 115:00	5/19	3-148

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-149

MCC-H

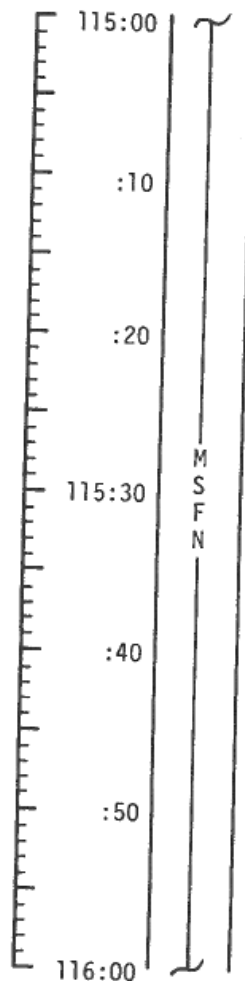
0334 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES



REST PERIOD
(7.5 HOURS)

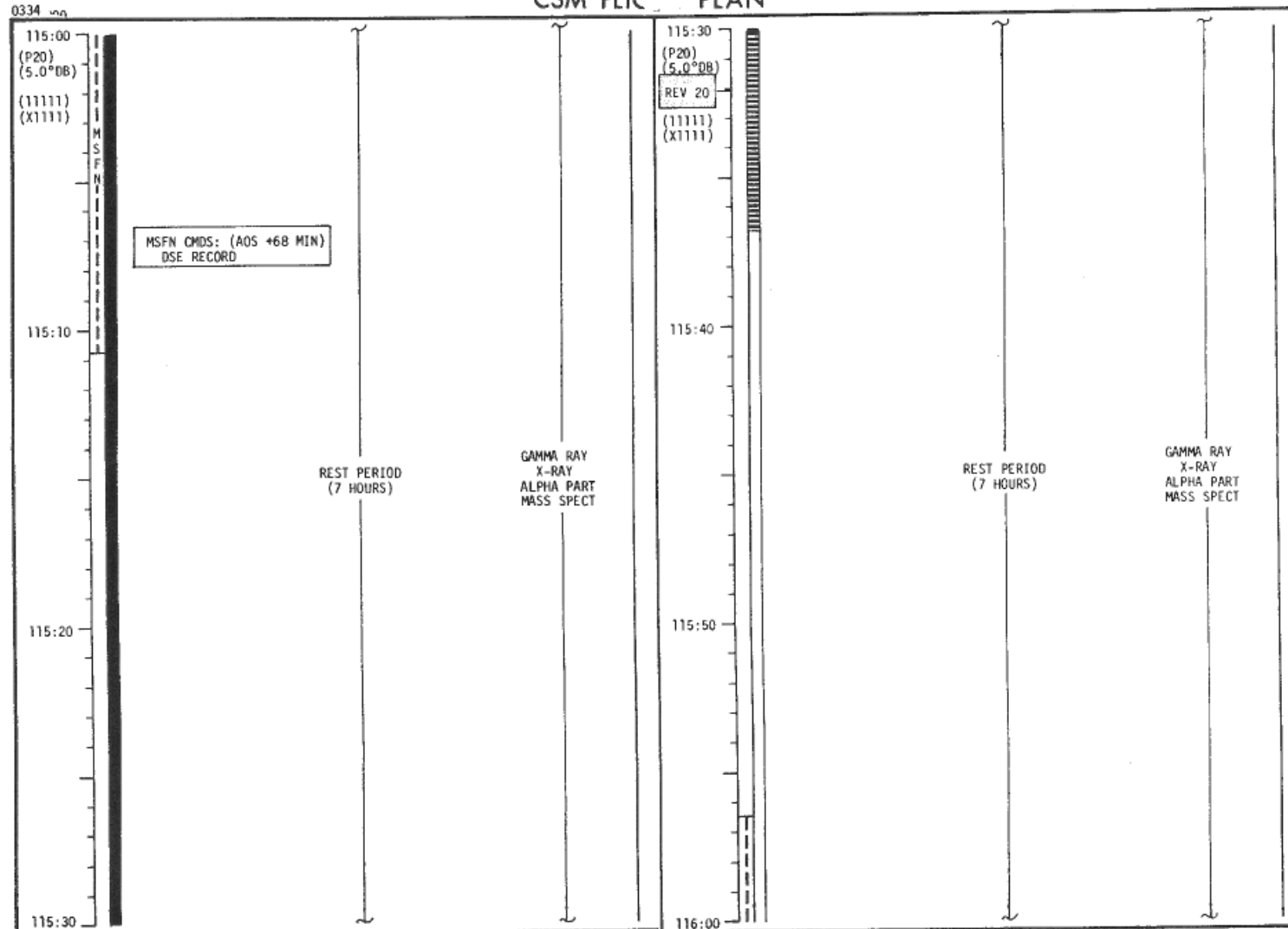
CSM REV 20

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	115:00 - 116:00	5/19-20	3-150

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN

0334



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-151

LM FLIGHT PLAN

MCC-H

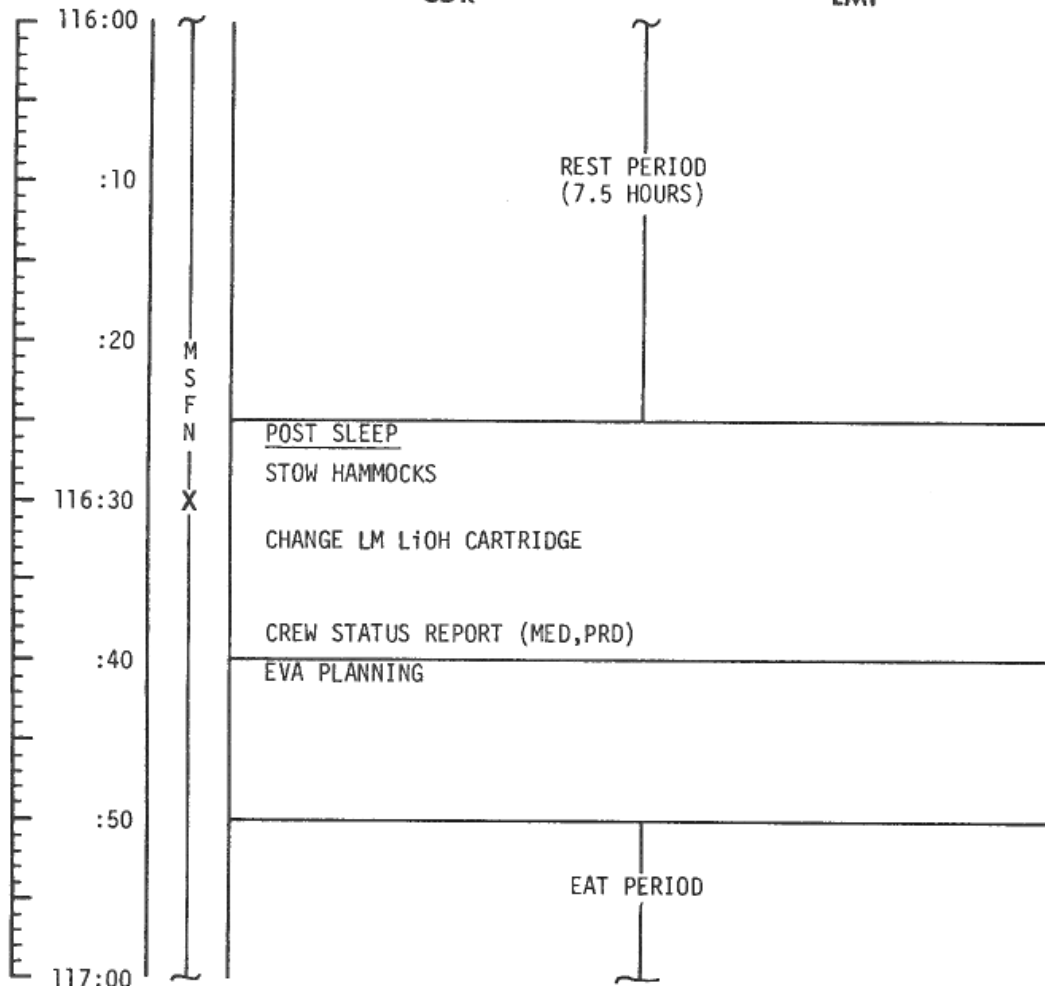
0434 CDT

CDR

LMP

NOTES

STAY/NO-STAY FOR
EVA-1
UPDATE TO LM
LM CONSUMABLES
L/O TIMES REVS
21 THRU 27

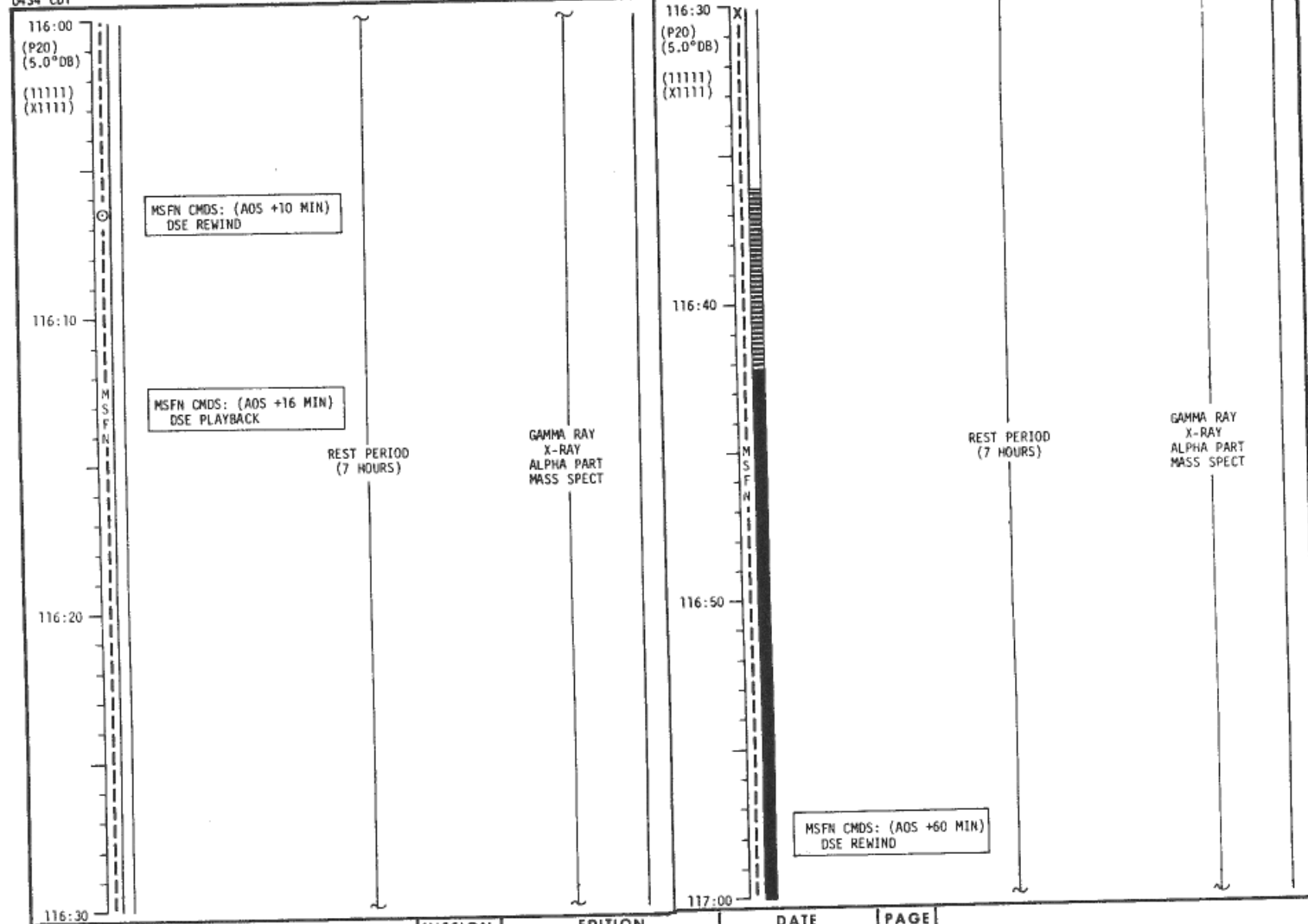


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	116:00 - 117:00	6/20	3-152

FLIGHT NNING BRANCH

CSM FLIGHT PLAN

0434 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-153

LM FLIGHT PLAN

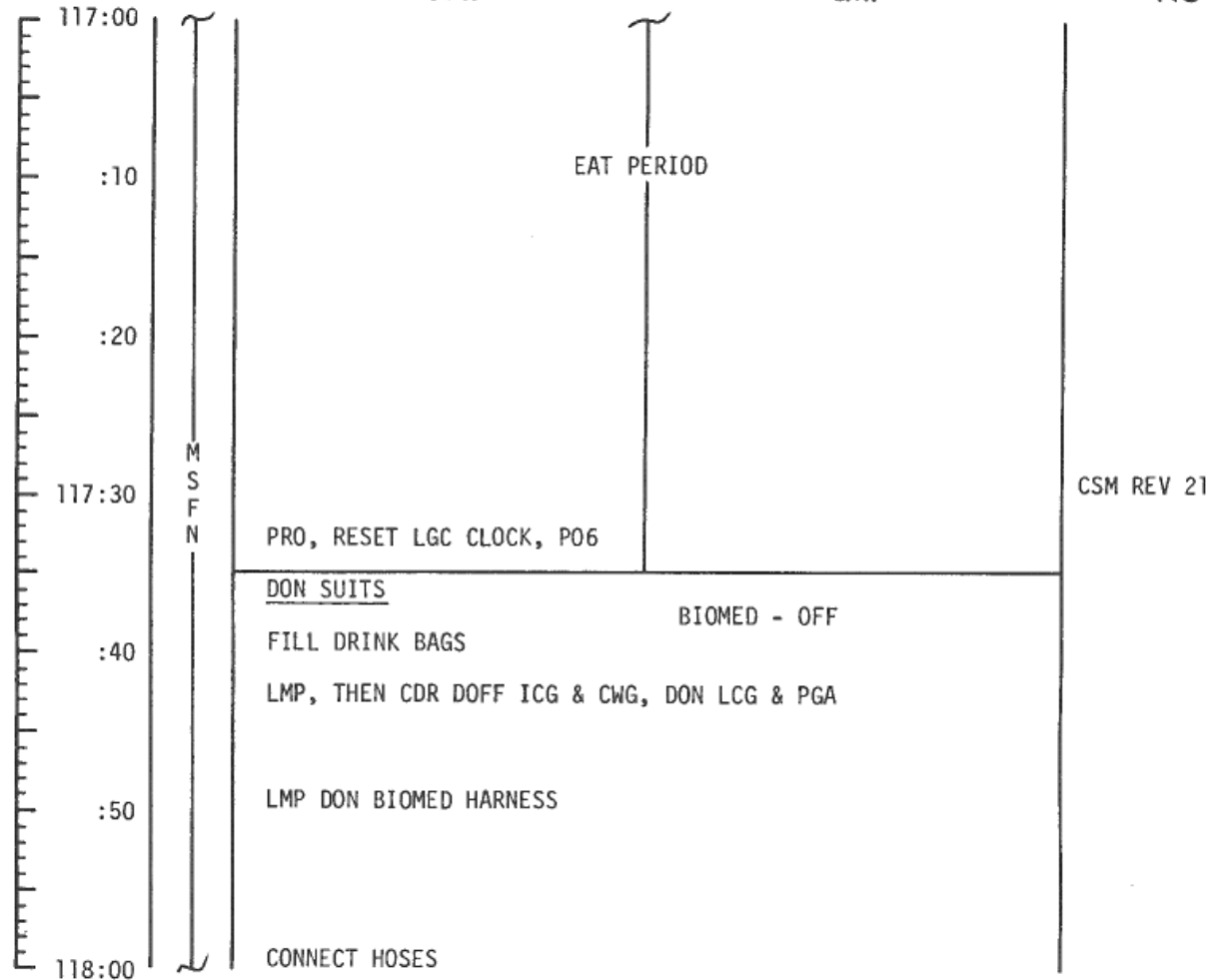
MCC-H

0534 CDT

CDR

LMP

NOTES

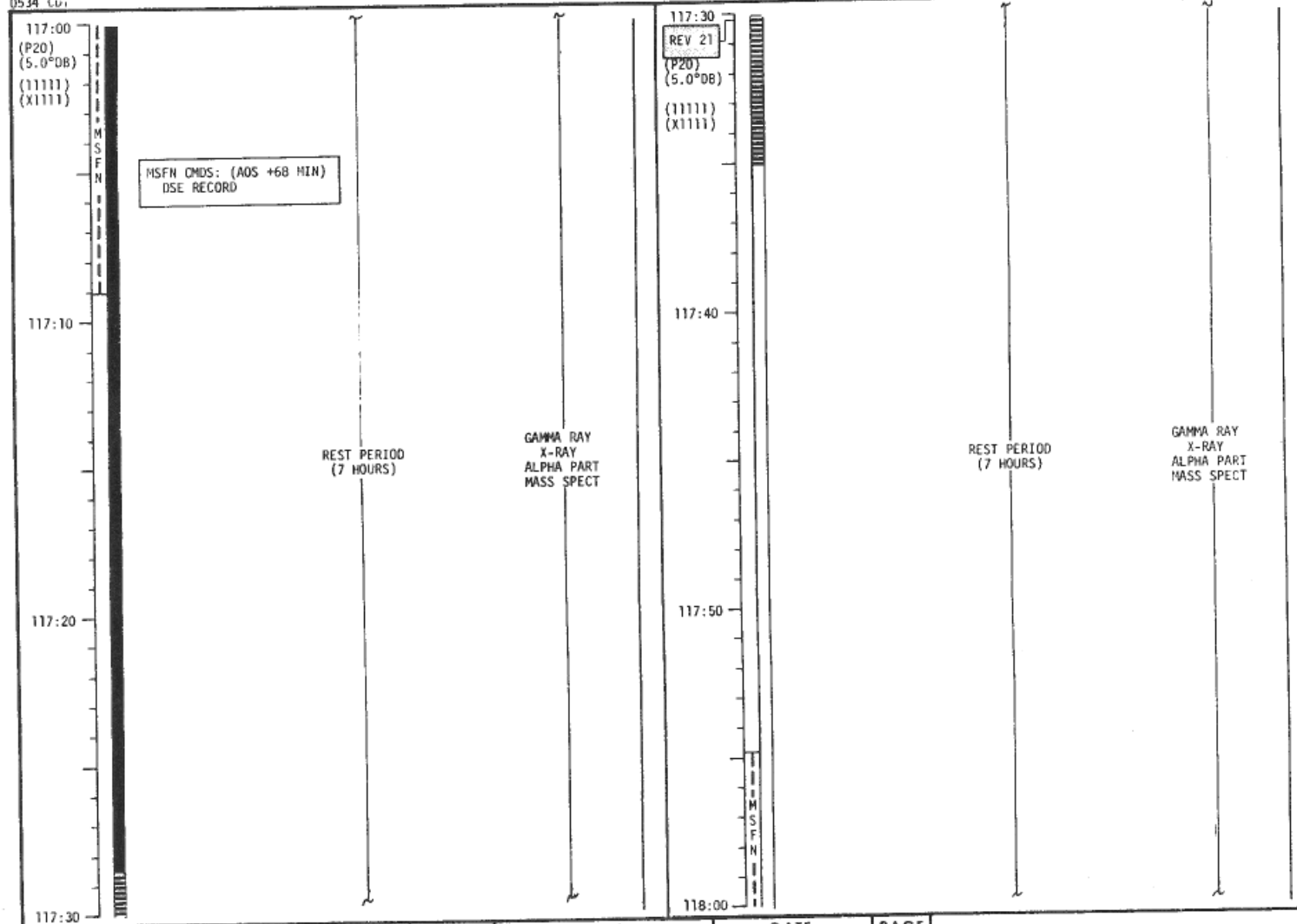


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	117:00 - 118:00	6/20-21	3-154

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0534 (L)



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-155

MCC-H

0634 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

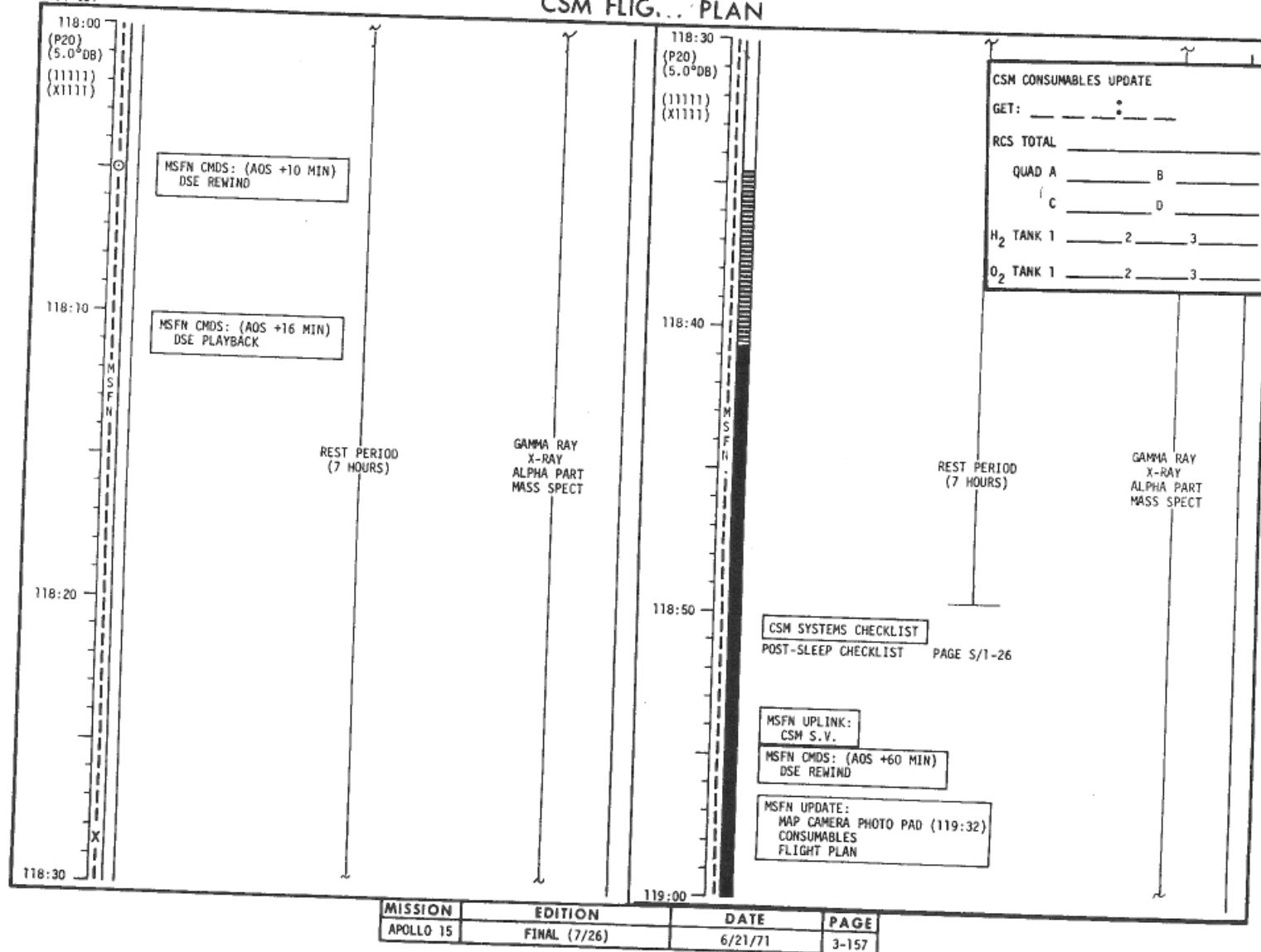
118:00		VERIFY COMM	BIOMED - RIGHT	
:10		CABIN PREP FOR EVA-1 STOW ALL LOOSE ITEMS NOT REQUIRED FOR EVA UNSTOW EVA-1 PREP & POST CARD	BATS 3,4 AND LUNAR (LMP)-ON BATS 1,2 AND LUNAR (CDR)- OFF/RESET CHECK BUS VOLTS	
:20	M S F N	STOW LUNAR SURFACE CHECKLIST		-1:30
118:30	X	EQUIPMENT PREP FOR EVA-1 CDR, THEN LMP DON BOOTS CHECK & RESTOW OPS CHECK & RESTOW RCU'S, HELMETS, GLOVES		-1:20
:40		STOW PALLETS IN JETT BAG, TIE & STOW BAG UNLOCK FWD HATCH HANDLE		-1:10
:50		PLSS DONNING CONFIGURE LMP PLSS ATTACH PLSS TO OPS LMP DON PLSS/OPS CONNECT RCU TO PGA & PLSS		-1:00
119:00				- :50

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	118:00 - 119:00	6/21	3-156

FLIGHT PLANING BRANCH

0634 CD.

CSM FLIGHT PLAN



LM FLIGHT PLAN

MCC-H

0734 CDT

CDR

LMP

NOTES

119:00	CDR REPEAT PLSS DONNING	-:50
:10	PLSS COMM CHECK VERIFY POWERDOWN CB CONFIGURATION CONFIGURE COMM FOR EVA, BIOMED - OFF COMM & TM CHECK, REPORT PLSS O ₂ QUANTITIES TO MCC-H FINAL SYSTEMS PREP	-:40
:20	OPS CONNECT LMP CONNECT OPS HOSES TO PGA CDR REPEAT OPS CONNECT	-:30
119:30	HELMET/GLOVE DONNING PLSS FANS - ON DON HELMETS & LEVA'S VERIFY PGA CONFIGURATION, VERIFY CB CONFIGURATION DON GLOVES	-:20
:40	PRESSURE INTEGRITY CHECK	-:10
:50	CABIN DEPRESS START WRIST WATCHES AT 3.5 PSIA PARTIALLY OPEN FWD HATCH FINAL PREP FOR EGRESS OPEN FWD HATCH REST UNTIL COOLING SUFFICIENT	0:00 START EVA-1
120:00	RECORDER - OFF	+:10

M
S
F
N

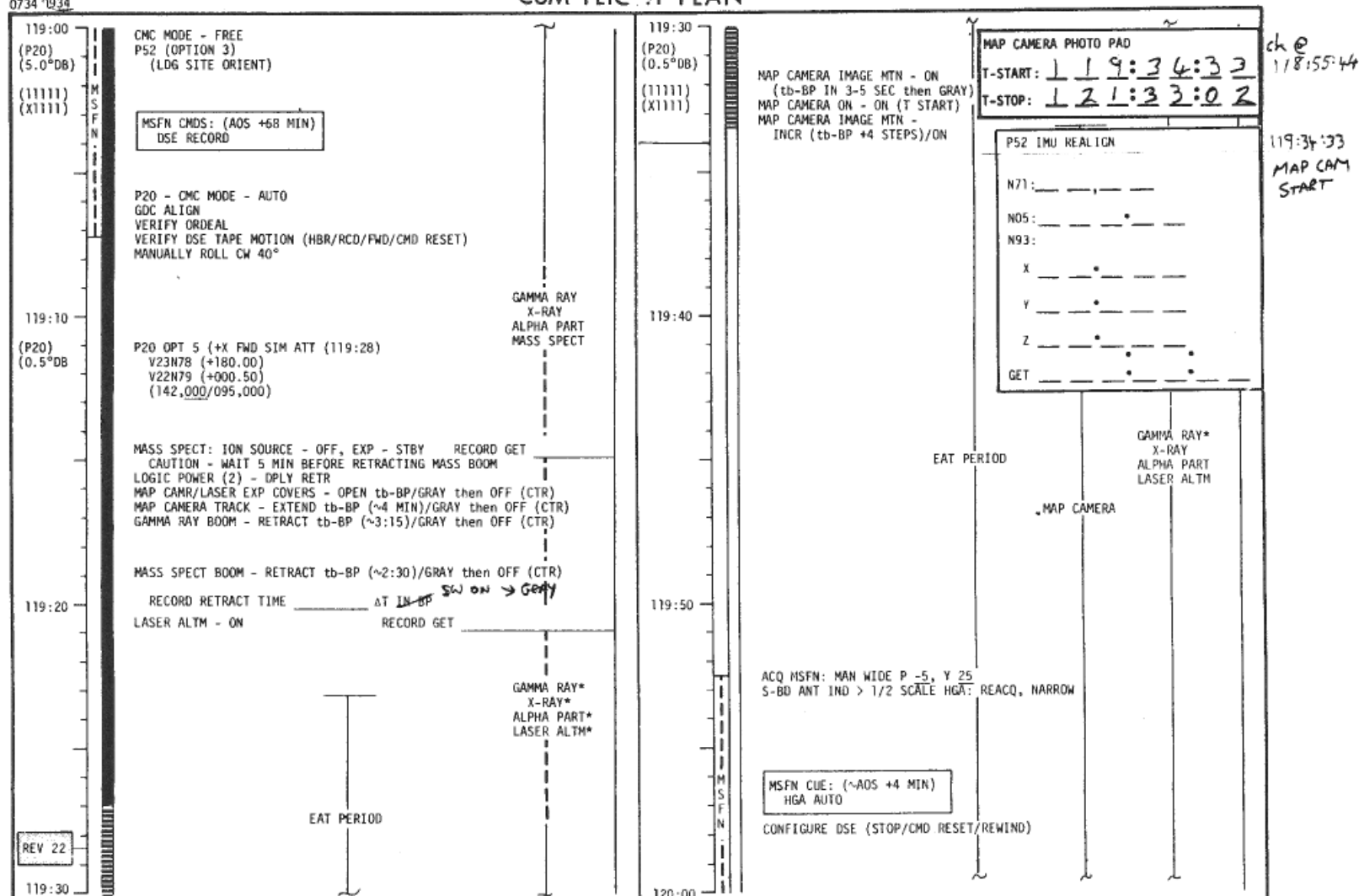
GO/NO-GO FOR CABIN
DEPRESS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	119:00 - 120:00	6/21-22	3-158

FLIGHT PLAN BRANCH

0734 1934

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-159

LM FLIGHT PLAN

MCC-H

0834 CDT

CDR

LMP

NOTES

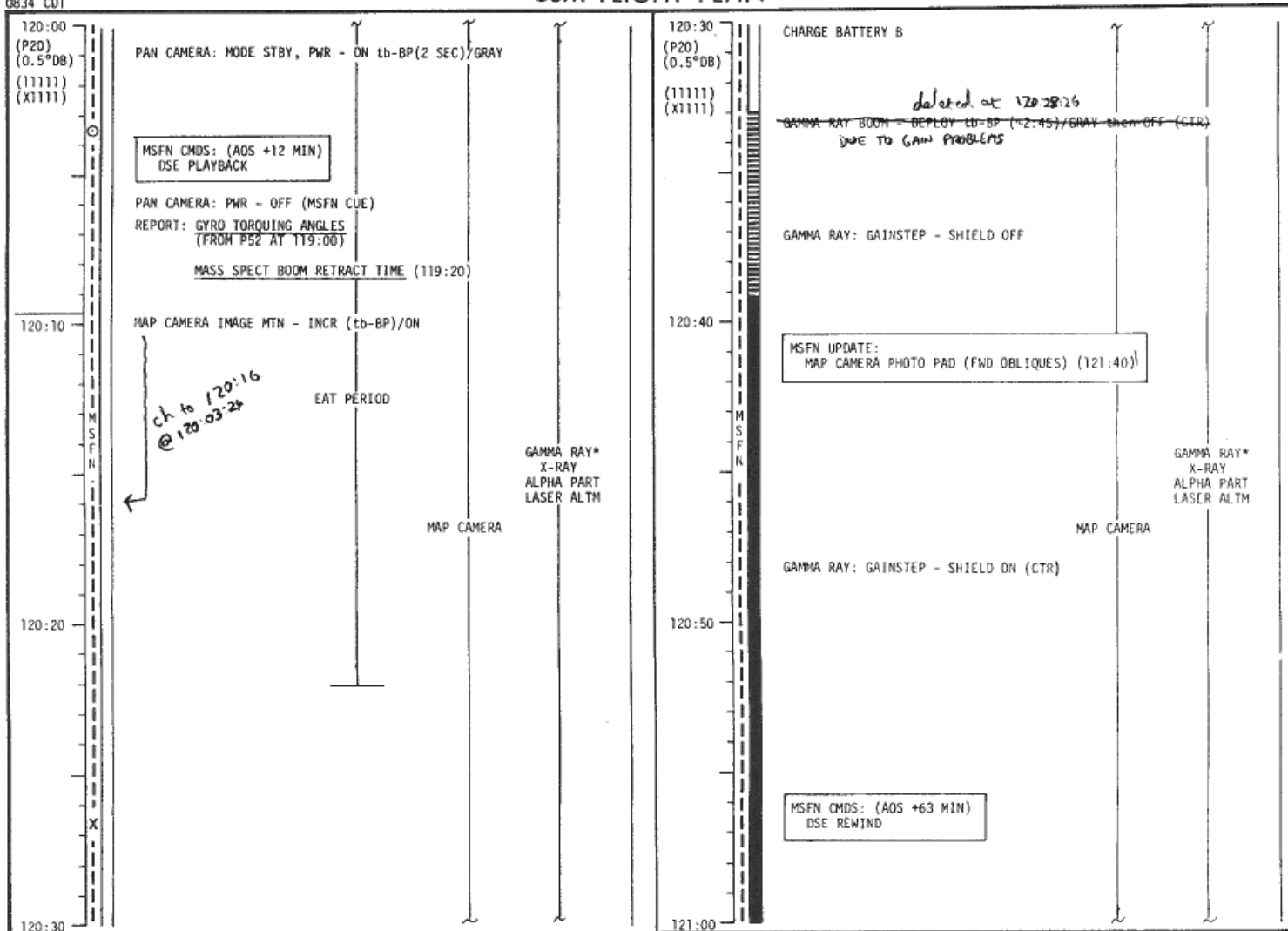
120:00	EGRESS DEPLOY MESA	ASSIST CDR EGRESS RELEASE CDR PLSS ANTENNA LEC TO CDR RECORDER - OFF VERIFY CB & SW CONFIGURATION	+:10
:10	DEPLOY LEC DESCEND TO SURFACE	TRANSFER ETB	+:20
:20	TRANSFER ETB	EGRESS, CLOSE HATCH DESCEND TO SURFACE	+:30
:30	TV DEPLOY	COLLECT CONTINGENCY SAMPLE	+:40
:40	RELEASE LMP PLSS ANTENNA LRV DEPLOY	ASSIST CDR	+:50
:50	LRV SETUP		+1:00
120:30	LRV CHECKOUT		+1:10
:40	LCRU DEPLOY	LRV EQUIPMENT PREP	
:50	TRANSFER TV TO LRV		
121:00		INGRESS LM WITH CONTINGENCY SAMPLE CONFIGURE COMM	

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	120:00 - 121:00	6/22	3-160

FLIGHT PLAN BRANCH

0834 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-161

MCC-H

0934 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

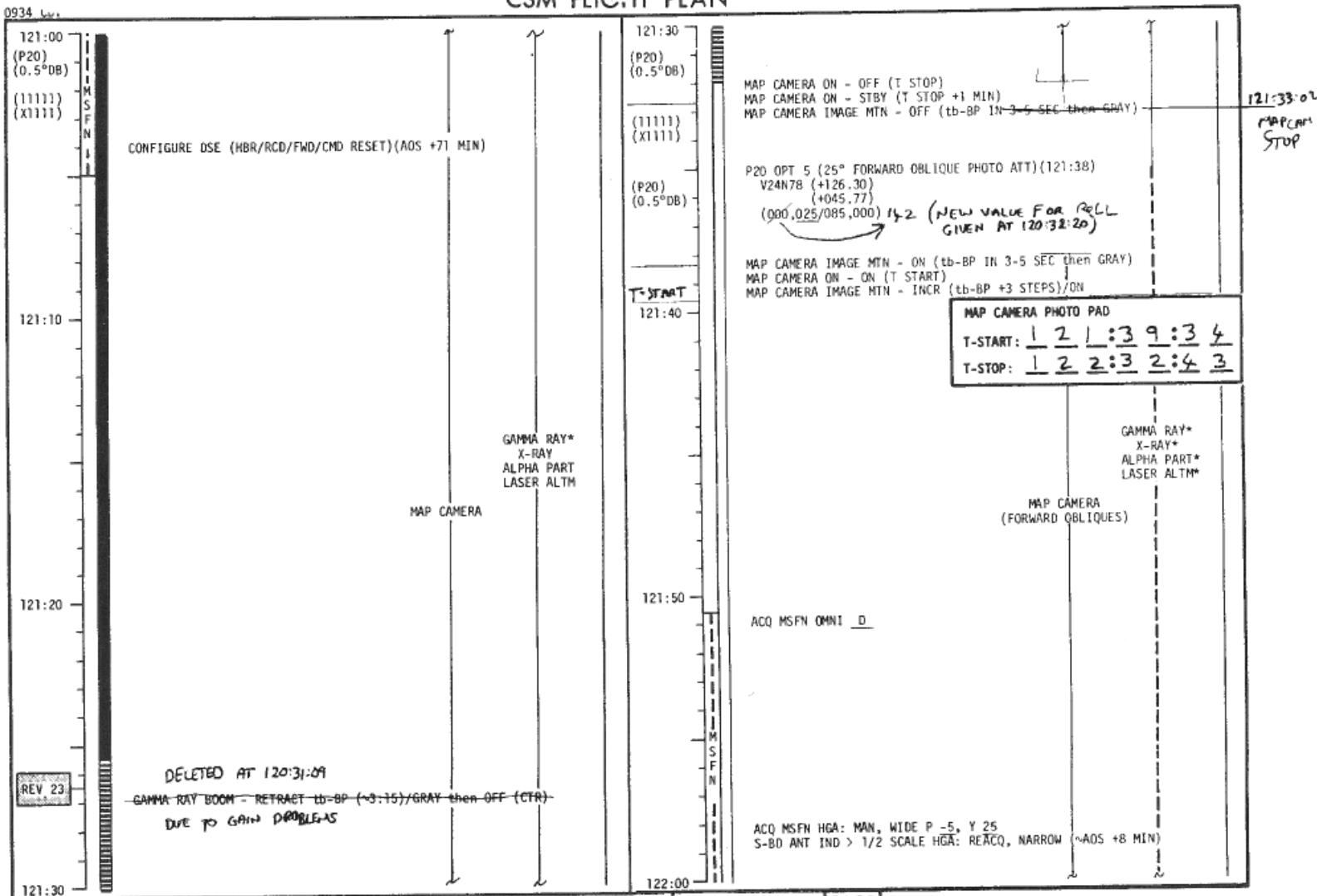
121:00	TRANSFER PALLET MOUNT LRV DRIVE LRV TO NAV SITE	TRANSFER PALLET	+1:10
:10	INITIALIZE LRV NAV	EGRESS LM DISCARD PALLET CLOSE HATCH	+1:20
:20	DRIVE TO CHECK POINT OBSERVE & DESCRIBE TRAVERSE	MOUNT LRV	+1:30
:30	DESCRIBE SURFACE FEATURES NOTE MARE AND RIM MATERIALS DIFFERENCES		+1:40
121:30	CHECK POINT DRIVE TO STATION 1		+1:50
:40	OBSERVE SCARP AROUND ELBOW CRATER OBSERVE EJECTA DISTRIBUTION		+2:00
:50	STATION #1 RADIAL SAMPLE OF ELBOW CRATER PAN		+2:10
122:00	DRIVE TO STATION 2 COMPARE MARE & RIM MATERIALS TO FRONT		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	121:00 - 122:00	6/22-23	3-162

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0934 Lxxx



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-163

MCC-H

1034 CDT

CDR

LMP

LM FLIGHT PLAN

NOTES

+2:10

OBSERVE ST. GEORGE CRATER EJECTA DISTRIBUTION

STATION #2

RADIAL SAMPLE OF ST. GEORGE CRATER

COMPREHENSIVE SAMPLE AREAS AT THE FRONT

DOUBLE CORE TUBE

PHOTOGRAPH BLOCKS ON CRATER AND RILLE RIMS

STEREO PAN

SESC SAMPLE AT FRONT

PENETROMETER

+2:20

+2:30

+2:40

+2:50

+3:00

+3:10

DRIVE TO STATION #3

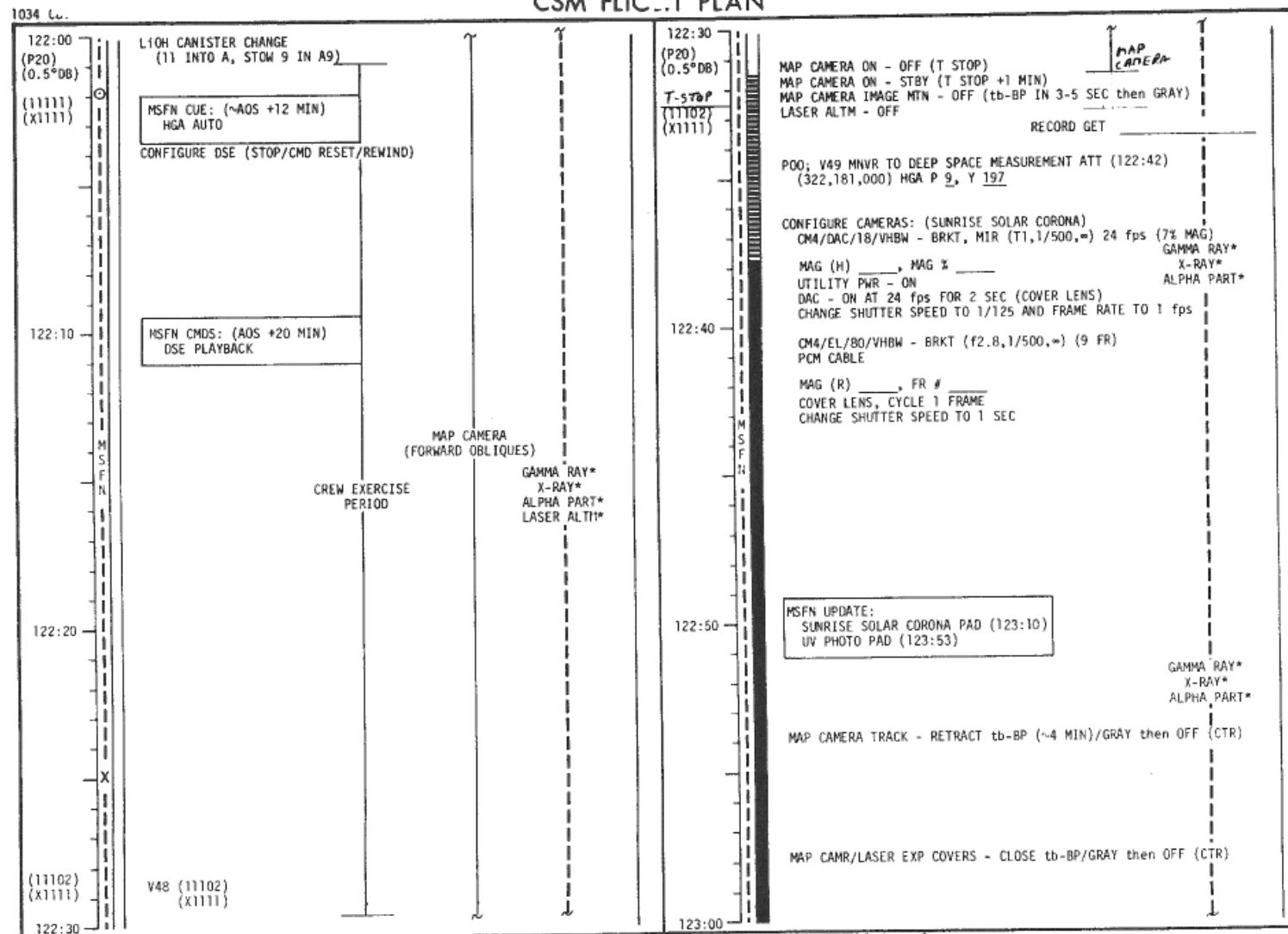
DRIVE TO STATION #3
OBSERVE FRONT MATERIAL RELATIVE TO MARE SURFACE

STATION #3

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	122:00 - 123:00	6/23	3-164

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-165

MCC-H

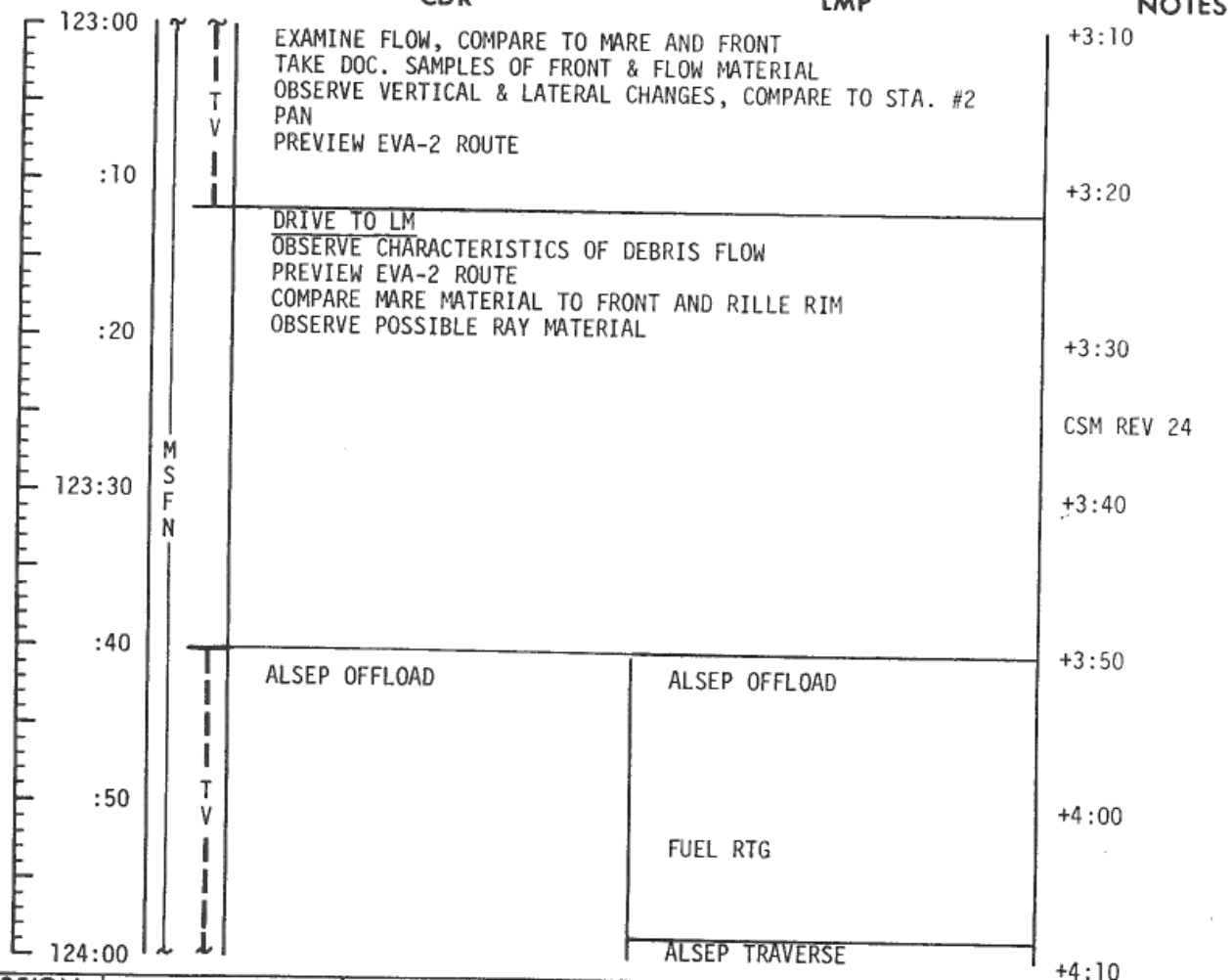
1134 CDT

LM FLIGHT PLAN

CDR

LMP

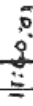
NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	123:00 - 124:00	6/23-24	3-166

FLIGHT PLANING BRANCH

2134 LEE, CHOI



LM FLIGHT PLAN

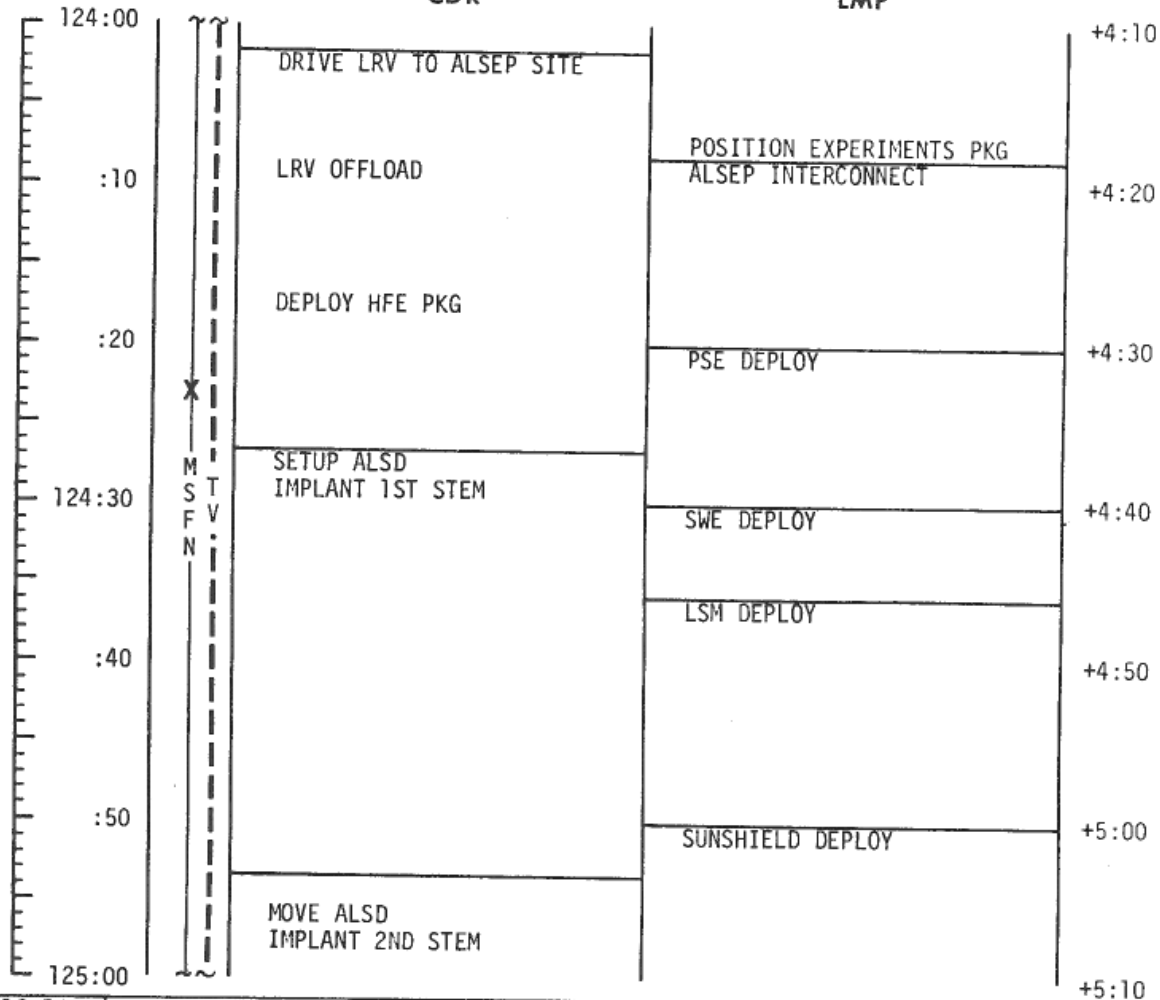
MCC-H

1234 CDT

CDR

LMP

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	124:00 - 125:00	6/24	3-168

FLIGHT PLAN NG BRANCH

1234 CDT

CSM FLIGHT PLAN

124:00 (11102) (X1111)	CONFIGURE CAMERA (UV COLOR PHOTOS OF EARTH) CM5/EL/105/CEX-BRKT, CONT (F8,1/250,=) (1 FR) RINGSLIDE MAG (M) _____, FR # _____ 1 FRAME, FILTER 4 REMOVE CAMERA & UV CARDBOARD SHADE, NOTE COMMENTS AS TO CONDITION OF CM5, REPLACE WINDOW COVER RECORD FR # _____	124:30 (P20) (5.0°DB) (11102) (X1111)	SUNSET SOLAR CORONA 0:00 - MISSION TIMER: RESET/START/(T START)(SS -5 MIN) VERIFY PCM BIT RATE HIGH 124:32:22 T-START DIM INTERIOR LIGHTS
(P20) (5.0°DB)	P20 OPT 5 (SS SOLAR CORONA ATT)(124:12) N78 (+000.00) (+090.00) (+000.00) N79 (+005.00) N70 (00050) (000,180/133,000) HGA P -45, Y 208		SOLAR CORONA PHOTO PAD (SS) T-START: 1 2 4:3 2:2 2 START MISSION TIMER AT SUNSET -5 MIN
124:10	MSFN CMDS: DSE DUMP		5:00 - DAC - ON 5:10 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/60 5:20 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/30 5:30 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/15 5:40 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/8 5:50 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/4 6:00 - 1 FRAME EL, CHANGE EL SHUTTER TO 1.0 6:10 - 1 FRAME EL 6:20 - CHANGE DAC SHUTTER TO 1/125 8:00 - DAC - OFF, CHANGE EL SHUTTER TO 1/500 REMOVE EL FROM WINDOW, COVER LENS, AND CYCLE 1 FRAME REMOVE DAC FROM WINDOW, COVER LENS, AND RUN AT 24 fps, AND SHUTTER SPEED 1/500 FOR 2 SEC LIGHTS - UP
	MSFN UPDATE: SUNSET SOLAR CORONA PAD (124:35)	GAMMA RAY* ALPHA PART* X-RAY*	124:40 124:50 (11101) (X1111)
	CONFIGURE CAMERAS: (SUNSET SOLAR CORONA) CM4/DAC/18/VHBM - BRKT, MIR (T1,1/500,=) 24 fps (7% MAG) MAG (H) _____, MAG % _____		RECORD MAG % _____, FR # _____ V48 (11101) (X1111)
124:20	UTILITY PWR - ON DAC - ON AT 24 fps FOR 2 SEC (COVER LENS) CHANGE FRAME RATE TO 1 fps CM4/EL/80/VHBM - BRKT (F2.8,1/500,=) (9 FR) PCM CABLE MAG (R) _____, FR # _____ COVER LENS, CYCLE 1 FRAME CHANGE SHUTTER TO 1/125		RESET MISSION TIMER CONFIGURE FOR URINE DUMP
			125:00 CMC MODE - FREE P00; V49 MNVR TO L4 PHOTO ATT (125:00) (328,293,354) OMNI D CMC MODE - AUTO H ₂ PURGE LINE HEATERS - ON CONFIGURE CAMERA: (LUNAR LIBRATION) INSTALL CAMERA SHIELD CM4/NK/55/VHBM - BRKT, (F1.2,1/500,=) (6 FR) MAG () _____, FR # _____
124:30			X-RAY EXP - STBY RECORD GET _____

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-169

MCC-H

1334 CDT

LM FLIGHT PLAN

CDR

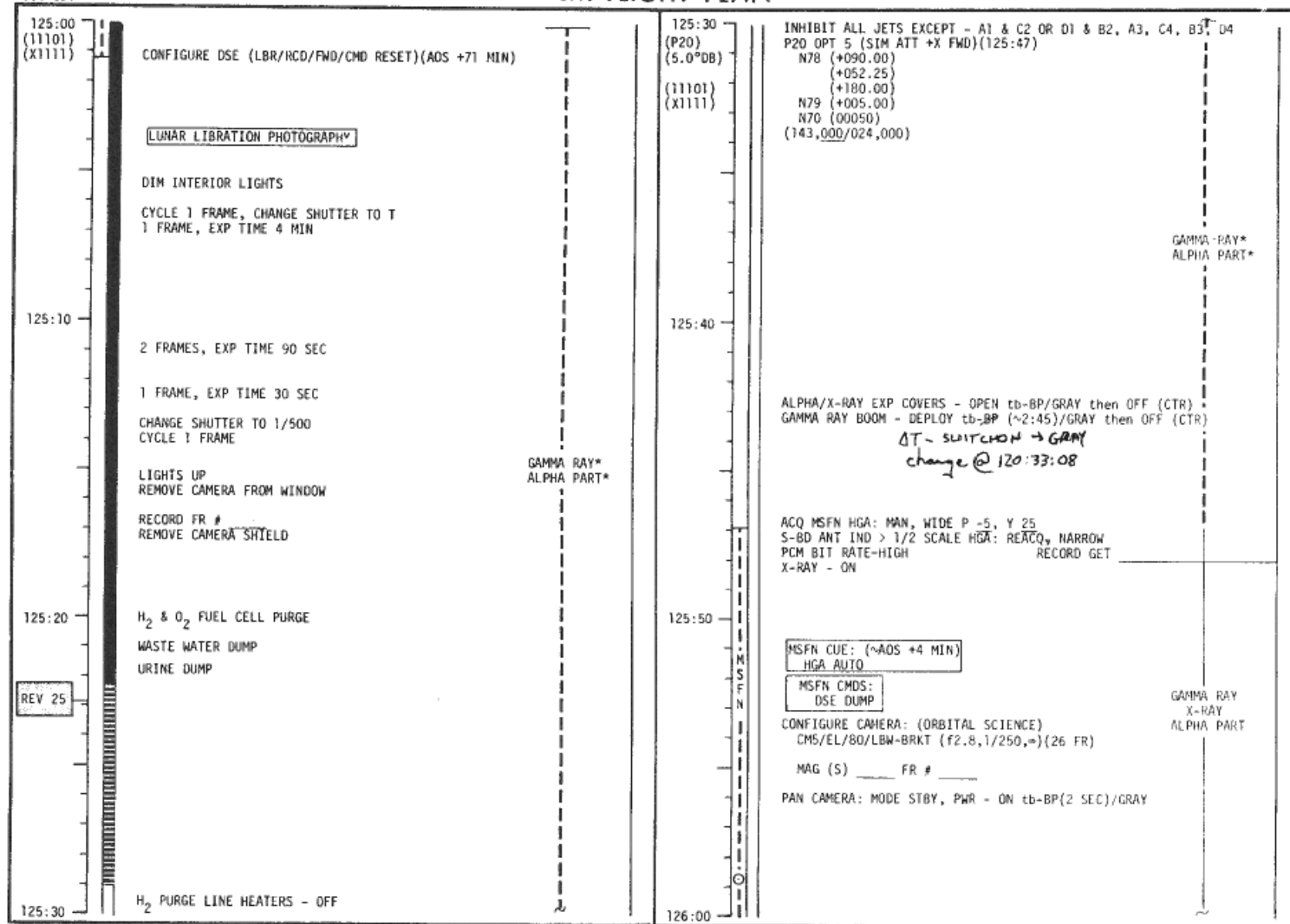
LMP

NOTES

125:00					+5:10
			CHECK ANTENNA LEVEL & ALIGN		
:10			SIDE/CCIG DEPLOY		+5:20
		MOVE ALSD TO LRV DRILL CORE SAMPLE			
:20			ACTIVATE CENTRAL STATION		+5:30
			DEPLOY LRRR		CSM REV 25
125:30		PHOTO PANS			
		CAP & STOW STEMS		ALSEP & LRRR PHOTOS	+5:40
:40					
		FILL SAMPLE BAGS		FILL SAMPLE BAGS	+5:50
:50		LRV TRAVERSE TO LM		LRV TRAVERSE TO LM	
					+6:00
		CONTAMINATED SAMPLE COLLECTION		CONTAMINATED SAMPLE COLLECTION	
126:00					
		POLARIMETRIC PHOTOGRAPHY		SWC DEPLOY	+6:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	125:00 - 126:00	6/24-25	3-170

FLIGHT PLANNING BRANCH



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/73	3-171

LM FLIGHT PLAN

MCC-H

1434 CDT

CDR

LMP

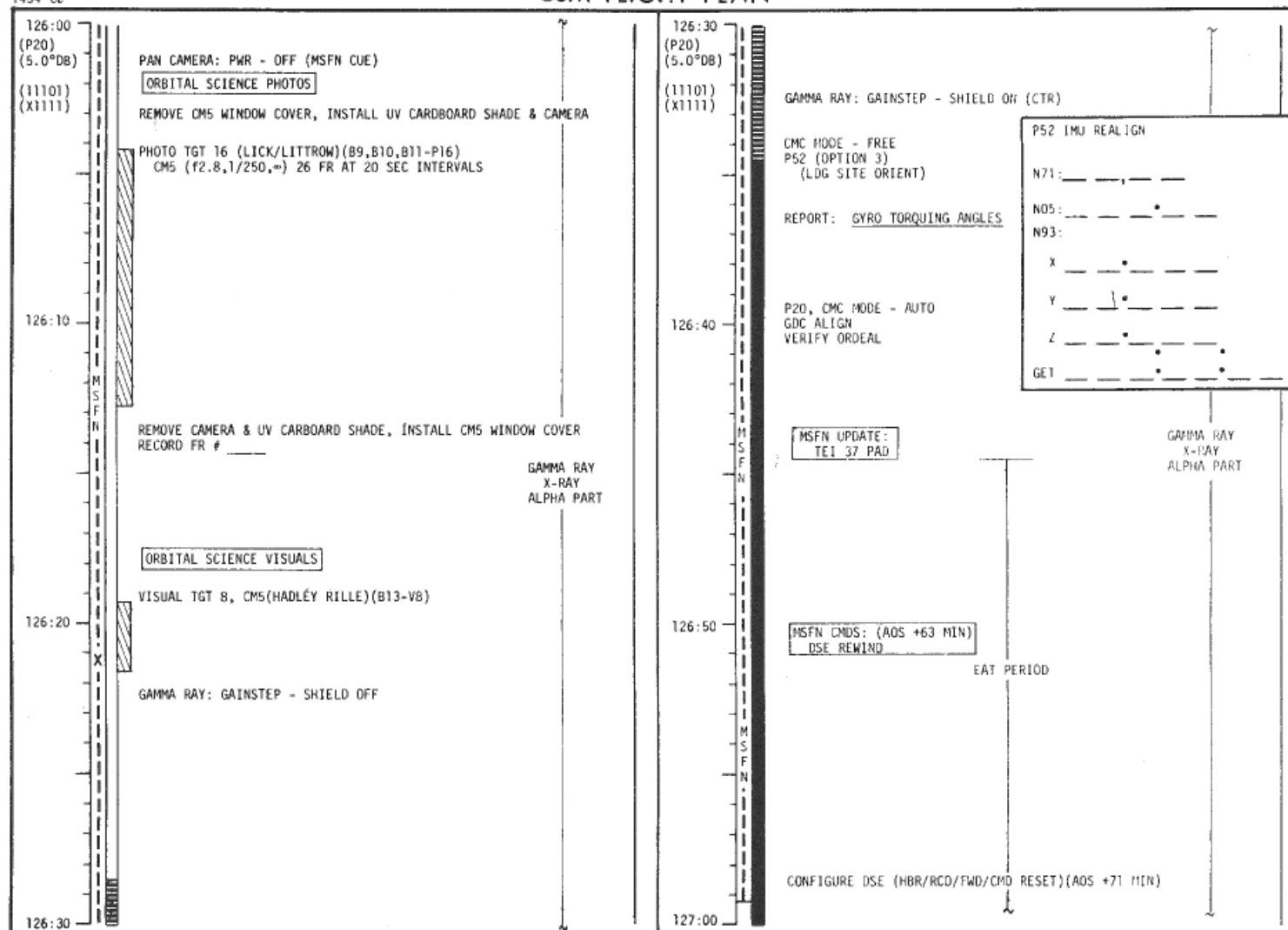
NOTES

126:00		FAR-FIELD POLARIMETRIC PHOTOGRAPHY		+6:10
		NEAR-FIELD POLARIMETRIC PHOTOGRAPHY	LM INSPECTION & PHOTOS	
:10		FLAG DEPLOY	FLAG DEPLOY	+6:20
		LOAD ETB		
:20		CLEAN EMU'S		+6:30
		STOW LMP PLSS ANTENNA		
126:30		STOW BSLSS & 500mm LENS CAMERA ON LRV	INGRESS	+6:40
		TRANSFER ETB	STOW SAMPLE BAG	
			TRANSFER ETB	
:40		INGRESS		+6:50
		CLOSE HATCH		
		REPRESS LM CABIN		
:50		POST EVA SYSTEMS CONFIGURATION		+7:00/END EVA
		CONFIGURE LM ECS, DOFF HELMETS & GLOVES		
		CONNECT LM ECS HOSES TO SUITS		
		CONNECT TO LM COMM, BIOMED LEFT		
127:00				+7:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	126:00 - 127:00	6/25	3-172

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-173

MCC-H

1534 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

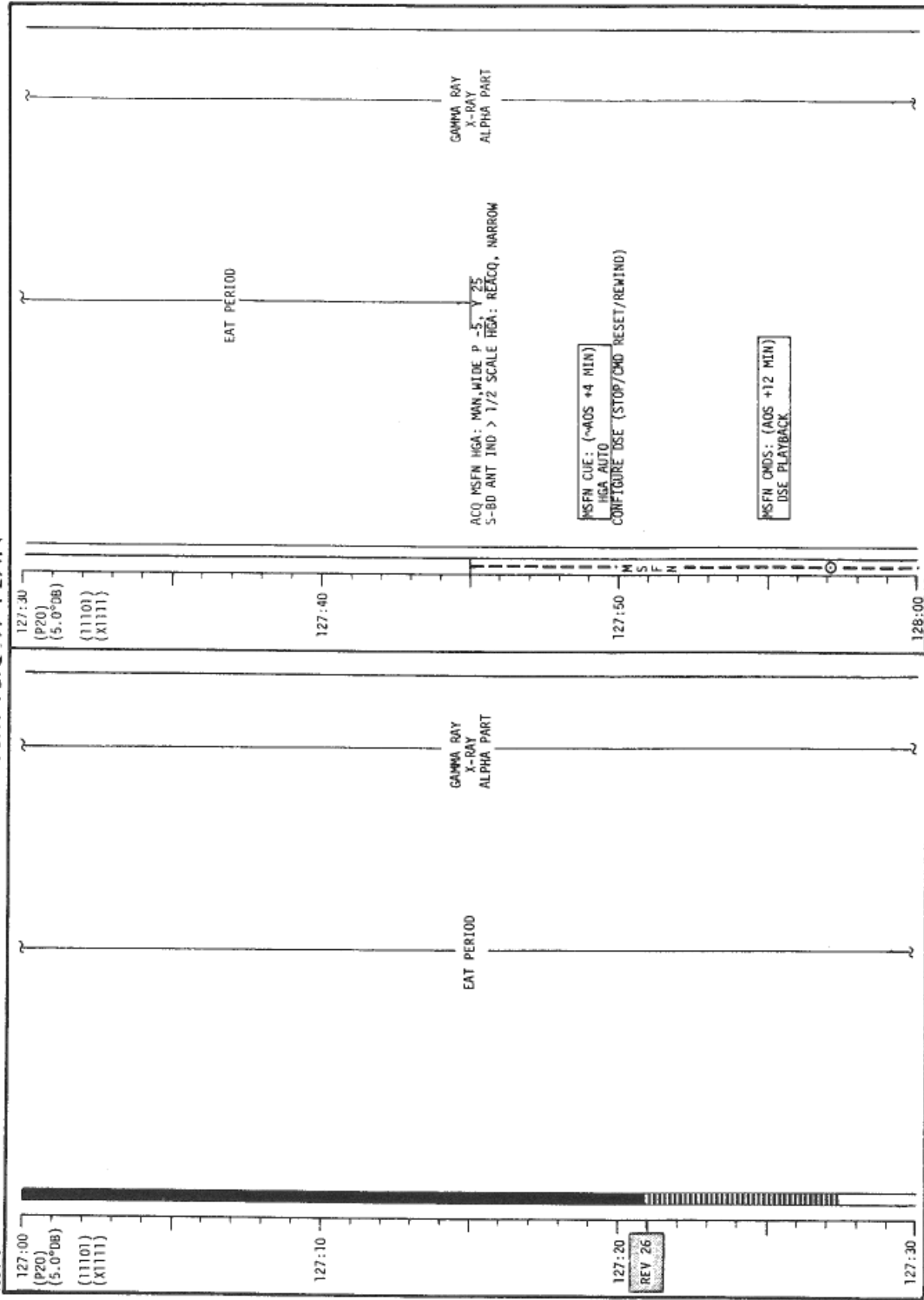
127:00		PLSS O ₂ INITIAL RECHARGE	+10
:10		PLSS/OPS DOFFING DISCONNECT OPS & RCU FROM PLSS LMP, THEN CDR DOFF PLSS/OPS	+20
:20		CHANGE PLSS LiOH CARTRIDGES & BATTERIES STOW OPS'S & PLSS'S	+30 CSM REV 26
127:30	M S F N	POST EVA CABIN CONFIGURATION UNSTOW LUNAR SURFACE CHECKLIST STOW EVA-1 PREP AND POST CARD STOW ETB BATS 1&2 - ON LUNAR BAT (LMP)-OFF/RESET CHECK BUS VOLTS	+40
:40		WEIGH SRC & COLLECTION BAG, REPORT WEIGHTS TO MCC-H STOW SRC & COLLECTION BAG	+50
:50		DOFF SUITS CDR, THEN LMP DOFF PGA & LCG, DON CWG & ICG CDR DOFF BIOMED HARNESS (IF DESIRED) BIOMED - OFF	+1:00
128:00			+1:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	127:00 - 128:00	6/25-26	3-174

FLIGHT PLANING BRANCH

CSM FLIGHT PLAN

1534



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-175

LM FLIGHT PLAN

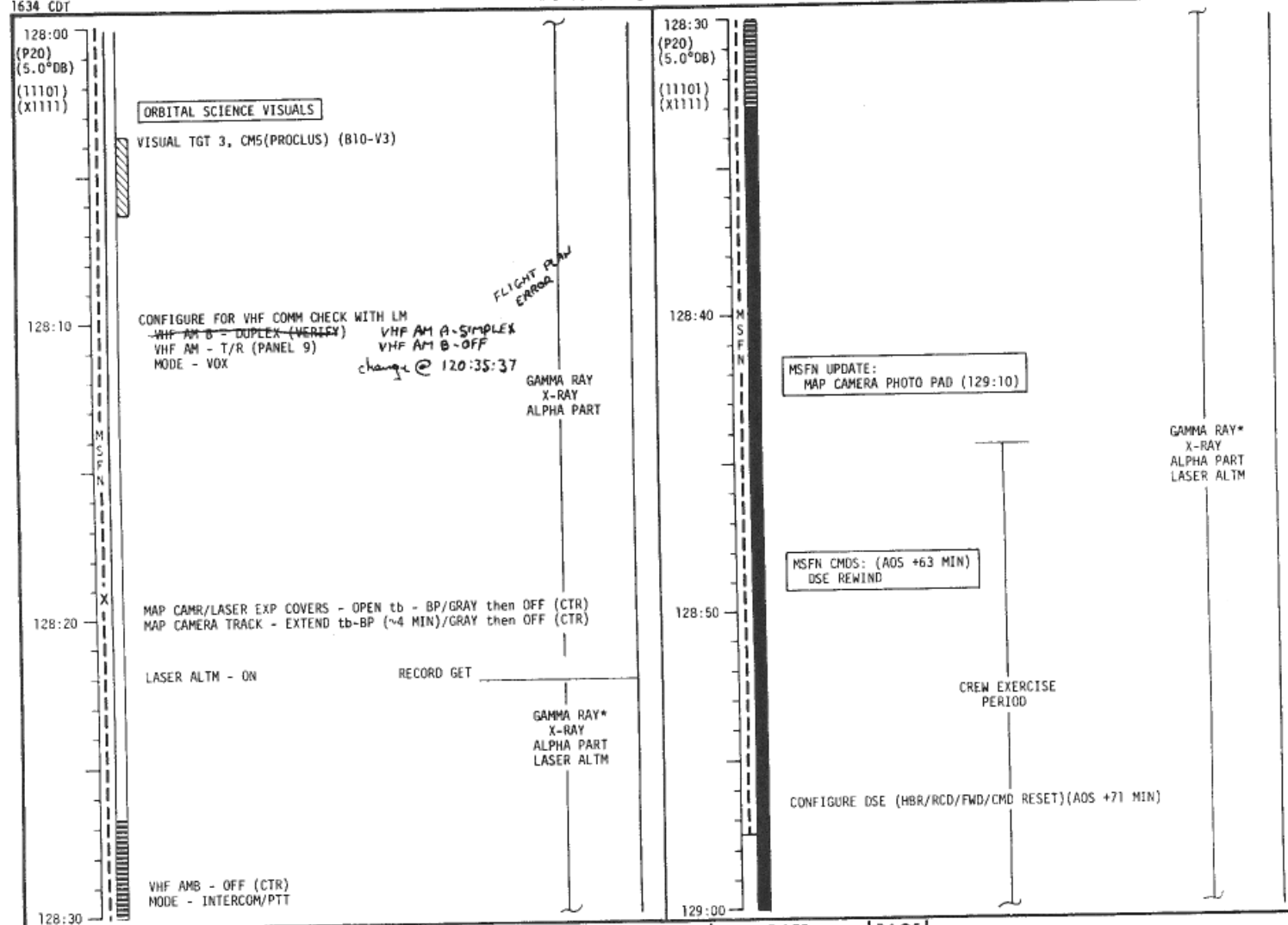
MCC-H	CDR	LMP	NOTES
1634 CDT			+1:10
128:00			
:10		STOW PGA'S ON AFT ENGINE COVER AND DRY VHF VOICE CHECK	+1:20
:20		BIOMED - RIGHT	+1:30
128:30		PLSS O ₂ & H ₂ O RECHARGE CONNECT LM O ₂ SUPPLY TO CDR PLSS AND FILL (10 MIN)	
:40		CONNECT LM H ₂ O SUPPLY TO CDR PLSS AND FILL (3 MIN) CONNECT LM O ₂ SUPPLY TO LMP PLSS AND FILL (10 MIN)	
:50		CONNECT LM H ₂ O SUPPLY TO LMP PLSS AND FILL (3 MIN)	
129:00		DEBRIEF REPORT PLSS RECHARGE STATUS CREW STATUS REPORT (MED, PRD)	

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	128:00 - 129:00	6/26	3-176

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN

1634 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-177

LM FLIGHT PLAN

MCC-H

1734 CDT

CDR

LMP

NOTES

129:00

:10

:20

129:30

:40

:50

130:00

M
S
F
N

EAT PERIOD

CSM REV 27

PRESLEEP

STOW LM LiOH CARTRIDGE, RCU'S, FOOD (AS REQD), LEVA'S

CONFIGURE HAMMOCKS FOR SLEEP

UPDATE TO LM
L/O TIMES REVS 28
THRU 31

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	129:00 - 130:00	6/26-27	3-178

FLIGHT PLANNING BRANCH

LM FLIGHT PLAN

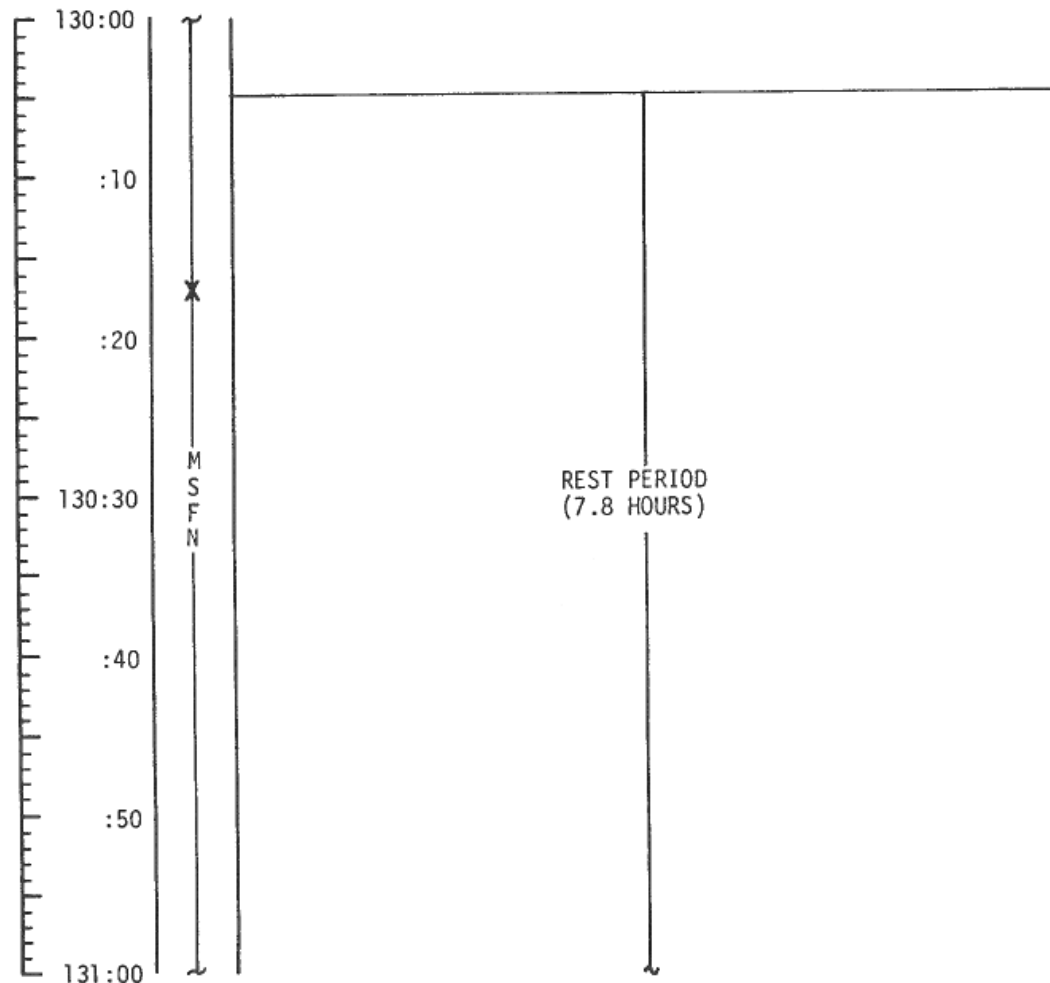
MCC-H

1834 CDT

CDR

LMP

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	130:00 - 131:00	6/27	3-180

FLIGHT PLANNING BRANCH

1834

CSM FLIGHT PLAN

130:00 (P20) (0.5°DB)	CSM SYSTEMS CHECKLIST PERFORM ONLY THE FOLLOWING IN PRESLEEP CHECKLIST PAGE S/1-26 CREW STATUS REPORT ONBOARD READOUTS CYCLE CRYO FANS "E" MEMORY DUMP MSFN UPDATE: PAN CAMERA PHOTO PAD PAN CAMERA PHOTO PAD T-START: <u>130:18:05</u> T-STOP: <u>130:19:16</u>	ONBOARD READOUT BAT C _____ PYRO BAT A _____ PYRO BAT B _____ RCS A _____ B _____ C _____ D _____ DC IND SEL - MNA OR B	130:30 (P20) (0.5°DB)	CMC MODE - FREE P52 (OPTION 3) (LDG SITE ORIENT) REPORT: <u>GYRO TORQUING ANGLES</u> P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL	GAMMA RAY* X-RAY ALPHA PART LASER ALTM MASS SPECT OUTGAS P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____
130:10	PAN CAMERA: MODE-STBY, PWR-ON tb-BP (2 SEC)/GRAY, STEREO, EXPOSURE - NORMAL (CTR) PAN CAMERA MODE - OPR tb-BP (2 SEC)/GRAY(T START) PAN CAMERA MODE - STBY (T STOP) MSFN: VERIFY LENS TUCK IN PAN CAMERA: PWR - OFF	GAMMA RAY* X-RAY ALPHA PART LASER ALTM PAN CAMERA MAP CAMERA MAP CAMERA ON - OFF (T STOP) MAP CAMERA ON - STBY (T STOP +1 MIN) MAP CAMERA IMAGE MTN - OFF (tb-BP IN 3-5 SEC then GRAY) MASS SPECT BOOM - DEPLOY tb - BP (~2:40)/GRAY then OFF (CTR) GAMMA RAY BOOM - DEPLOY tb-BP (~2:45)/GRAY then OFF (CTR) RECORD GET	130:40	X-RAY - STBY LASER ALTM - OFF MAP CAMERA TRACK - RETRACT tb-BP (4 MIN)/GRAY-then OFF (CTR) ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR) MSFN CMDS: (AOS +63 MIN) DSE REWIND MAP CAMR/LASER EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR) P00 AT PITCH OF 17.0 R66 129:51:39 P00 AT PITCH OF 17.0 CONFIGURE DSE (LBR/RCD/FWD/CMD RESET)(AOS +71 MIN)	RECORD GET GAMMA RAY ALPHA PART MASS SPECT OUTGAS
130:20		as read up	130:50		
130:30	MASS SPECT: EXP - ON, ION SOURCE - STBY		131:00		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-181

MCC-H

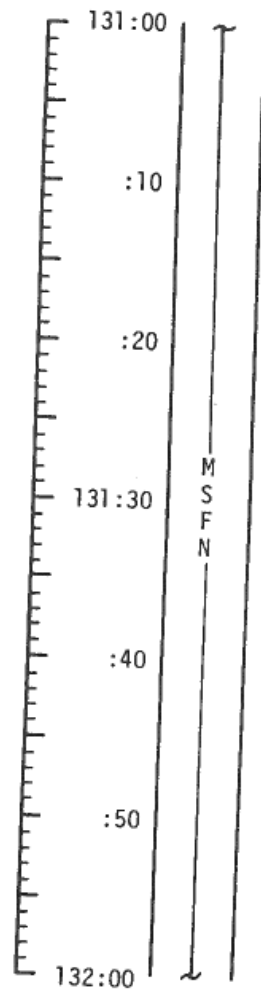
1934 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES



REST PERIOD
(7.8 HOURS)

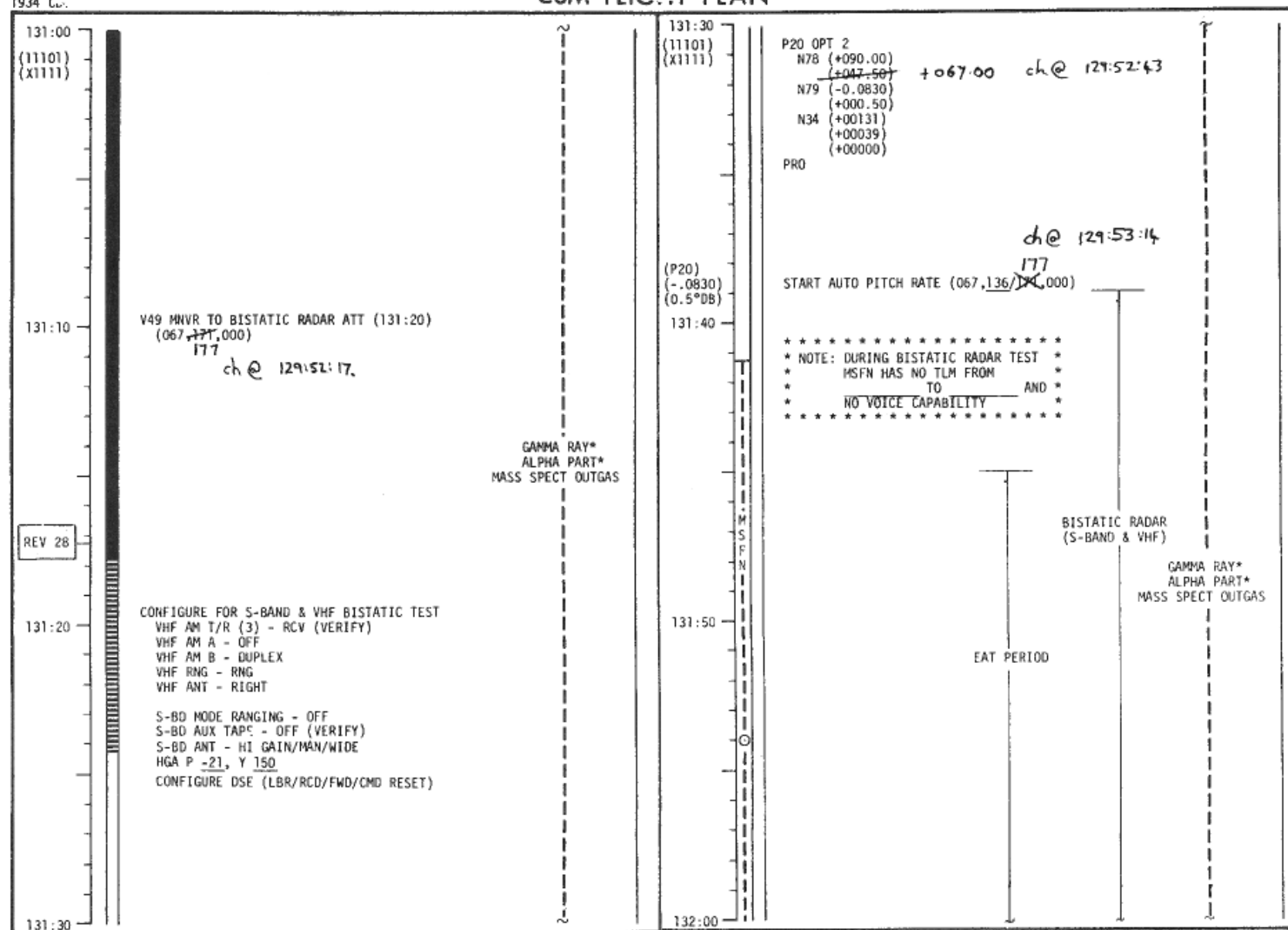
CSM REV 28

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	131:00 - 132:00	6/27-28	3-182

FLIGHT PLAN NG BRANCH

1934

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-183

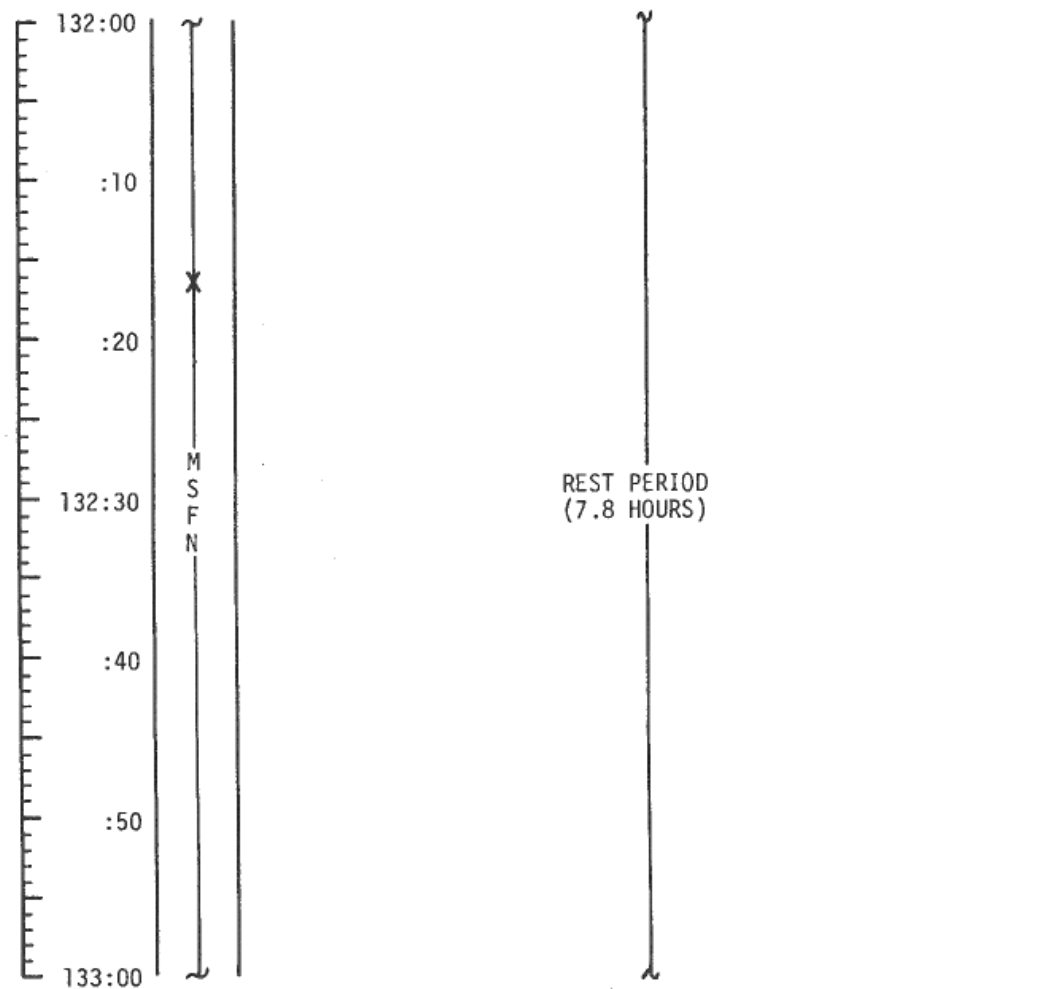
CDR

LMP

NOTES

MCC-H

2034 CDT

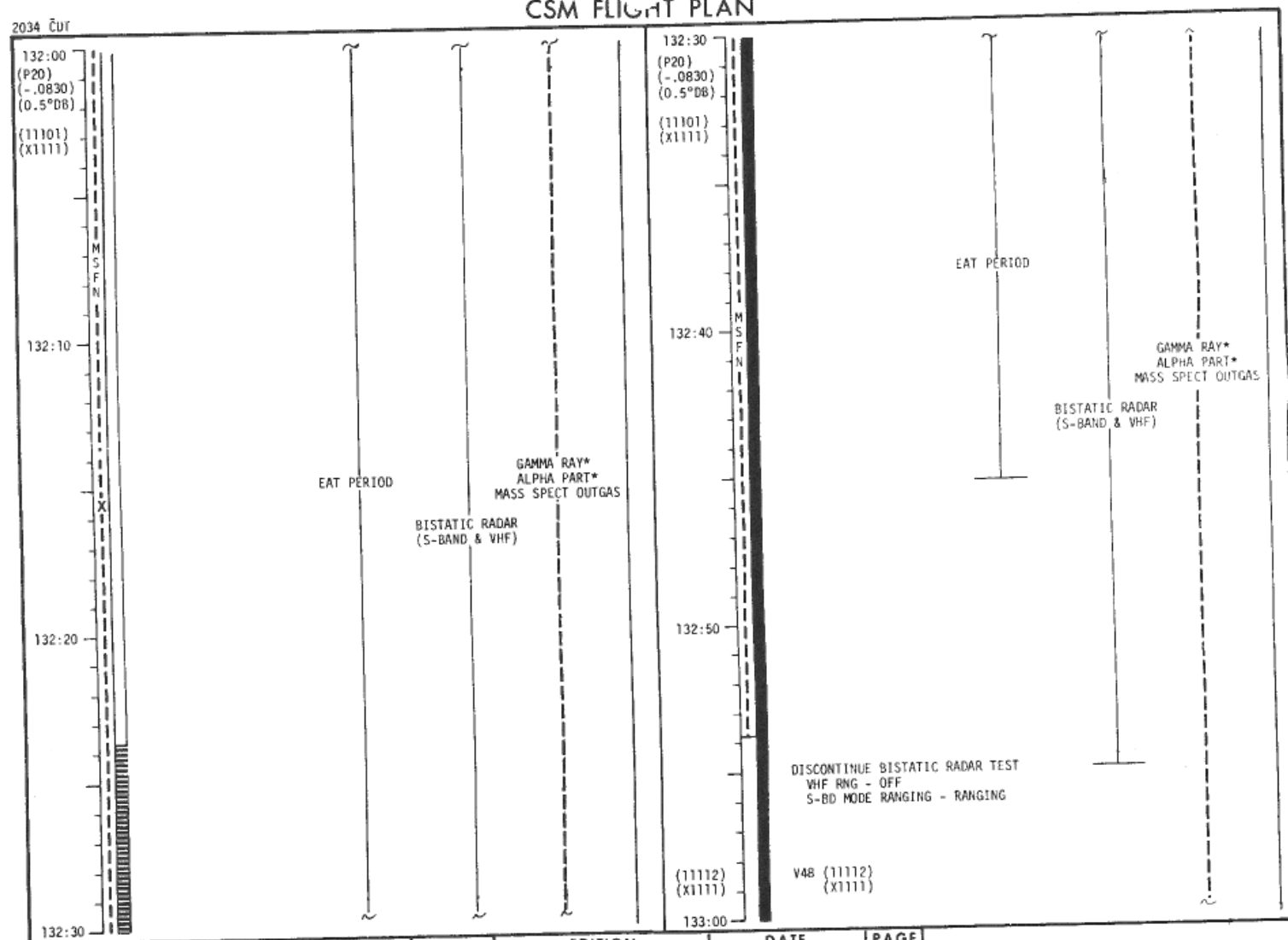


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	132:00 - 133:00	6/28	3-184

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

2034 Cut



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-185

LM FLIGHT PLAN

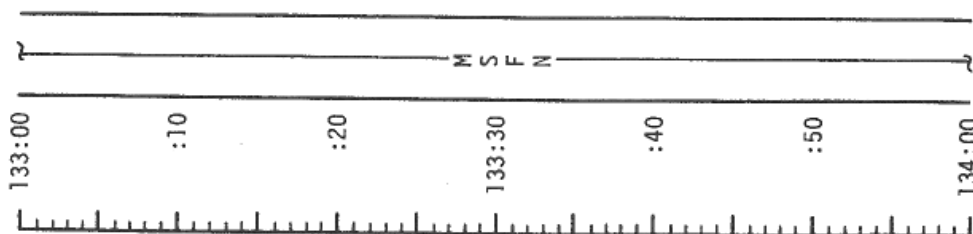
MCC-H

2134 CDT

CDR

LMP

NOTES



CSM REV 29

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	133:00 - 134:00	6/28-29	3-186

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

2134 CDT

133:00
(P20)
(5.0°DB)
(11112)
(X1111)

CMC MODE - FREE
P20 OPT 5 (-X FWD SIM ATT) (133:15)
N78 (+090.00)
(+052.25)
(+000.00)
N79 (+005.00)
N70 (00050)
(322,180/282,000)

GAMMA RAY*
ALPHA PART*
MASS SPECT OUTGAS

(P20)
(5.0°DB)

CMC MODE - AUTO

133:10

(11111)
(X1111)

V48 (11111)
(X1111)

PCM BIT RATE - HIGH

REV 29

ALPHA/X-RAY EXP COVERS - OPEN to BP/GRAY then OFF (CTR)
X-RAY - ON
MASS SPECT MULT - LOW, DSCRM - HIGH, ION SOURCE - ON
LOGIC POWER (2) - OFF

RECORD TIME

CSM SYSTEMS CHECKLIST

PERFORM PRE-SLEEP CHECKLIST PAGE S/1-26 EXCEPT:

CREW STATUS REPORT
ONBOARD READOUTS
CYCLE CYRO FANS
"E" MEMORY DUMP
VHF AM T/R - RCV (PANEL 9)
VHF AM B - DUPLEX

REST PERIOD
(7 HOURS)

GAMMA RAY
X-RAY
ALPHA PART
MASS SPECT

133:20

133:30

133:30
(P20)
(5.0°DB)
(11111)
(X1111)

133:40

133:50

134:00

REST PERIOD
(7 HOURS)

GAMMA RAY
X-RAY
ALPHA PART
MASS SPECT

MSFN CMDS: (AOS +10 MIN)
DSE REWIND

LAST
(24M)

MSFN CMDS: (AOS +18 MIN)
DSE PLAYBACK

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-187

LM FLIGHT PLAN

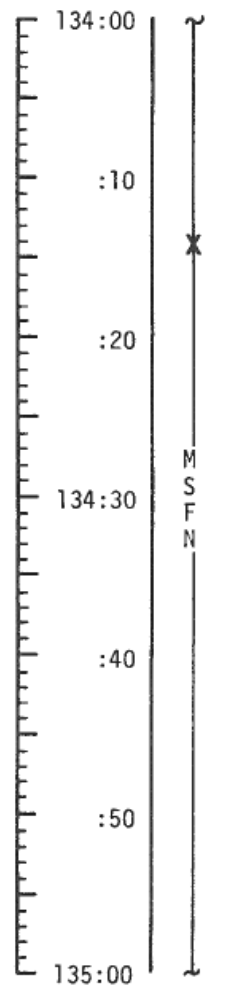
MCC-H

2234 CDT

CDR

LMP

NOTES

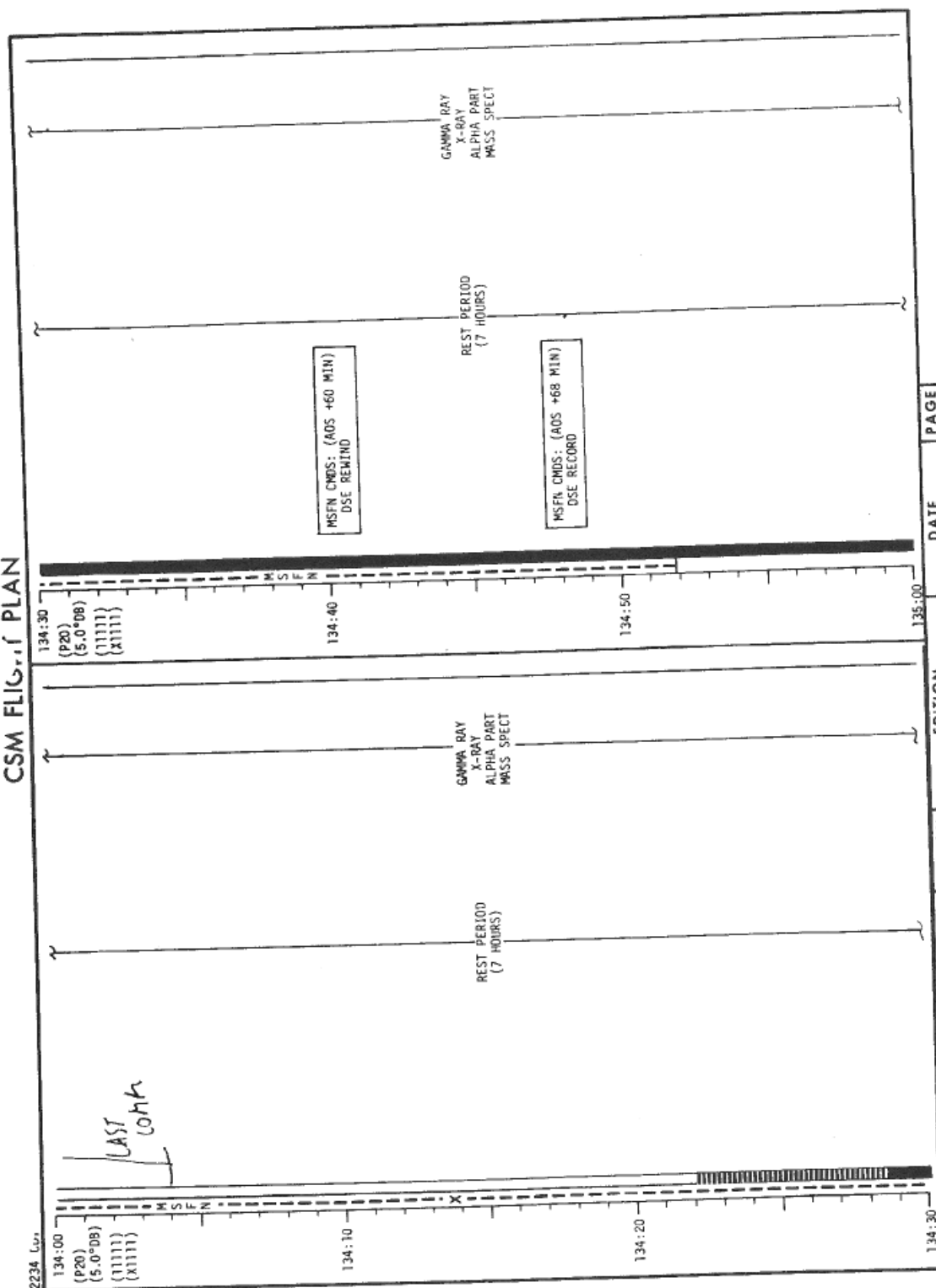


REST PERIOD
(7.8 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	134:00 - 135:00	6/29	3-188

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-189

LM FLIGHT PLAN

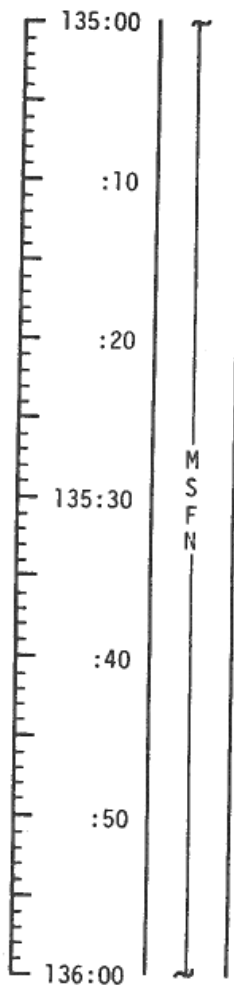
MCC-H

2334 CDT

CDR

LMP

NOTES



REST PERIOD
(7.8 HOURS)

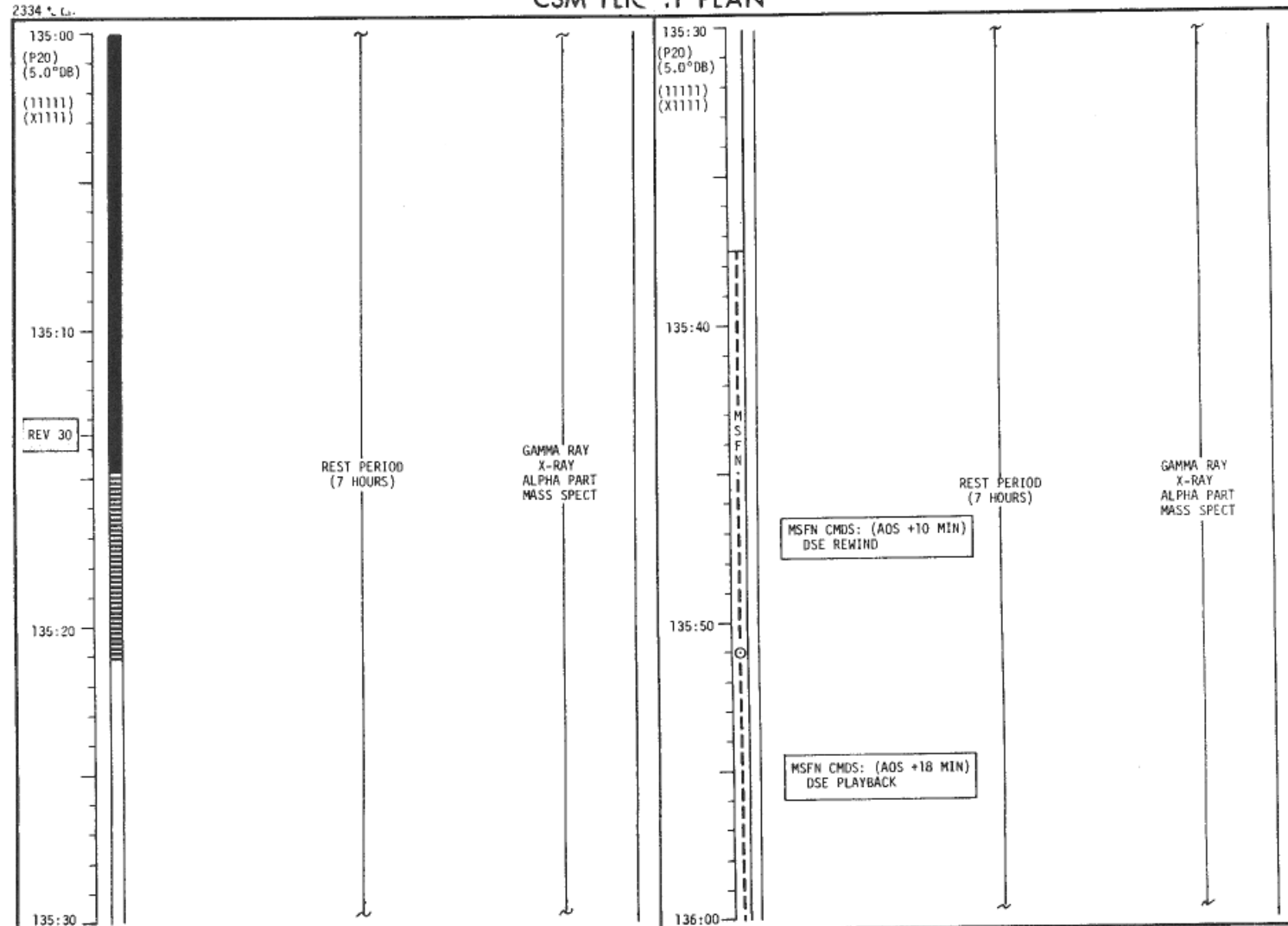
CSM REV 30

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	135:00 - 136:00	6/29-30	3-190

FLIGHT PLAN NG BRANCH

2334 L. L.

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-191

LM FLIGHT PLAN

MCC-H

0034 CDT

CDR

LMP

NOTES

136:00
:10
:20
136:30
:40
:50
137:00

X
M
S
F
N

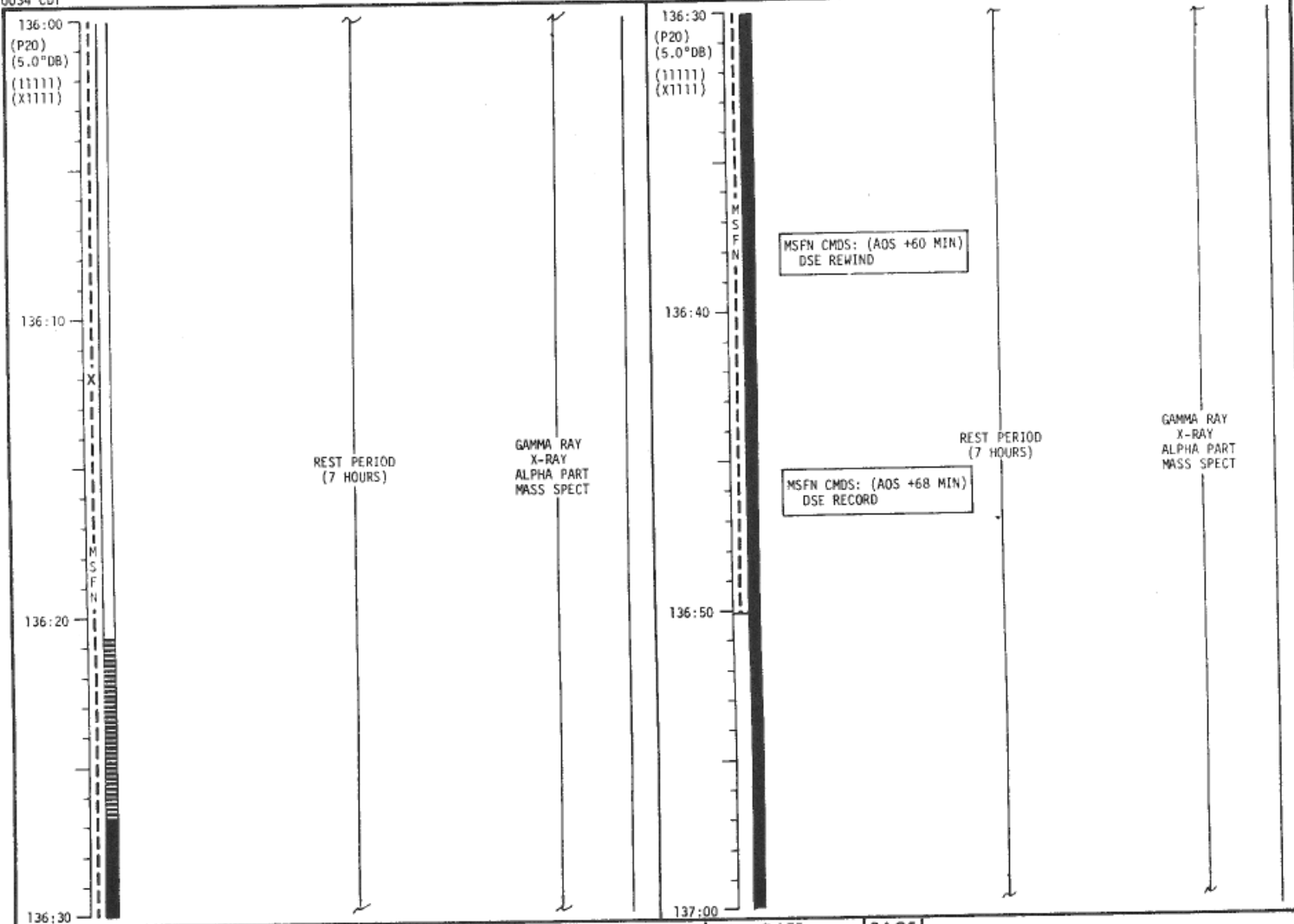
REST PERIOD
(7.8 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	136:00 - 137:00	6/30	3-192

FLIGHT PLAN BRANCH

0034 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-193

NOTES

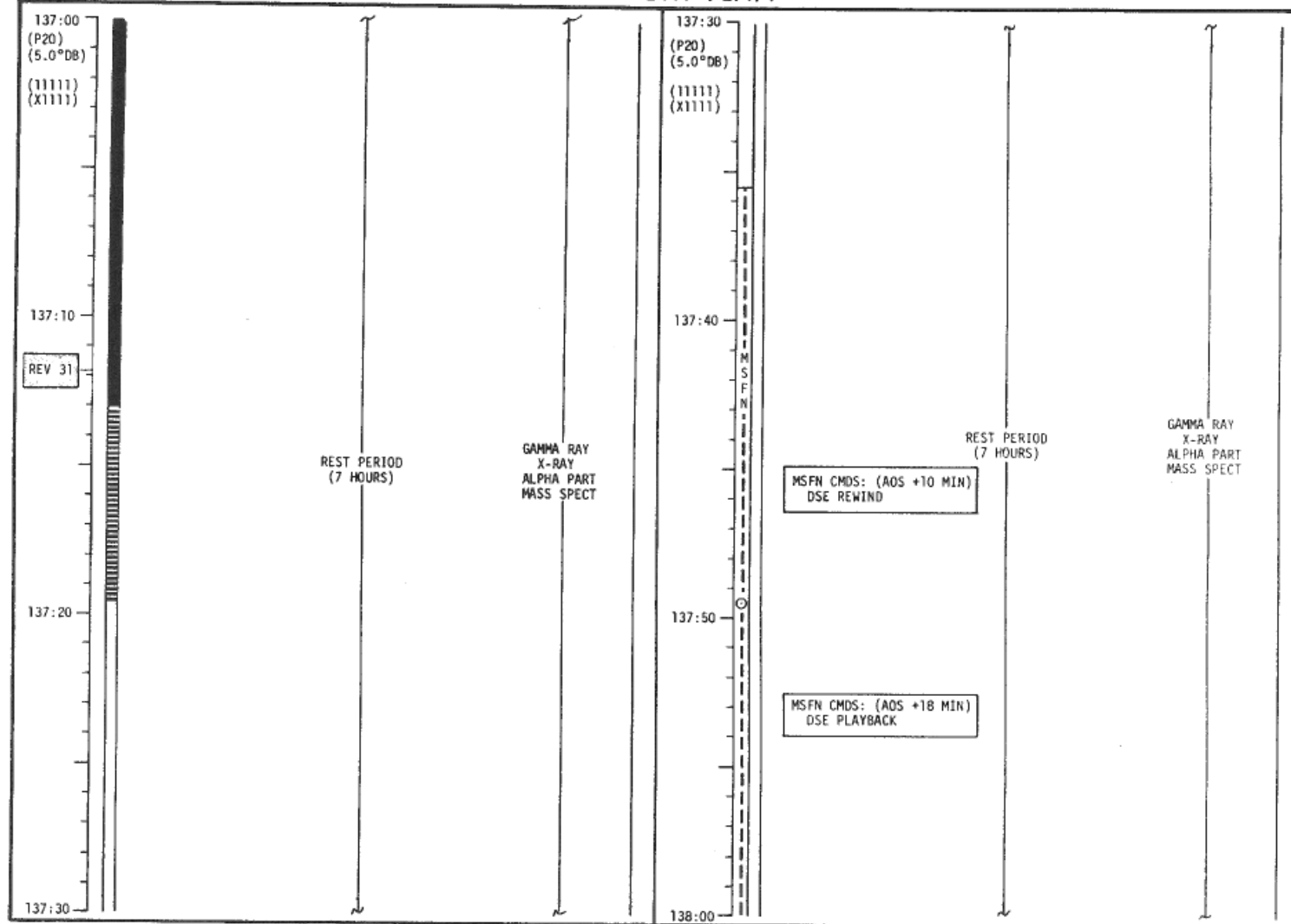
138:00

POST SLEEP & EVA-2 PLANNING

CSM REV 31

0134 66.

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-195

LM FLIGHT PLAN

MCC-H

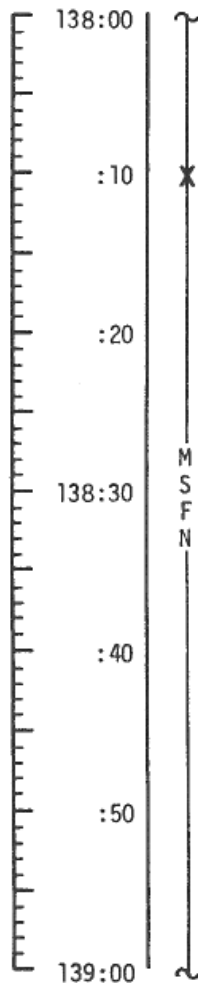
0234 CDT

CDR

LMP

NOTES

UPDATE TO LM
LM CONSUMABLES
TIME OF LIFT-OFF
FOR REVS 32
THROUGH 37



POST SLEEP AND EVA-2 PLANNING
CREW STATUS (RADIATION, MEDICATION)
PRO, RESET LGC CLOCK, P06

EAT PERIOD

DON SUITS

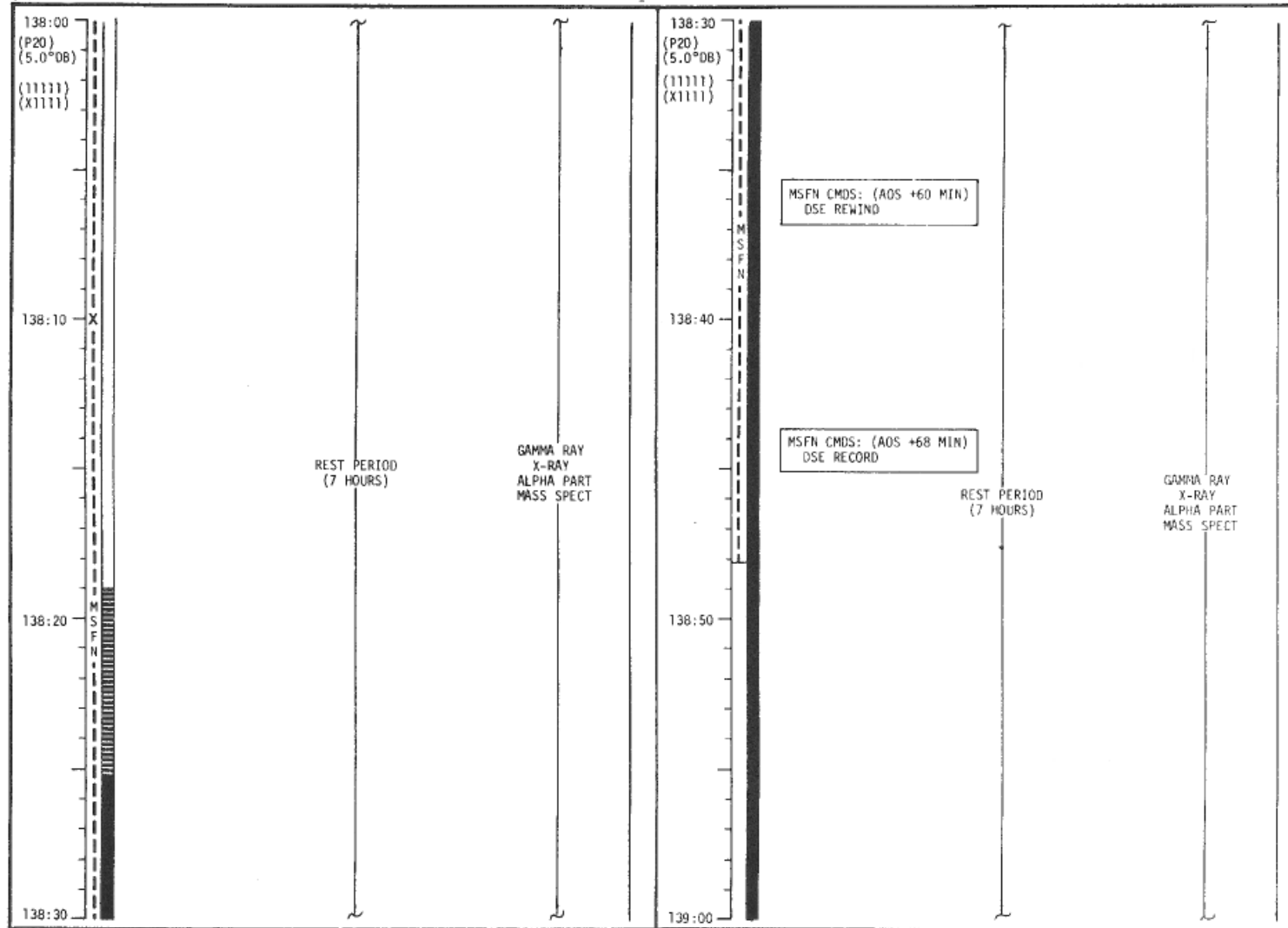
BIOMED - OFF

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	138:00 - 139:00	7/31	3-196

FLIGHT PLANNING BRANCH

023-

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/27/71	3-197

MCC-H

0334 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

139:00
:10
:20
139:30
:40
:50
140:00

M
S
F
N

LMP, THEN CDR CLEAN & LUB PGA'S
DOFF ICG & CWG, DON LCG & PGA
CONNECT HOSES

CDR DON BIOMED HARNESS

VERIFY COMM

BIOMED - LEFT

EVA-2 PREP
STOW ALL LOOSE ITEMS NOT REQD FOR EVA

UNSTOW EVA-2 PREP & POST CARD

STOW LUNAR SURFACE CHECKLIST

UNSTOW AND CHECK BOTH OPS

CSM REV 32

-1:30

-1:20

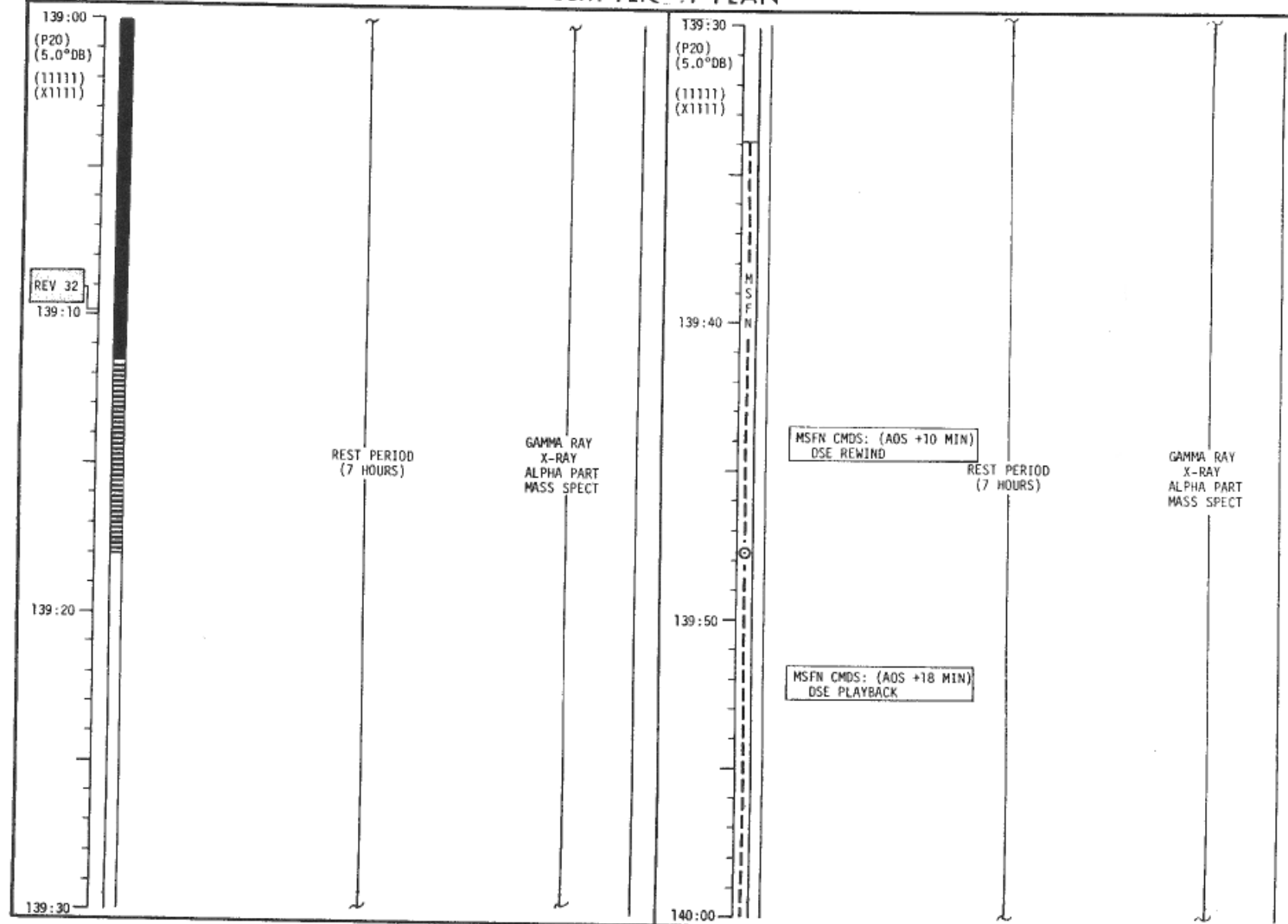
-1:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	139:00 - 140:00	7/31-32	3-198

FLIGHT PLAN NG BRANCH

0334

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-199

MCC-H

0434 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

140:00		PREPARE VISORS & HELMETS FOR EVA UNLOCK FORWARD HATCH HANDLE	-1:10
:10		<u>PLSS DONNING</u> CONFIGURE LMP PLSS ATTACH OPS TO PLSS LMP DON PLSS/OPS CONNECT RCU TO PGA AND PLSS UNSTOW LMP OPS O2 ACTUATOR AND CONNECT TO RCU CDR REPEAT PLSS DONNING	-1:00
:20			-:50
140:30	M S F N	<u>PLSS COMM CHECK</u> VERIFY POWERDOWN CB CONFIGURATION, RECORDER - ON CONFIGURE FOR EVA COMM, BIOMED - OFF VERIFY PLSS COMM & TM REPORT PLSS O2 QUANTITIES TO MCC-H FINAL SYSTEM PREP	-:40
:40		<u>OPS CONNECT</u> CONNECT OPS O2 HOSE TO PGA CDR REPEAT OPS CONNECT	-:30
:50		<u>HELMET/GLOVE DONNING</u> PLSS FAN - ON DON HELMETS AND LEVA'S VERIFY PGA CONFIGURATION VERIFY CB CONFIGURATION DON GLOVES	-:20
141:00			-:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	140:00 - 141:00	7/32	3-200

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0434 001	140:00 (P20) (5,0°08) (11111) (X1111)	140:10	140:20	140:30 (P20) (5,0°08) (11111) (X1111)	140:40	140:50	141:00 (P20) (5,0°08)
CSM CONSUMABLES UPDATE GET: _____ RCS TOTAL _____ QUAD A _____ B _____ C _____ D _____ H ₂ TANK 1 _____ 2 _____ 3 _____ O ₂ TANK 1 _____ 2 _____ 3 _____		REST PERIOD (7 HOURS)		CSM SYSTEMS CHECKLIST POST-SLEEP CHECKLIST PAGE 5/1-26 MSFN UPLINK: CSM S.V. MSFN CMDS: (AOS +60 MIN) DSE REMIND MSFN UPDATE: MAP CAMERA PHOTO PAD (141:13) PAN CAMERA PHOTO PAD (141:25) CONSUMABLES FLIGHT PLAN		GAMMA RAY X-RAY ALPHA PART MASS SPECT	
		CMC MODE - FREE P52 (OPTION 3) (LDG SITE ORIENT) MSFN CMDS: (AOS +68 MIN) DSE REMIND P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL VERIFY DSE TAPE MOTION (HBR/RCD/FWD/CMD RESET) MANUALLY ROLL CN 40°		P20 OPT 5 (+X FWD SIM ATT) (141:11) V23N78 (+180.00) (142,000/096,000) MASS SPECT: ION SOURCE - OFF, EXP - STRY CAUTION - WAIT 5 MIN BEFORE RETRACTING MASS SPECT BOOM RECORD GET		Does the P52 not alter the alt?	
P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____							

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/27/71	3-201

LM FLIGHT PLAN

MCC-H

0534 CDT

CDR

LMP

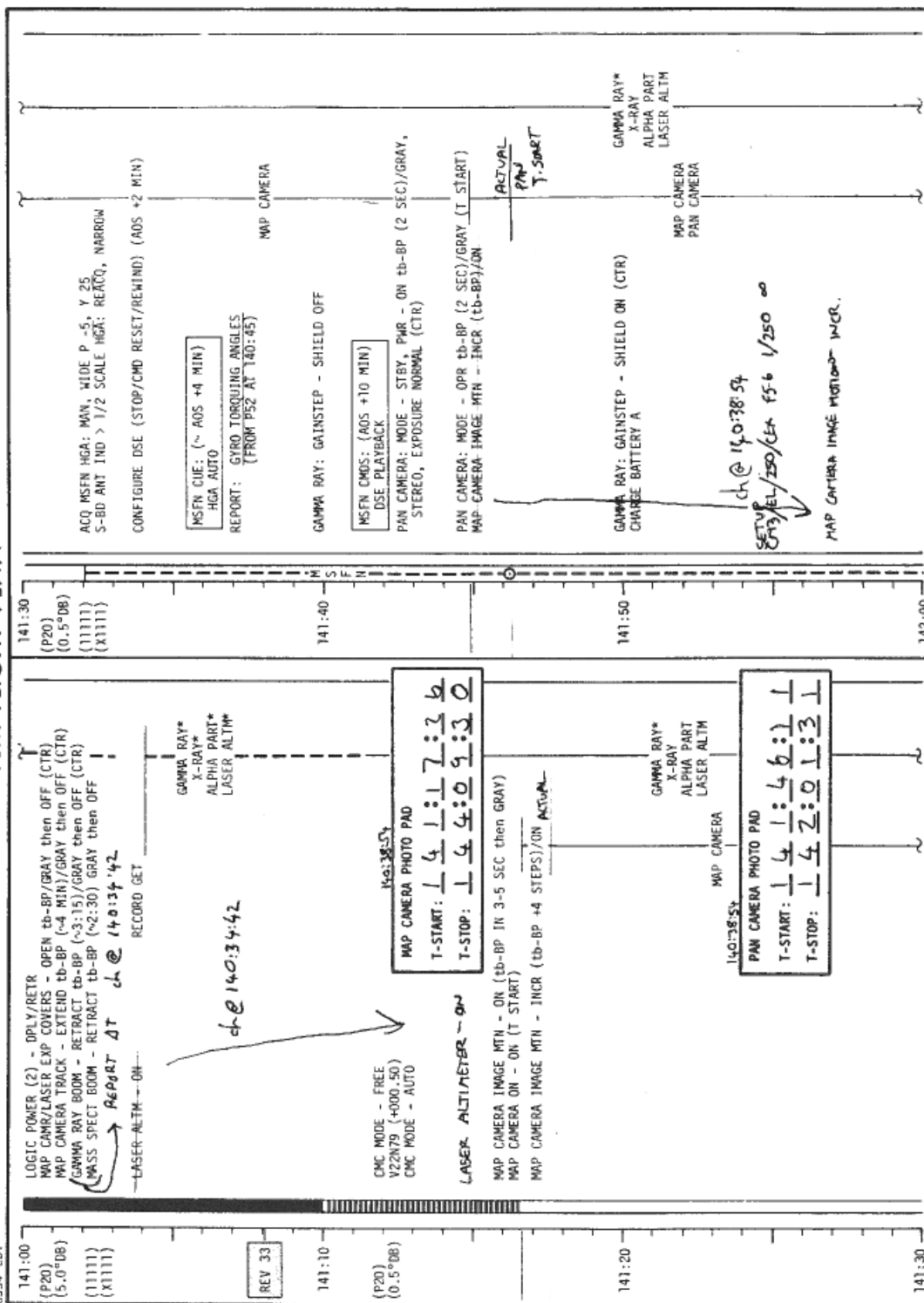
NOTES

GO/NO-GO FOR
DEPRESS

141:00	~	PRESSURE INTEGRITY CHECK		-:10
:10		CABIN DEPRESS START EVA WATCH AT 3.5 PSIA CABIN PRESS		CSM REV 33 0:00 START EVA-2
		PARTIALLY OPEN HATCH FINAL PREP FOR EGRESS OPEN FWD HATCH		
:20		EGRESS	RECORDER - OFF RELEASE CDR PLSS ANTENNA	:10
		EQUIPMENT TRANSFER		
141:30	M S T F N	LCRU ACTIVATION		:20
:40		RELEASE LMP PLSS ANTENNA EQUIPMENT PREP	EGRESS EQUIPMENT PREP	:30
:50		LRV NAV INITIALIZATION	LRV NAV INITIALIZATION	:40
142:00	~			:50

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	141:00 - 142:00	7/32-33	3-202

FLIGHT PLANNING BRANCH



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-203

MCC-H

0634 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

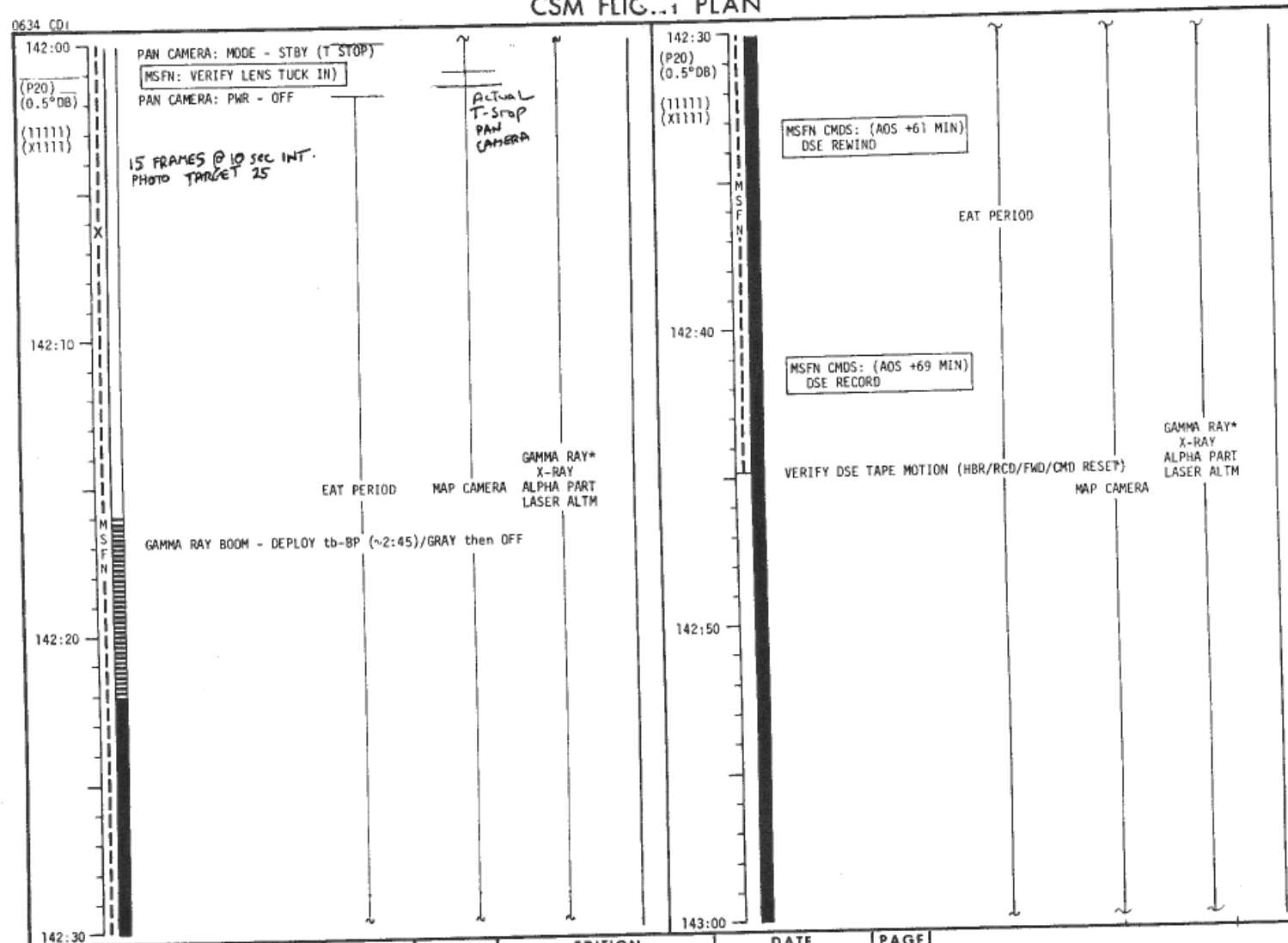
142:00	~	<u>DRIVE TO STATION #4</u>	:50
	X	OBSERVE SMOOTH MARE & SECONDARY CRATER CLUSTER CHARACTERISTICS PHOTOGRAPHY AS APPROPRIATE	
:10		CHECK POINT (2 MIN)	1:00
:20			1:10
142:30	M S F N	<u>STATION #4</u> SOIL/RAKE SAMPLE DOCUMENTED SAMPLES PAN 500mm PHOTOGRAPHY OF FRONT EXPLORATORY TRENCH OBSERVE CRATER INTERIOR & EJECTA COMPARE SECONDARY CRATER MATERIAL TO OTHER TERRAIN GEOLOGIC UNITS POSSIBLE CORE TUBE THROUGH SECONDARY EJECTA	1:20
:40	T V		1:30
:50		<u>DRIVE TO FRONT</u> OBSERVE SMOOTH MARE & SECONDARY CRATER CLUSTER CHARACTERISTICS	1:40
143:00	~	CHECK POINT (FRONT)	1:50

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	142:00 - 143:00	7/33	3-204

FLIGHT PLANING BRANCH

CSM FLIGHT PLAN

0634 CD1



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-205

LM FLIGHT PLAN

MCC-H

0734 CDT

CDR

LMP

NOTES

1:50

CSM REV 34

2:00

2:10

2:20

2:30

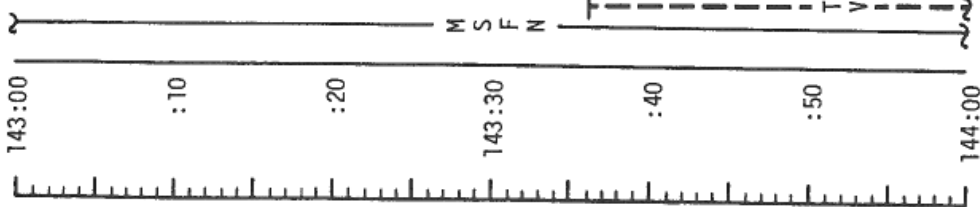
2:40

2:50

DRIVE TO STATION #5
DETERMINE POSITION OF BASE OF FRONT AND SEARCH
FOR OPTIMUM SAMPLING AREAS FOR STOPS ON RETURN
PHOTOGRAPHY AS APPROPRIATE
OBSERVE POSSIBLE DEBRIS FLOWS, DOWNSLOPE MOVEMENT,
AND LOOK FOR SOURCE
CHECK POINT (4 MIN)

CHECK POINT (4 MIN)

STATION #5
DOCUMENTED SAMPLES FROM UPSLOPE SIDE AND NORTHERN
RIM OF FRONT CRATER
STEREO PAN
EXPLORATORY TRENCH UPSLOPE OF FRONT CRATER
500MM PHOTOGRAPHY OF TARGETS OF OPPORTUNITY
DC STEREO PAIRS UPSLOPE AT TARGETS OF OPPORTUNITY

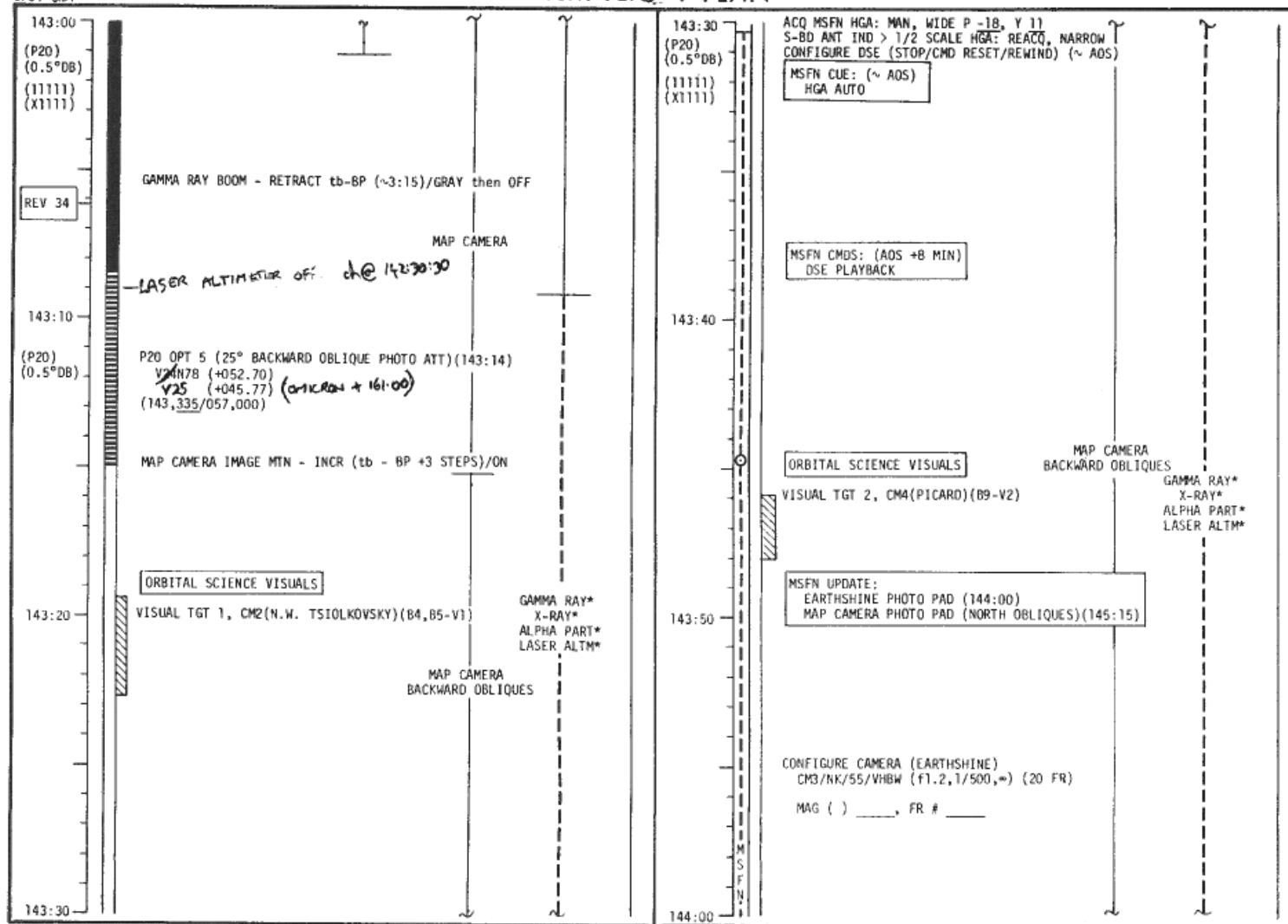


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	143:00 - 144:00	7/33-34	3-206

FLIGHT PLAN BRANCH

0734 EDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-207

LM FLIGHT PLAN

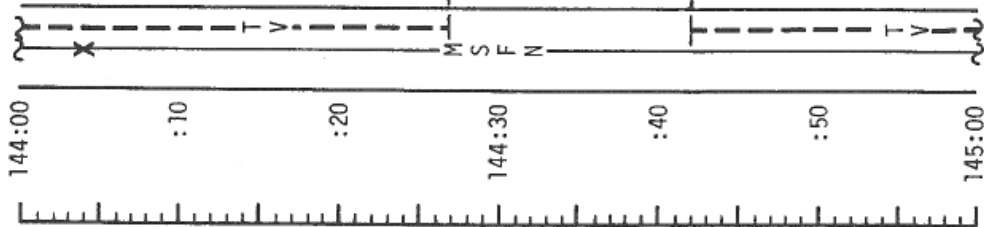
MCC-H

0834 CDT

CDR

LMP

NOTES



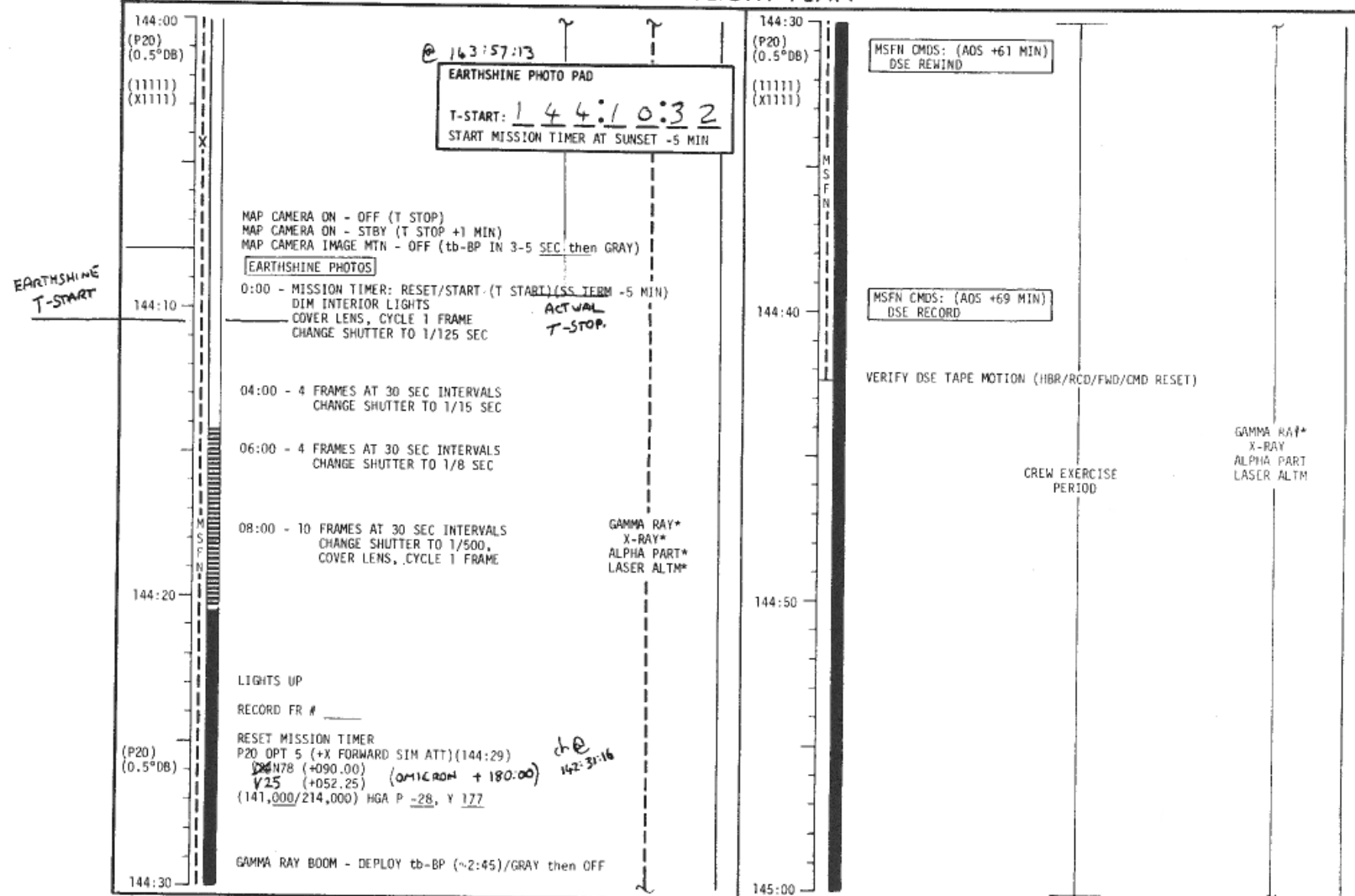
2:50	
3:00	
3:10	
3:20	DRIVE TO STATION #6 OBSERVE LATERAL VARIATIONS IN MATERIAL & SURFACE TEXTURES SEARCH FOR BLOCKY AREAS ALONG FRONT WHICH ARE SUITABLE FOR SAMPLING PHOTOGRAPHY AS APPROPRIATE
3:30	
3:40	STATION #6 DOCUMENTED SAMPLES OF FRONT MATERIAL PAN EXPLORATORY TRENCH 500MM PHOTOGRAPHY OF BLOCKS, OUTCROPS, ETC. DC STEREO PAIRS OF TARGETS OF OPPORTUNITY DESCRIPTION OF FRONT COMPARISON OF FRONT AND MATERIAL TO OTHER SURFACE UNITS POSSIBLE CORE TUBE
3:50	

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	144:00 - 145:00	7/34	3-208

FLIGHT PLAN NG BRANCH

0834 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-209

LM FLIGHT PLAN

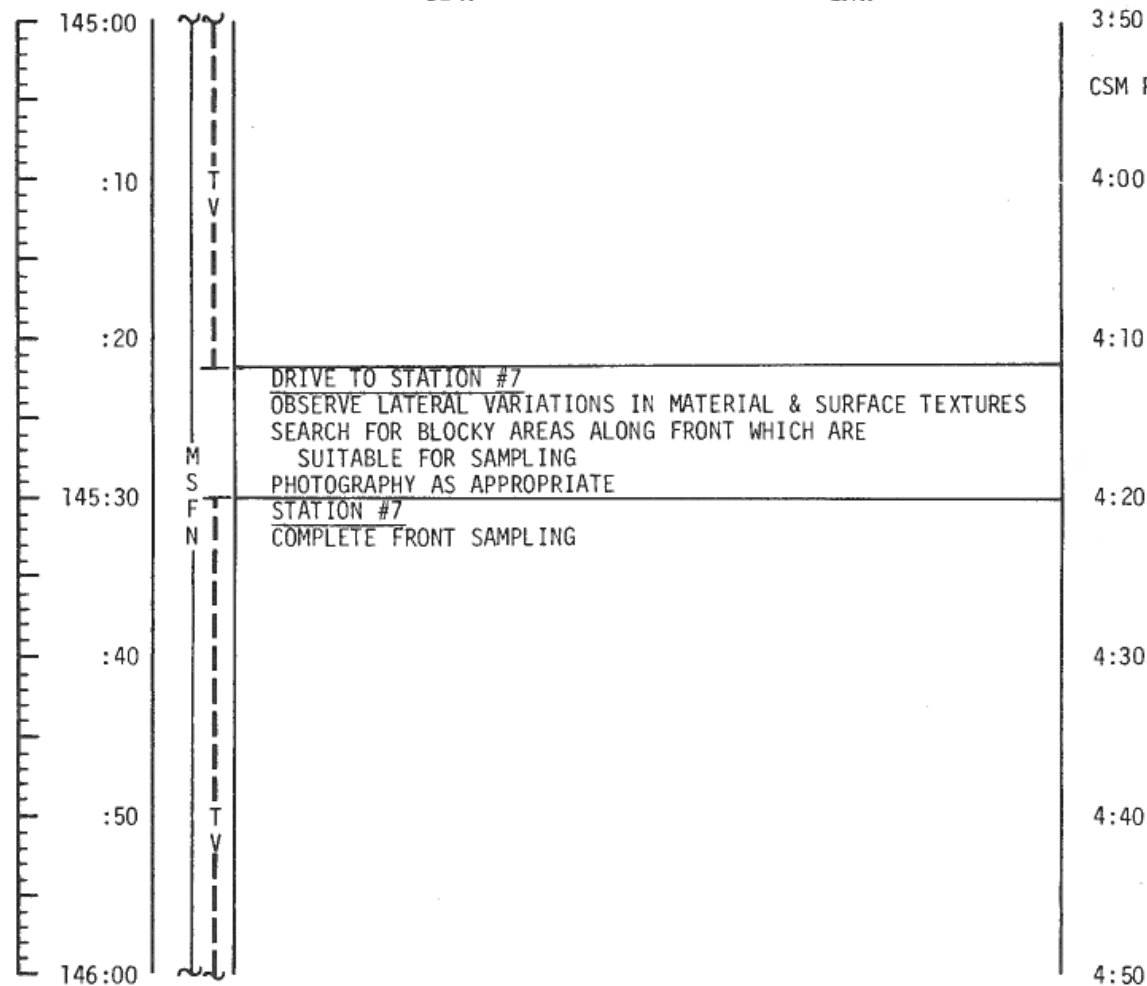
MCC-H

0934 CDT

CDR

LMP

NOTES

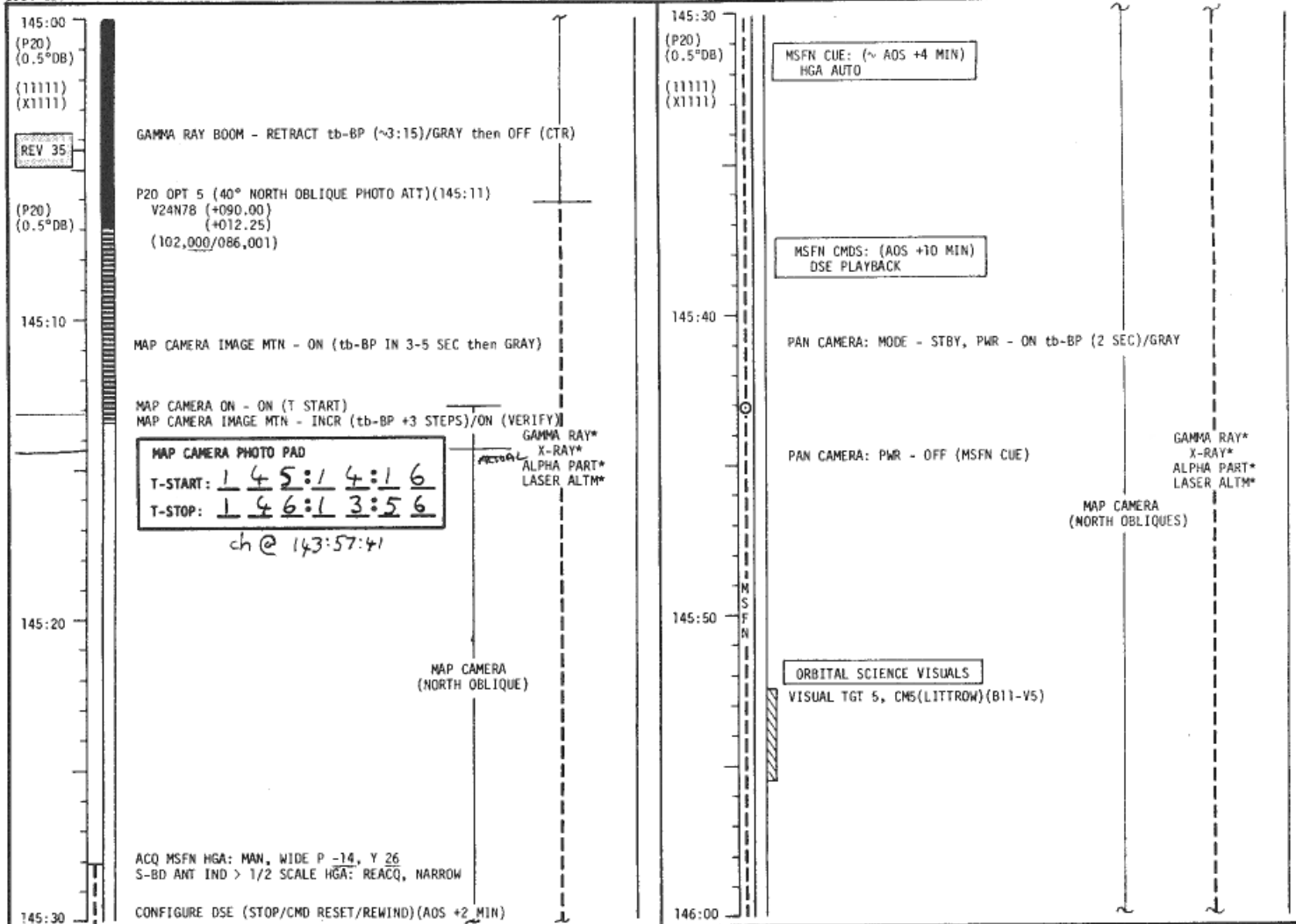


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	145:00 - 146:00	7/34-35	3-210

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0934 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-211

LM FLIGHT PLAN

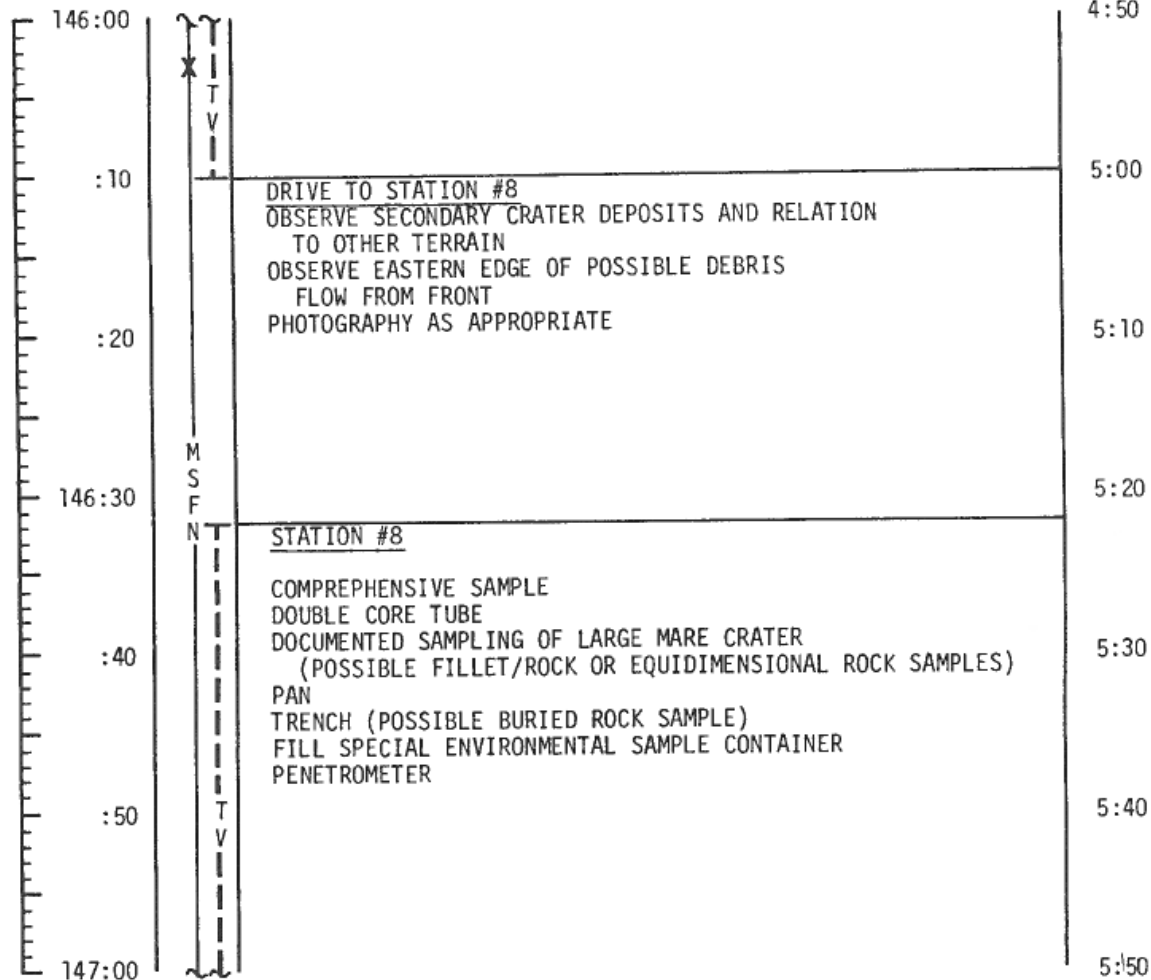
MCC-H

1034 CDT

CDR

LMP

NOTES

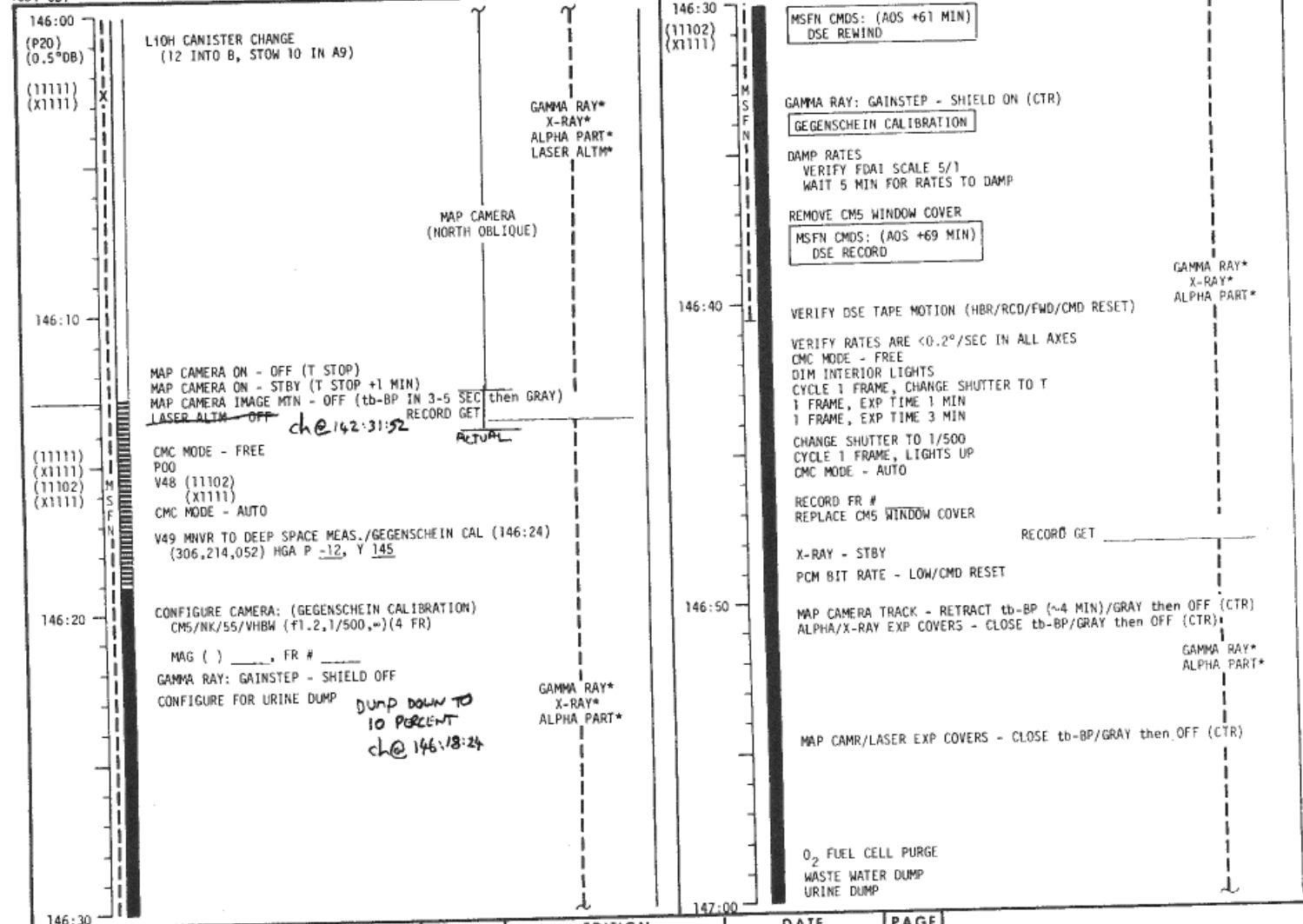


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	146:00 - 147:00	7/35	3-212

FLIGHT PLAN NG BRANCH

CSM FLIGHT PLAN

1034 C.



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-213

MCC-H

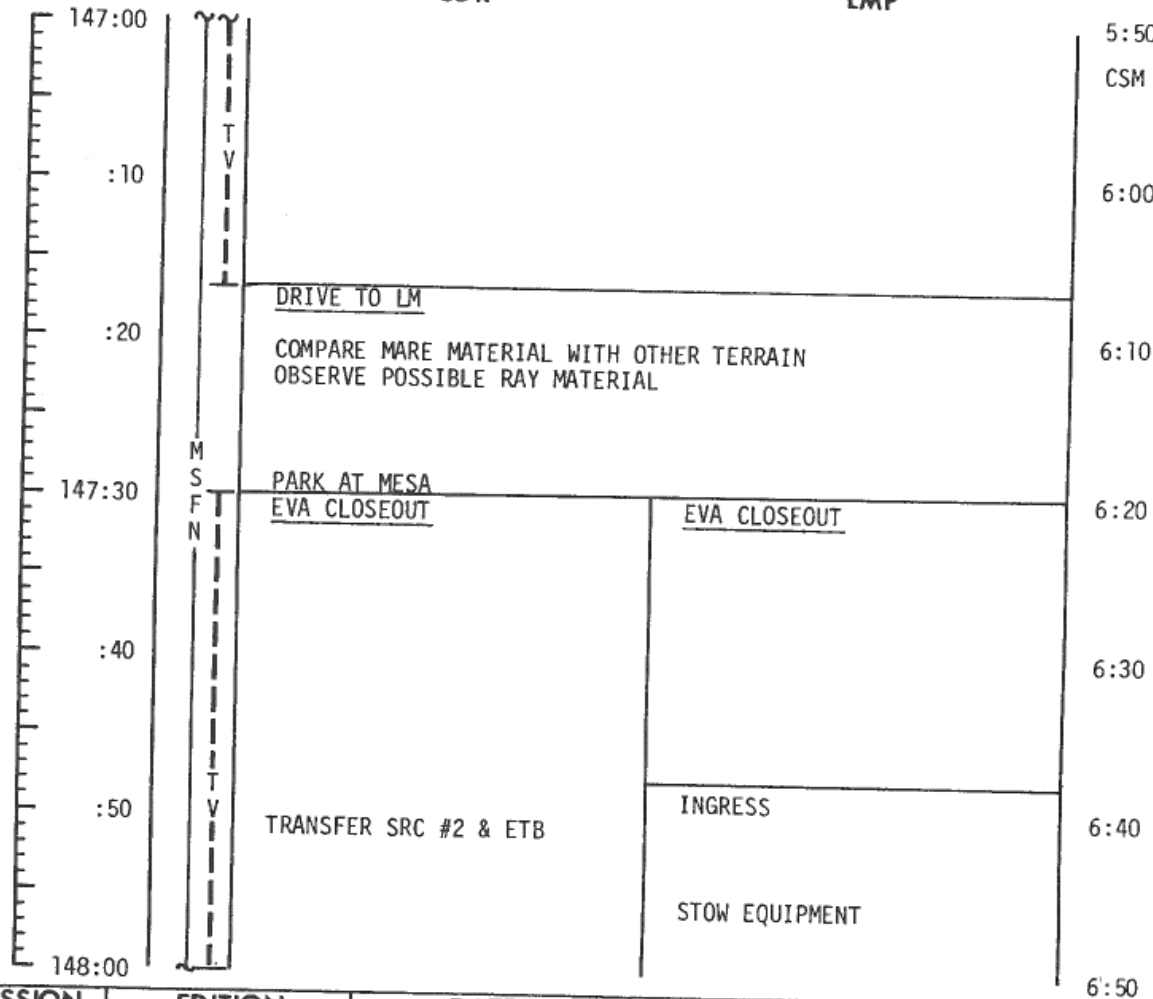
1134 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

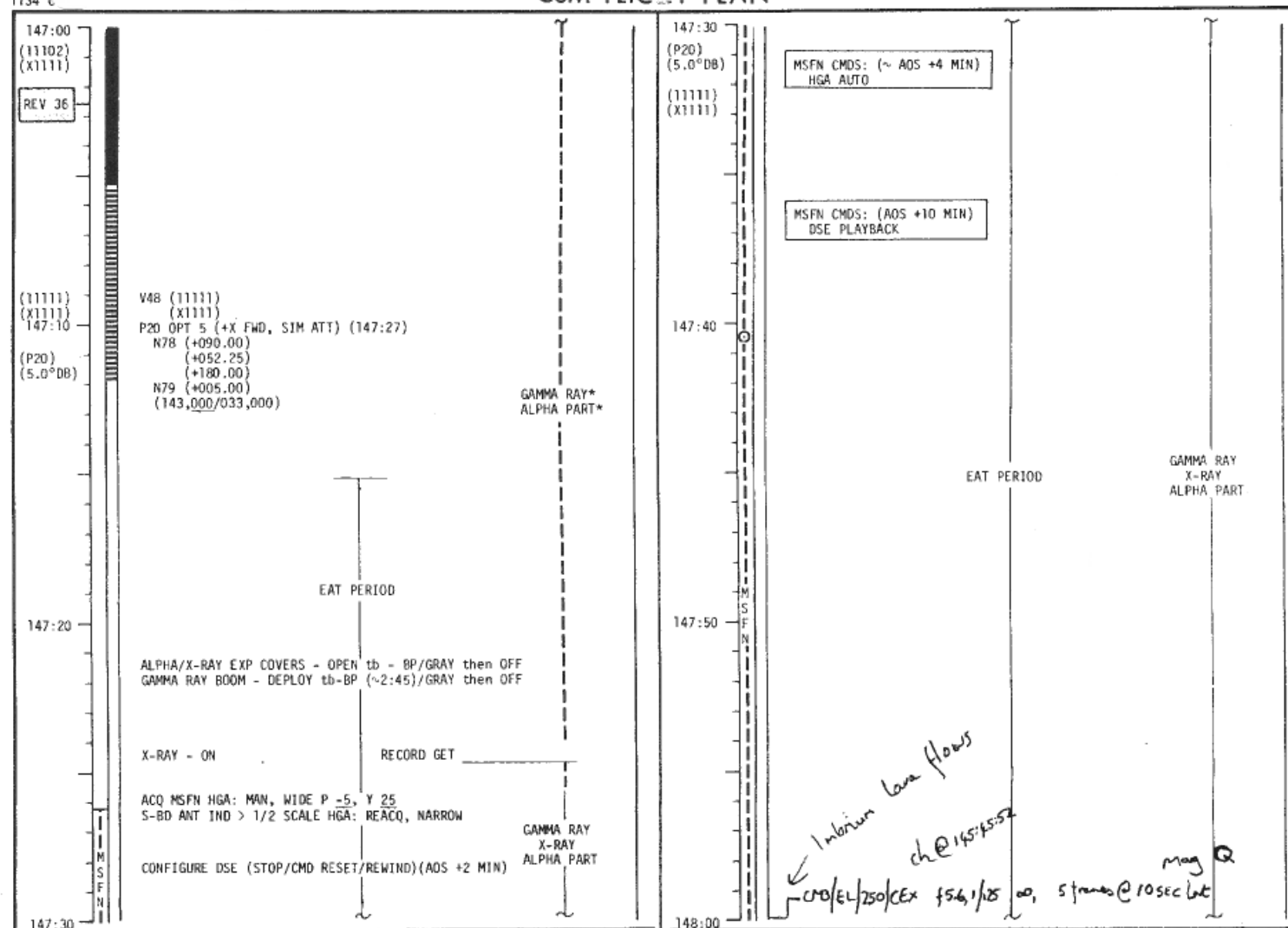


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	147:00 - 148:00	7/35-36	3-214

FLIGHT PLANNING BRANCH

1134 6

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-215

LM FLIGHT PLAN

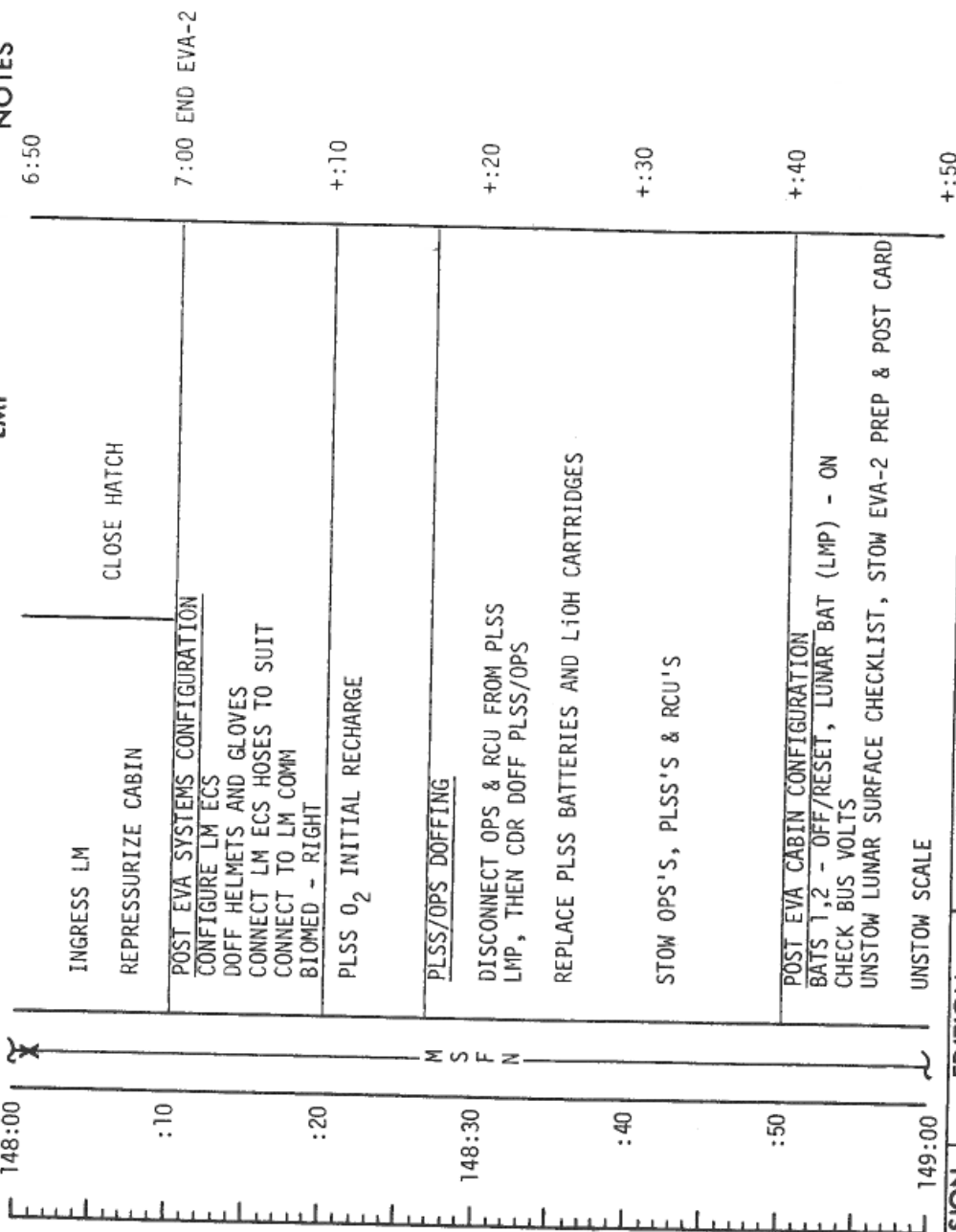
MCC-H

1234 CDT

CDR

LMP

NOTES

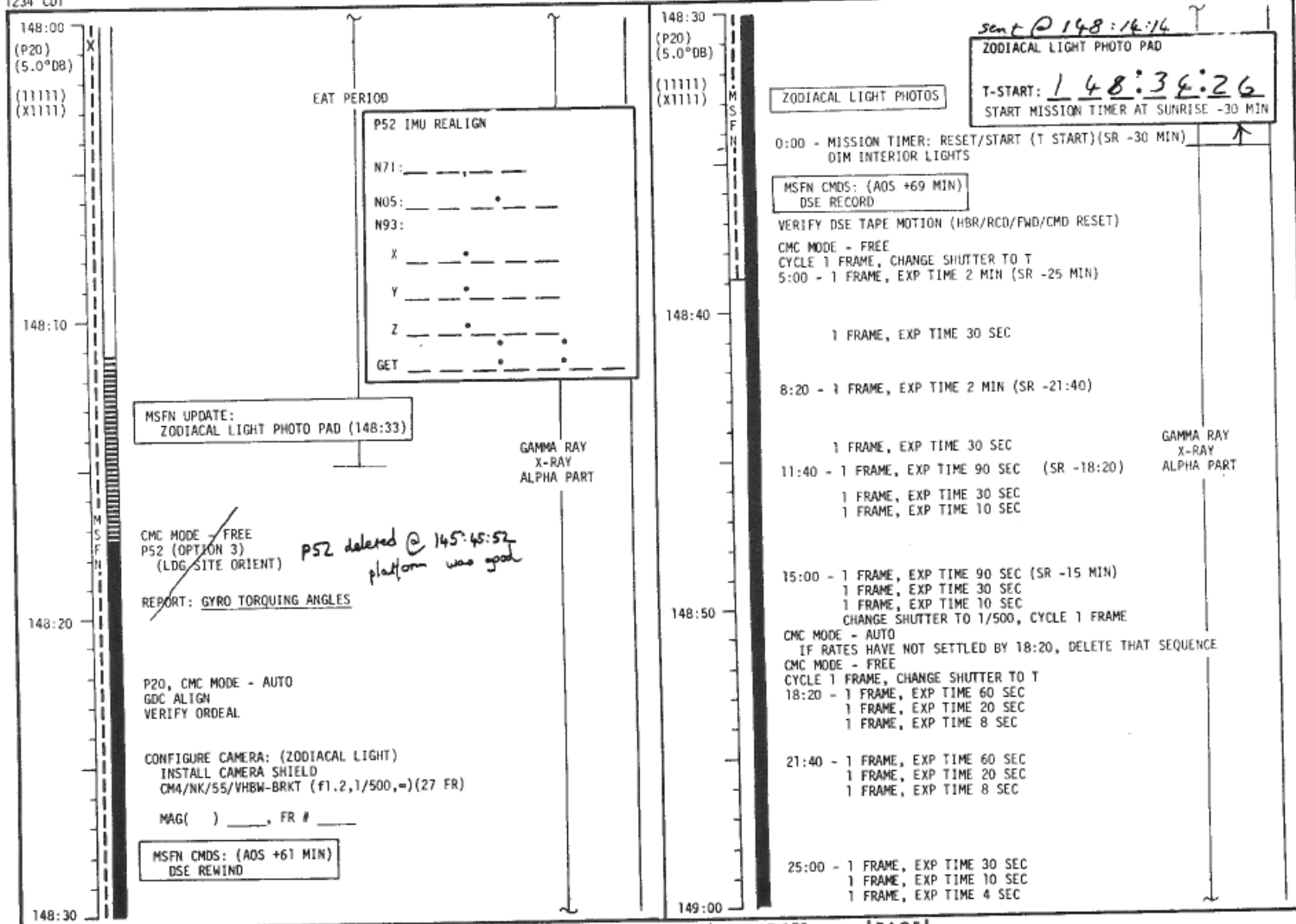


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	148:00 - 149:00	7/36	3-216

FLIGHT PLAN NG BRANCH

1234 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-217

MCC-H

1334 CDT

LM FLIGHT PLAN

CDR

LMP

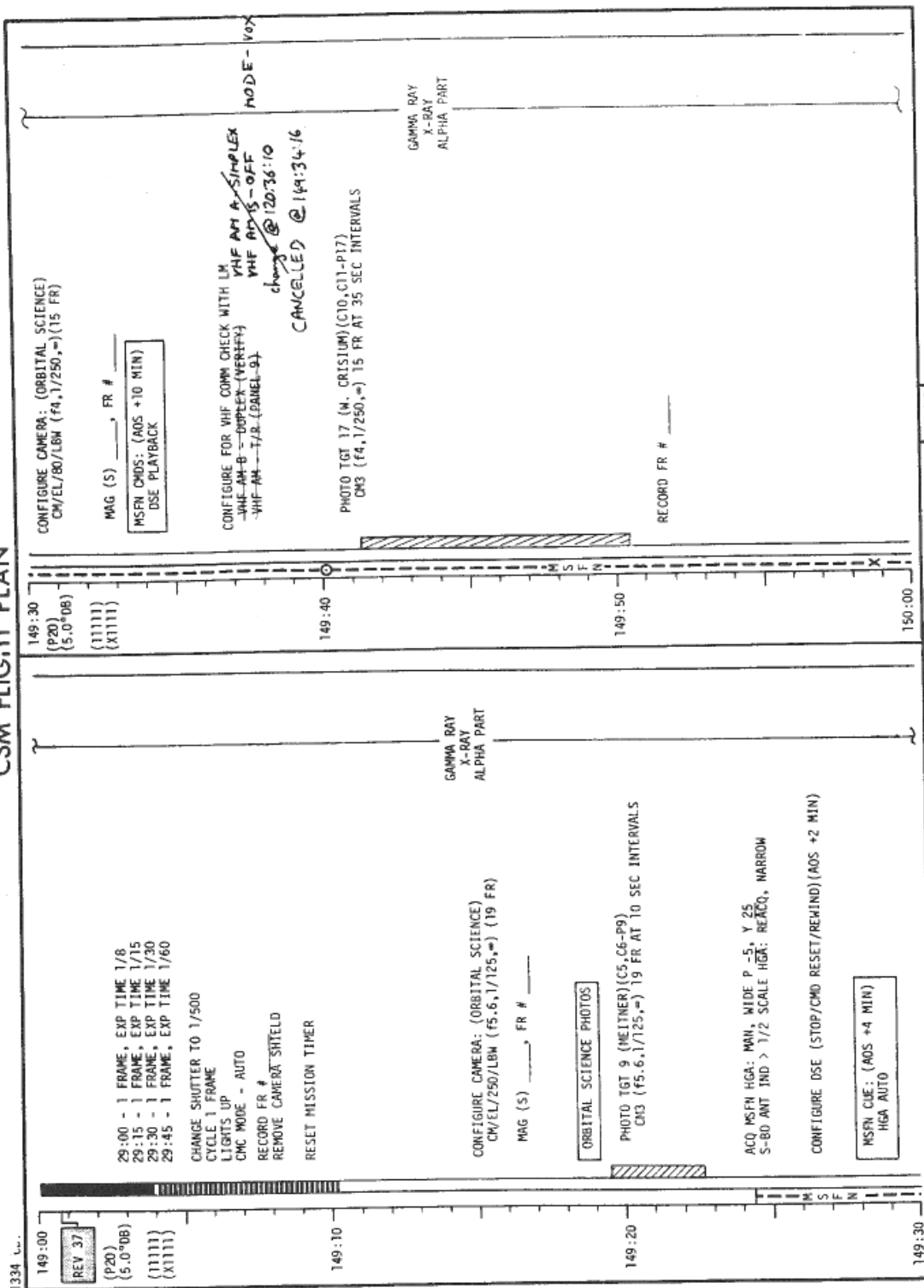
NOTES

149:00	WEIGH SRC & COLLECTION BAGS, REPORT WEIGHTS TO MCC-H	+ :50 CSM REV 37
:10	STOW SCALE, SRC & COLLECTION BAG	
:20	DOFF SUITS CDR, THEN LMP DOFF PGA & LCG, DON CWG & ICG	+1:00
	STOW PGA ON AFT ENGINE COVER AND DRY	
149:30	LMP DOFF BIOMED HARNESS (IF DESIRED)	+1:20
:40	PLSS O ₂ & H ₂ O RECHARGE CONNECT LM O ₂ SUPPLY TO CDR PLSS AND FILL (10 MIN)	+1:30
:50	VHF VOICE CHECK CONNECT LM H ₂ O SUPPLY TO CDR PLSS AND FILL (3 MIN) CONNECT LM O ₂ SUPPLY TO LMP PLSS AND FILL (10 MIN)	
150:00		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	149:00 - 150:00	7/36-37	3-218

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-219

LM FLIGHT PLAN

MCC-H

1434 CDT

CDR

LMP

NOTES

UPLINK TO LM
SATURN LIFT-OFF
TIME (IF REQD)

150:00
:10
:20
150:30
:40
:50
151:00

M
S
F
N

CONNECT LM H₂O SUPPLY TO LMP PLSS AND FILL (3 MIN)

EMPTY ETB

REPACK ETB

DEBRIEF

REPORT STATUS OF PLSS RECHARGE
CREW STATUS (RADIATION, MEDICATION)
PRO, RESET LGC CLOCK, P06

EAT PERIOD

LIFT-OFF TIME WILL
BE UPDATED IF THE
REV 46 PRIME
MERIDIAN CROSSING
DIFFERS BY MORE
THAN +2 MIN FROM
166:44:11.2

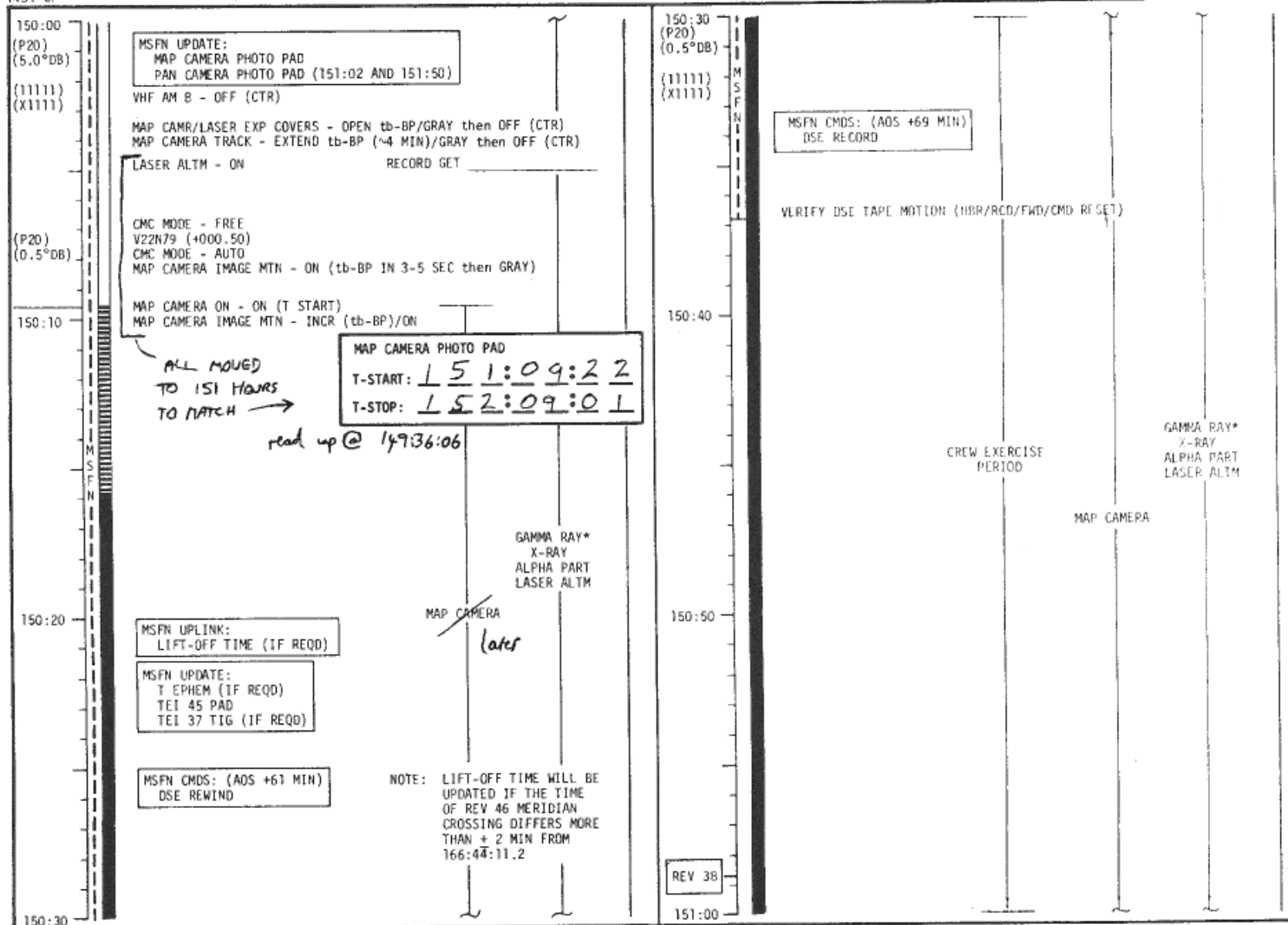
CSM REV 38

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	150:00 - 151:00	7/37-38	3-220

FLIGHT PLANNING BRANCH

1434 L

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-221

LM FLIGHT PLAN

MCC-H

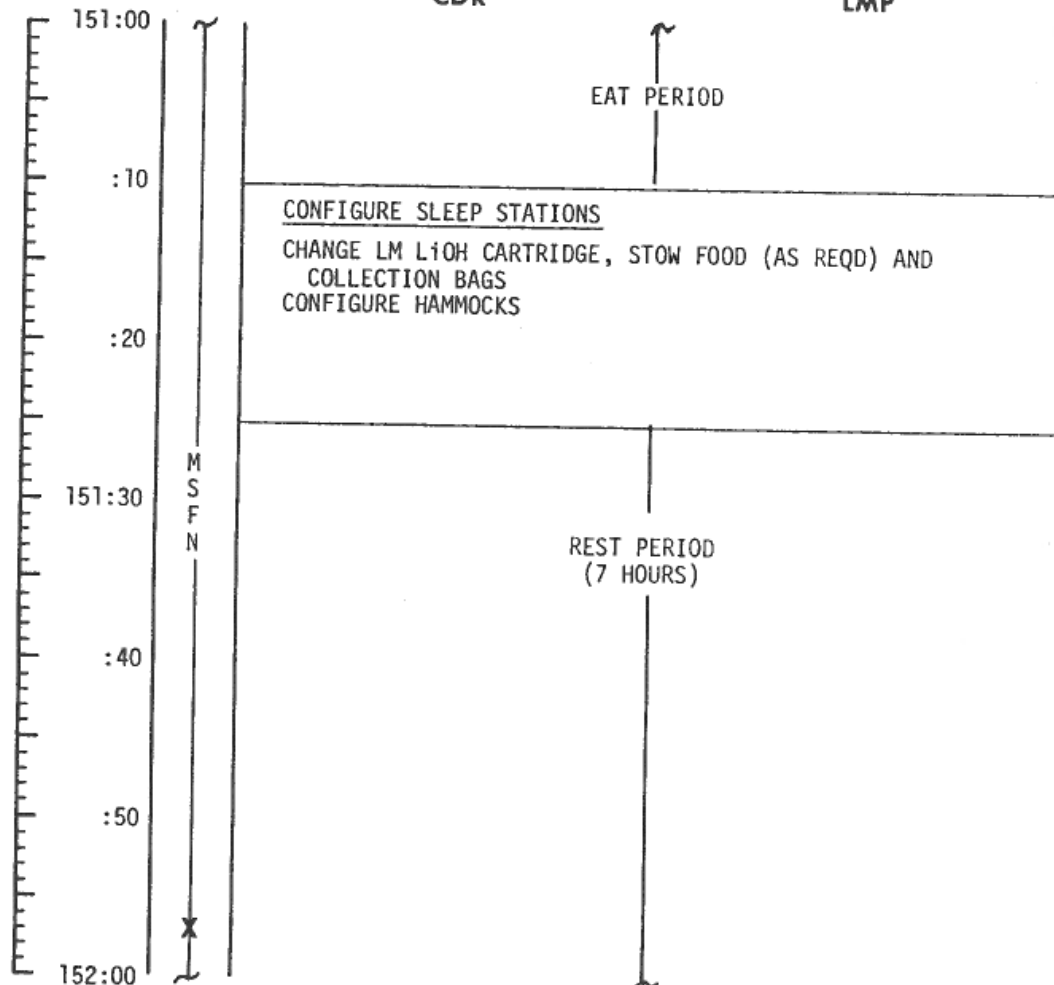
1534 CDT

CDR

LMP

NOTES

UPDATE TO LM
TIME OF LIFT-OFF
FOR REVS 38
THRU 41



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	151:00 - 152:00	7/38	3-222

FLIGHT PLANNING BRANCH

534

151:00
(P20)
(0.5°DB)
(11111)
(X1111)

151:10

151:20

151:30

151:40

151:50

152:00

152:10

152:20

152:30

152:40

152:50

153:00

153:10

153:20

153:30

153:40

153:50

154:00

154:10

154:20

154:30

154:40

154:50

155:00

155:10

155:20

155:30

155:40

155:50

156:00

156:10

156:20

156:30

156:40

156:50

157:00

157:10

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MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-223

LM FLIGHT PLAN

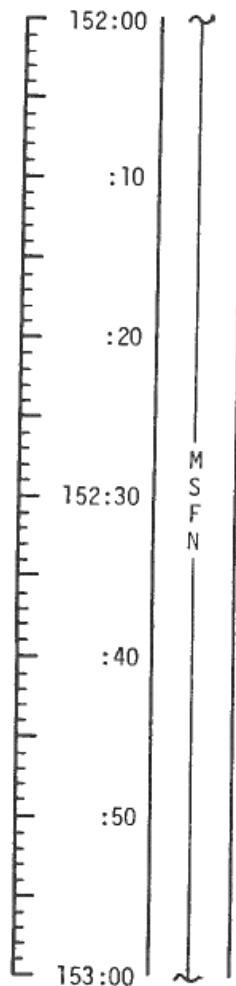
MCC-H

1634 CDT

CDR

LMP

NOTES



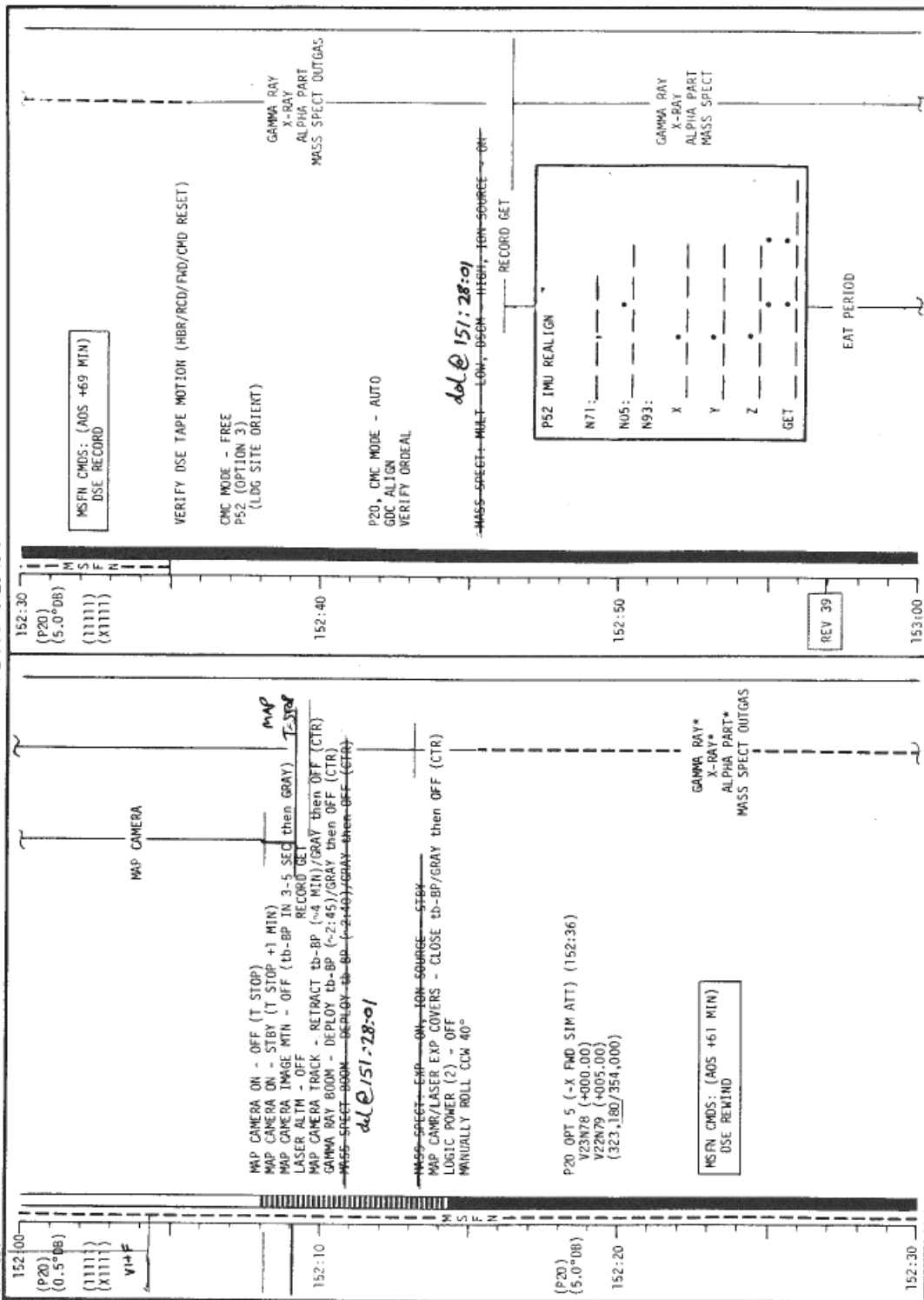
REST PERIOD
(7 HOURS)

CSM REV 39

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	152:00 - 153:00	7/38-39	3-224

FLIGHT PLAN NG BRANCH

1634 Co.

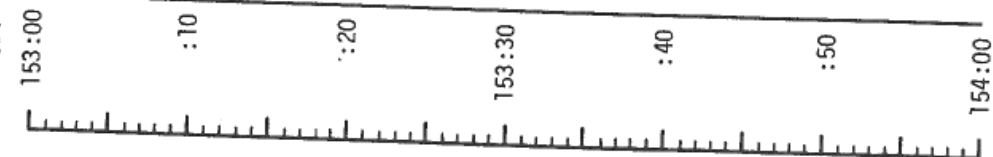


MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-225

LM FLIGHT PLAN

MCC-H

1734 CDT



M S F N

REST PERIOD
(7 HOURS)

LMP

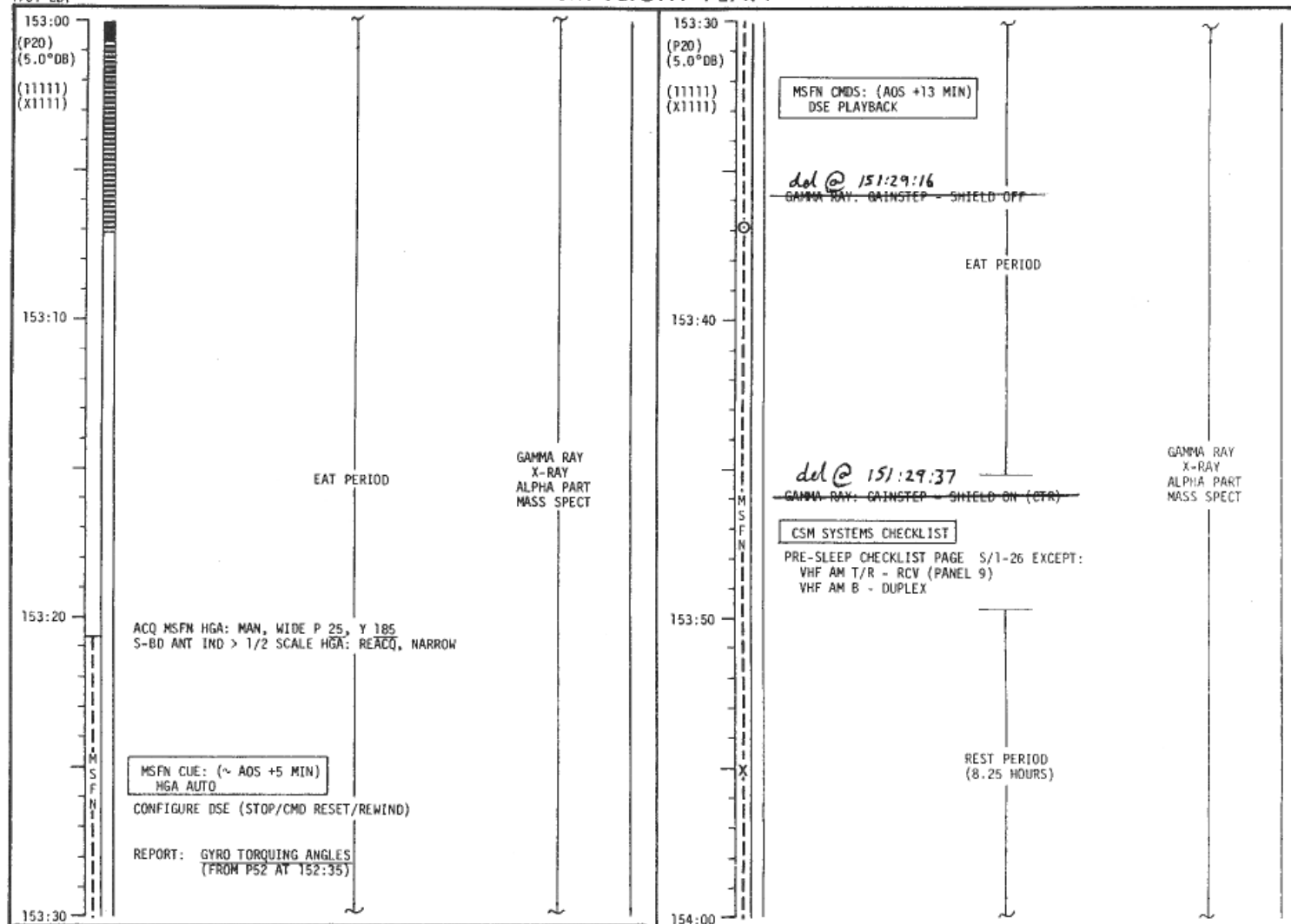
NOTES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	153:00 - 154:00	7/39	3-226

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

1734 LL



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-227

LM FLIGHT PLAN

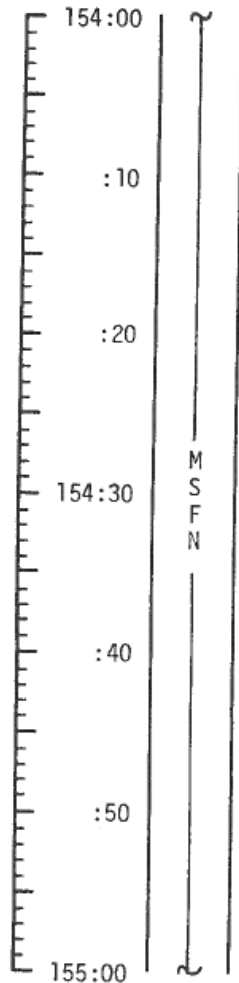
MCC-H

1834 CDT

CDR

LMP

NOTES



REST PERIOD
(7 HOURS)

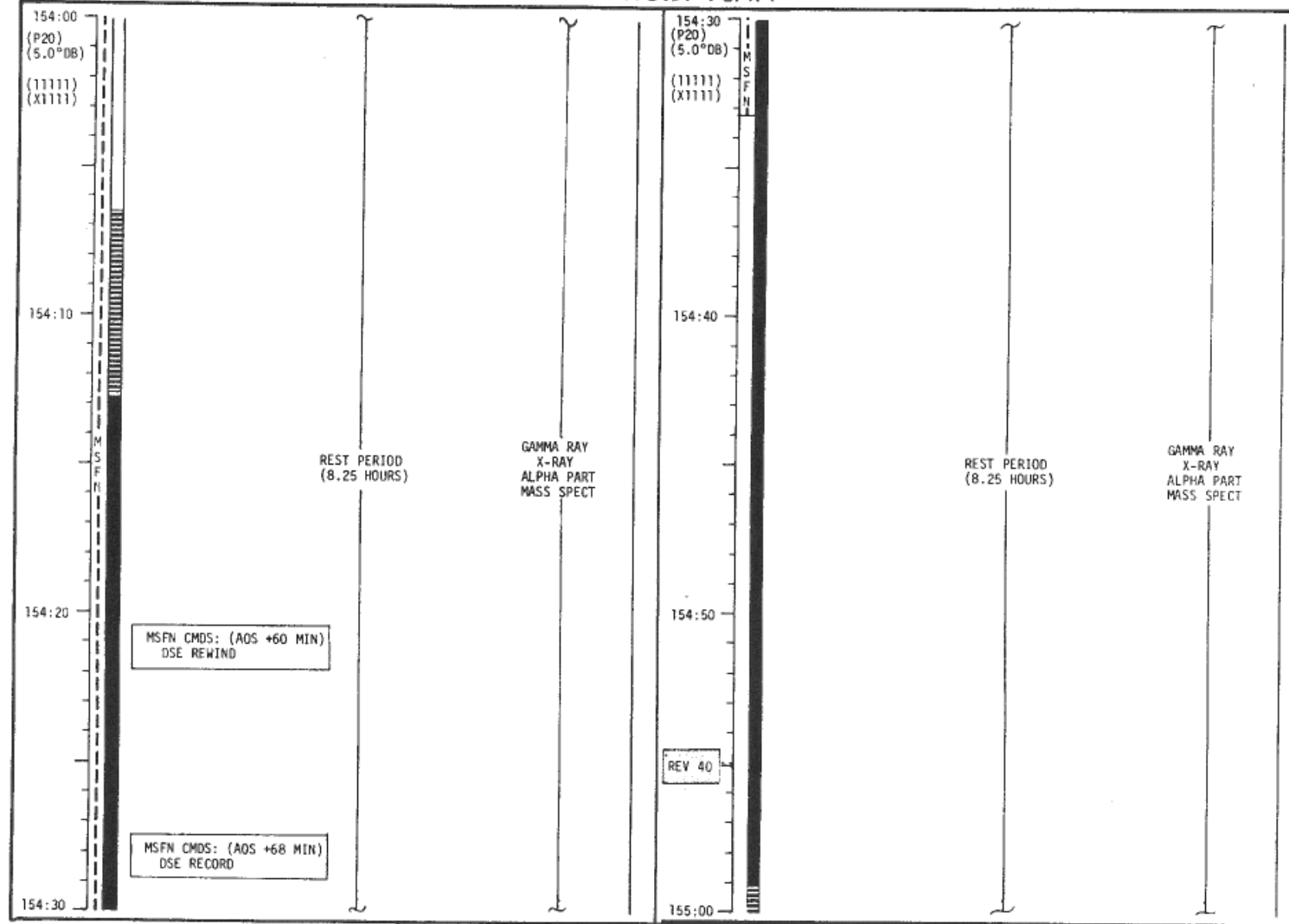
CSM REV 40

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	154:00 - 155:00	7/39-40	3-228

FLIGHT PLANNING BRANCH

1834 C.

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-229

LM FLIGHT PLAN

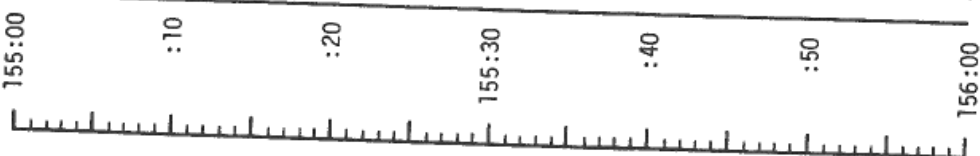
MCC-H

1934 CDT

NOTES

LMP

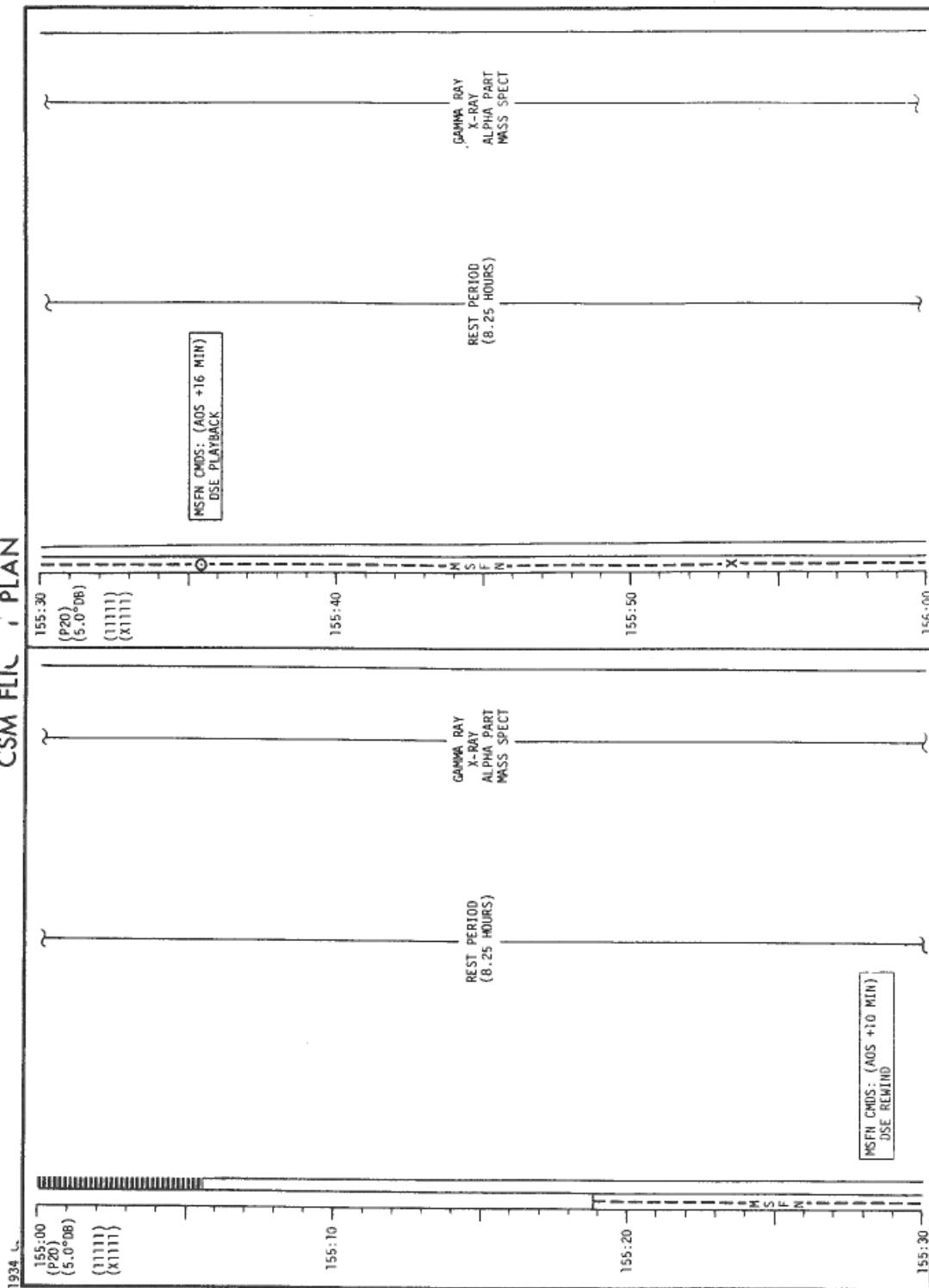
CDR



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	155:00 - 156:00	7/40	3-230

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-231

LM FLIGHT PLAN

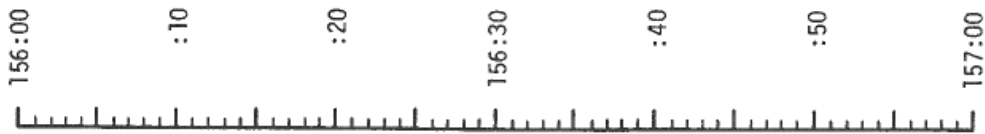
MCC-H

2034 CDT

CDR

LMP

NOTES



M S F N

REST PERIOD
(7 HOURS)

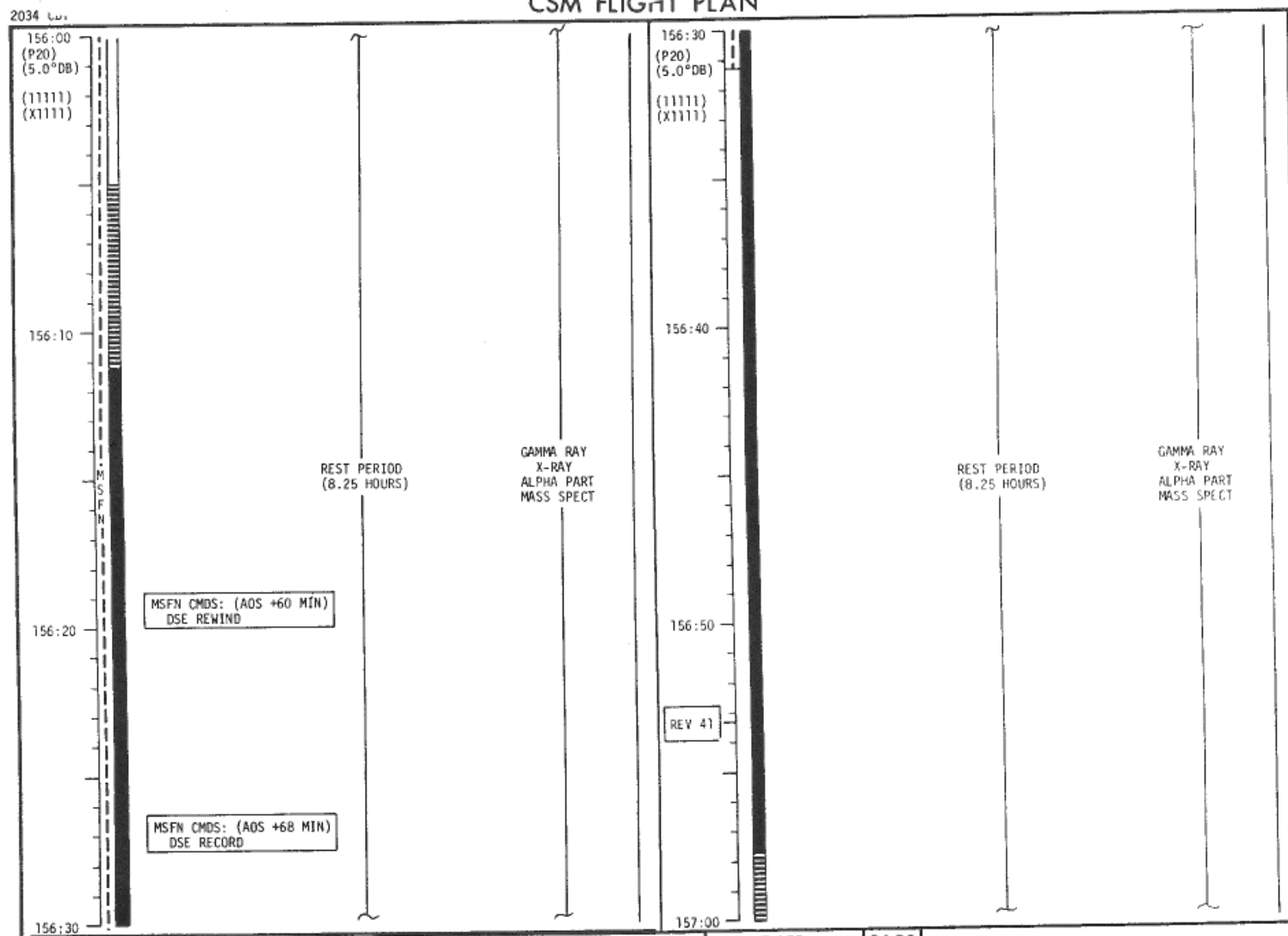
CSM REV 41

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	156:00 - 157:00	7/40-41	3-232

FLIGHT PLA' NG BRANCH

2034

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-233

LM FLIGHT PLAN

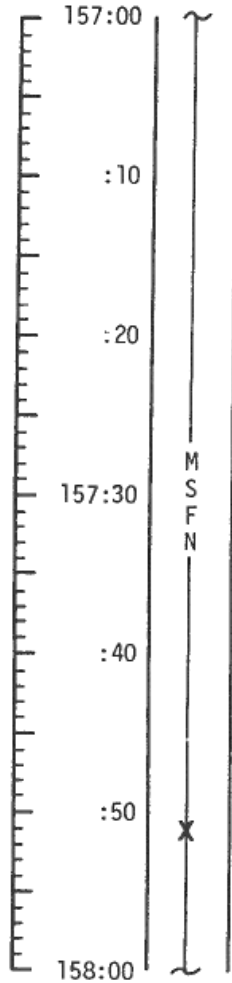
MCC-H

2134 CDT

CDR

LMP

NOTES



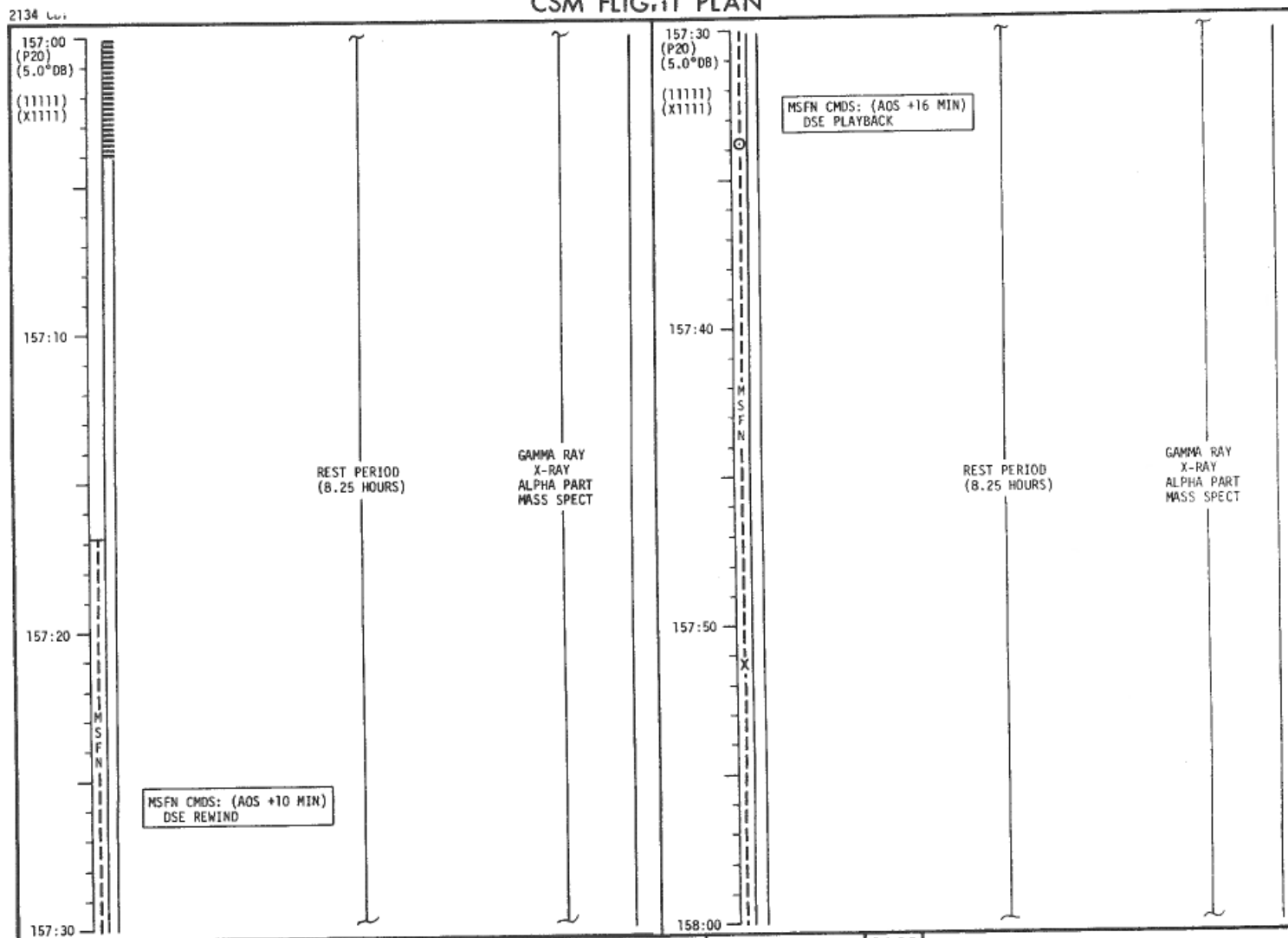
REST PERIOD
(7 HOURS)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	157:00 - 158:00	7/41	3-234

FLIGHT PLANNING BRANCH

2134

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-235

LM FLIGHT PLAN

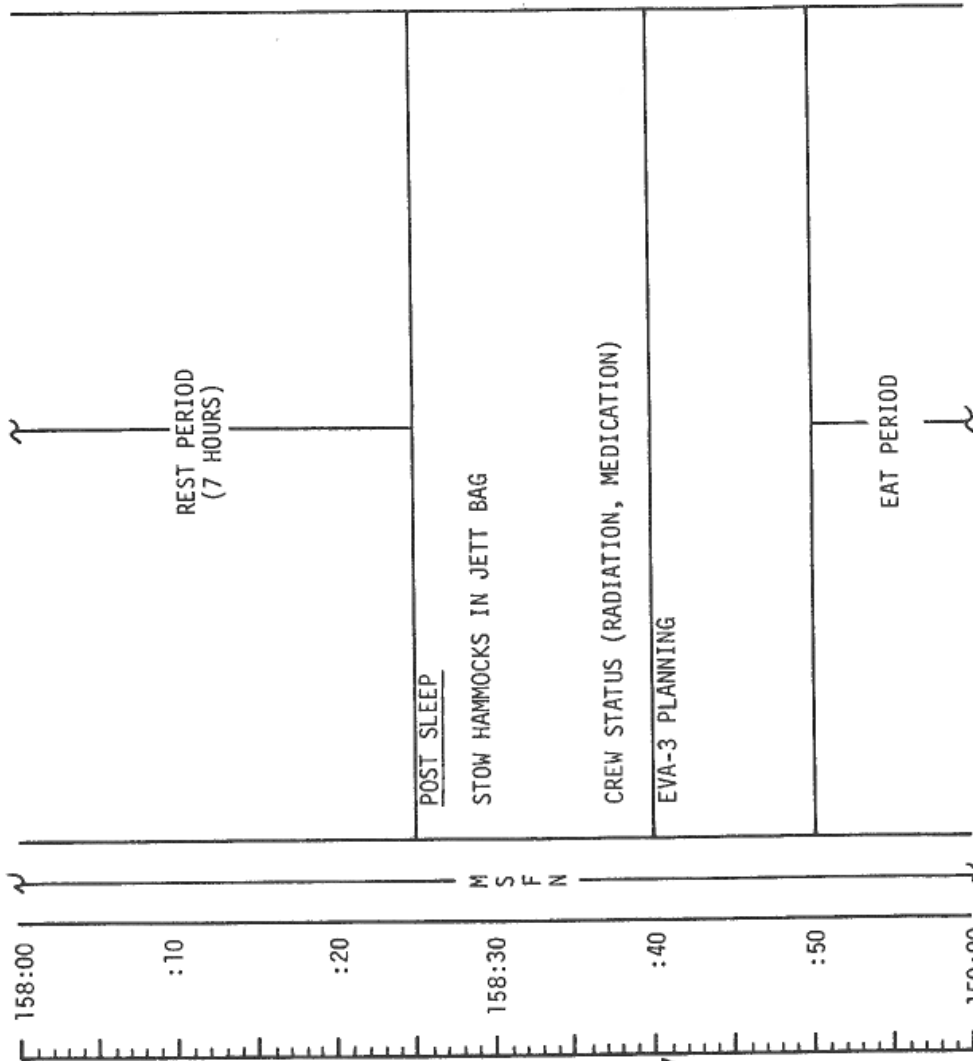
NOTES

LMP

CDR

2234 CDT

MCC-H



CSM REV 42

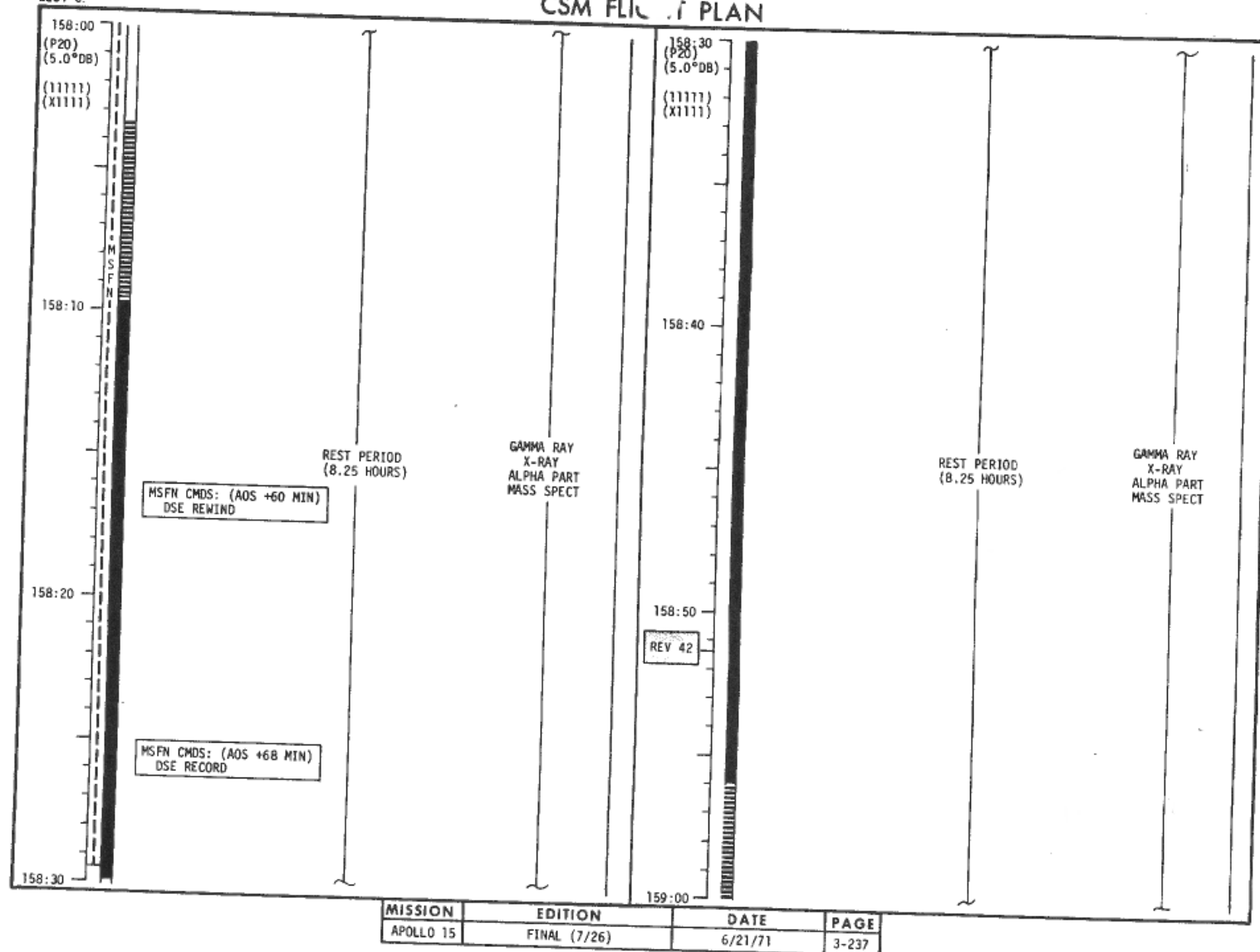
STAY/NO STAY FOR
EVA-3 PREP
UPDATE TO LM
TIME OF LIFT-OFF
FOR REV 42 THRU 47
LM CONSUMABLES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	158:00 - 159:00	8/41-42	3-236

FLIGHT PLANNING BRANCH

2234

CSM FLIGHT PLAN



MCC-H

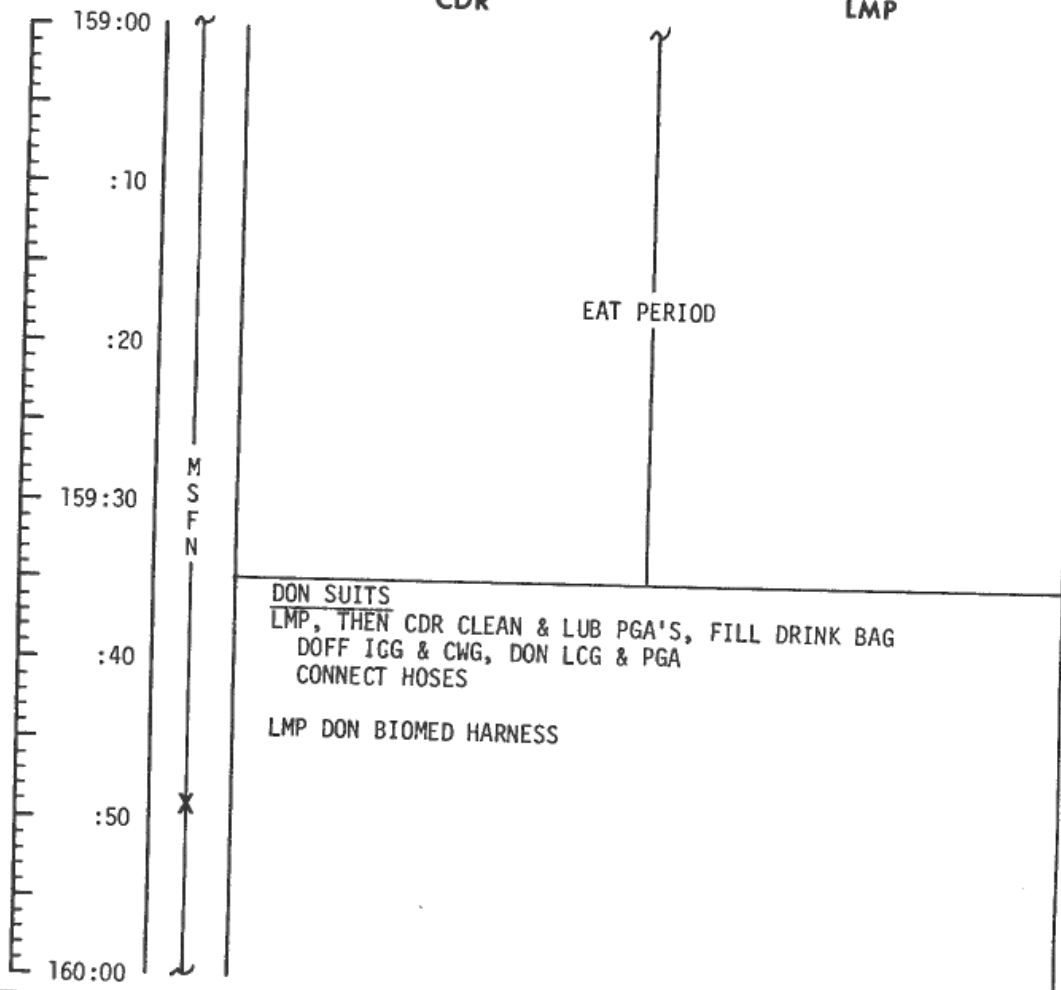
2334 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

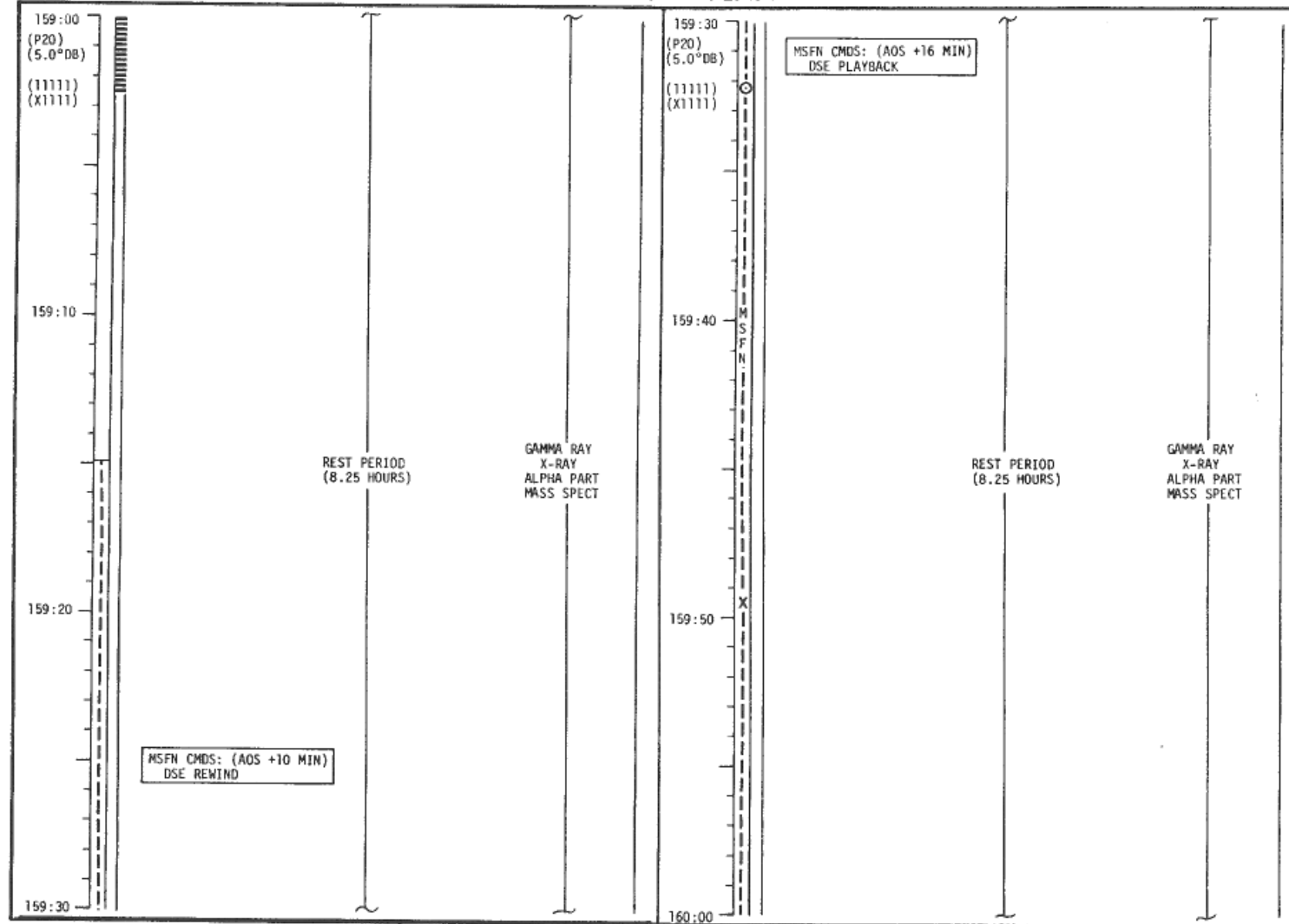


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	159:00 - 160:00	8/42	3-238

FLIGHT PLAN NG BRANCH

2334

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-239

LM FLIGHT PLAN

MCC-H

0034 CDT

CDR

LMP

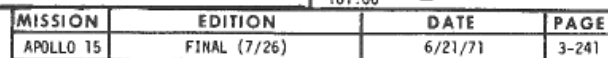
NOTES

160:00			
:10			
:20		VERIFY COMM BATS 1,2 & LUNAR BAT (CDR) - ON BATS 3,4 & LUNAR BAT (LMP) - OFF/RESET CHECK BUS VOLTS EVA-3 PREP STOW ALL LOOSE ITEMS NOT REQD FOR EVA	-1:30
160:30	M S F N	UNSTOW EVA-3 PREP & POST CARD STOW LUNAR SURFACE CHECKLIST UNSTOW AND CHECK BOTH OPS PREPARE VISORS & HELMETS FOR EVA UNLOCK FORWARD HATCH HANDLE	-1:20
:40			-1:10
:50		PLSS DONNING CONFIGURE LMP PLSS ATTACH OPS TO PLSS LMP DON PLSS/OPS CONNECT RCU TO PGA AND PLSS UNSTOW LMP OPS O2 ACTUATOR AND CONNECT TO RCU CDR REPEAT PLSS DONNING	CSM REV 43 -1:00
161:00			- :50

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	160:00 - 161:00	8/42-43	3-240

FLIGHT PLAN BRANCH

CSM FLIGHT PLAN



MCC-H

0134 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

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PLSS COMM CHECK

VERIFY POWERDOWN CB CONFIGURATION, RECORDER - ON
 CONFIGURE FOR EVA COMM, BIOMED - OFF
 VERIFY PLSS COMM & TM
 REPORT PLSS O2 QUANTITIES TO MCC-H
 FINAL SYSTEM PREP

OPS CONNECT

CONNECT OPS O2 HOSE TO PGA
 CDR REPEAT OPS CONNECT

HELMET/GLOVES DONNING

PLSS FAN - ON
 DON HELMETS AND LEVA'S

VERIFY PGA CONFIGURATION
 VERIFY CB CONFIGURATION
 DON GLOVES

PRESSURE INTEGRITY CHECKCABIN DEPRESS

START EVA WATCH AT 3.5 PSIA CABIN PRESS

PARTIALLY OPEN HATCH

FINAL PREP FOR EGRESS
 OPEN FWD HATCH

RECORDER - OFF

-:50

-:40

-:30

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-:10

0:00 START EVA-3

+:10

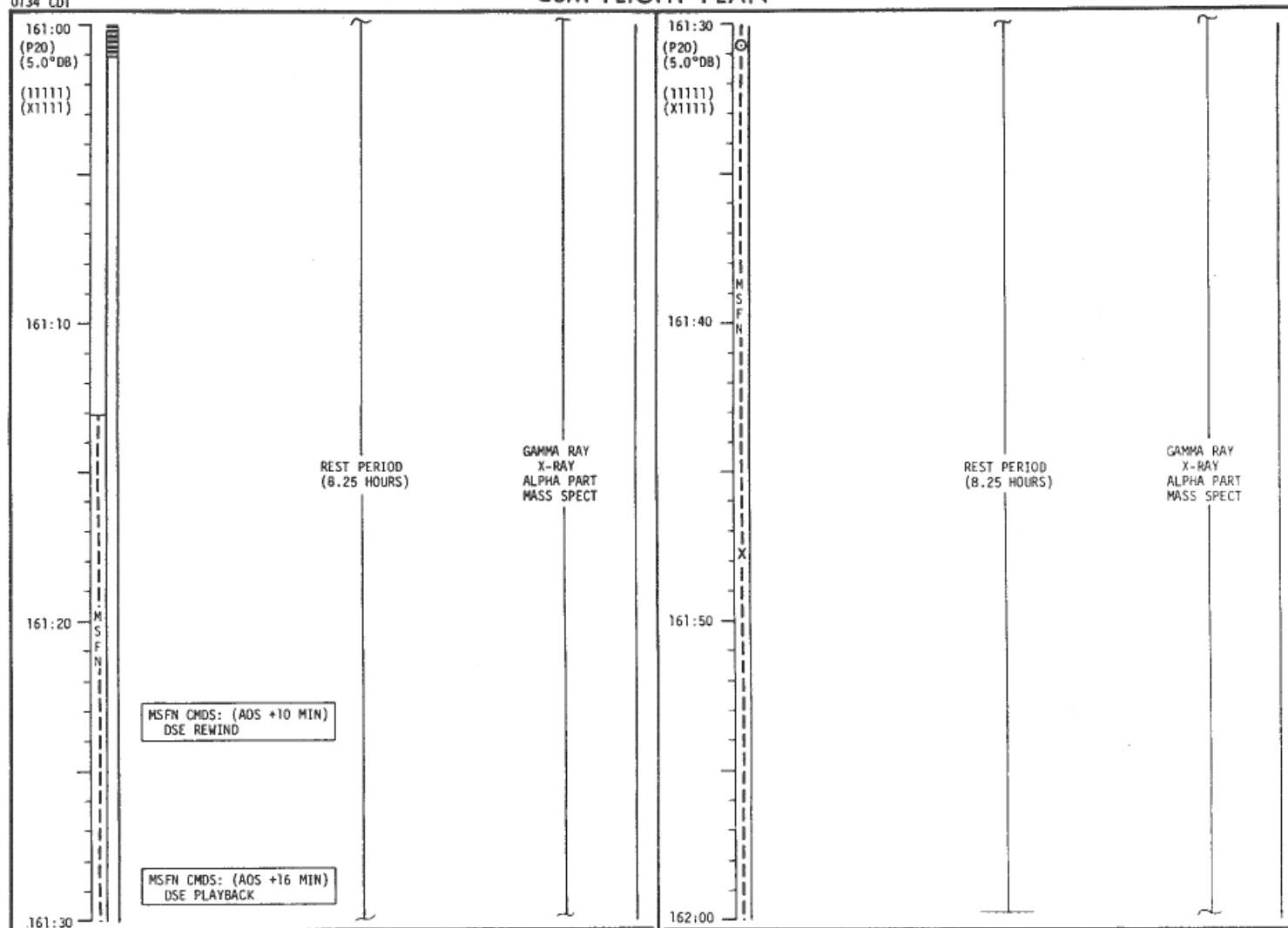
GO/NO-GO FOR
DEPRESS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	161:00 - 162:00	8/43	3-242

FLIGHT PLANNING BRANCH

0134 CD1

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-243

LM FLIGHT PLAN

MCC-H

0234 CDT

CDR

LMP

NOTES

162:00	T I T V M S F N	EGRESS	RELEASE CDR PLSS ANTENNA	0:10
:10		EQUIPMENT TRANSFER		
:20		LCRU ACTIVATION RELEASE LMP PLSS ANTENNA EQUIPMENT PREP	EGRESS EQUIPMENT PREP	0:20
:30				0:30
162:30		LRV NAV INITIALIZATION		0:40
:40		<u>DRIVE TO STATION #9</u> COMPARE SMOOTH MARE MATERIAL TO RILLE RIM MATERIAL SUPPLEMENTARY SAMPLE STOP (5 MIN) SOIL/ROCK SAMPLE PAN		0:50
:50				CSM REV 44 1:00
163:00		<u>STATION #9</u> OBSERVE AND DESCRIBE RILLE AND FAR WALL		1:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	162:00 - 163:00	8/43-44	3-244

FLIGHT PLANNING BRANCH

0234

CSM FLIGHT PLAN

162:00 (P20) (5.0°DB) (11111) (X1111)	CSM SYSTEMS CHECKLIST POST-SLEEP CHECKLIST PAGE 5/1-26 MSFN UPLINK: CSM S.V. MSFN UPDATE: CONSUMABLES MAP CAMERA PHOTO PAD (162:55) FLIGHT PLAN GAMMA RAY X-RAY ALPHA PART MASS SPECT GAMMA RAY: GAINSTEP - SHIELD OFF <i>ch@162:03:34</i> CMC MODE - FREE P52 (OPTION 3) (LDG SITE ORIENT) REPORT: GYRO TORQUING ANGLES P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL MSFN CMDS: (AOS +60 MIN) DSE REWIND GAMMA RAY: GAINSTEP - SHIELD ON (CTR) <i>ch@162:05:13</i> LOGIC POWER (2) - DPLY/RETR MAP CAMR/LASER EXP COVERS - OPEN tb-BP/GRAY then OFF (CTR) MAP CAMERA TRACK - EXTEND tb-BP (~4 MIN)/GRAY then OFF (CTR) GAMMA RAY BOOM - RETRACT tb-BP (~3:15)/GRAY then OFF (CTR) MASS SPECT: ION SOURCE - OFF, EXP - STBY CAUTION - WAIT 5 MIN BEFORE RETRACTING MASS SPECT BOOM LASER ALTM - ON MSFN CMDS: (AOS +68 MIN) DSE RECORD MASS SPECT BOOM - RETRACT tb-BP (~2:30)/GRAY then OFF (CTR) VERIFY DSE TAPE MOTION (HBR/RCD/FWD/CMD RESET) MANUALLY ROLL CW 40°	162:30 (P20) (0.5°DB) (11111) (X1111)
162:10	P20 OPTION 5 (+X FWD SIM ATT) (162:47) V23N78 (+180.00) V22N79 (+000.50) (142,000/118,001) CSM CONSUMABLES UPDATE GET: _____ RCS TOTAL _____ QUAD A _____ B _____ C _____ D _____ H₂ TANK 1 _____ 2 _____ 3 _____ O₂ TANK 1 _____ 2 _____ 3 _____ EAT PERIOD GAMMA RAY* X-RAY* ALPHA PART* LASER ALTM* GAMMA RAY* X-RAY ALPHA PART LASER ALTM <i>ch@162:04:41</i> MAP CAMERA PHOTO PAD T-START: <u>162:59:30</u> T-STOP: <u>163:59:11</u> MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) MAP CAMERA ON - ON (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP)/ON	162:40
162:20	REV 44 162:50 163:00	163:00

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-245

LM FLIGHT PLAN

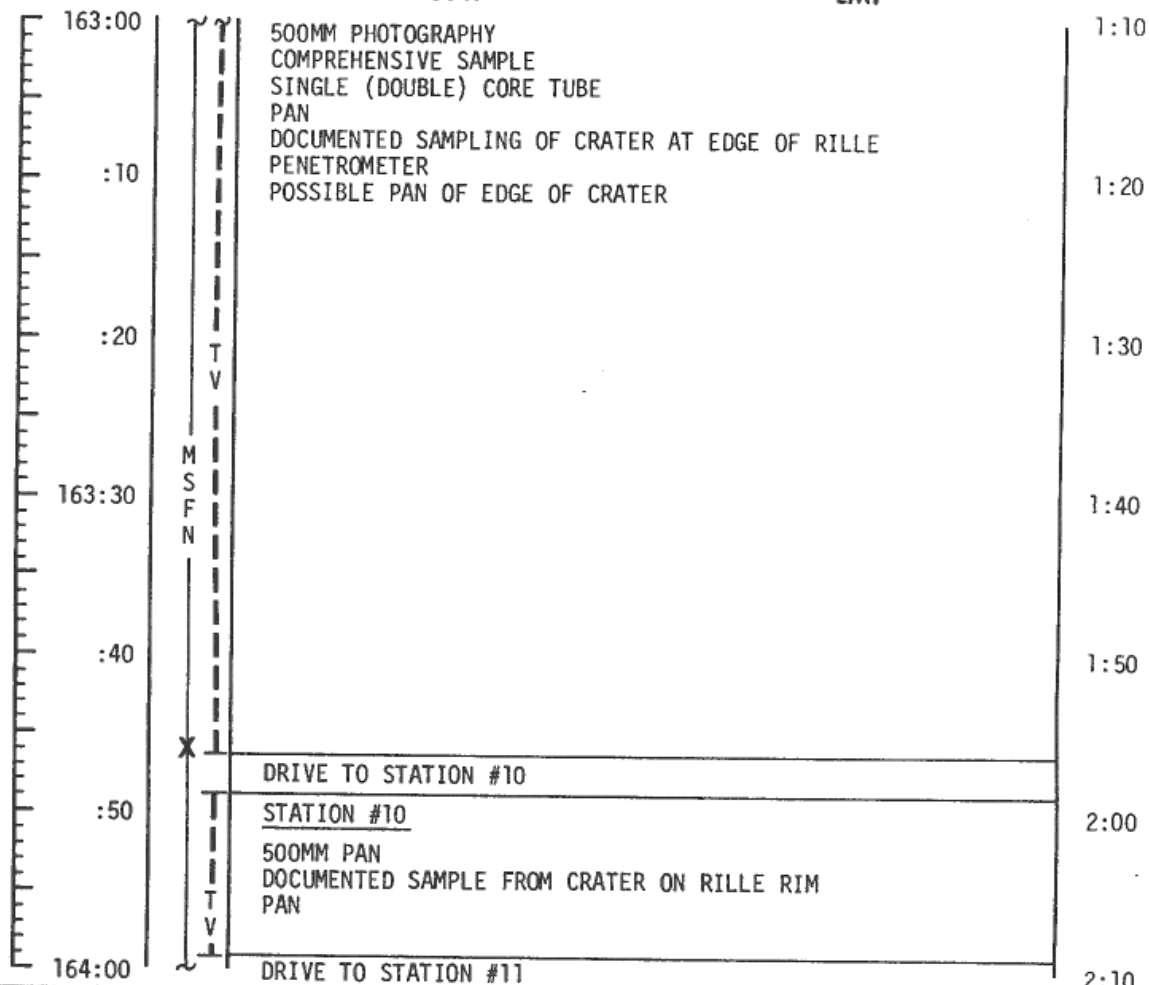
MCC-H

0334 CDT

CDR

LMP

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	163:00 - 164:00	8/44	3-246

FLIGHT PLAN IG BRANCH

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218:10

218:20

218:30

218:40

218:50

219:00

219:10

219:20

219:30

219:40

219:50

220:00

220:10

220:20

220:30

220:40

220:50

221:00

221:10

221:20

221:30

221:40

221:50

222:00

222:10

222:20

222:30

222:40

222:50

223:00

223:10

223:20

223:30

223:40

223:50

224:00

224:10

224:

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-247

MCC-H

0434 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

164:00		CONTINUE DESCRIPTION OF RILLE AND RILLE RIM MATERIAL PHOTOGRAPHY AS APPROPRIATE	2:10
:05			
:10		STATION #11 OBSERVE AND DESCRIBE RILLE AND FAR RILLE WALL, COMPARE TO PREVIOUS OBSERVATIONS 500MM PHOTOGRAPHY DOCUMENTED SAMPLES OF RILLE RIM AND CRATER AT EDGE OF RILLE PAN COMPARE RILLE RIM MATERIAL TO OTHER TERRAIN	2:20
164:15	M S F T V		
:20			2:30
:25		DRIVE TO STATION #12 OBSERVE CHANGES IN MATERIAL BETWEEN RILLE RIM, MARE, AND NORTH COMPLEX OBSERVE CHARACTERISTICS OF CRATER CHAIN ORIGINATING IN CHAIN CRATER OBSERVE POSSIBLE SECONDARY CRATERS	
164:30			2:40

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	164:00 - 164:30	8/44	3-248

FLIGHT PLAN NG BRANCH

0434 CDT

CSM FLIGHT PLAN

164:00
(11111)
(X1111)

GAMMA RAY EXP - OFF
 X-RAY - OFF, α RAY/X DR - α OFF RECORD GET
 LASER ALTM - OFF
 MASS SPECT: EXP - OFF

MAP CAMERA TRACK - RETRACT tb-BP (~4 MIN)/GRAY then OFF (CTR)
 ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)

MSFN UPLINK:
 CSM S.V.
 PLANE CHANGE TGT LOAD
 DESIRED ORIENT (PLANE CHANGE)

MAP CAMR/LASER EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)
 LOGIC POWER (2) - OFF
 cb SCS CONTR DIR 1 MNB - CLOSE
 cb SCS CONTR DIR 2 MNA - CLOSE
 ENABLE ALL JETS

164:10

M

S

F

N

I

V49 MNVR TO P52 ATT (164:15)
 (180,214,045) HGA P -10, Y 206

MSFN CMDS: (AOS +61 MIN)
 DSE REWIND

P52 (OPTION 3)
 (LDG SITE ORIENT)

REPORT: GYRO TORQUING ANGLES

164:20

P52 (OPTION 1)
 (PLANE CHANGE ORIENT)

MSFN CMDS: (AOS +69 MIN)
 DSE RECORD

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

GDC ALIGN
 VERIFY ORDEAL

164:30

P52 IMU REALIGN

N71: _ _ _ , _ _ _

N05: _ _ _ . _ _ _

N93: _ _ _ . _ _ _

X _ _ _ . _ _ _

Y _ _ _ . _ _ _

Z _ _ _ . _ _ _

GET _ _ _ . _ _ _

MISSION	EDITION	DATE	PAGE
APOLLO 15	- FINAL (7/26)	6/21/71	3-249

MCC-H

0504 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

164:30
:35
:40
164:45
:50
:55
165:00

M
S
F
NT
V

SUPPLEMENTARY SAMPLE STOP (5 MIN)
SOIL/ROCK SAMPLE
PAN

STATION #12
DOCUMENTED SAMPLE OF CRATER EJECTA
DOCUMENTED SAMPLE OF NORTH COMPLEX MATERIAL
PAN
DESCRIBE WALL OF CRATER AND RELATION TO
ELONGATED DEPRESSION
ATTEMPT TO DETERMINE IF CRATER IS ENDOGENETIC OR IMPACT

2:40

2:50

CSM REV 45

3:00

3:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	164:30 - 165:00	8/44-45	3-250

FLIGHT PLANNING BRANCH

0504 Cb1

CSM FLIGHT PLAN

164:30
(11111)
(X1111)P30 VERIFY PC-1 TIG AND ΔV 'S

V49 MNVR TO PC-1 BURN PAD ATT (164:45)

164:40

REV 45

SXT STAR CHECK

164:50

SET DET COUNTING UP TO PLANE CHANGE

SECURE EQUIPMENT FOR PC-1

(P40)
(0.5°DB)
165:00

P40 (TRIM)

P30 MANEUVER

DENE	VEGA	C	S	M	P	C	I	PURPOSE
SET STARS		S	P	S	G	&	N	PROP/GUID
		+	3	7	2	0	2	WT N47
R ALIGN	1 8 9		0	0	0	3	3	P TRIM N48
P ALIGN	2 5 6		0	0	1	0	7	Y TRIM
Y ALIGN	3 3 0	+	0	0	1	6	5	HRS GETI
		+	0	0	0	1	1	MIN N33
		+	0	3	1	9	6	SEC
ULLAGE B+D		-	0	0	0	9	2	ΔV_X N81
17 SECONDS		+	0	3	3	0	3	ΔV_Y
		+	0	0	1	8	4	ΔV_Z
		X	X	X	0	0	0	R (000)
		X	X	X	0	0	0	P (000)
		X	X	X	0	0	0	Y (000)
		+	0	0	6	4	4	H _A N44
		+	0	0	5	3	3	H _P
		+	0	3	3	0	9	ΔVT
		X	X	X	0	1	8	BT
		X	0	3	1	9	1	ΔVC
		X	X	X	X	3	6	SXTS
		+	0	1	2	8	0	SFT
		+	3	9	2	0	0	TRN
		X	X	X		NA		BSS
		X	X			NA		SPA
		X	X	X		NA		SXP

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-251

LM FLIGHT PLAN

MCC-H

0534 CDT

CDR

LMP

NOTES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	165:00 - 166:00	8/45	3-252

FLIGHT PLANNING BRANCH

TIME	NOTES
165:00	
:10	DRIVE TO STATION #13 OBSERVE INTERCRATER AREA IN NORTH COMPLEX COMPARE EJECTA BETWEEN CRATERS COMPARE NORTH COMPLEX TO OTHER TERRAIN TYPES
:20	STATION #13 DOCUMENTED SAMPLING PAN OR STEREO PAN EXPLORATORY TRENCH SOIL SAMPLE 500mm TARGETS OF OPPORTUNITY PENETROMETER POSSIBLE CORE TUBE
165:30	
:40	
:50	
166:00	

165:30 {111111}
{x11111}

[illegible]

GO/NO-GO FOR PLANE CHANGE 1

V49 MNVR TO P52 ATT (165:27)
(358,000,049) HGA P -9, Y 203

MSFN UPLINK:
DESIRED ORIENT (LIFT-OFF)
RLS UPDATE (IF REQD)

PAN CAMERA: PWR - OFF
GAMMA RAY: EXP - ON, GAINSTEP - SHIELD ON (CTR)
X-RAY - STBY, α RAY/X DR - α ON RECORD GET
MASS SPECT: EXP - STBY

REFSMMAT 00 TIME				
+	0	0		HRS
+	0	0	0	MIN
+	0			SEC

MSFN UPDATE:
REFORMAT 00 TIME

MCC-H

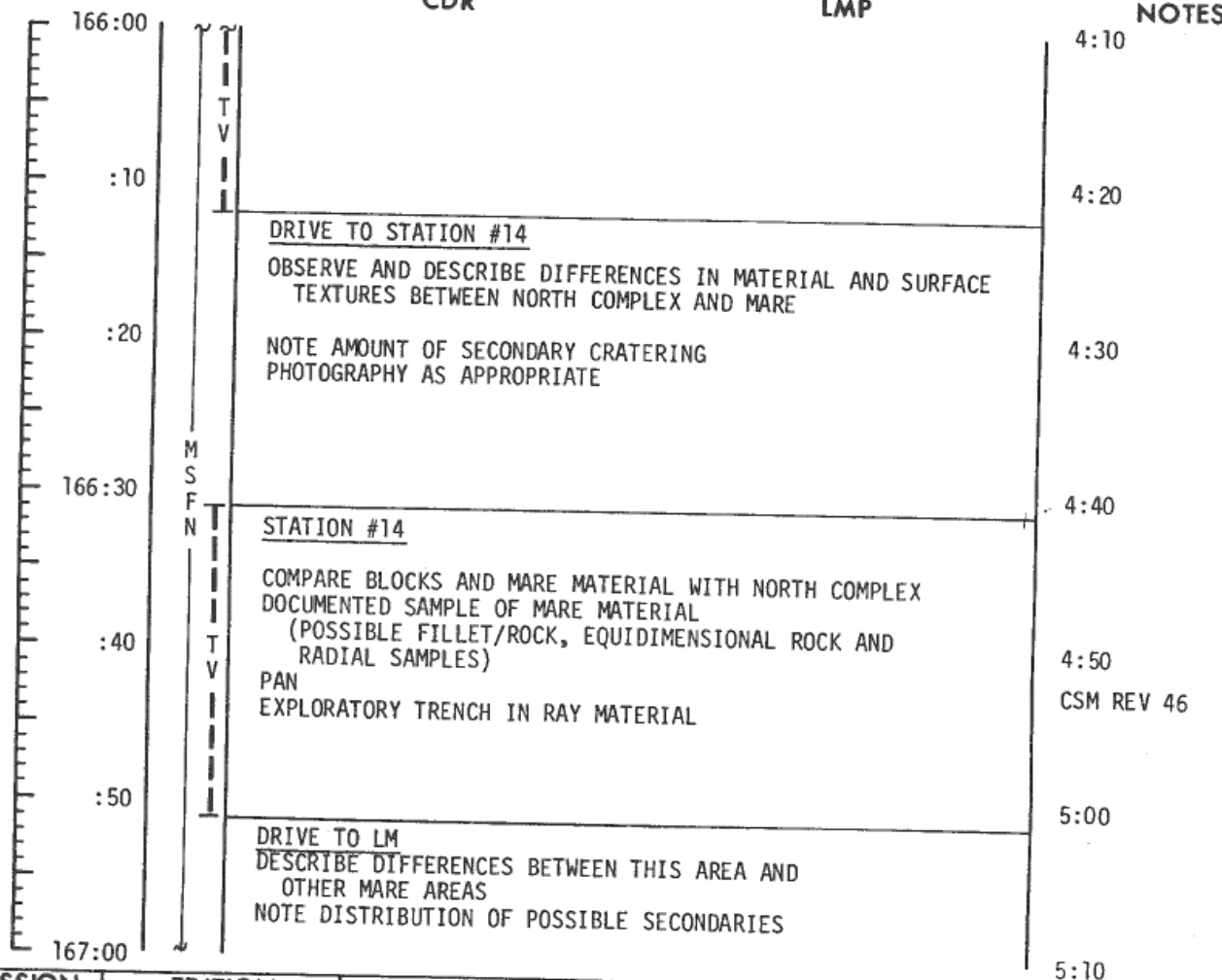
0634 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

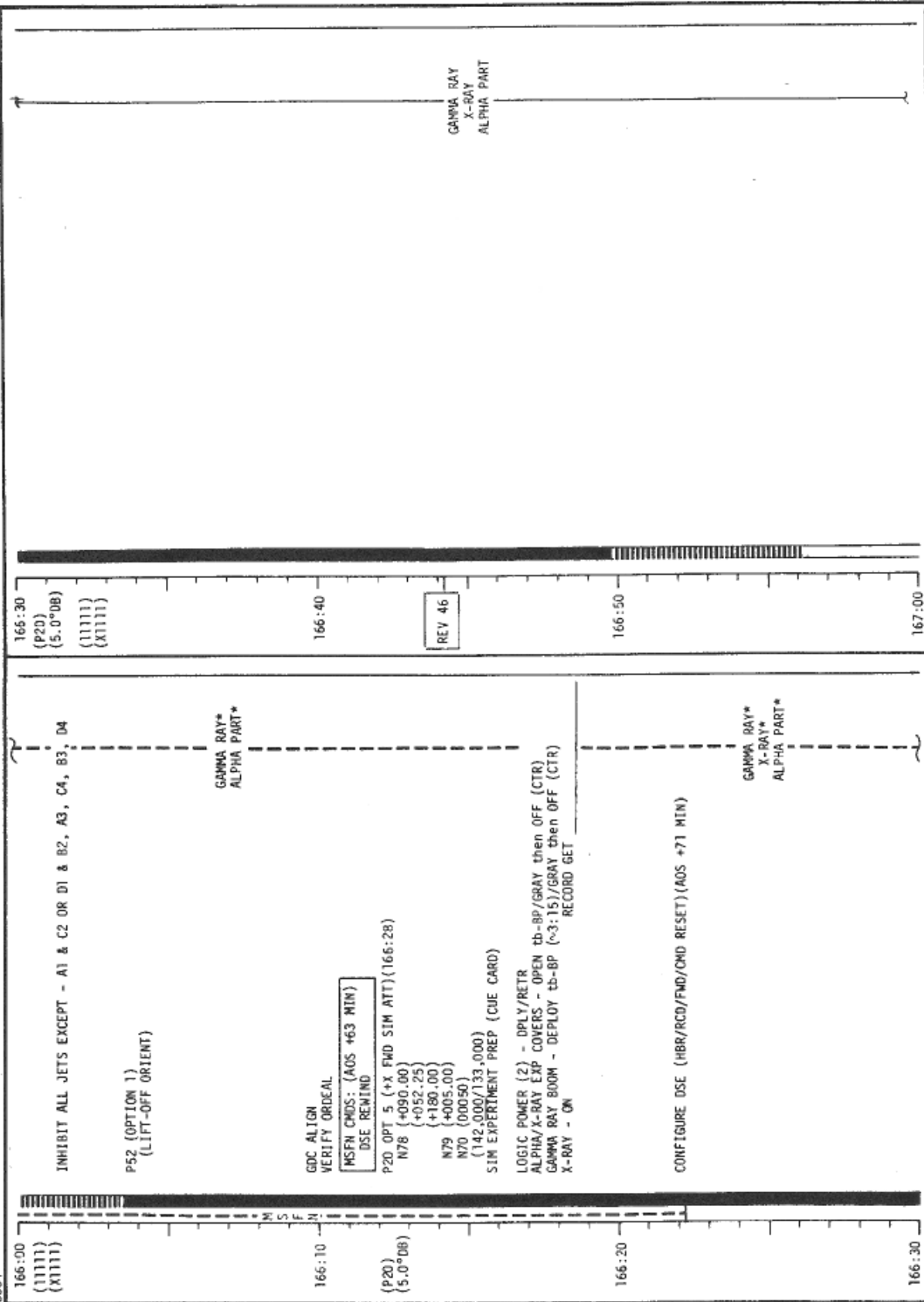


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	166:00 - 167:00	8/45-46	3-254

FLIGHT PLAN NG BRANCH

CSM FLIGHT PLAN

0634



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-255

MCC-H

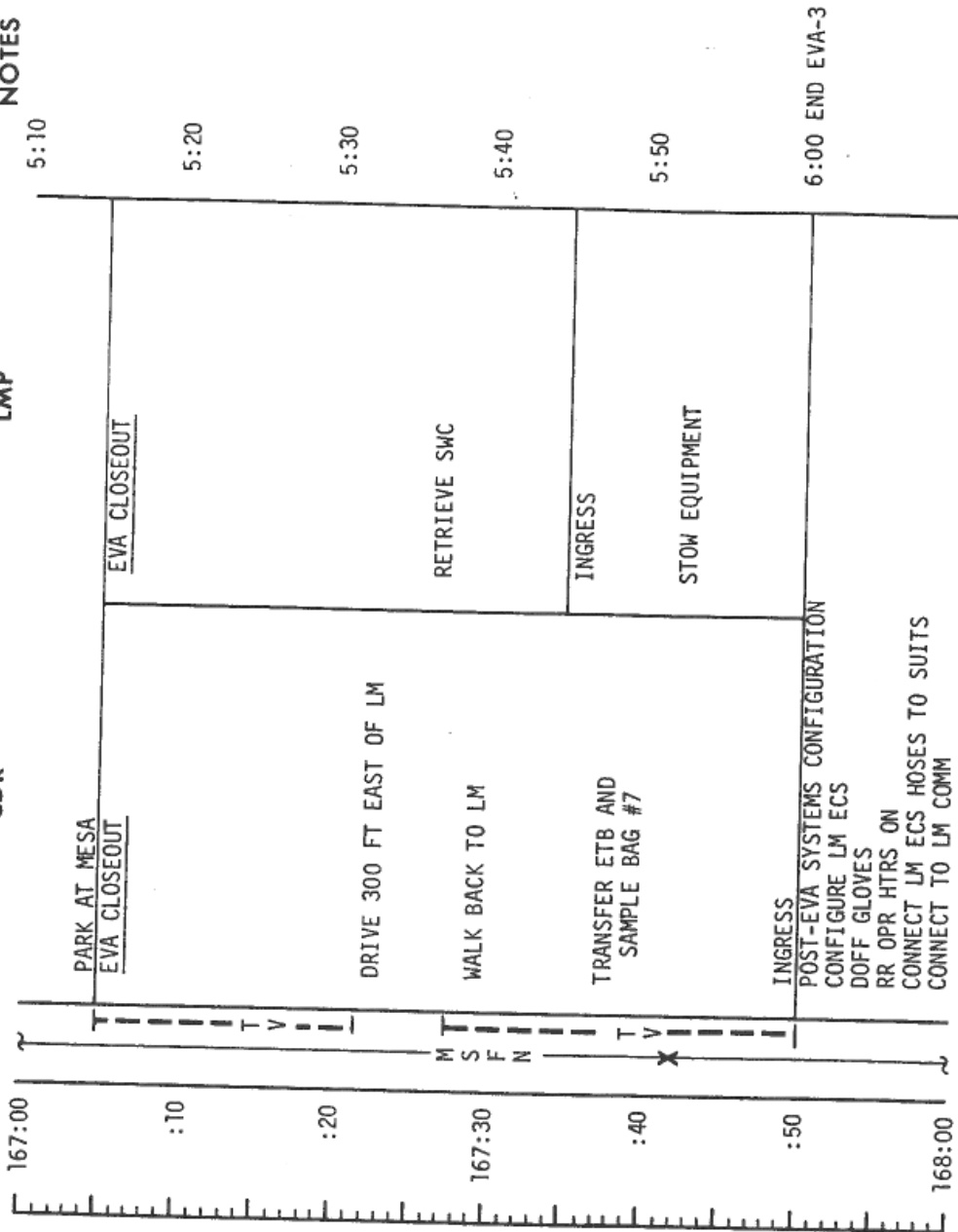
0734 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

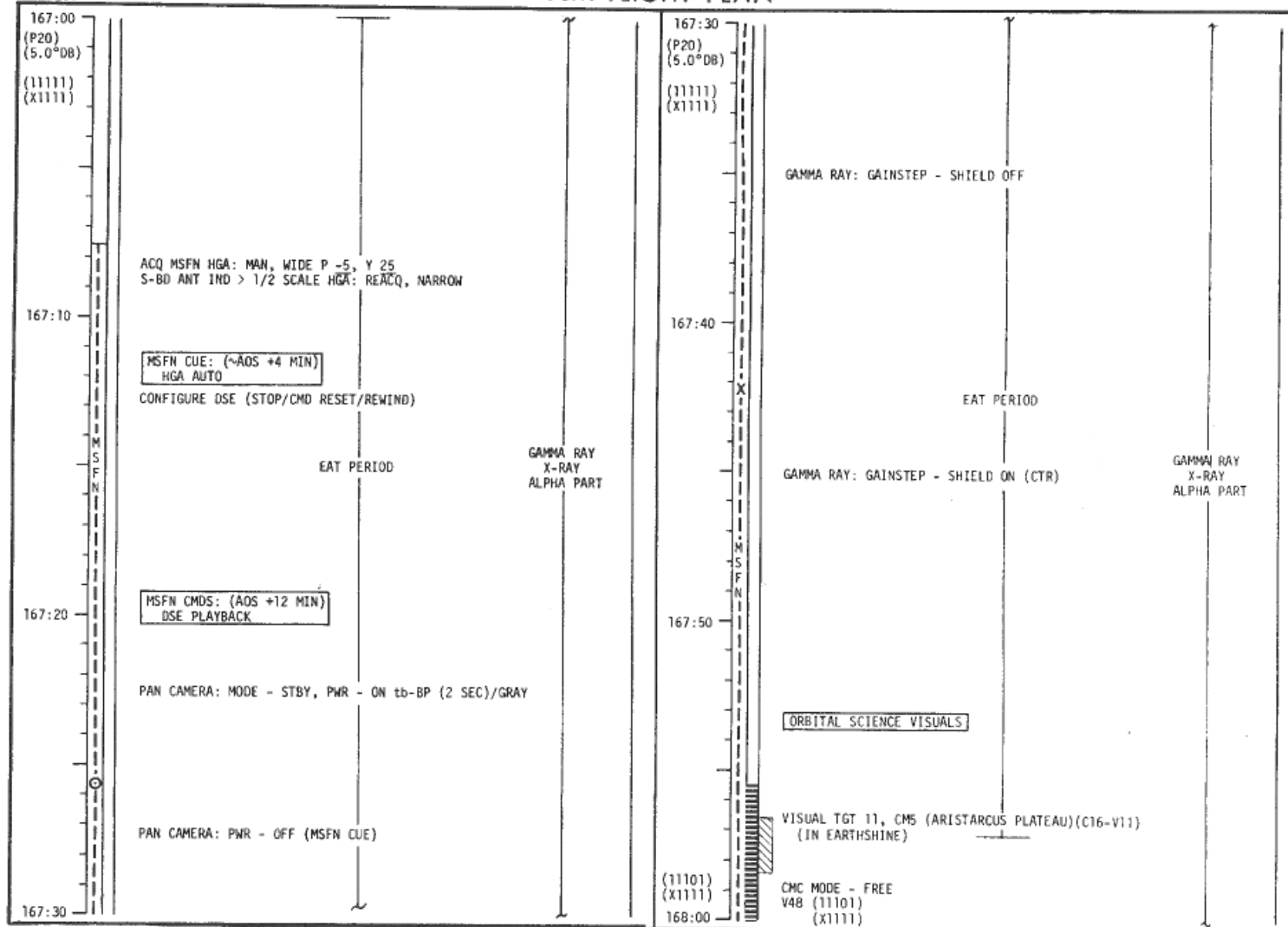


MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	167:00 - 168:00	8/46	3-256

FLIGHT PLAN BRANCH

0734 CUI

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-257

LM FLIGHT PLAN

MCC-H

0834 CDT

CDR

LMP

NOTES

GO/NO GO FOR
DEPRESS

UPDATE TO LM
P57 LIFT-OFF TIME
P22 ACQ TIME
UPLINK TO LM
CSM S.V. (L/O)
ZERO POS/NEG CELLS
RLS

168:00		PLSS/OPS DOFFING DISCONNECT OPS ACTUATORS & RCU'S	+10
		DISCONNECT AND DOFF PLSS/OPS (LMP FIRST)	
:10		CDR, THEN LMP, DISASSEMBLE PLSS/OPS CHECKOUT AND STOW OPS	+20
		VERIFY POWER DOWN CB CONFIGURATION	
:20		PREP FOR EQUIPMENT JETTISON UNSTOW SCALE WEIGH BSLSS/ROCK BAG & COLLECTION BAGS #7 & 8, REPORT TO MCC-H, STOW SCALE DOFF LUNAR BOOTS POSITION PLSS FOR JETTISON DON EVA GLOVES	+30
168:30	M S F N	PRESSURE INTEGRITY CHECK	+40
		CABIN DEPRESS FOR JETTISON OPEN FORWARD HATCH JETTISON JET BAG AND PLSS'S CLOSE HATCH REPRESSURIZE CABIN DOFF HELMET & GLOVES	+50
:40		PGNS TURN ON & SELF TEST	CSM REV 47
(12102)		E-MEMORY DUMP	
:50		P57 LUNAR SURFACE ALIGN OPTION 4 LANDING SITE A/T 3 - GRAVITY AND CELESTIAL BODY (LIFT-OFF ORIENTATION)	+1:00
169:00		POST-EVA CABIN CLEANUP	+1:10

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	168:00 - 169:00	8/46-47	3-258

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0834 CD1

168:00 (11101) (X1111) P00: V49 MNVR TO ANTISOLAR POINT (168:15) (180,252,041) HGA P -66, Y 156 CMC MODE - AUTO CONFIGURE CAMERA: (GEGENSCHIN) INSTALL CAMERA SHIELD CM4/NK/55/VHBW-BRKT, (f1.2,1/500,∞) (12 FR) MAG () _____, FR # _____ GAMMA RAY BOOM - RETRACT tb-BP (~3:15)/GRAY then OFF (CTR) X-RAY - STBY DATA SYS ON - OFF ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR) LOGIC POWER (2) - OFF S-BD AUX TV - OFF PCM BIT RATE - LOW MSFN CMDS: (AOS +63 MIN) DSE REWIND ENABLE ALL JETS EXCEPT - A3,C4,B3,D4 GEGENSCHIN PHOTOS CONFIGURE DSE (LBR/RCD/FWD/CMD RESET)(AOS +71 MIN) DIM INTERIOR LIGHTS CYCLE 1 FRAME, CHANGE SHUTTER TO T 1 FRAME, EXP TIME 1 MIN 1 FRAME, EXP TIME 3 MIN CHANGE SHUTTER TO 1/500 CYCLE 1 FRAME, LIGHTS UP V49 MNVR TO MIDWAY PT (168:30) (180,257,032) 168:30	168:30 (11101) (X1111) DIM INTERIOR LIGHTS CYCLE 1 FRAME, CHANGE SHUTTER TO T 1 FRAME, EXP TIME 1 MIN 1 FRAME, EXP TIME 3 MIN CHANGE SHUTTER TO 1/500 CYCLE 1 FRAME, LIGHTS UP V49 MNVR TO MOULTON PT (168:38) (180,261,021) DIM INTERIOR LIGHTS CYCLE 1 FRAME 1 FRAME, EXP TIME 1 MIN 1 FRAME, EXP TIME 3 MIN CHANGE SHUTTER TO 1/500 CYCLE 1 FRAME, LIGHTS UP cb SCS CONTR DIR 1 MNB - CLOSE cb SCS CONTR DIR 2 MNA - CLOSE ENABLE ALL JETS RNDZ XPNDR ACTIVATION AND SELF TEST (DECAL) RNDZ XPNDR - HTR CONFIGURE CAMERA: (LDMK TRK) CM/DAC/SXT(EXP PAD) 1 fps (3.8% MAG) MAG (E) _____, MAG % _____ UTILITY POWER - ON 169:00
---	--

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-259

LM FLIGHT PLAN

MCC-H

0934 CDT

CDR

LMP

NOTES

169:00
(12102)

:05

:10

169:15

:20

:25

169:30

M
S
F
N

SECURE OPS'S ON FLOOR

STOW EQUIPMENT FOR RETURN

PACK ISA

ATTACH BSLSS/ROCK BAG TO +Z27

STOW COLLECTION BAGS

INSTALL ISA IN AFT CABIN

SECURE LEVA BAGS ON ENG COVER

STOW EVA ONBOARD DATA IN FLIGHT DATA FILE

+1:10

+1:20

+1:30

+1:40

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	169:00 - 169:30	8/47	3-260

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

0934 L

169:00	(11101) (X1111)	L10H CANISTER CHANGE (13 INTO A, STOW 11 IN A9)	
		ACQ MSFN HGA P -68, Y 114	
		MSFN CMDS: DSE DUMP	
169:10		MSFN UPDATE: P24 LDMK TRACK (169:50)	
		P20 OPT 5 (LDMK TRK ATT)(169:32)	
		N78 (+000.00)	
		(-068.00)	
		(+000.00)	
		N79 (+000.50)	
		N70 (00050)	
		(000,338/272,000) OMNI D	
		CONFIGURE FOR VHF COMM CHECK WITH LM	
		VHF AM B - DUPLX (VERIFY)	VHF AM A - SIMPLEX
		VHF AM - T/R (PANEL 9)	VHF B - OFF
		MODE - VOX	change @ 120:34:56
		RNDZ XPNDR - PWR	
169:30			

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-261

LM FLIGHT PLAN

MCC-H

1004 CDT

CDR

LMP

NOTES

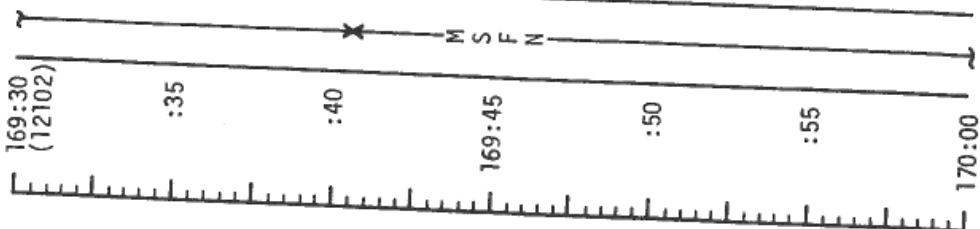
RR - ON
P22 LUNAR SURFACE NAVIGATION

VHF VOICE CHECK

TERMINATE P22 LUNAR
SURFACE NAVIGATION

EAT PERIOD
CREW STATUS (RADIATION, MEDICATION)

UPDATE TO LM
ASCENT PADS
CSI PAD
LM DAP WTS



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	169:30 - 170:00	8/47	3-262

FLIGHT PLAN BRANCH

CSM FLI PLAN

1004 C₀

169:30
(P20)
(0.5°DB)
(11101)
(X1111)

MSFN CMDS:
DSE RECORD

P24 (L/S LDMK 15-2)
OPT ZERO - OFF, OPT MODE - CMC

0:00 T1(HORIZON)DET - RESET/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

P00

VHF AM B - OFF (CTR)
MODE - INTERCOM/PTT
RNDZ XPNDR - HTR
V48 (11112)
(X1111)

V49 MNVR TO P52/
COAS CAL ATT (169:54)
(180,224,016)
HGA P -46, Y 164

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

MSFN UPDATE:
CONSUMABLES (IF REQD)
CSM S.V. (L/O) COPY AT 170:15

MSFN UPDATE TO LM WITH CSM COPY:
ASCENT PADS AND CSM WEIGHT COPY AT 171:10
CONFIGURE FOR URINE DUMP

MSFN CMDS:
DSE DUMP

CONFIGURE FOR URINE DUMP

170:00

CSM CONSUMABLES UPDATE

GET: _____

RCS TOTAL _____

QUAD A _____ B _____

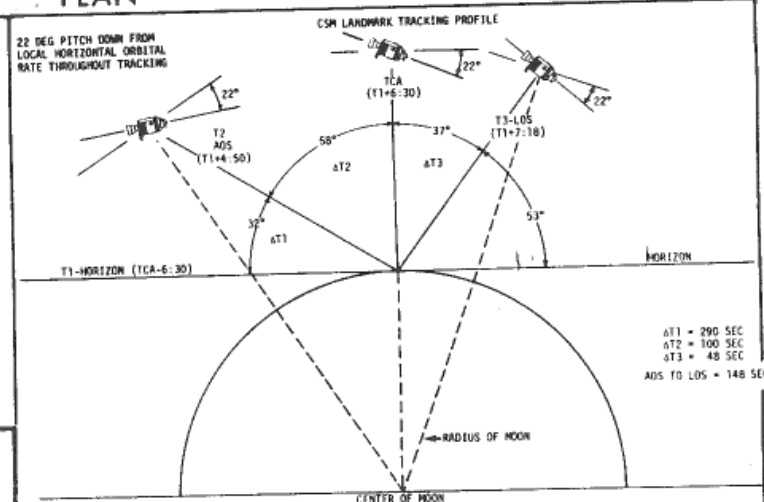
C _____ D _____

H₂ TANK 1 _____ 2 _____ 3 _____

O₂ TANK 1 _____ 2 _____ 3 _____

GAMMA RAY*
ALPHA PART*

22 DEG PITCH DOWN FROM
LOCAL HORIZONTAL ORBITAL
RATE THROUGHOUT TRACKING



P24 LDMK TRACKING

TGT: 15-2

T₁ _____

T₂ _____

TCA _____

T₃ _____

R _____ °P _____ °Y _____ ° (T2 ACQ)

N or S NM _____ / SA _____ TA _____ (T2 ACQ)

M89

LAT +25.991

LONG/2 +01.807

ALT -01.744

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-263

LM FLIGHT PLAN

MCC-H

1034 CDT

CDR

LMP

NOTES

170:00
(12102)

:05

:10

170:15

:20

:25

170:30

M
S
F
N

EAT PERIOD

VERIFY GUIDANCE
CONFIGURATION
CONFIGURE CB'S FOR L/O PREP

CONFIGURE COMM
CONFIGURE CB'S FOR L/O PREP
AGS STATUS - OPERATE

-1:15

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	170:00 - 170:30	8/47	3-264

FLIGHT PLAN NG BRANCH

CSM FLIGHT PLAN

1034 CDT

170:00
(11112)
(X1111)

H₂ PURGE LINE HEATERS - ON
P52 (OPTION 3)
(LIFT-OFF ORIENT)
REPORT: GYRO TORQUING ANGLES

P52 (COAS CALIB)
USE STAR NO. 41

170:10

POO
GDC ALIGN
VERIFY ORDEAL

CONFIGURE CAMERAS: (DOCKING)

CM2/DAC/18/CEX-BRKT,MIR (T8,1/250,=) 6 fps (40% MAG)

MAG (C) → MAG % _____
UTILITY PWR - ON

MSFN CMDS:
DSE RECORD

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

MSFN ENABLES MSFN S-BAND RELAY

170:20

CM/EL/80/CEX (f8,1/250,FOCUS) (10 FR)

MAG (Q) _____, FR # _____

CM4/TV-BRKT
(f44, PEAK) 11 MIN (ZOOM - 75MM)

H₂ AND O₂ FUEL CELL PURGE
WASTE WATER DUMP
URINE DUMP

170:30

GAMMA RAY*
ALPHA PART*

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

COAS CALIB - N92

SHAFT: _____

TRUN: _____

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		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-265

MCC-H

1104 CDT

CDR

LMP

NOTES

170:30
(12102)

:35

:40

170:45

:50

:55

171:00

M
S
F
N

CONFIGURE RR

V63 RR SELF TEST (IF REQ)

ALIGN AGS TO PGNS
AGS GYRO CALIBRATION

LOAD AGS ASCENT TARGETING

RATE GYRO TEST

```
LGC CLOCK SYNC
AGS CLOCK INITIALIZATION
```

RCS CHECKOUT

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

-1:00

CSM REV 48

-0:45

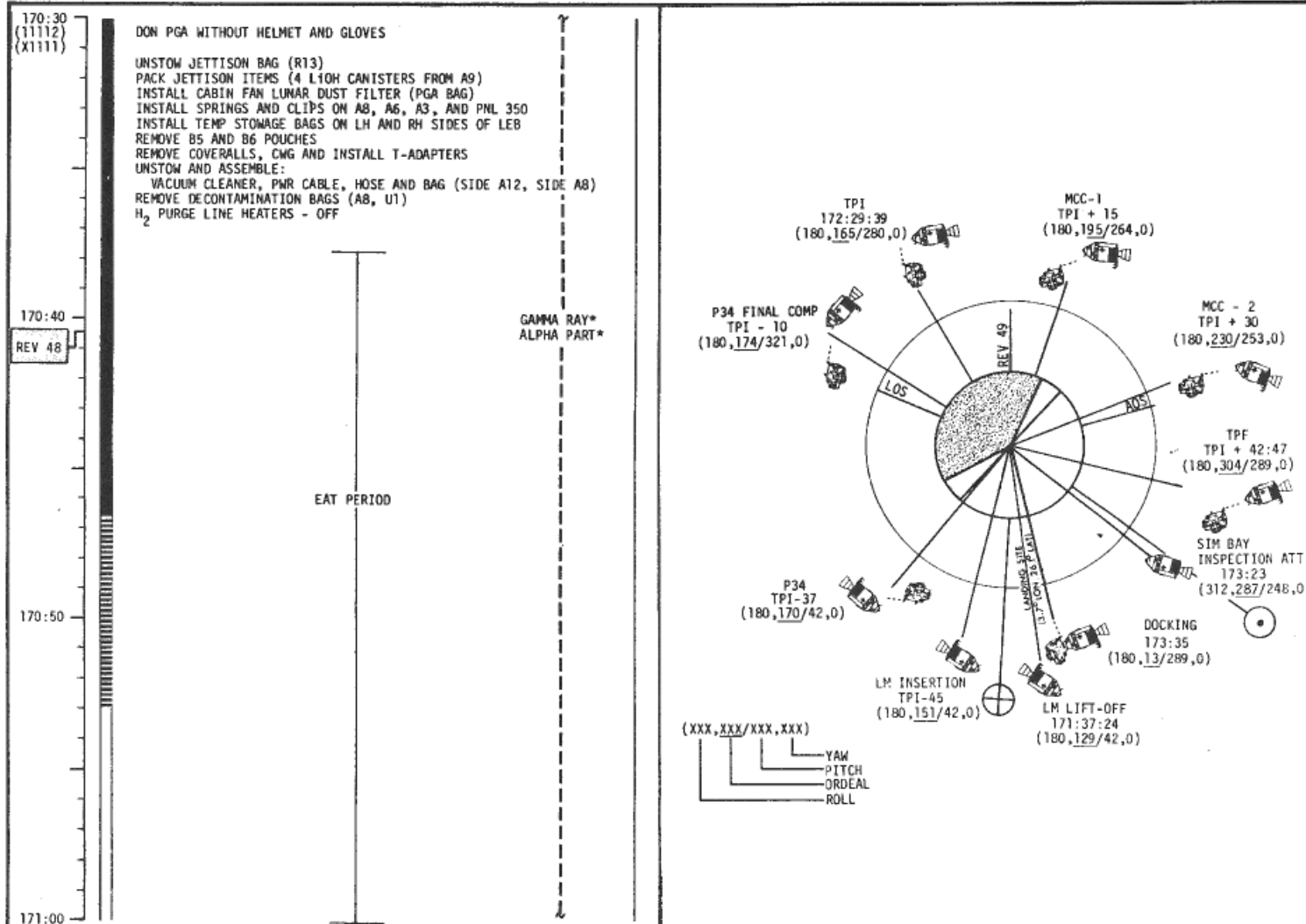
UPDATE TO LM
AGS K-FACTOR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	170:30 - 171:00	8/47-48	3-266

FLIGHT PLANNING BRANCH

1104 C

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-267

LM FLIGHT PLAN

MCC-H

1134 CDT

CDR

LMP

NOTES

UPLINK TO LM
CSM S.V. (L/O)
(IF REQD)
RLS (IF REQD)
LGC GYRO COMP

171:00
(12102)

:05

:10

171:15

:20

:25

171:30

M
S
F
N

POSITION RR ANT

LOAD DAP, LM WT

P12 POWERED ASCENT

PRELAUNCH SWITCH CHECKS

DON HELMET & GLOVES

VERIFY CB STATUS

APS PRESSURIZATION

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

AGS LUNAR ALIGN

PRELAUNCH SWITCH CHECKS

DON HELMET & GLOVES

V47 SET AGS BIAS
LIFT-OFF COMM, RECORDER - ON
BAT 2,4 - OFF/RESET
DES BATS - DEADFACE

VERIFY CB STATUS

-0:30

-0:15

GUIDANCE RECOMMEN-
DATION FOR ASCENT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	171:00 - 171:30	8/48	3-268

FLIGHT PLANNING BRANCH

1134 L.

CSM FLIGHT PLAN

171:00
(11112)
(X1111)

AUTO RCS SEL (16) - MNA/MNB

ACQ MSFN HGA P -46, Y 164

MSFN CMDS:
DSE DUMP171:10
M
S
F
NVHF AM B - DUPLEX (VERIFY)
VHF AM A - OFF (CTR) (VERIFY)
VHF RANGING - ON(UP)
VHF ANT - LEFT
RNDZ XPNDR - PWR
EXT LIGHTS RUN/EVA - ON (UP)
EXT LIGHTS RNDZ - RNDZ(11102)
(X1111)CYCLE CMC MODE - FREE/AUTO
V48 (11102)
(X1111)
LOAD CSM AND LM WT
V49 MNVR TO P20 ATT (171:20)
(180,42,0) OMNI D

171:20

GDC ALIGN
VERIFY ORDEAL

SYSTEMS TEST - XPNDR/C

GAMMA RAY EXP - OFF
X-RAY - OFF
o RAY/X DR - o OFF
MASS SPECT EXP - OFF
MAP CAMERA ON - STBY (VERIFY)
MAP CAMERA IMAGE MTN - OFF (VERIFY)
PAN CAMERA PWR - BOOST

LOAD N37

171:30

GAMMA RAY*
ALPHA PART*

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	9	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 15	FINAL (7/26)	6/21/71	3-269

LM FLIGHT PLAN

CDR

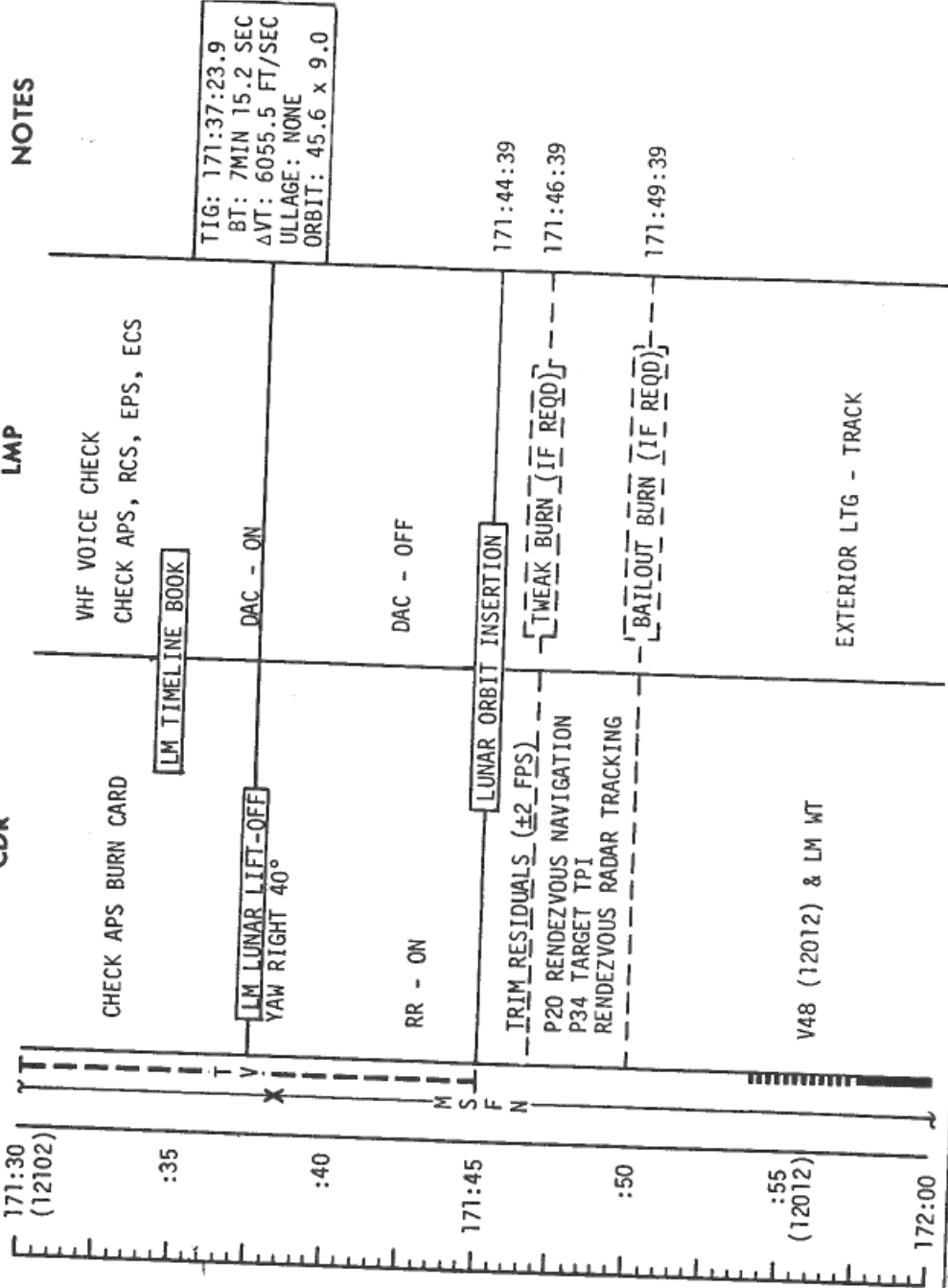
LMP

NOTES

1204 CDT

MCC-H

GO/NO GO FOR
LIFT-OFF ✓



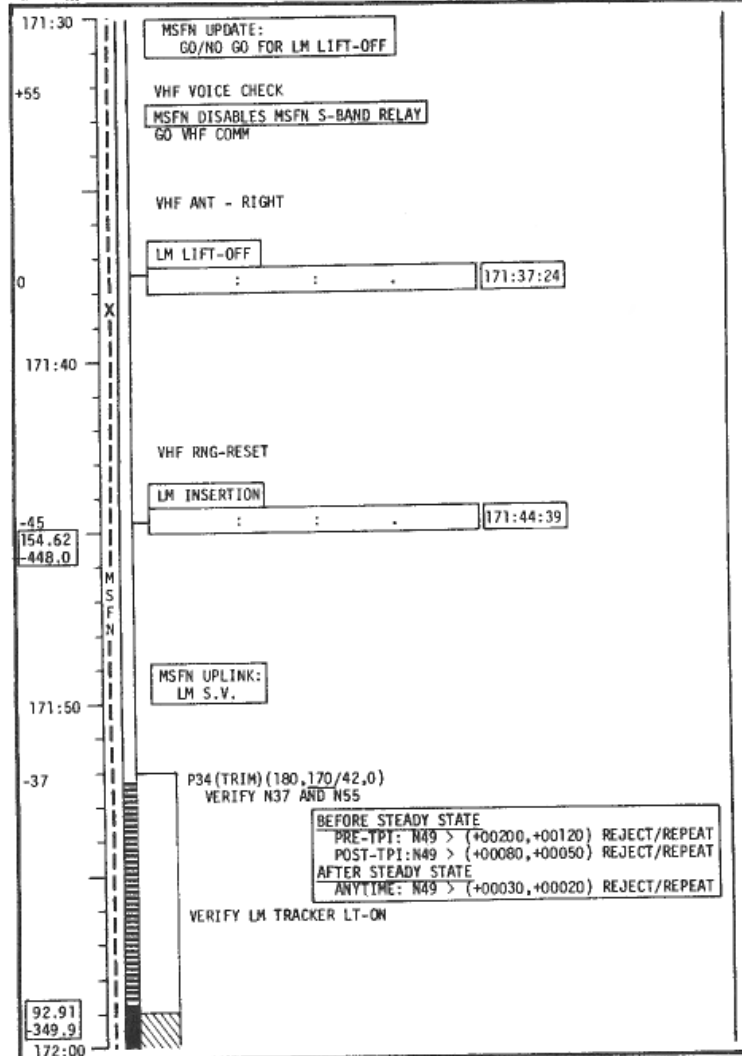
UPDATE TO LM
TWEAK OR BAILOUT
INSTRUCTION
(IF REQD)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	171:30 - 172:00	8/48	3-270

FLIGHT PLANNING BRANCH

CSM FLIGHT PLAN

1204



P30 MANEUVER

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

* IF LM BAILOUT REQD:
* COPY P76 DATA FROM LM
*
*33
*84
* GO TO RESCUE BOOK PG 6

* IF CSM BAILOUT REQD:
*
* MSFN UPDATE:
* CSM BAILOUT P30 PAD
* P30
* P40 : SET UP EMS
* SPS BURN CUE CARD
* CSM BAILOUT BURN
* GO TO RESCUE BOOK PG 6

P34 INPUT

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

* IF NO SXT, V57-LOAD R2=1; CALL N78.
* LOAD R2=0; V58; V54; VHF ONLY
* UNTIL TPI-16, THEN VHF/COAS(6).

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-271

LM FLIGHT PLAN

MCC-H

1234 CDT

CDR

LMP

NOTES

172:00
(12012)
:05
:10
172:15
:20
:25
172:30

M
S
F
N

P42 APS THRUSTING

MANUAL ULLAGE

TPI

NULL RESIDUALS

CONFIGURE S-BD FOR LOS
OMNI-AFT, PCM-HI

LOAD AGS TPI EXTERNAL ΔV

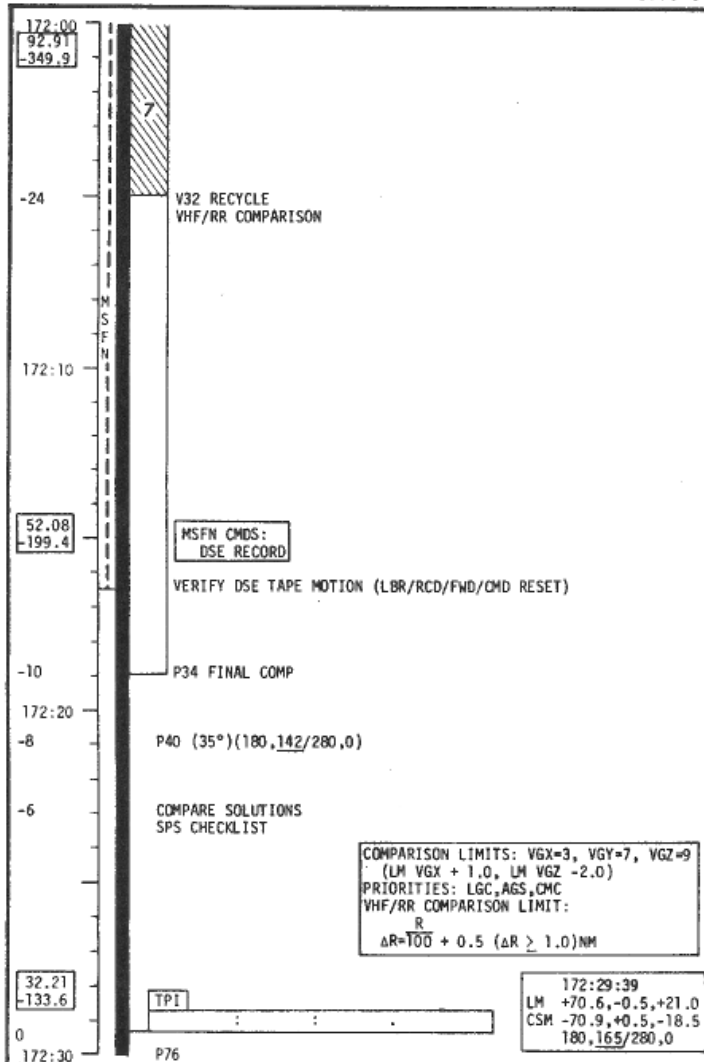
TIG: 172:29:39.1
BT: 2.6 SEC
 ΔVT : 73.6 FT/SEC
ULLAGE: 4 JET 10 SEC
ORBIT: 61.5 x 43.9NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	172:00 - 172:30	8/48	3-272

FLIGHT PLAN HIG BRANCH

1234 CDT

CSM FLIGHT PLAN



 * CONTINGENCY PROCEDURE *
 * (P30-P40 BACKUP WITH LM SOLUTION) *
 * P30-MIRROR IMAGE OF LM ΔV *
 * P40 *

P34 RECYCLE

	INTEG OPT	ELEVATION }	TRANSFER }
55	+00000	.	+130.00
58	PERILUNE ALT	TPI ΔV	TPF ΔV
81	TPI ΔV-LV	.	.
84	LM TPI ΔV-LV	.	.

GROUND TPI FOR LM

					ΔV _X
					ΔV _Y
					ΔV _Z

P34 FINAL COMP

	INTEG OPT	ELEVATION }	TRANSFER }
55	+00000	.	+130.00
58	PERILUNE ALT	TPI ΔV	TPF ΔV
81	TPI ΔV-LV	.	.
84	LM TPI ΔV-LV	.	.
P76 84	LM TPI ΔV-LV	.	.

 * IF SXT OR VHF ONLY, OR *
 * VHF/COAS, V57-LOAD R2=1.*

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-273

LM FLIGHT PLAN

MCC-H

1304 CDT

CDR

LMP

NOTES

172:30
(12012)
:35
REV 49
:40
172:45
:50
:55
173:00

P35 TARGET MCC-1
RENDEZVOUS RADAR TRACKING

FINAL MCC-1 COMPUTATION

P41 RCS THRUSTING

MCC-1
NULL RESIDUALS
P35 TARGET MCC-2
RENDEZVOUS RADAR TRACKING

FINAL MCC-2 COMPUTATION
P41 RCS THRUSTING

MCC-2
NULL RESIDUALS

LOAD AGS MCC-1 EXTERNAL ΔV

EXTERIOR LTG - OFF

LOAD AGS MCC-2 EXTERNAL ΔV

TIG: 172:44:39
 ΔVT : NOM ZERO

TIG: 172:59:39
 ΔVT : NOM ZERO

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	172:30 - 173:00	8/48-49	3-274

FLIGHT PLANNING BRANCH

LM FLIGHT PLAN

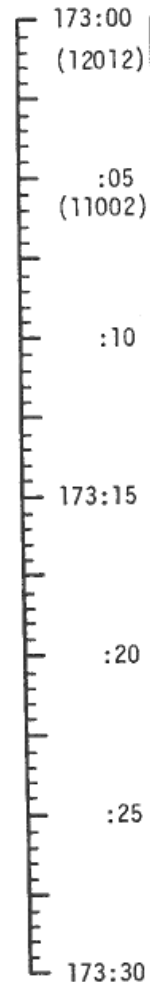
MCC-H

1334 CDT

CDR

LMP

NOTES



TPI BURN REPORT

V48 (11002)

P47 THRUST MONITOR

BRAKING GATES

COAS TO OVHD WINDOW

RR - OFF

PITCH DOWN 90°, YAW TO
DOCK ATT

BIOMED - LEFT, PCM-HI

CSM & SIM BAY PHOTOGRAPHY
LM3/DC, LM3/DAC

TIG: 173:08:39 to
173:15:39
TOTAL ΔV: 31.6FT/SEC
ORBIT: 59.6 x 59.1NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	173:00 - 173:30	8/49	3-276

FLIGHT PLANNING BRANCH

1334 L

CSM FLIC PLAN

173:00 4.40 -45.3	P79(35°)(180,271/289,0) ACQ MSFN HGA P -57, Y 45 MSFN CMDS: DSE DUMP PERFORM PRE-DOCK CHECKLIST IF CSM ACTIVE: P47 AT R=1.25 NM SEC PRPLNT FUEL PRESS (4) - OPEN V83E N83E KEY REL
173:10	UTILITY PWR - ON (VERIFY) TV - ON DAC - ON LM PHOTOS WITH DAC/TV TPF 173:12:26 LM 31.7 (TOTAL) CSM 33.6 (TOTAL) 180,304/289,0 EMS MODE - STBY EMS FUNC - OFF EXT LIGHT RNDZ - OFF LM STATIONKEEP P00 DAC/TV - OFF CMC MODE - AUTO V49 MNVR TO SIM BAY INSPECTION ATTITUDE (173:23) (312,248,0)
173:20	
173:30	V49 MNVR TO DOCKING ATT (173:31) (180,289,0) ACQ MSFN HGA P -57, Y 45 CUE MSFN FOR LOGIC ARM SECS LOGIC (BOTH) - ON (UP) MSFN GO FOR PYRO ARM SECS PYRO ARM (2) - ON (UP)

PRE-DOCK CHECKLIST

MAN ATT (3) - RATE CMD (VERIFY)	CB DOCK PROBE (2) - CLOSED
LIMIT CYCLE - OFF (VERIFY)	PROBE RETRACT (2) - OFF (VERIFY)
ATT DB - MIN	PROBE EXT/REL - RETRACT
RATE - LOW (VERIFY)	PROBE EXT/REL TB (2) - GRAY (VERIFY)
TRANS CONTR PWR - ON (UP)	(IF TB NOT GRAY, GO TO PG 5/2-12, E)
ROT CONTR PWR DIRECT (BOTH) - MNA/MNB	CB SECS LOGIC (2) - CLOSED (VERIFY)
SC CONT - CMC (VERIFY)	CB SECS ARM (2) - CLOSED
CMC MODE - HOLD	EXT LIGHTS RUN/EVA - ON (UP) (VERIFY)
AUTO RCS SEL (16) - MNA/MNB (VERIFY)	COAS PWR - ON (UP) (VERIFY)

BRAKING 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
	FINAL (7/26)	6/21/71	3-277

MCC-H

1404 CDT

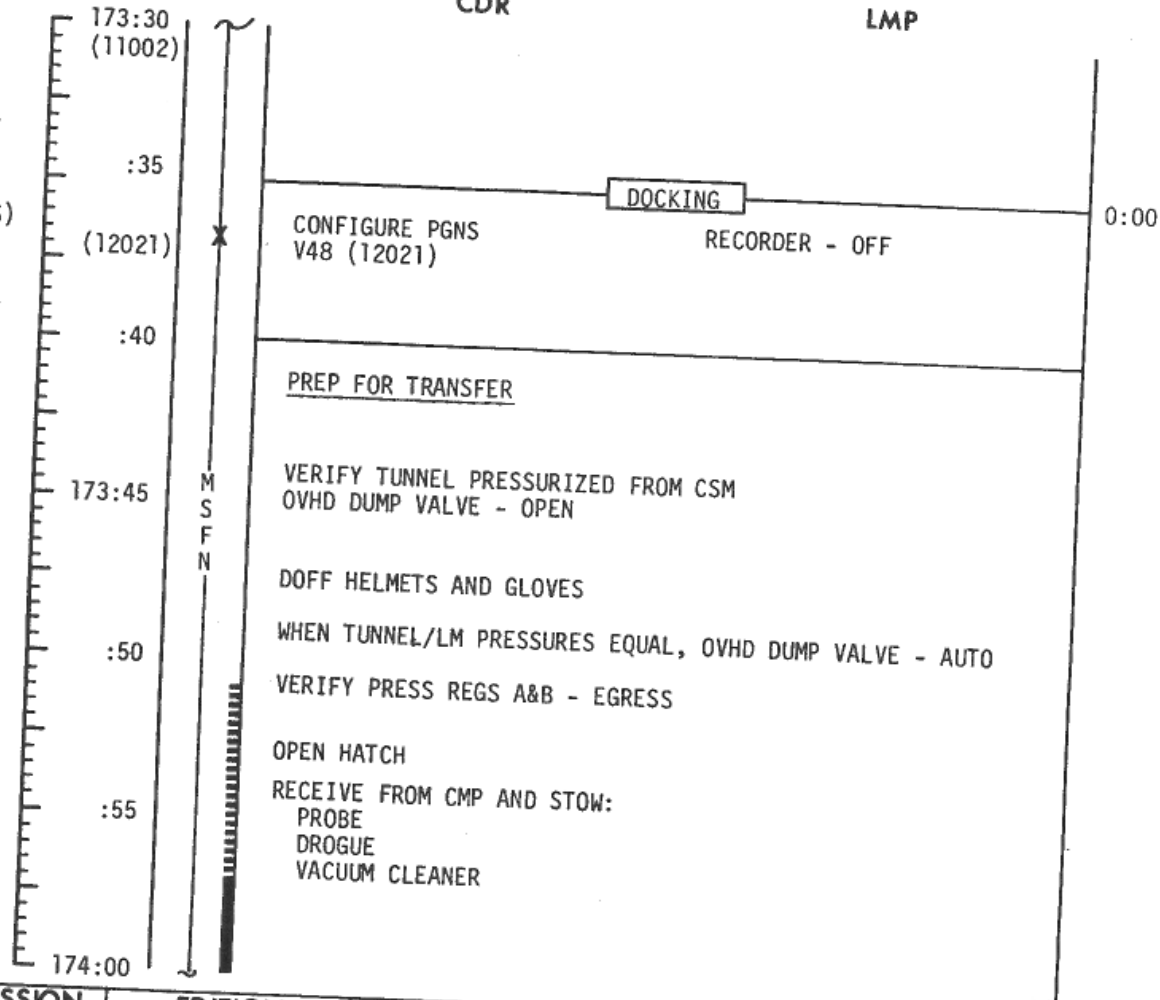
LM FLIGHT PLAN

CDR

LMP

NOTES

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



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	173:30 - 174:00	8/49	3-278

FLIGHT TRAINING BRANCH

CSM FLIGHT PLAN

173:30	P47 DAC/TV - ON (ZOOM - 25MM) LM PITCH DOWN 90°, YAW LEFT 120°	
(11102) (X1111)	T TRANSLATE TO CAPTURE LATCH V PERFORM DOCKING CHECKLIST	
	DOCKING	173:35:00
	DAC/TV - OFF P00	
(61101) (11111)	V48 (61101) RECORD MAG % (11111) RECORD EL FR #	
173:40	CMC MODE - AUTO SC CONT - CMC RNDZ XPNDR - OFF	
	MSFN UPDATE: DAP LOAD - UPDATE WEIGHTS (174:01) MAP CAMERA PHOTO PAD (174:48) PAN CAMERA PHOTO PAD (175:22)	
	PREPARE COUCH FOR HATCH	
	REMOVE PROBE STRAPS (RS)	
	CDR - VERIFY FWD DUMP VLV - AUTO CABIN FANS - ON (UP)	
	EQUALIZE CSM/LM PRESSURE (LOD DECAL)	
	TUNNEL LIGHTS - LIGHTS REMOVE HATCH AND STOW (DECAL)	
173:50	VERIFY DOCKING LATCHES (DECAL)	
	REMOVE AND TEMP STOW PROBE AND DROGUE (DECAL)	
	TRANSFER TO CDR AT HIS REQUEST: PROBE DROGUE VACUUM CLEANER (ASSEMBLED)	
	DOFF PGA ZIP SUIT & INSTALL ELECTRICAL COVER PRIOR TO STOWING (PGA BAG) STOW COMM CARRIERS AND UCTA (PGA BAG) TRANSFER PRD TO CWG	
174:00		

DOCKING CHECKLIST

AT CAPTURE

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

AT DOCK LATCH

PROBE EXTD/REL TB (2) - GRAY

AT HARD DOCK

SECS PYRO ARM (2) - SAFE	EXT LIGHTS (2) - OFF
SECS LOGIC (BOTH) - OFF	COAS PWR - OFF
CB SECS ARM (2) - OPEN	LIMIT CYCLE - ON (UP)
CB DOCK PROBE (2) - OPEN	ATT DB - MAX
THC - LOCKED	SC CONT - SCS
RHC - LOCKED	BMAG MODE (3) - ATT 1/RATE 2
BMAG MODE (3) - RATE 2	AUTO RCS SEL B/D ROLL (4) - OFF
PROBE EXTD/REL - OFF	TRANS CONTR PWR - OFF
PROBE RETRACT (2) - OFF	ROT CONTR PWR DIRECT (BOTH) - OFF

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-279

LM FLIGHT PLAN

MCC-H

1434 CDT

CDR

LMP

NOTES

174:00
(12021)

VACUUM PGA'S

:05

M
S
F
N

DOFF SUITS

:10

174:15

:20

TRANSFER SUITS TO CMP

PLACE EV GLOVES INSIDE HELMETS, HELMETS INSIDE
LEVA'S, IN LEVA BAG

:25

TRANSFER LEVA BAGS TO CMP

174:30

RECEIVE DECONTAMINATION BAGS FROM CMP

0:30

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	174:00 - 174:30	8/49	3-280

FLIGHT PLANNING BRANCH

MCC-H

1504 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES

174:30
(12021)

:35

REV 50

:40

174:45

:50

:55

175:00

I

UNSTOW, VACUUM/WET WIPE AND BAG:

70MM MAG BAG (13 MAGS)

SURFACE 16MM MAG BAG (8 MAGS)

4 COLLECTION BAGS

ISA

BSLSS/ROCK BAG

1:00

TRANSFER ABOVE ITEMS TO CSM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	174:30 - 175:00	8/49-50	3-282

FLIGHT PLANNING BRANCH

1504 CDT

CSM FLIGHT PLAN

174:30 (P20) (0.5°DB) (61101) (11111)	CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT)	P52(IMU REALIGN) N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____	
REV 50	P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL		
174:40	MAP CAM/LASER COVERS - OPEN tb-BP/GRAY then OFF (CTR) MAP CAM TRACK - EXTEND tb-BP (~4min)/GRAY then OFF (CTR)	ch @ 174:03:50	
		GAMMA RAY* X-RAY ALPHA PART LASER ALTM	
		MAP CAMERA PHOTO PAD T-START: 174:50:04 T-STOP: 175:49:36	
174:50	ch @ 174:04:30 LASER ALTIMETER - ON MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) MAP CAMERA ON - ON (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP)/ON		
		MAP CAMERA	
	RECEIVE ITEMS FROM LM AND STOW (LM TO CM TRANSFER LIST)		
175:00	ACQ MSFN: MAN, WIDE P-5, Y 25 S-BD ANT IND > 1/2 SCALE HGA: REACQ, NARROW		

LM TO CM TRANSFER LIST	
ITEM	CM STOWAGE LOCATION
16MM MAG (6) IN DECOM BAG	R13
16MM MAG (2) IN DECOM BAG	R13
70MM MAG (4) IN DECOM BAG	R13
70MM MAG (3) IN DECOM BAG	A8
70MM MAG (3) IN DECOM BAG	R13
70MM MAG (3) IN DECOM BAG	R13
FLIGHT DATA FILE (KIT)	R3
OPS (1)	A7
LEVA BAGS (2)	UNDER RIGHT COUCH
PENETROMETER IN DECOM BAG	A7
ISA DECOM BAG	TOP A2
COLLECTION BAG IN DECOM BAG	TOP A7
COLLECTION BAG IN DECOM BAG	TOP A1
COLLECTION BAG IN DECOM BAG	TOP A1
COLLECTION BAG IN DECOM BAG	PGA.BAG
BSLSS/ROCK BAG IN DECOM BAG	A9
CORE TUBES (3)	A9
SRC IN DECOM BAG (2)	B5,B6
VACUUM CLEANER	A6
PURSE	
UNOPENED FOOD BAGS	
USED URINE BAGS	
USED FECAL BAGS	
ANCILLARY PACKAGE	A8

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-283

MCC-H

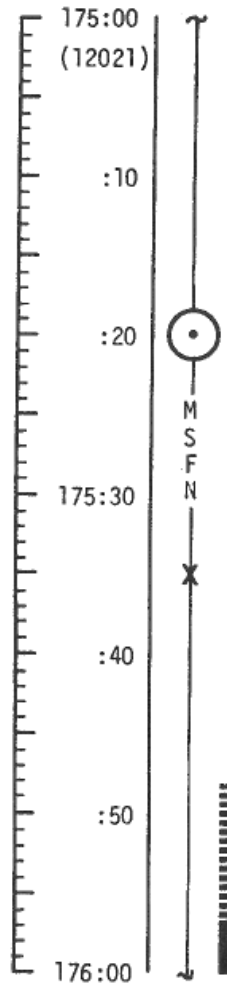
1534 CDT

LM FLIGHT PLAN

CDR

LMP

NOTES



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

1:30

RECEIVE B5 & B6 FROM CMP AND STOW IN SRC RACK

TRANSFER VACUUM CLEANER TO CSM

UNSTOW OPS, CHECKOUT, TRANSFER TO CMP

DON LT WT HEADSET

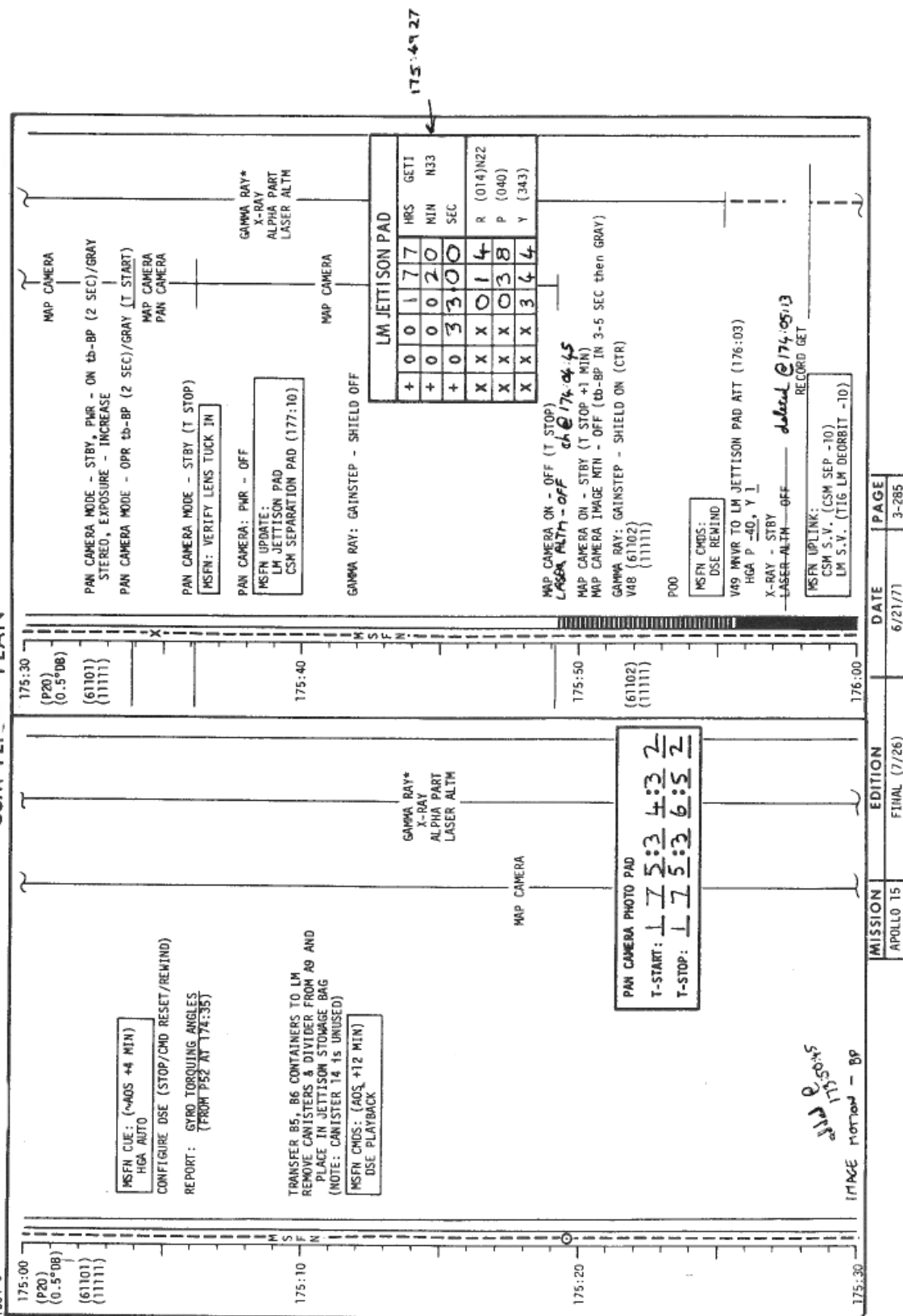
CONNECT CWG ADAPTER

CONNECT LM COMM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	175:00 - 176:00	8/50	3-284

FLIGHT PLANNING BRANCH

534



LM FLIGHT PLAN

MCC-H

1634 CDT

CDR

LMP

NOTES

UPDATE TO LM
DEORBIT TIG

GO/NO GO FOR LM
CLOSE OUT

176:00
(12021)

M
S
F
N

VERIFY LM JETTISON ATTITUDE
P30 TARGET PGNS

STEERABLE P 205, Y 70
CONFIGURE S-BAND
VERIFY COMM
TARGET AGS ΔV FOR DEORBIT

2:30

:10

:20

CONFIGURE LM FOR JETTISON

STOW CSM JETTISON ITEMS

IVT TO CSM

176:30

REV 51

:40

:50

177:00

CLOSE HATCH, IVT TO CSM

3:00

3:10/LM CLOSEOUT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	176:00 - 177:00	8/50-51	3-286

FLIGHT NING BRANCH

177:00

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/27/71	3-287

1734 CDT

CSM FLIGHT PLAN

177:00
(61102)
(11111)

P30; LOAD CSM SEP PAD DATA

LM PWR - OFF (VERIFY)
CB SECS ARM (2) - CLOSED

CUE MSFN FOR LOGIC ARM

SECS LOGIC (BOTH) - ON (UP)

MSFN UPDATE:
GO/NO-GO FOR PYRO ARM

177:10

LOAD ΔV IN EMS TO +100.0
CHECK NULL BIAS
GDC ALIGN
VERIFY ORDEALREPORT: CM/LM ΔP

PRE-JETTISON CHECKLIST

(11102)
(11111)V48 (11102)
(11111)

SECS PYRO ARM (2) - ARM

P47 (JETT -1 MIN)
EMS MODE NORMAL (JETT -30 SEC)
DAC - ON

177:20

LM JETTISON

177 : 20 : 33 .

177:20:45

(014,090/040,343)

P00
DAC - OFF
PRE-SEPARATION CHECKLIST
EMS MODE - NORMAL (SEP -30 SEC)

CSM SEPARATION

: : .

177:25:45

-1.0,+0.0,+0.0

(014,105/040,343)

P00

177:30

P30 MANEUVER

SET STARS	C	S	M	S	E	P	PURPOSE
	R	C	S	G	&	N	PROP/GUID
	+			N	/	A	WT N47
R ALIGN		0	0	N	/	A	P TRIM N48
P ALIGN		0	0	N	/	A	Y TRIM
Y ALIGN	+	0	0				HRS GETI
	+	0	0	0			MIN N33
	+	0					SEC
ULLAGE	-	0	0	0	1	0	ΔV_X N81
	+	0	0	0	0	0	ΔV_Y
	+	0	0	0	0	0	ΔV_Z
	X	X	X				R
	X	X	X				P
	X	X	X				Y

PRE-JETTISON CHECKLIST

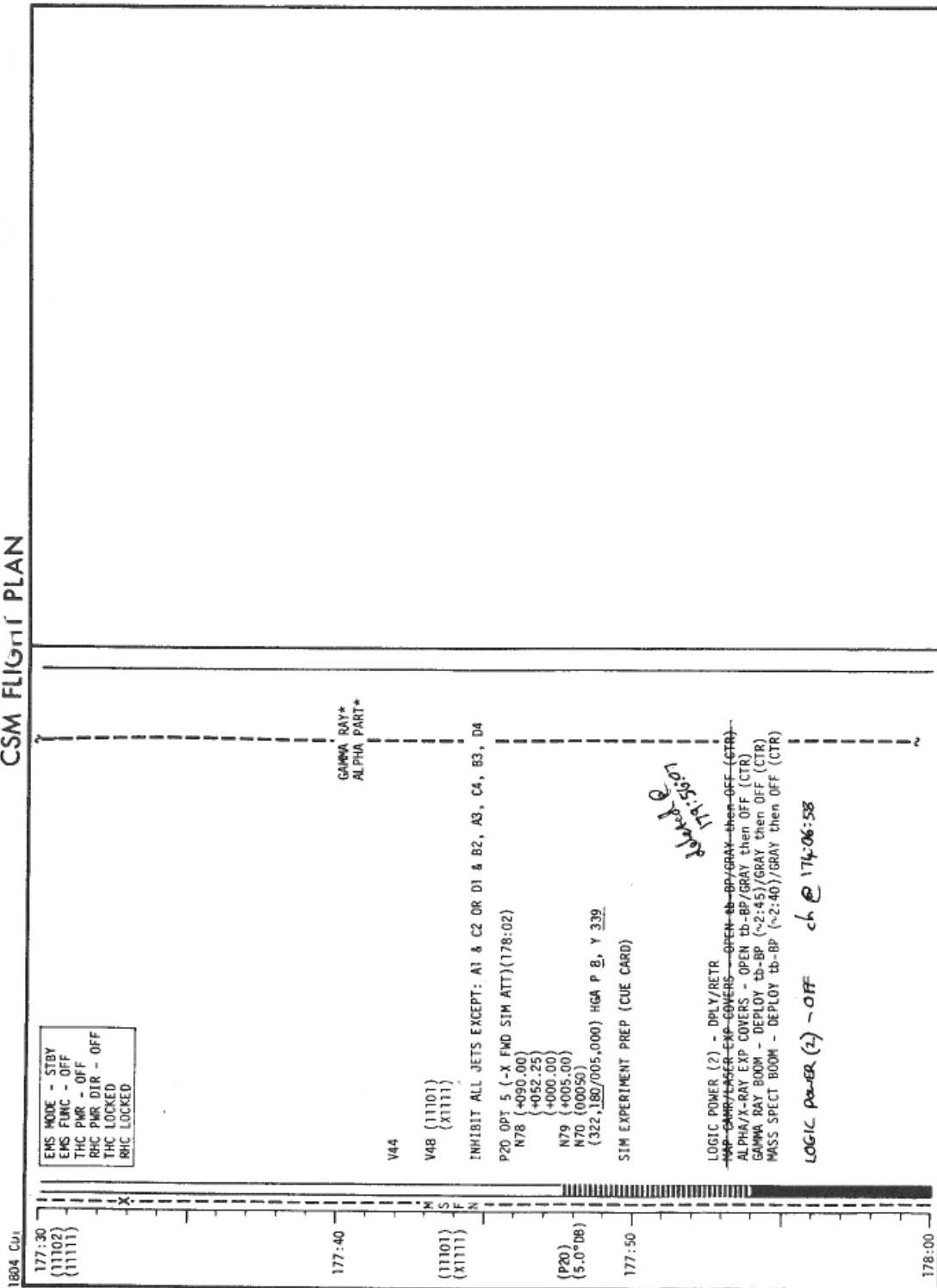
BMAG MODE (3) - ATT 1/RATE 2
ATT DB - MIN
RATE - LOW
SC CONT - SCS
EMS FUNC - ΔV
AUTO RCS SEL (16) - MNA/MNB
THC PWR - ON
RHC PWR DIR - MNA/MNB
THC - ARMED
RHC - ARMED

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 15	FINAL (7/26)	6/21/71	3-288

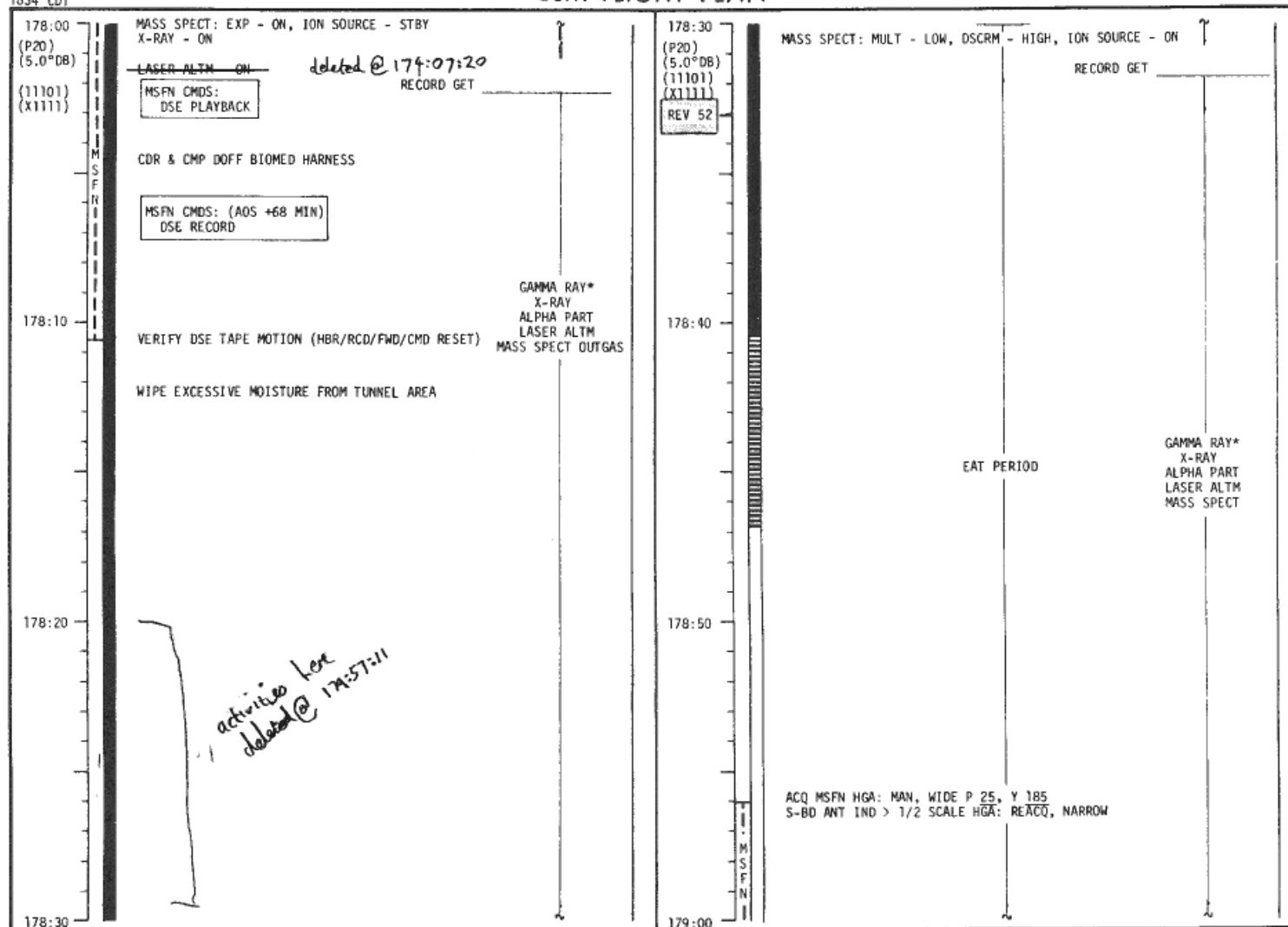
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-289

1834 CDT

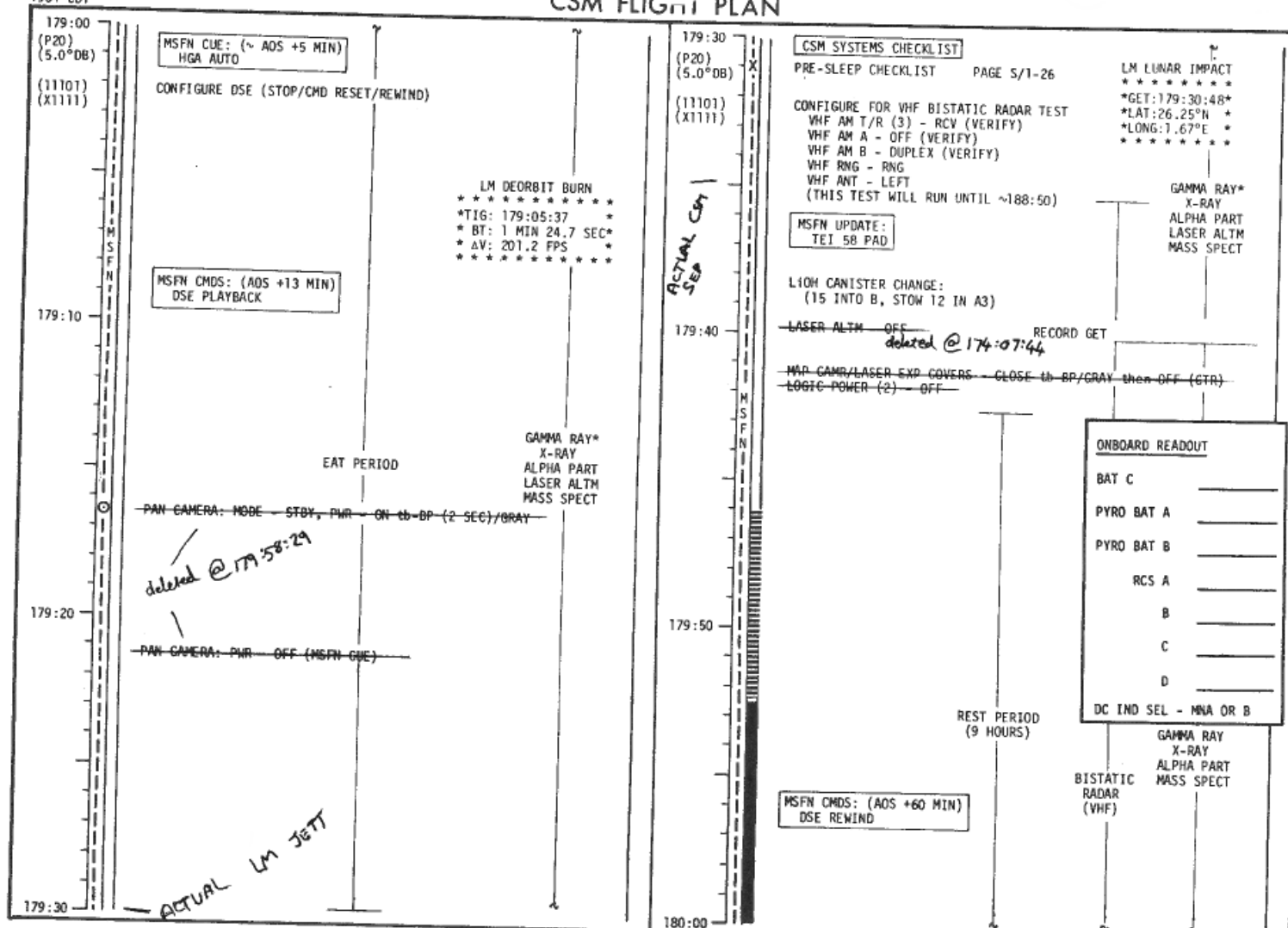
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-290

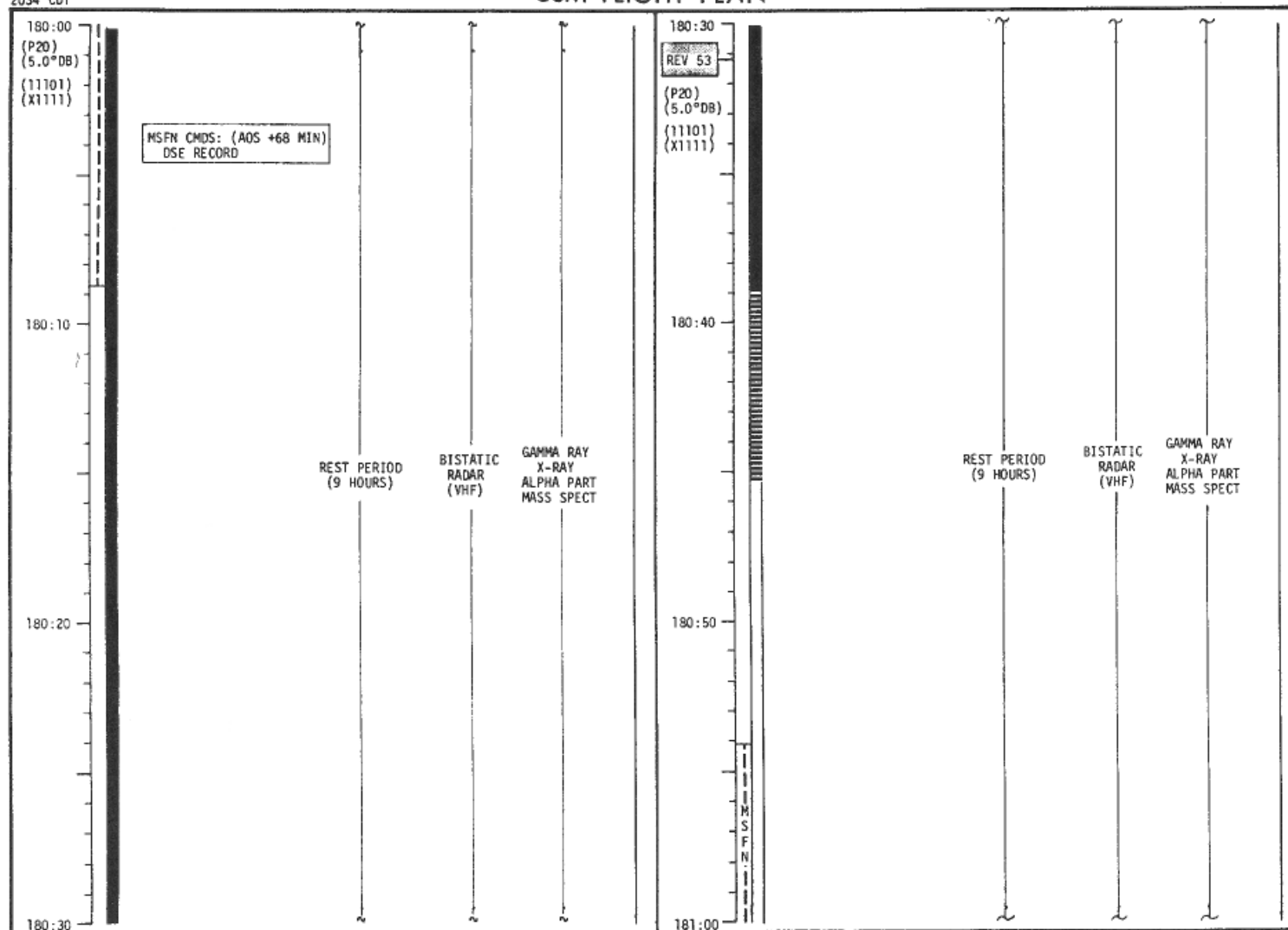
1934 CDT

CSM FLIGHT PLAN



2034 CDT

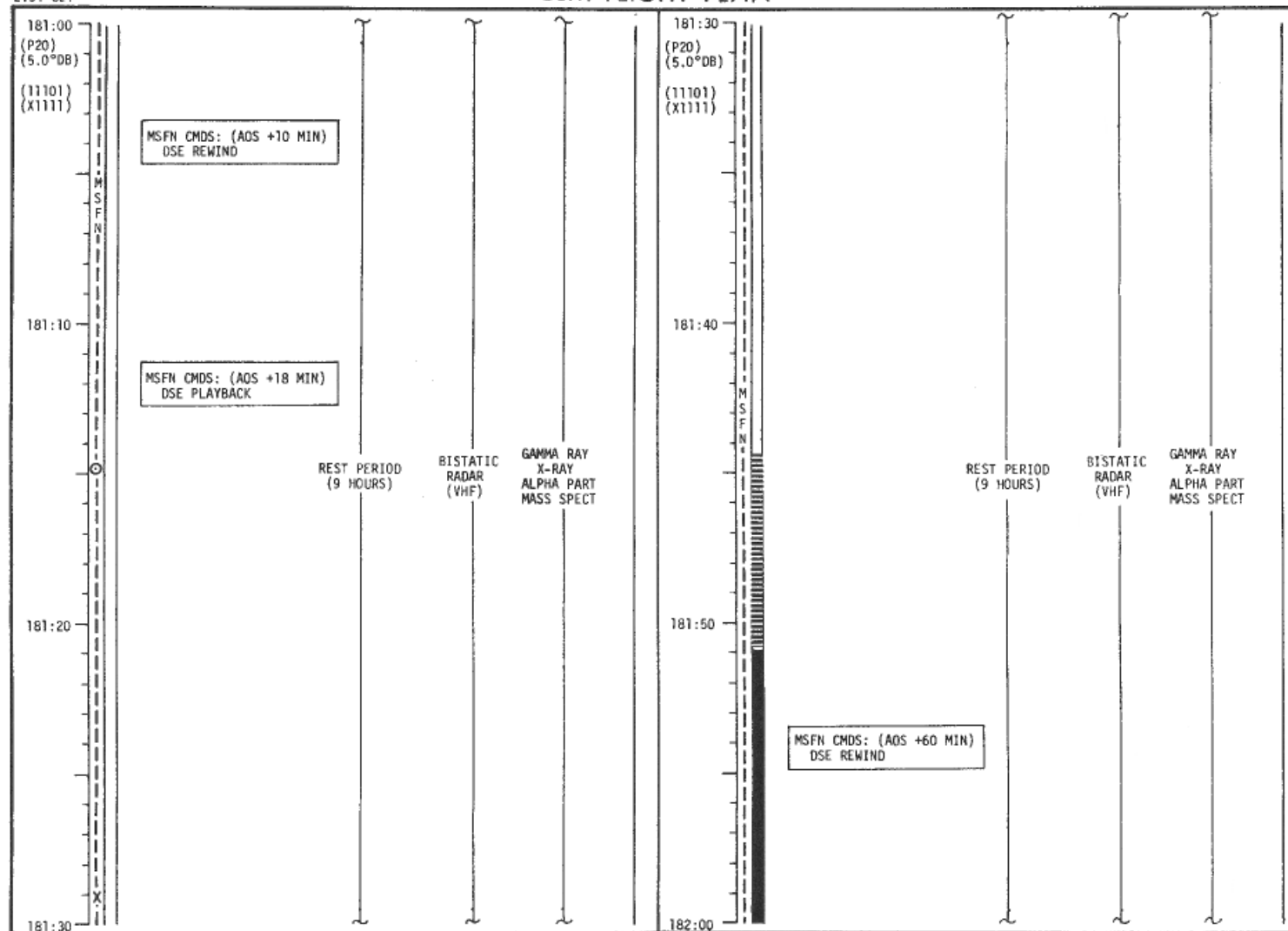
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-292

2134

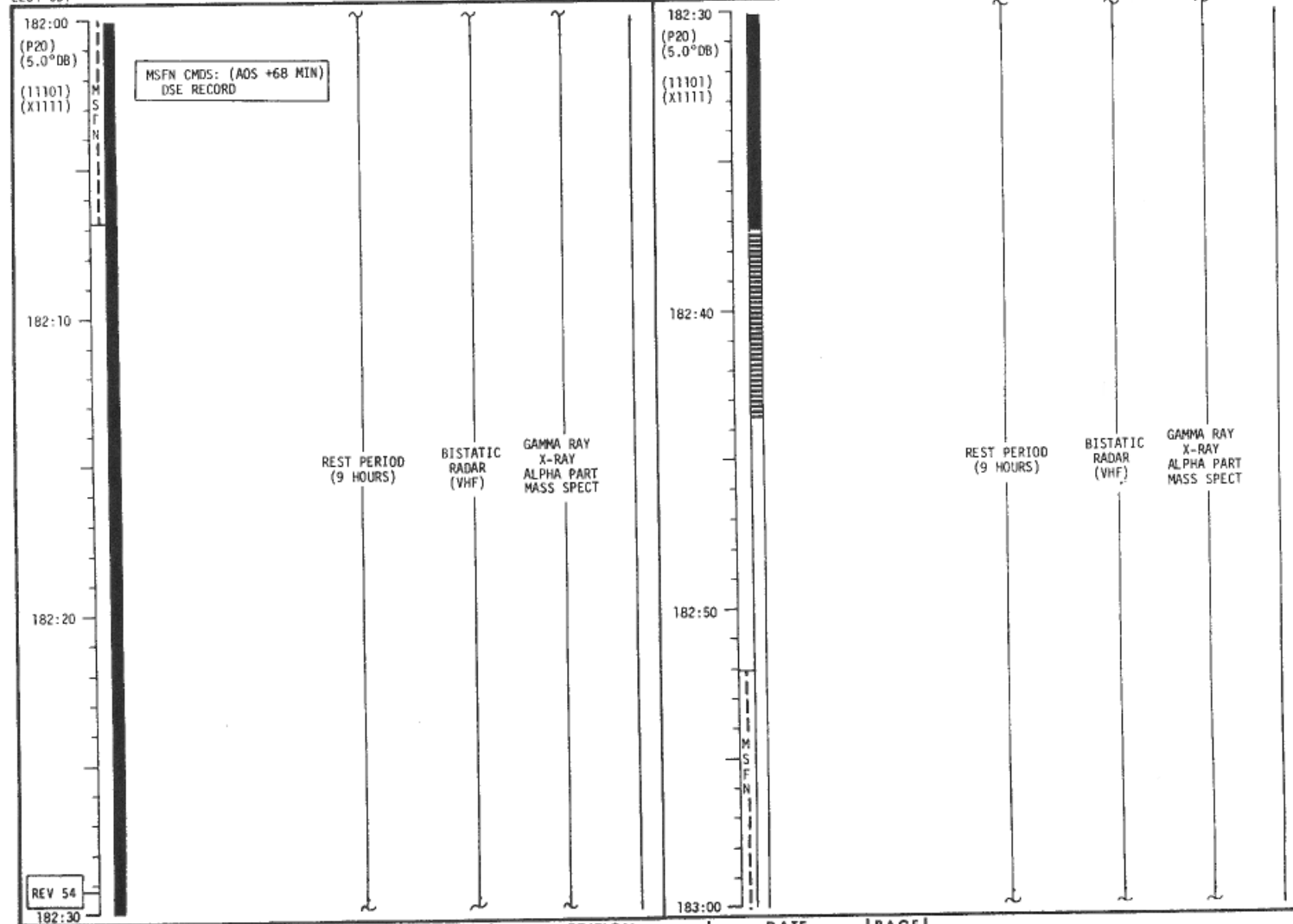
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-293

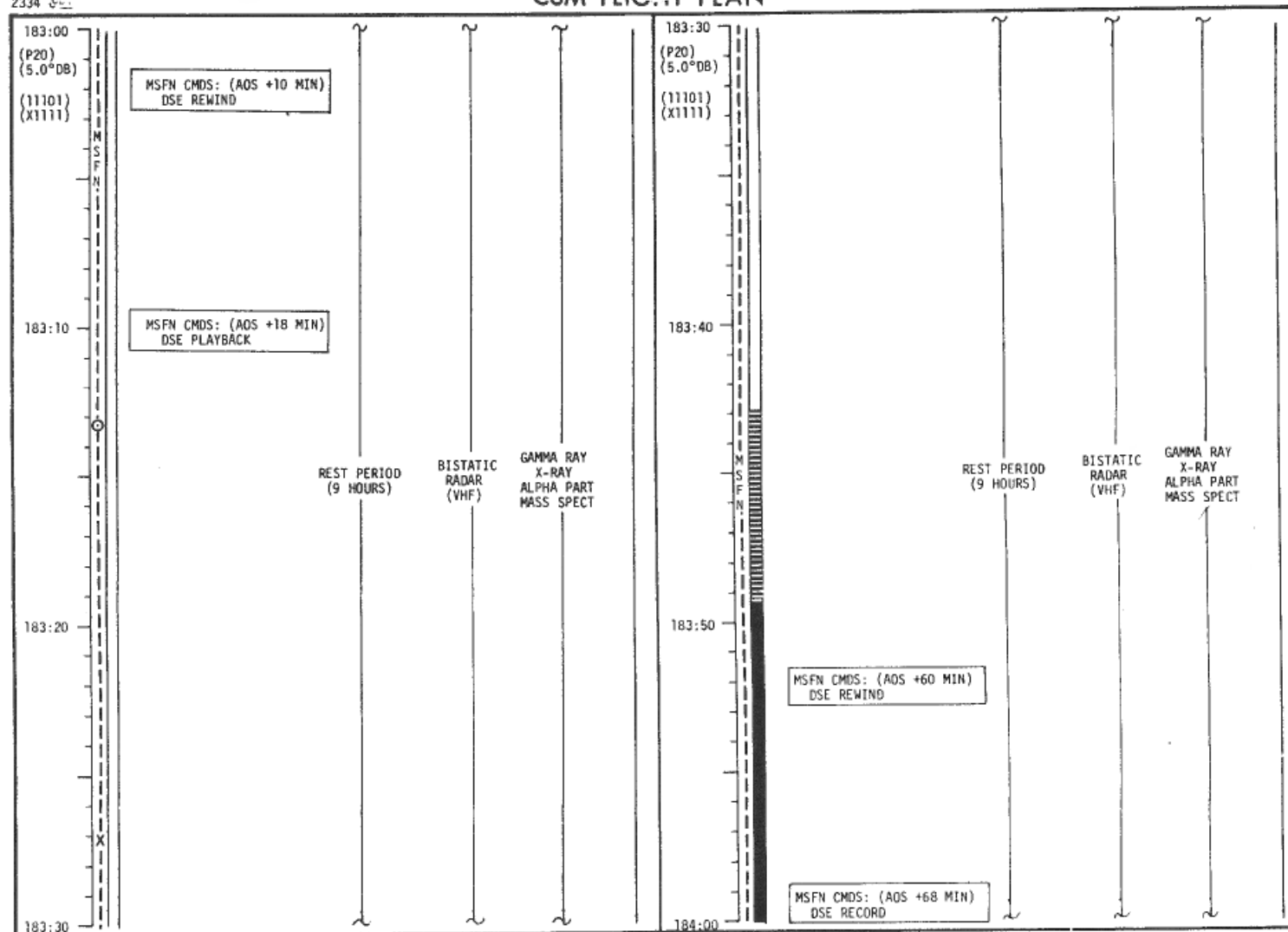
CSM FLIGHT PLAN

2234 CDT



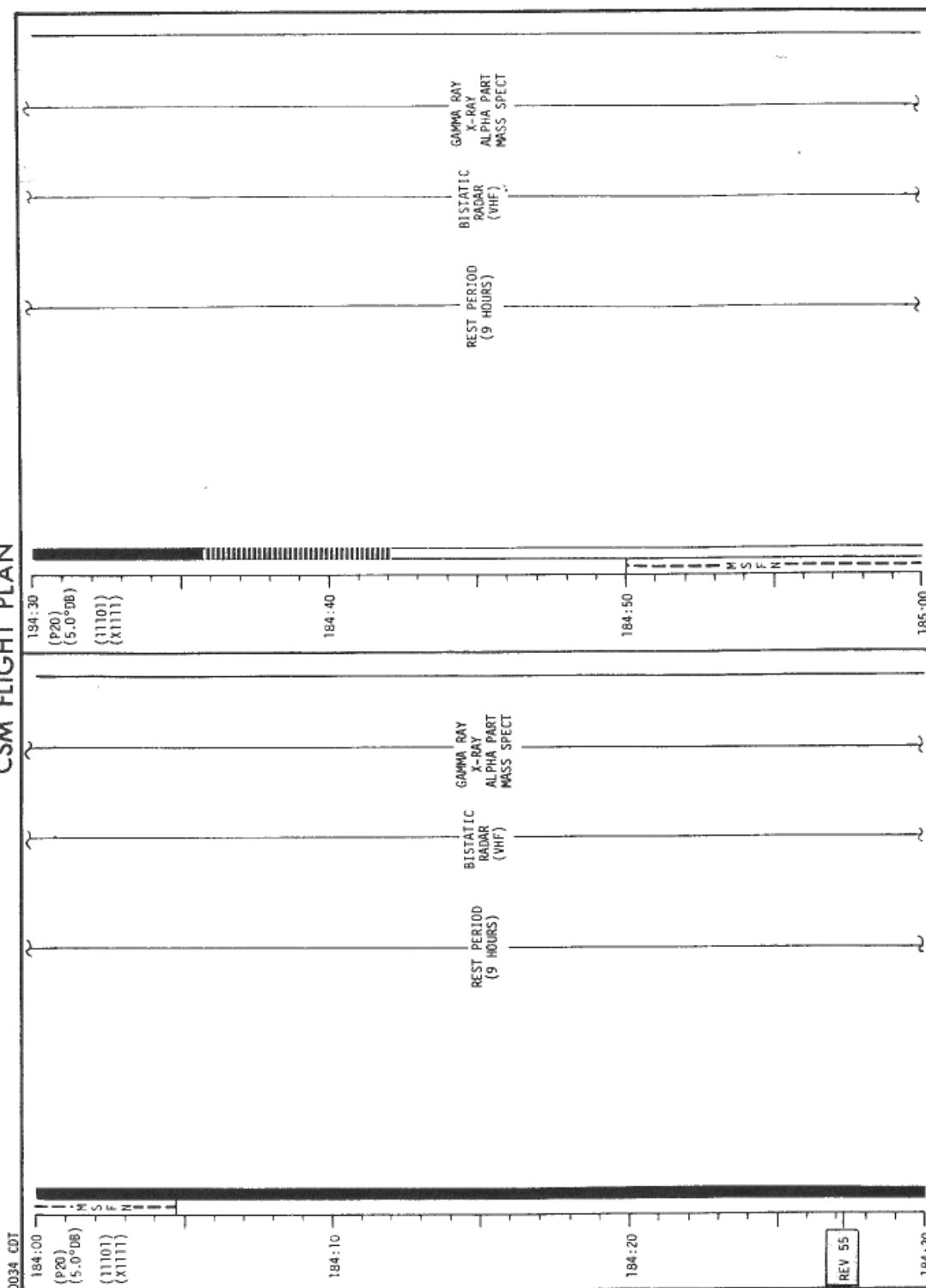
MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-294

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-295

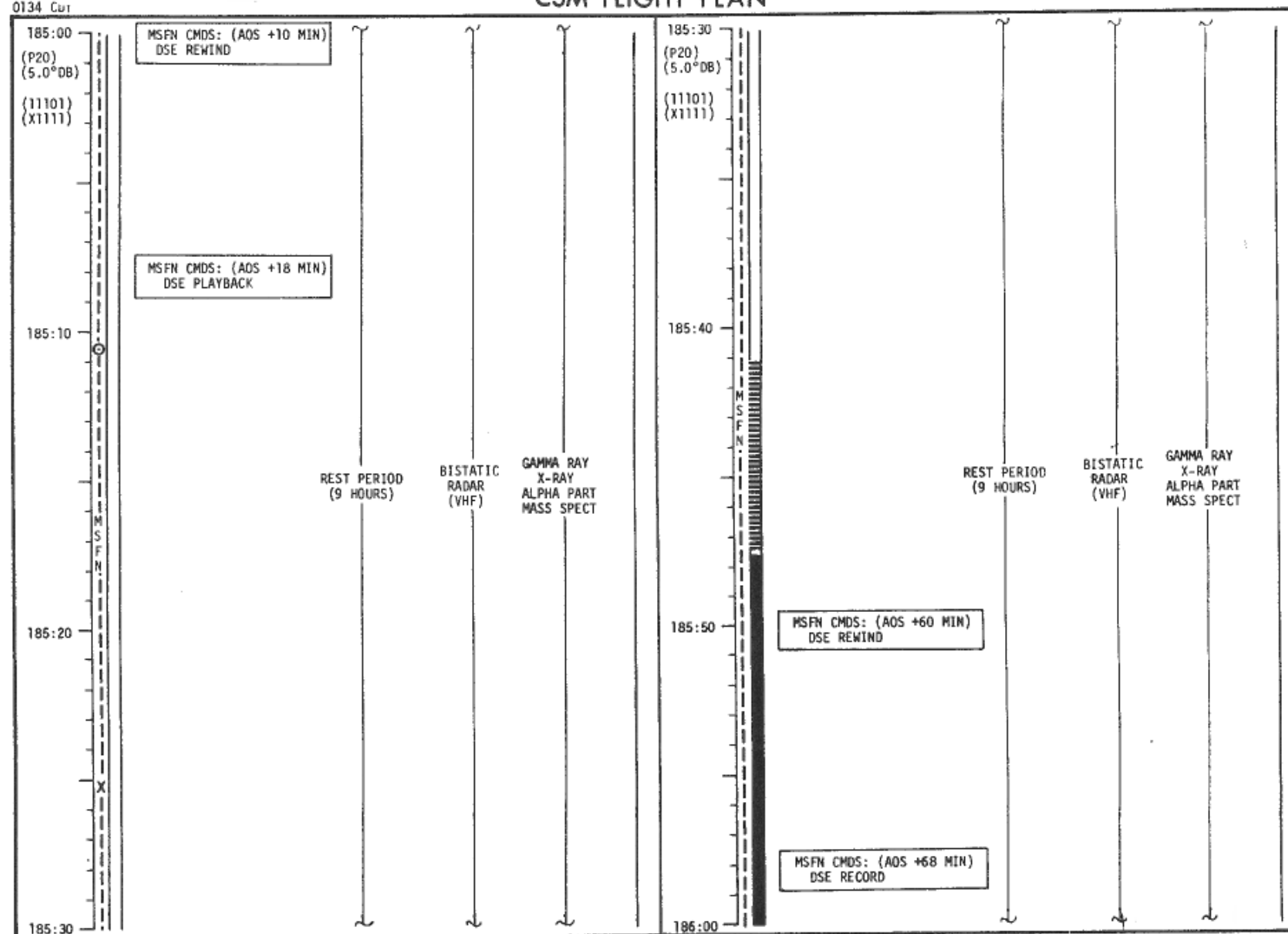
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-296

CSM FLIGHT PLAN

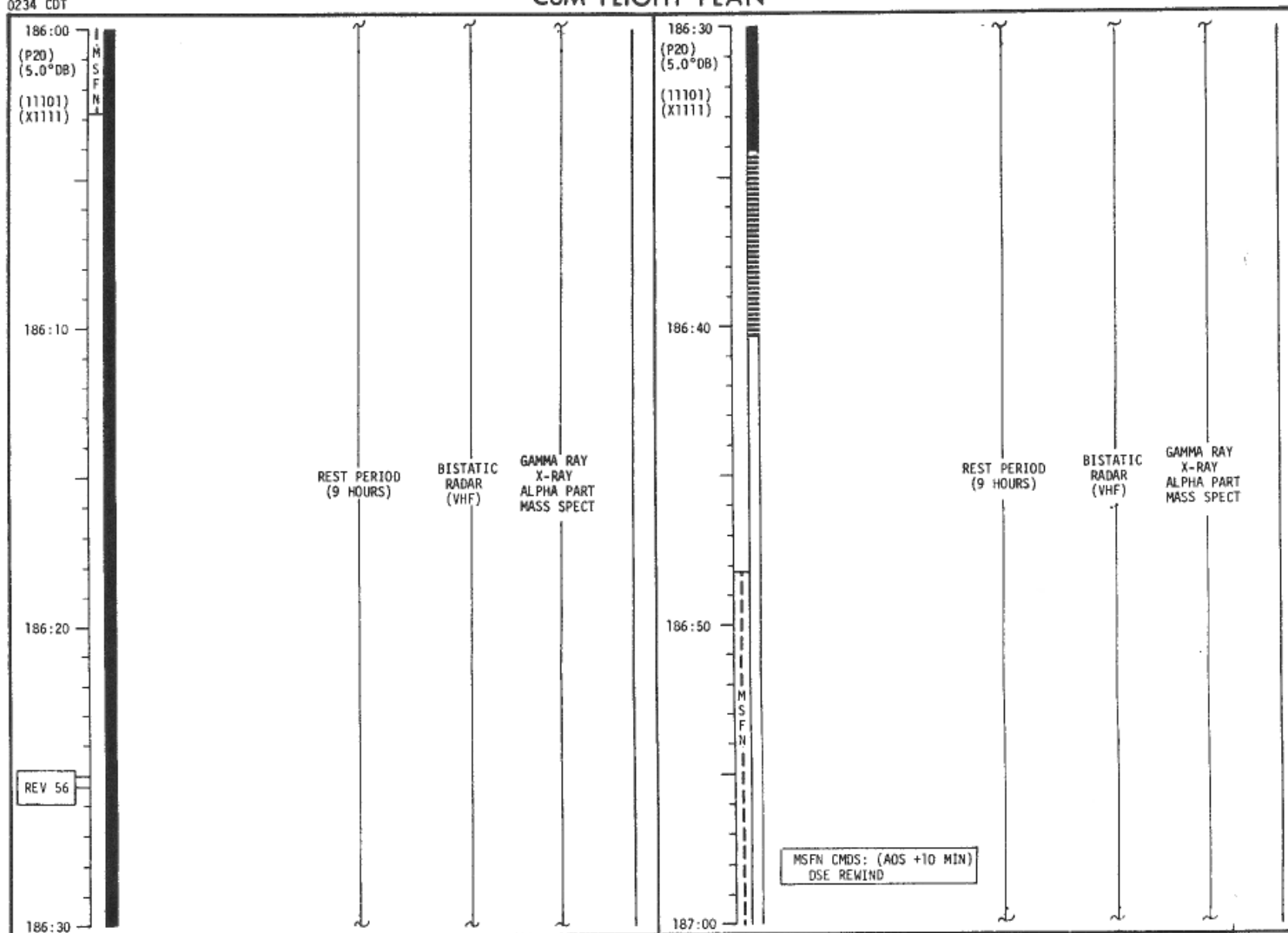
0134 Cut



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-297

0234 CDT

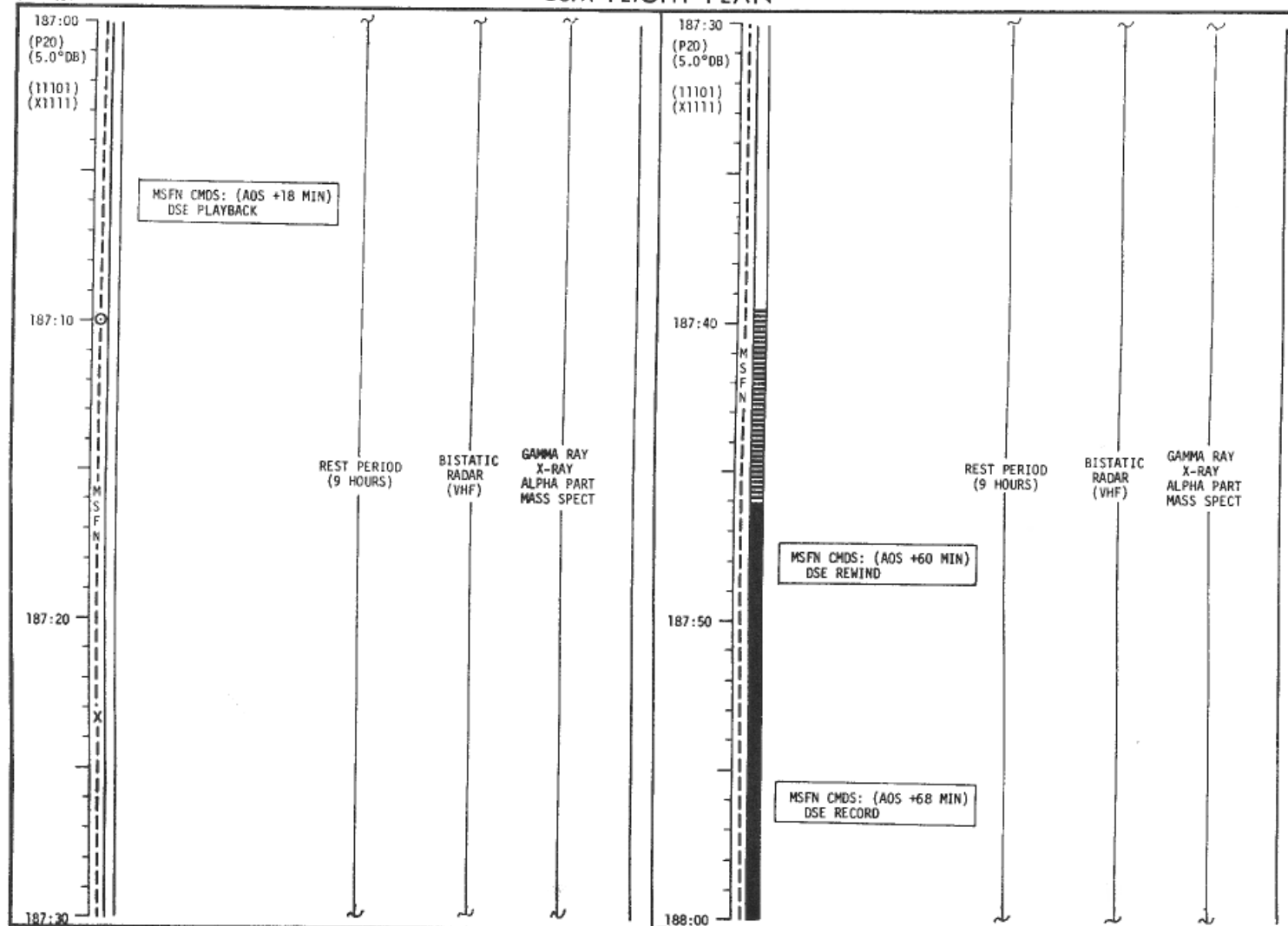
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-298

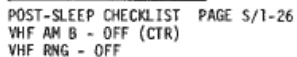
0334 Cb

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-299

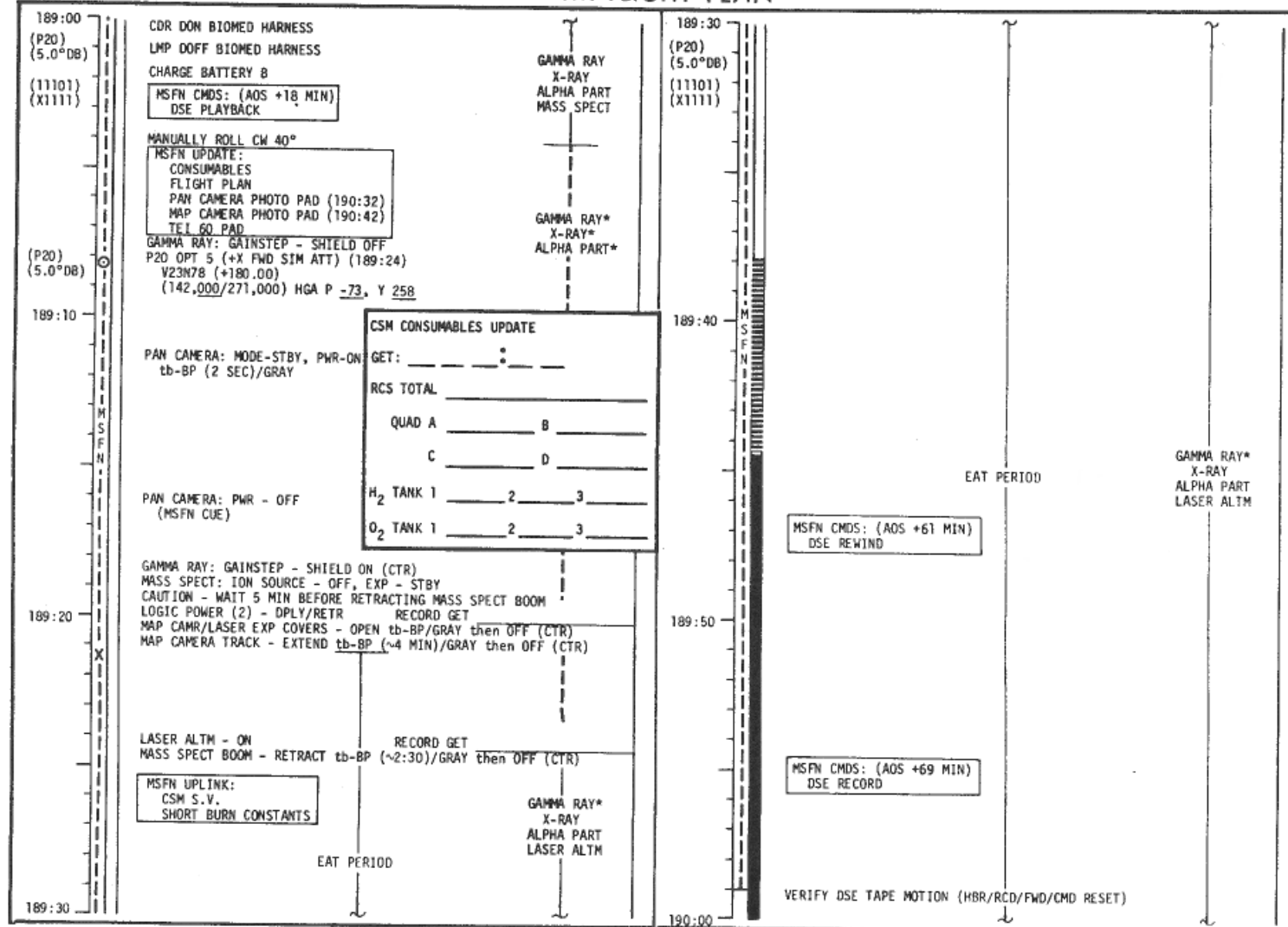
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-300

0534 L.

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-301

0634 CDT

CSM FLIGHT PLAN

190:00 (P20) (5.0°DB) (11101) (X1111)	0 ₂ HEATERS 3 (1) - AUTO 0 ₂ HEATERS 1&2 (2) - OFF		190:30 (P20) (0.5°DB) (11101) (X1111)	GAMMA RAY BOOM - RETRACT tb-BP (~3:15)/GRAY then OFF (CTR)	
				TERMINATOR PHOTOS	PAN CAMERA PHOTO PAD T-START: _____ T-STOP: _____
				EL - ON (T START - 2:40) PAN CAMERA: MODE - STBY, PWR - ON tb-BP (2 SEC)/GRAY, MONO, EXPOSURE - NORMAL (CTR)	
				EL - OFF (T START - 1:00) MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) PAN CAMERA MODE - OPR tb-BP (2 SEC)/GRAY (T START) MAP CAMERA ON - ON (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP)/ON	
190:10	EAT PERIOD		190:40	RECORD FR # _____ PAN CAMERA - STEREO (T START +3:20)	MAP CAMERA PHOTO PAD T-START: _____ T-STOP: _____
				ACQ MSFN HGA: MAN, WIDE P - 5, Y 25 S-BD ANT IND > 1/2 SCALE HGA: REACQ, NARROW	
	CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT)			CONFIGURE DSE (STOP/CMD RESET/REWIND)(AOS +2 MIN)	
190:20			190:50	MSFN CUE: (~AOS +4 MIN) HGA AUTO	PAN CAMERA MAP CAMERA GAMMA RAY* X-RAY ALPHA PART LASER ALTM
REV 58				REPORT: GYRO TORQUING ANGLES (FROM P52 AT 190:20)	
	P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL			CONFIGURE CAMERA: (ORBITAL SCIENCE) CM/EL/80/LBW (f2.8,1/250,=)(14 FR) MAG (S) _____, FR # _____	
	CMC MODE - FREE V22 N79 (+000.50) CMC MODE - AUTO			MSFN CMDS: (AOS +10 MIN) DSE PLAYBACK	
	CONFIGURE CAMERA: (TERMINATOR PHOTOS) CM4/EL/250/VHBM, IVL (f5.6,1/125,=) (6 FR) PCM CABLE			PAN CAMERA - MONO (T START +19 MIN) ORBITAL SCIENCE PHOTOS	
	MAG (R) _____, FR # _____			PAN CAMERA: EXPOSURE - DECREASE (2 MIN) then NORMAL PHOTO TGT 14 (S. CRISIUM) (D9,D10-P14) CM3 (f2.8,1/250,=) 14 FR AT 25 SEC INTERVALS	
190:30			191:00		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-302

0634 CDT

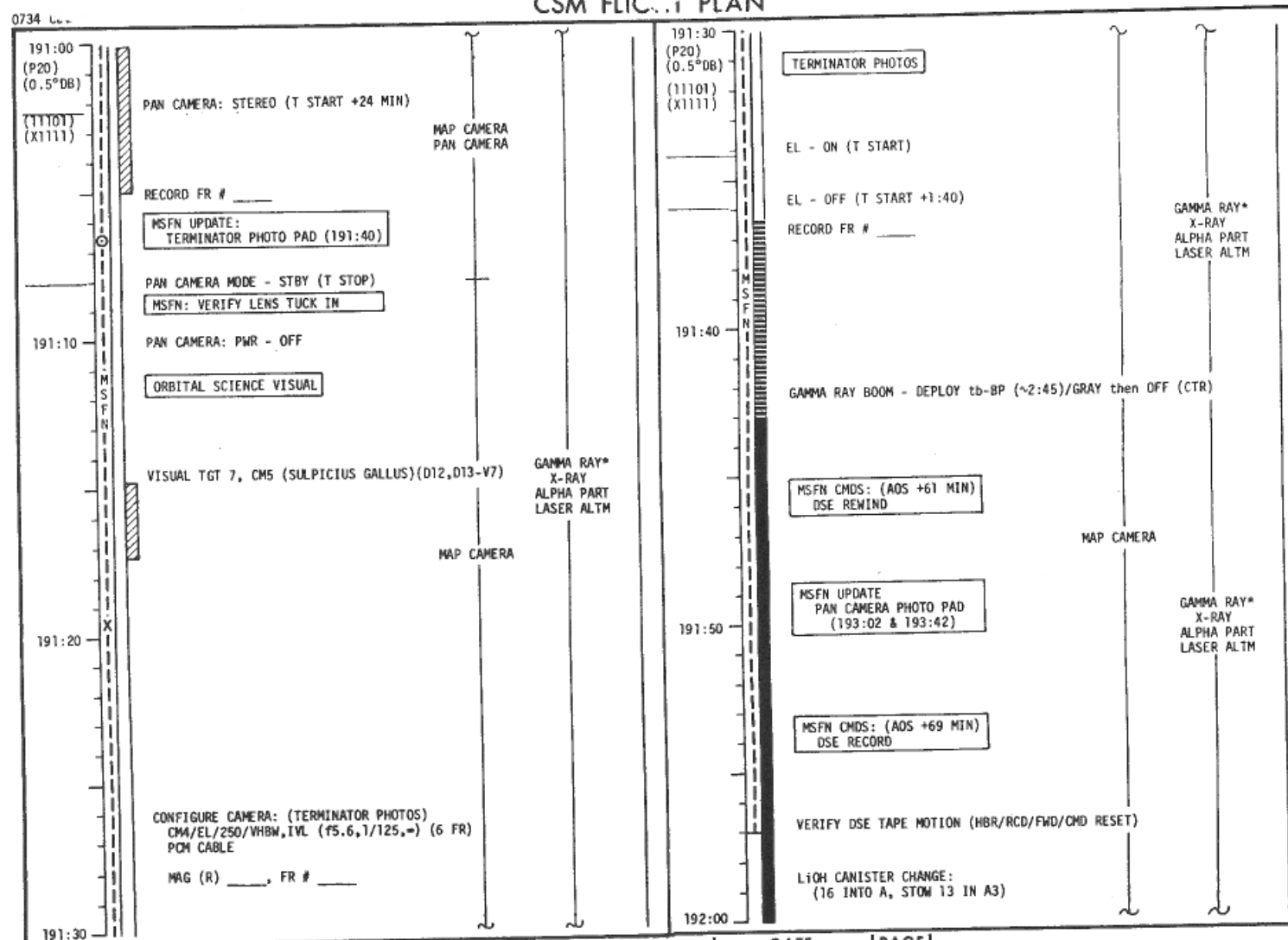
CSM FLIGHT PLAN

190:00 (P20) (5.0°DB) (11101) (X1111)	0 ₂ HEATERS 3 (1) - AUTO 0 ₂ HEATERS 1&2 (2) - OFF		190:30 (P20) (0.5°DB) (11101) (X1111)	GAMMA RAY BOOM - RETRACT tb-BP (~3:15)/GRAY then OFF (CTR)	
				TERMINATOR PHOTOS	PAN CAMERA PHOTO PAD T-START: _____ T-STOP: _____
				EL - ON (T START - 2:40) PAN CAMERA: MODE - STBY, PWR - ON tb-BP (2 SEC)/GRAY, MONO, EXPOSURE - NORMAL (CTR)	
				EL - OFF (T START - 1:00) MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) PAN CAMERA MODE - OPR tb-BP (2 SEC)/GRAY (T START) MAP CAMERA ON - ON (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP)/ON	
190:10	EAT PERIOD		190:40	RECORD FR # _____ PAN CAMERA - STEREO (T START +3:20)	MAP CAMERA PHOTO PAD T-START: _____ T-STOP: _____
				ACQ MSFN HGA: MAN, WIDE P - 5, Y 25 S-BD ANT IND > 1/2 SCALE HGA: REACO, NARROW	
	CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT)			CONFIGURE DSE (STOP/CMD RESET/REWIND)(AOS +2 MIN)	
190:20			190:50	MSFN CUE: (~AOS +4 MIN) HGA AUTO	PAN CAMERA MAP CAMERA GAMMA RAY* X-RAY ALPHA PART LASER ALTM
REV 58				REPORT: GYRO TORQUING ANGLES (FROM P52 AT 190:20)	
	P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL			CONFIGURE CAMERA: (ORBITAL SCIENCE) CM/EL/80/LBW (f2.8,1/250,=)(14 FR) MAG (S) _____, FR # _____	
	CMC MODE - FREE V22 N79 (+000.50) CMC MODE - AUTO			MSFN CMDS: (AOS +10 MIN) DSE PLAYBACK	
	CONFIGURE CAMERA: (TERMINATOR PHOTOS) CM4/EL/250/VHBM, IVL (f5.6,1/125,=) (6 FR) PCM CABLE MAG (R) _____, FR # _____			PAN CAMERA - MONO (T START +19 MIN) ORBITAL SCIENCE PHOTOS PAN CAMERA: EXPOSURE - DECREASE (2 MIN) then NORMAL PHOTO TGT 14 (S. CRISIUM) (D9,D10-P14) CM3 (f2.8,1/250,=) 14 FR AT 25 SEC INTERVALS	
190:30			191:00		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-302

CSM FLIGHT PLAN

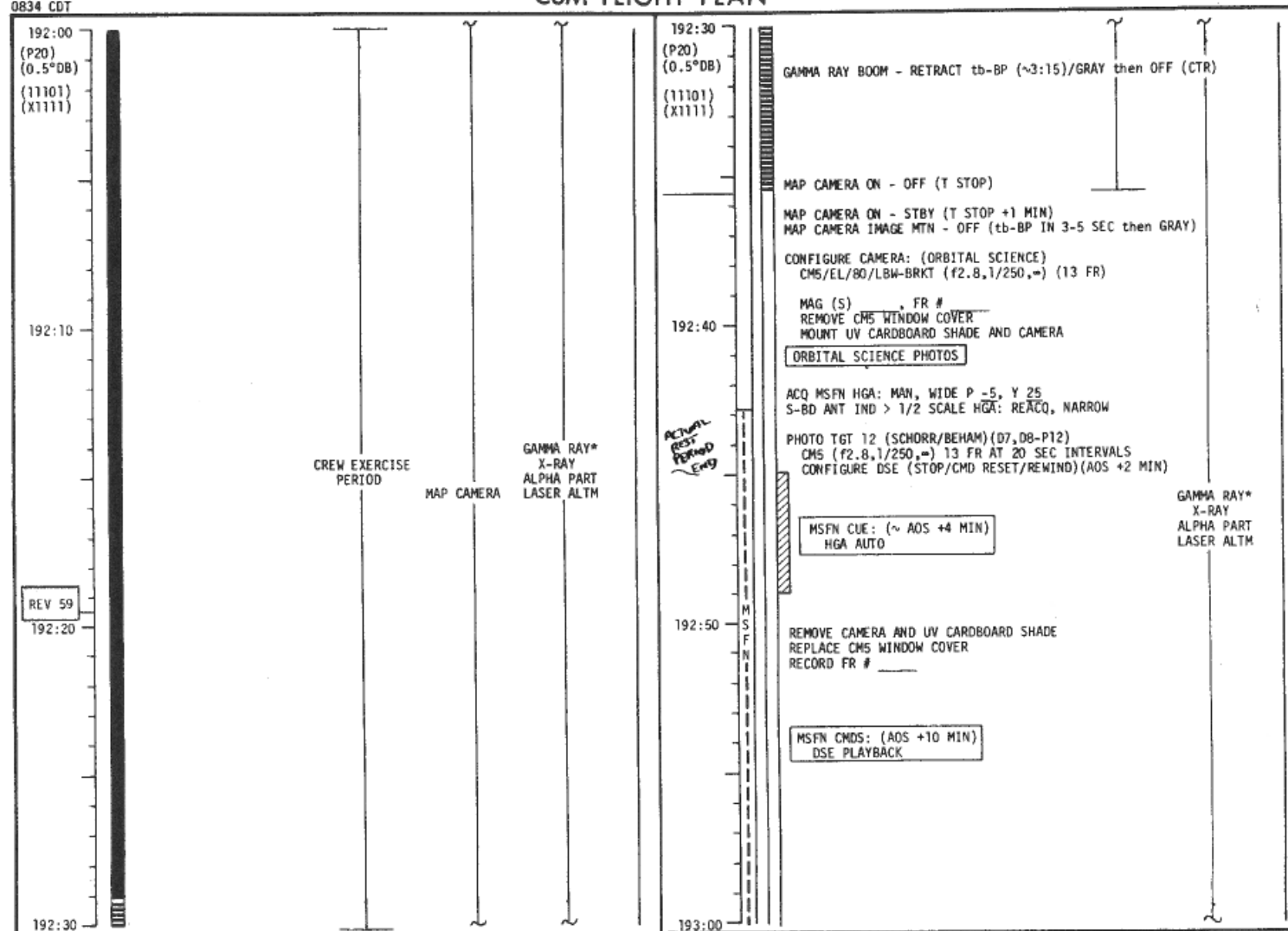
0734 L...



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-303

0834 CDT

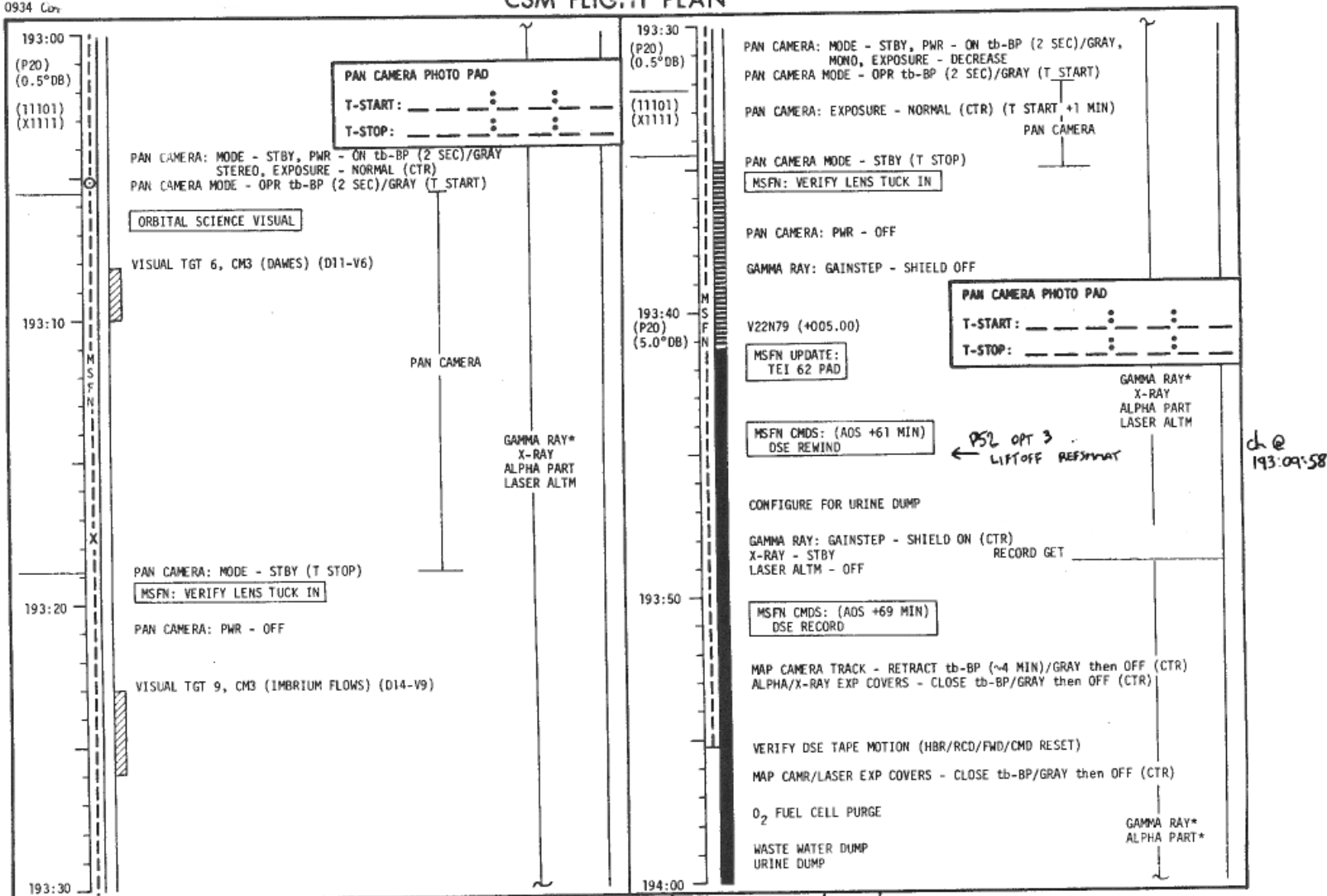
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-304

0934 C-10

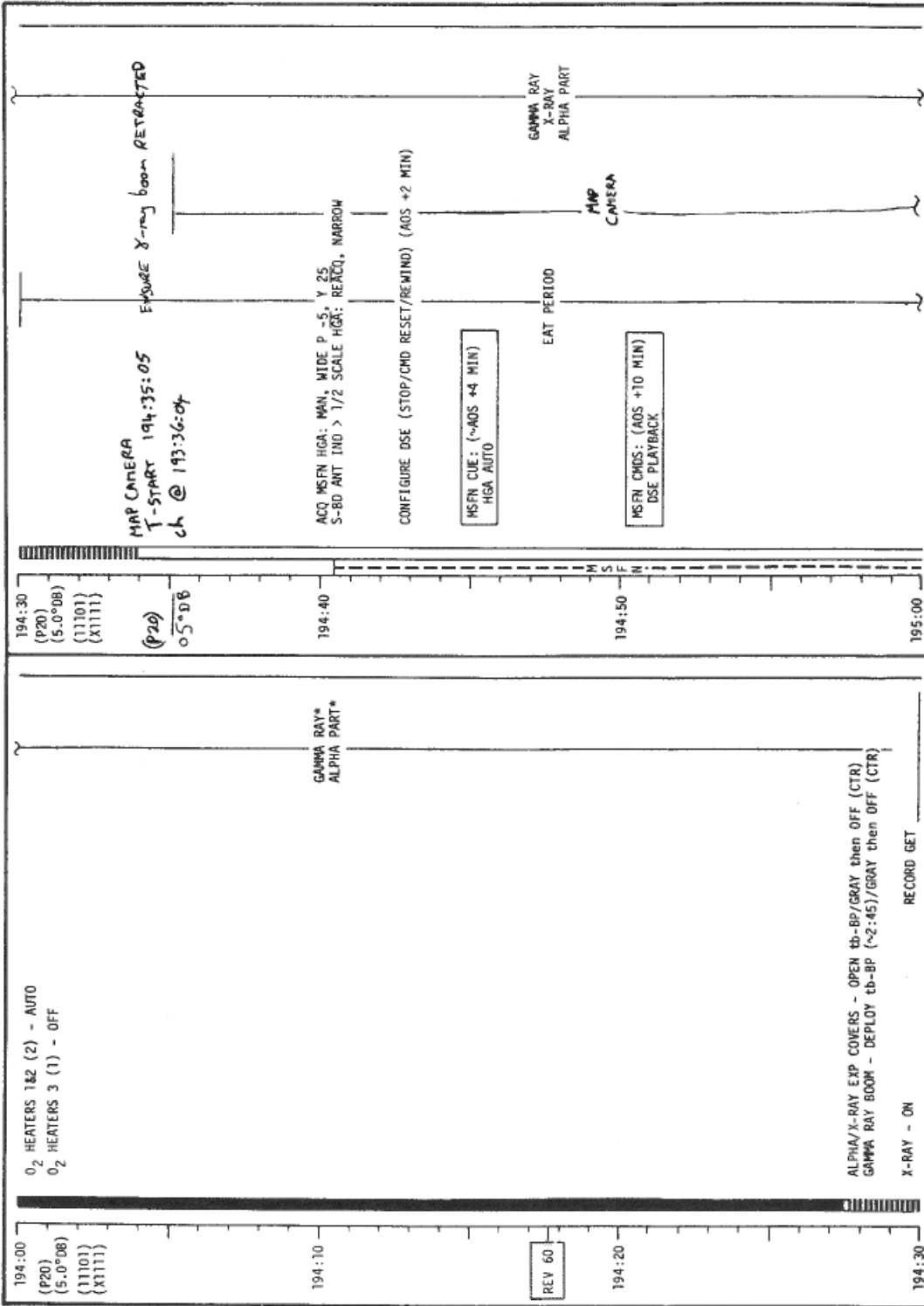
CSM FLIGHT PLAN

d.e.
193:09:58

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/27/71	3-305

CSM FLIGHT PLAN

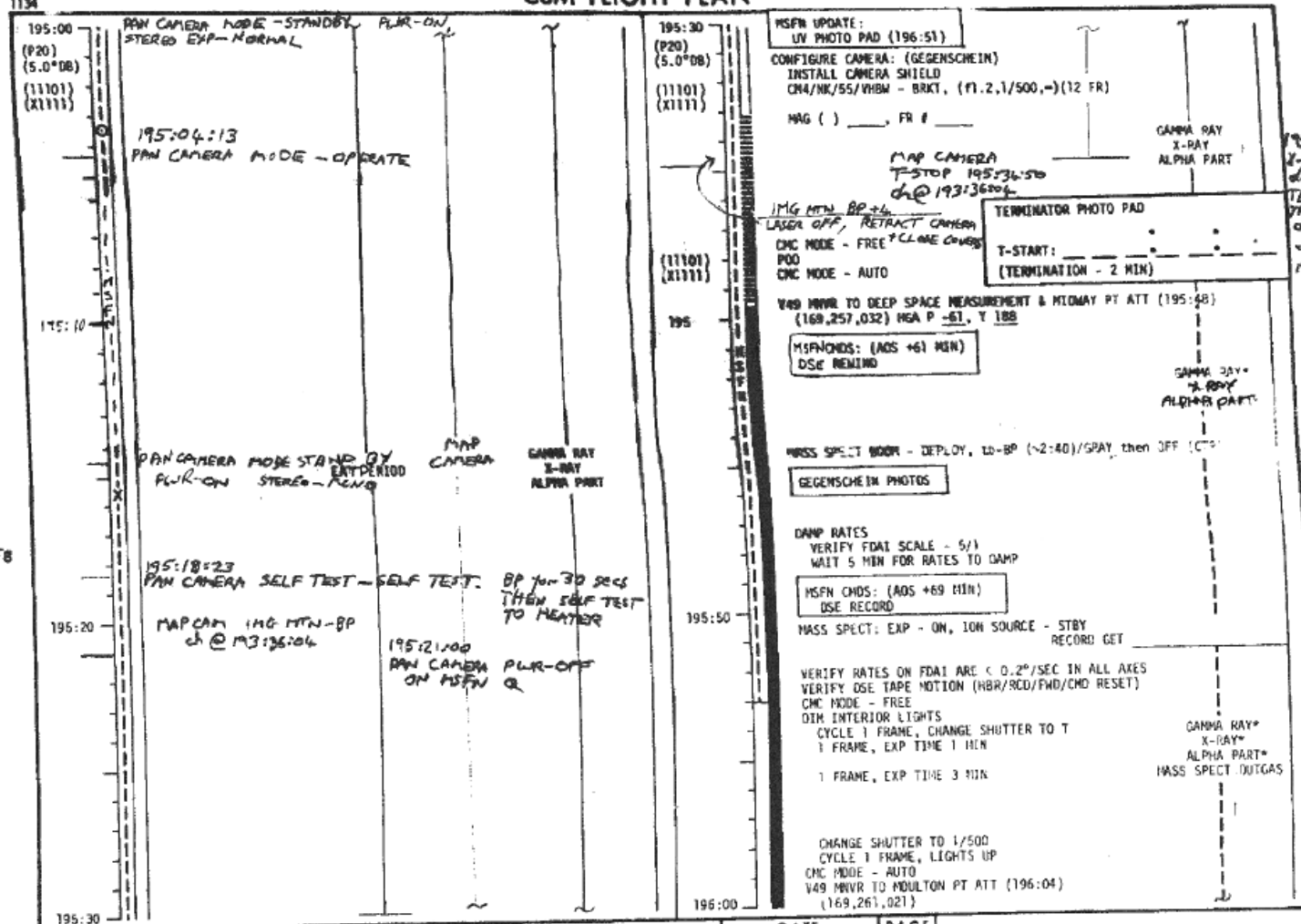
1034 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-306

CSM FLIGHT PLAN

1134



PAN CAM
change @
@ 194:46:58

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-307

Revised Plan:
Rev 61 - UV photography - scheduled 196:40

CSM FLIGHT PLAN

1234 CDT

196:00 (11101) (X1111) DAMP RATES VERIFY FDAI SACLE 5/1 WAIT 5 MIN FOR RATES TO DAMP 196:10 VERIFY RATES ON FDAI ARE < 0.2°/SEC IN ALL AXES CMC MODE - FREE DIM INTERIOR LIGHTS CYCLE 1 FRAME, CHANGE SHUTTER TO T 1 FRAME, EXP TIME 1 MIN 1 FRAME, EXP TIME 3 MIN CHANGE SHUTTER TO 1/500 CYCLE 1 FRAME, LIGHTS UP CMC MODE - AUTO RECORD FR # _____ STOW CAMERA REMOVE CAMERA SHIELD 196:20 P20 OPT 5 (+X FWD SIM ATT) (196:37) H78 (+090.00) (+052.25) (+180.00) N79 (+005.00) N70 (00050) (143,000/034,000) MASS SPECT: MULT - LOW, DSCRM - HIGH, ION SOURCE - ON RECORD GET (P20) (5.0°DB) 196:30	196:30 MAP CAMP/LASER EXP COVERS - OPEN TO BR/GRAY then OFF (CTR) MAP CAMERA TRACK - EXTEND to DP (-4 MIN)/GRAY then OFF (CTR) <i>Scheduled @ 195:32:23</i> (P20) (5.0°DB) (11101) (X1111) GAMMA RAY* X-RAY* ALPHA PART* MASS SPECT* LASER ALTM <i>ON</i> <i>Scheduled @ 195:32:23</i> RECORD GET ACQ MSFN HGA: MAN, WIDE P -5, Y 25 S-BD ANT IND > 1/2 SCALE HGA: REACQ, NARROW 196:40 CONFIGURE DSE (STOP/CMD RESET/REWIND) (AOS +2 MIN) MSFN CUE: (~AOS +4 MIN) HGA AUTO UV PHOTOS - LUNAR MARIA CONFIGURE CAMERA: (UV - LUNAR MARIA) CMS/EL/105/UV, BRKT, CONT (f4.3, 1/250, ∞) (10 FR) RINGSIDE MAG (N) _____, FR # _____ REMOVE R12 FLIGHT DATA FILE STORAGE BOX REMOVE CMS WINDOW COVER, MOUNT UV CARDBOARD SHADE & CAMERA MSFN CMDS: (AOS +10 MIN) DSE PLAYBACK 196:50 MSFN UPDATE TEI 64 PAD UV PHOTO PAD <i>read-up @ 195:15:02</i> T-START: 196:56:19 CMC MODE - FREE 2 FRAMES FILTER 4, CHANGE SHUTTER TO 1/60 (T START) 2 FRAMES FILTER 1, CHANGE SHUTTER TO 1/20 2 FRAMES FILTER 2, CHANGE SHUTTER TO 1/60 2 FRAMES FILTER 3, CHANGE SHUTTER TO 1/250 2 FRAMES FILTER 4 RECORD FR # _____ CMC MODE - AUTO REMOVE CAMERA & UV CARDBOARD SHADE NOTE COMMENTS AS TO CONDITION OF WINDOW 5 REPLACE CMS WINDOW COVER 197:00
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MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-308

1334 CL

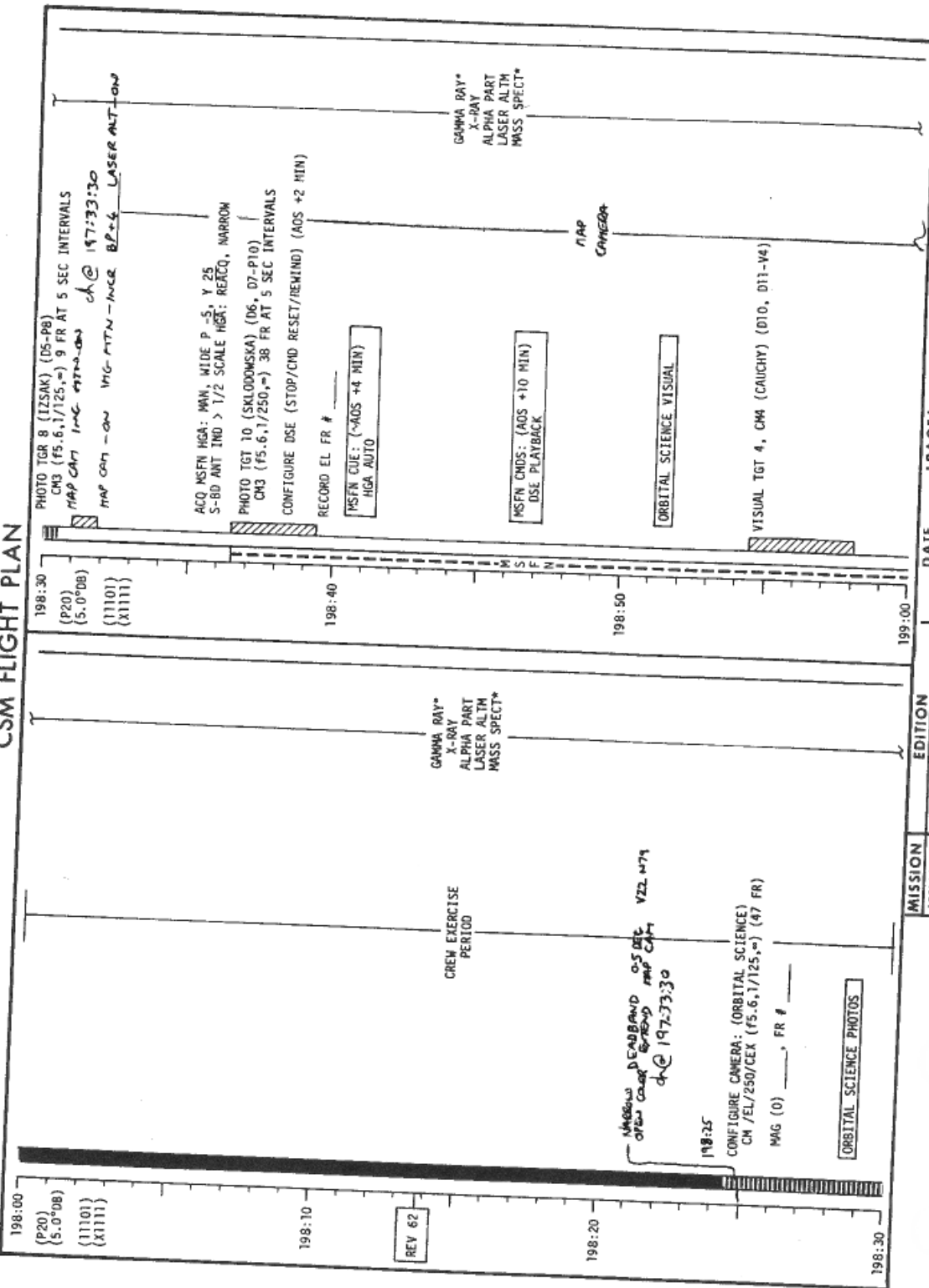
CSM FLIGHT PLAN

197:00	(P20) (5.0°DB) (11101) (X1111) LIGHT FLASH EXPERIMENT: UNSTOW EYE SHIELD SET KITCHEN TIMER TO 60 MIN 00:00 - DON EYE SHIELD, REPORT GET TO MSFN CREWMAN FACING LUNAR SURFACE PAN CAMERA: MODE STBY, PWR ON 4B BP (2 SEC)/GRAY REPORT THE FOLLOWING TO MSFN: FREQUENCY OF FLASHES DESCRIPTION OF FLASHES CREWMAN HEAD POSITION WRT LUNAR SURFACE CREWMAN HEAD POSITION WRT TO SC AXES PAN CAMERA: PWR OFF (MSFN CUE) CSM SYSTEMS CHECKLIST CONTAMINATION CONTROL PAGE S/1-16 PAN CAMERA - OPERATE (51-32 STEPS CHECKLIST) ch @ 197:10:00 PAN CAMERA - STANDBY ORBITAL SCIENCE VISUAL VISUAL TGT 10, CMS (HARBINGER MTS) (D16-V10) VISUAL TGT 11, CMS (ARISTARCUS PLATEAU) (D16-V11)	197:30	(P20) (5.0°DB) (11101) (X1111) MSFN CMDS: (AOS +61 MIN) DSE REWIND CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT) REPORT: GYRO TORQUING ANGLES P20, CMC MODE - AUTO MSFN CMDS: (AOS +69 MIN) DSE RECORD 50:00 - CONTINUE LIGHT FLASHING OBSERVATIONS EXCEPT CREWMAN FACING AWAY FROM MOON GDC ALIGN VERIFY ORDEAL VERIFY DSE TAPE MOTION (HBR/RCD/FWD/CMD RESET) 60:00 - TERMINATE LIGHT FLASHING OBSERVATIONS REMOVE AND STOW EYE SHIELD	GAMMA RAY* X-RAY ALPHA PART LASER ALTM MASS SPECT* P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____
197:10		197:40		
197:20		197:50		
197:30		198:00		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-309

1434 CDT

CSM FLIGHT PLAN

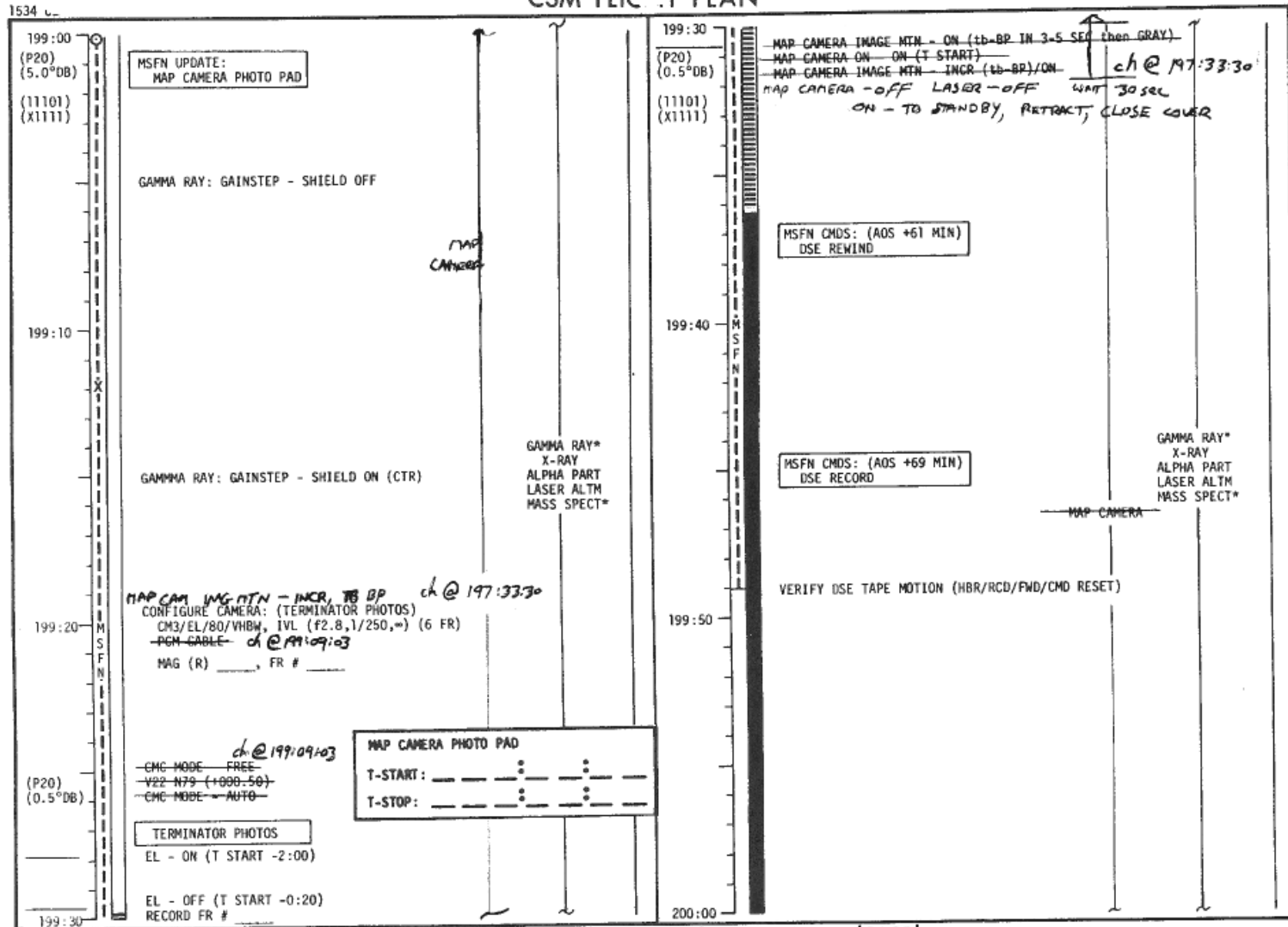


MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-310

Revised Flight Plan
Rev 62 - Crew Exercise - Science Photos + Visuals
Hopping Camera + Laser Altimeter
Terminator Photos

CSM FLIGHT PLAN

1534



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-311

1734 261

CSM FLIGHT PLAN

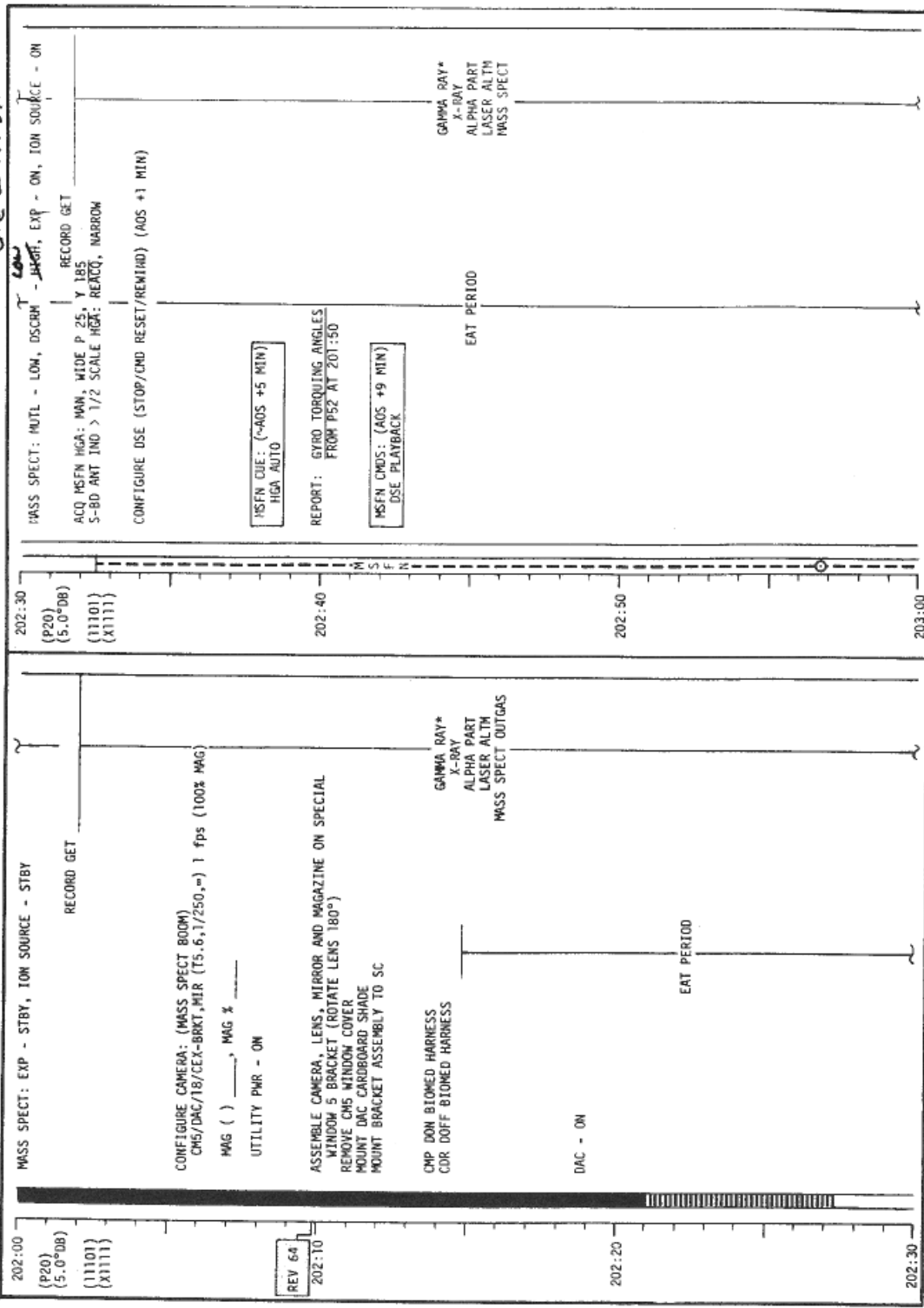
201:00 (P20) (0.5°DB)	CONFIGURE CAMERA: (UV - LUNAR TERRA) CM5/EL/105/UV,BRKT,CONT (FB,1/250,=) (10 FR) RINGSIDE MAG (N) _____, FR # _____ REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX REMOVE CM5 WINDOW COVER, MOUNT UV CARDBOARD SHADE AND CAMERA	201:30 (P20) (0.5°DB)	MAP CAMERA ON - STBY (T STOP +1 MIN) MAP CAMERA IMAGE MIN - OFF (tb-BP IN 3-5 SEC then GRAY) MANUALLY ROLL CCW 40°
(11101) (X1111)	UV PHOTO PAD <i>ch @ 200:47:00</i> T-START: <u>201:11:19</u> (5° E)	(11101) (X1111)	<i>2nd ch @ 200:52:29</i> <i>returning to printed</i> <i>instructions as part of</i> <i>Lunar Altimeter Test</i>
	UV PHOTOS - LUNAR TERRA		GAMMA RAY* X-RAY* ALPHA PART* LASER ALTM*
201:10	CMC MODE - FREE 2 FRAMES FILTER 4, CHANGE SHUTTER TO 1/60 (T START) 2 FRAMES FILTER 1, CHANGE SHUTTER TO 1/20 2 FRAMES FILTER 2, CHANGE SHUTTER TO 1/60 2 FRAMES FILTER 3, CHANGE SHUTTER TO 1/250 2 FRAMES FILTER 4 CMC MODE - AUTO	201:40	MSFN CMDS: (AOS +61 MIN) DSE REWIND
	RECORD FR # REMOVE CAMERA AND UV CARDBOARD SHADE NOTE COMMENTS AS TO CONDITION OF WINDOW 5 REPLACE CM5 WINDOW COVER		P20 OPT 5 (-X FWD SIM ATT) (201:50) V23N78 (+000.00) V22N79 (+005.00) (323,180/343,000)
201:17:00	<i>MAP CAM 1/16 FTH - INCR</i> <i>TS-BP</i> <i>ch @ 199:13:41</i>		P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____
201:20	CONFIGURE CAMERA: (TERMINATOR PHOTOS) CM3/EL/250/VHBM,IVL (f5.6,1/125,=) (6 FR) PCN CABLE <i>del @ 200:47:22</i> MAG (R) _____, FR # _____	201:50	MSFN CMDS: (AOS +69 MIN) DSE RECORD
	TERMINATOR PHOTOS		VERIFY DSE TAPE MOTION (HBR/RCD/FWD/CMD RESET)
	EL - ON (T STOP -2:00)		CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT)
	EL - OFF (T STOP -0:20)		GAMMA RAY* X-RAY ALPHA PART LASER ALTM
201:30	RECORD FR # _____	202:00	P20, CMC MODE - AUTO GDC ALIGN VERIFY ORDEAL MASS SPECT BOOM - DEPLOY tb-BP(~2:45)/GRAY then OFF (CTR) GAMMA RAY BOOM - DEPLOY tb-BP(~2:40)/GRAY then OFF (CTR)

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-313

CSM FLIGHT PLAN

LE 200:47:37

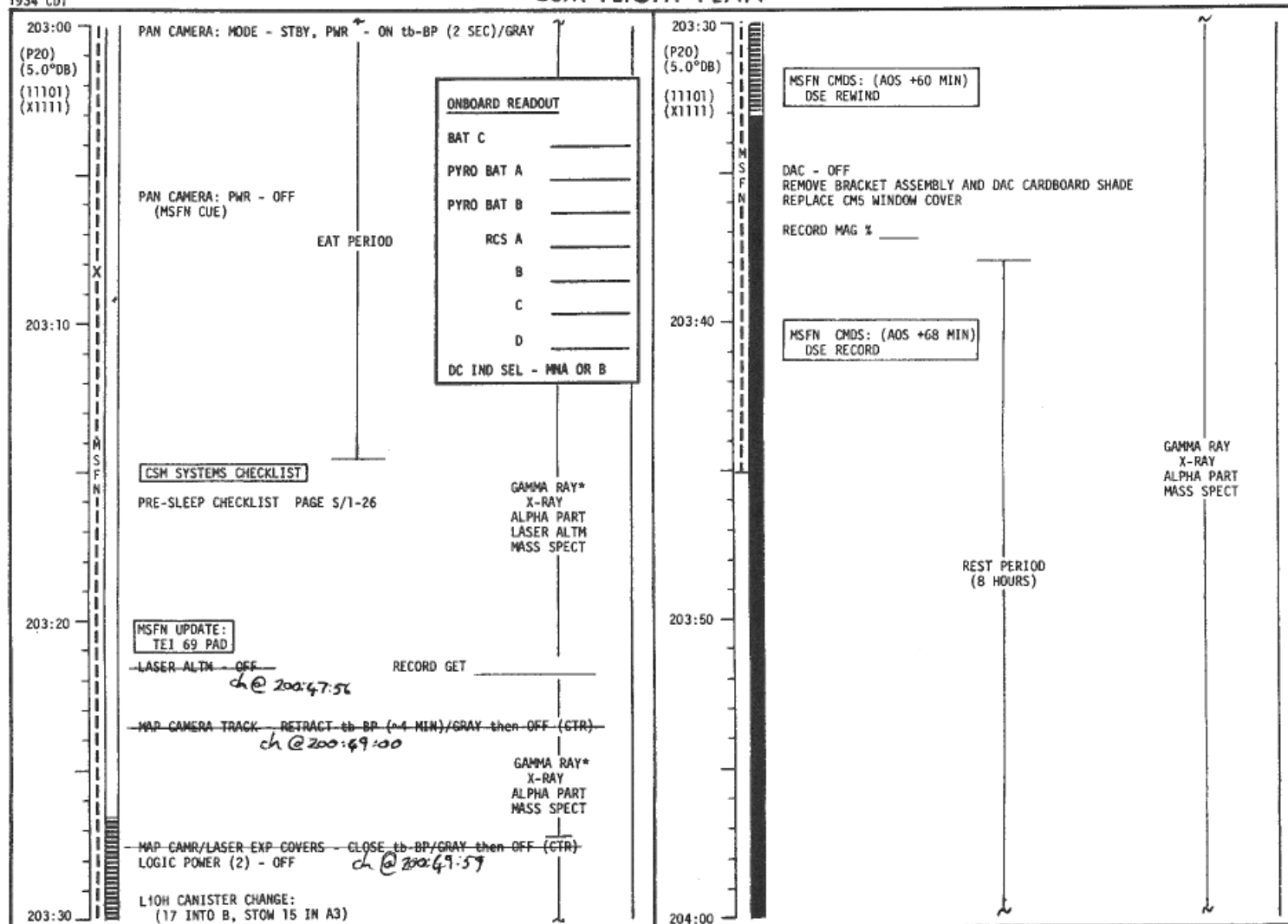
1834 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-314

1934 CDT

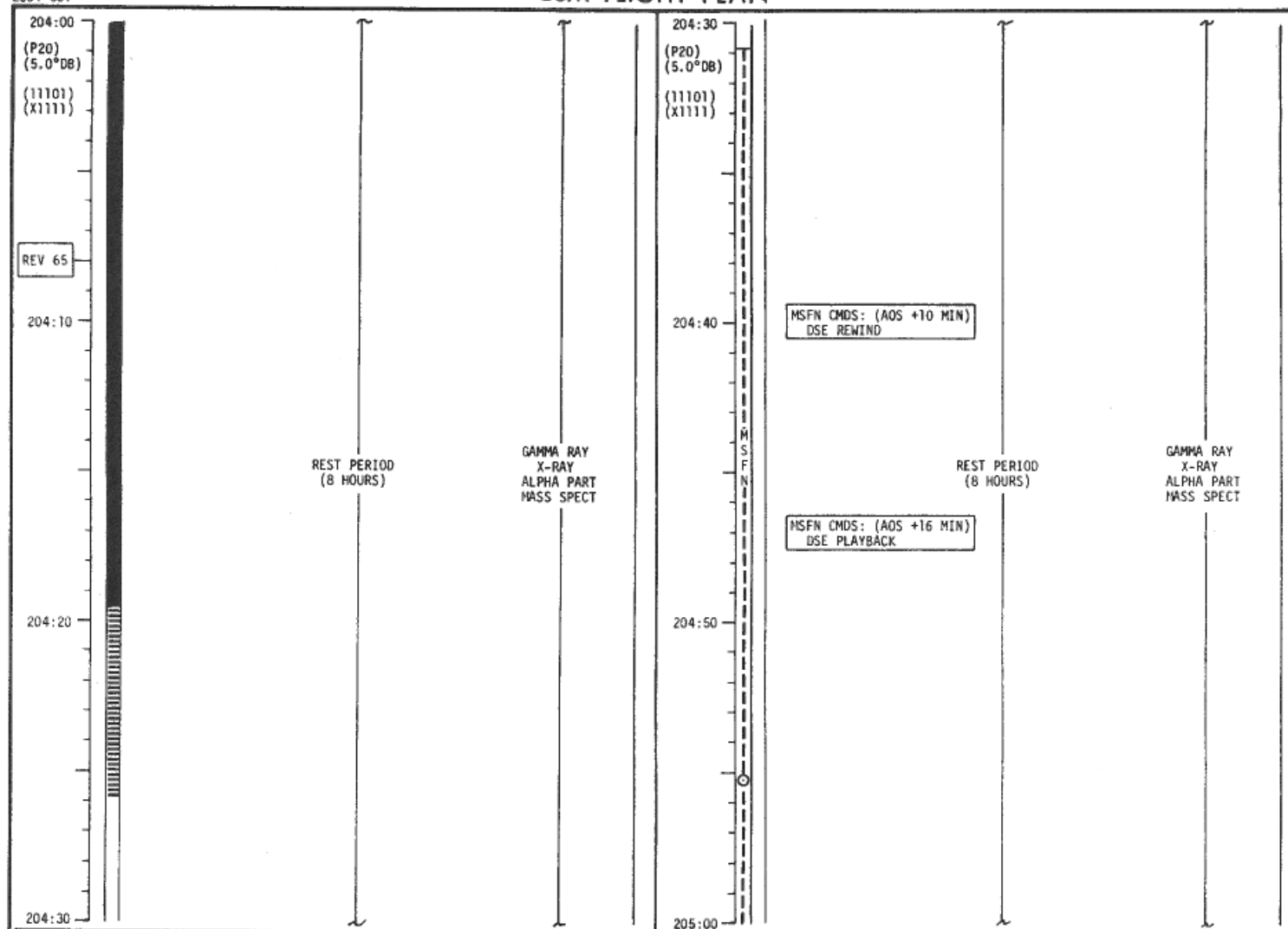
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-315

2034 CDT

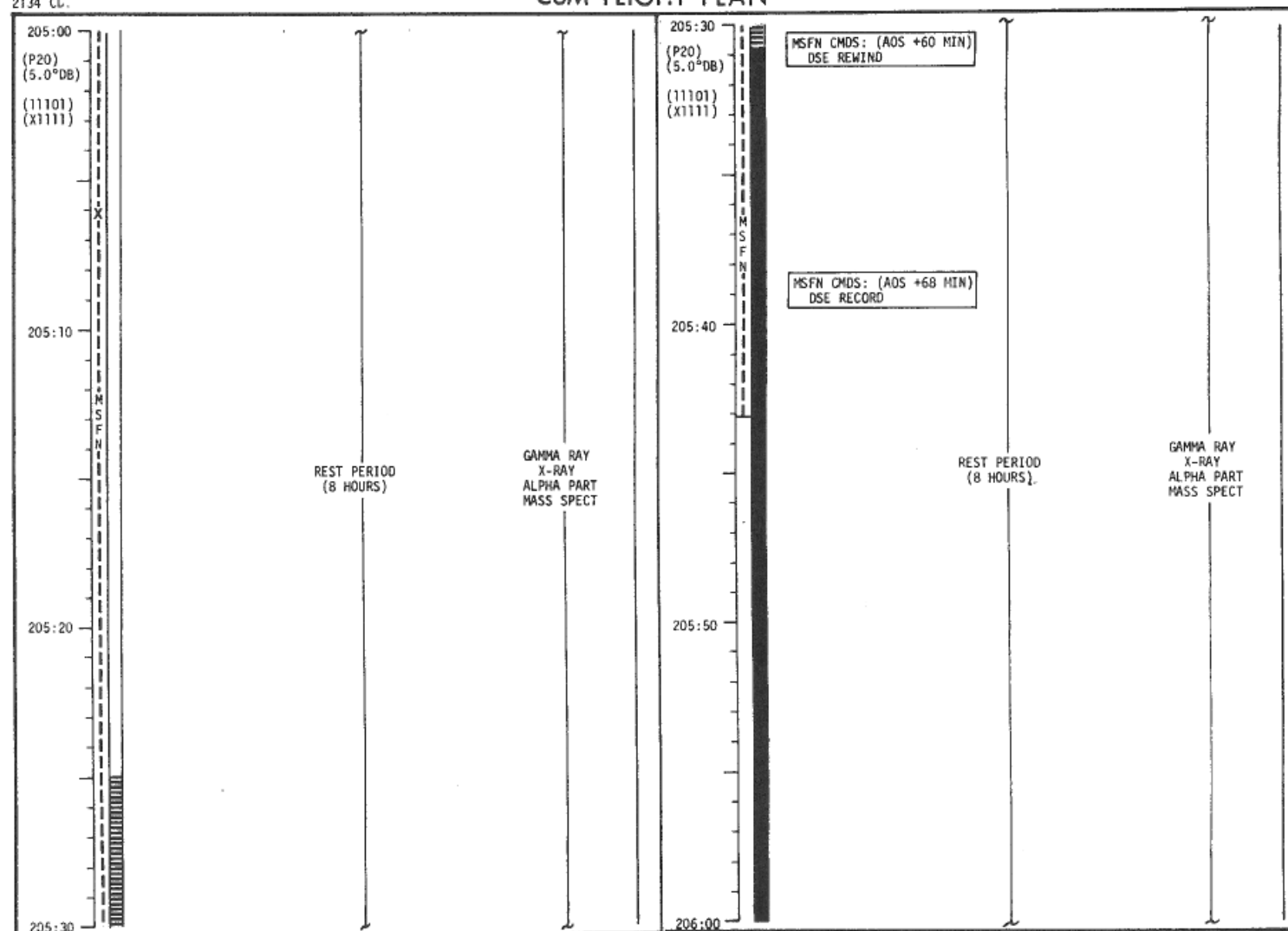
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-316

2134 CL

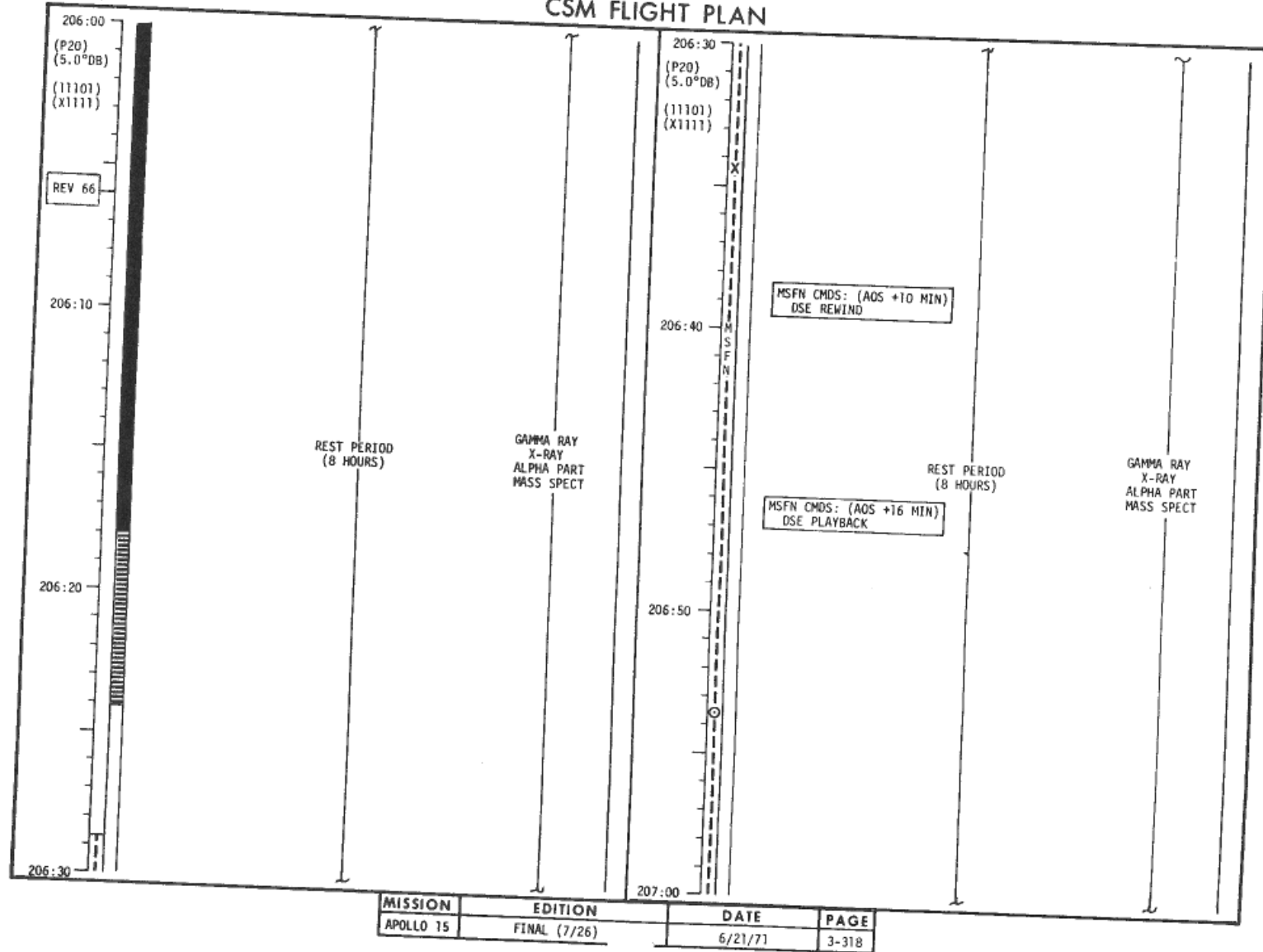
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-317

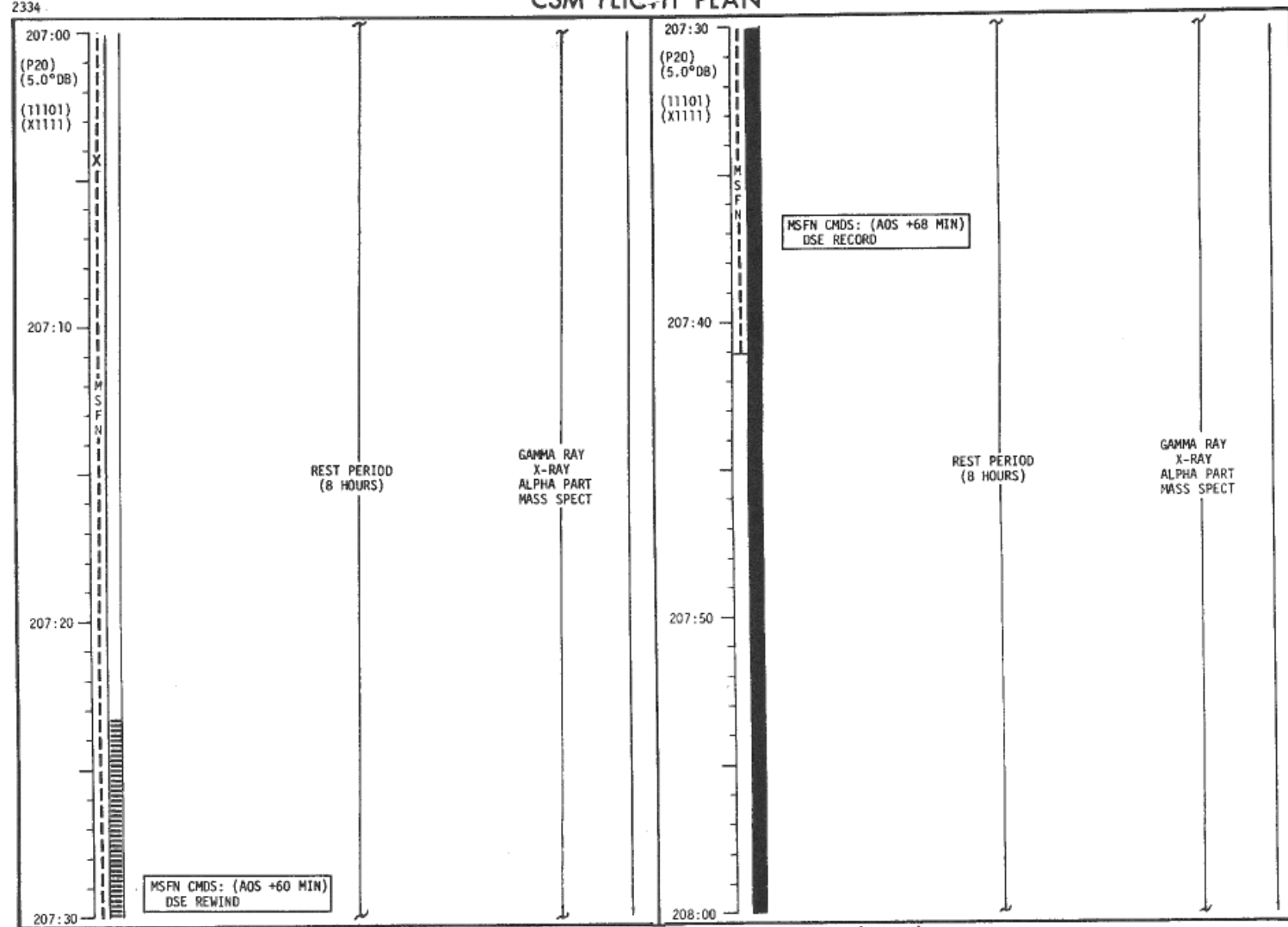
2234 CDT

CSM FLIGHT PLAN



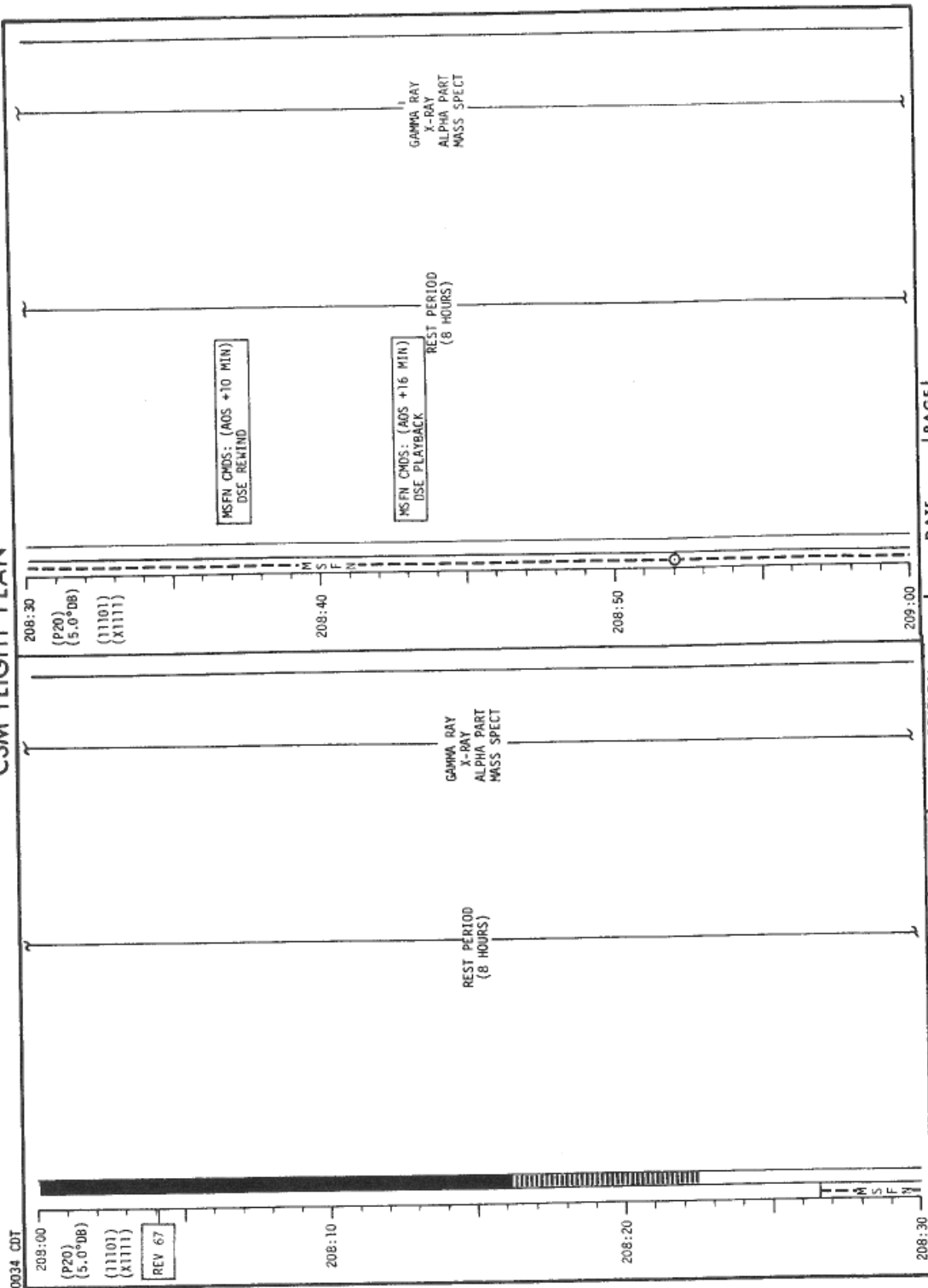
2334

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-319

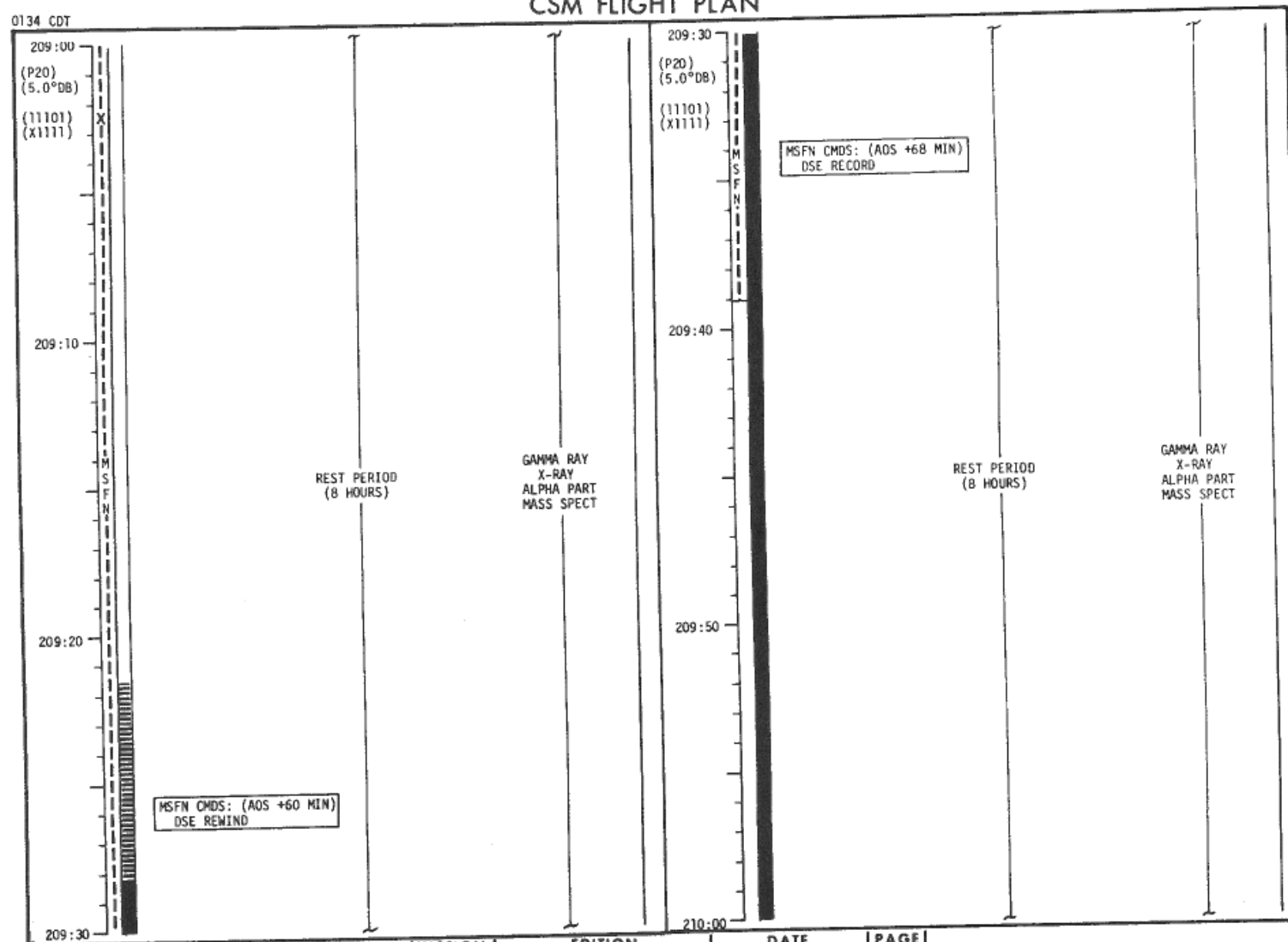
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-320

CSM FLIGHT PLAN

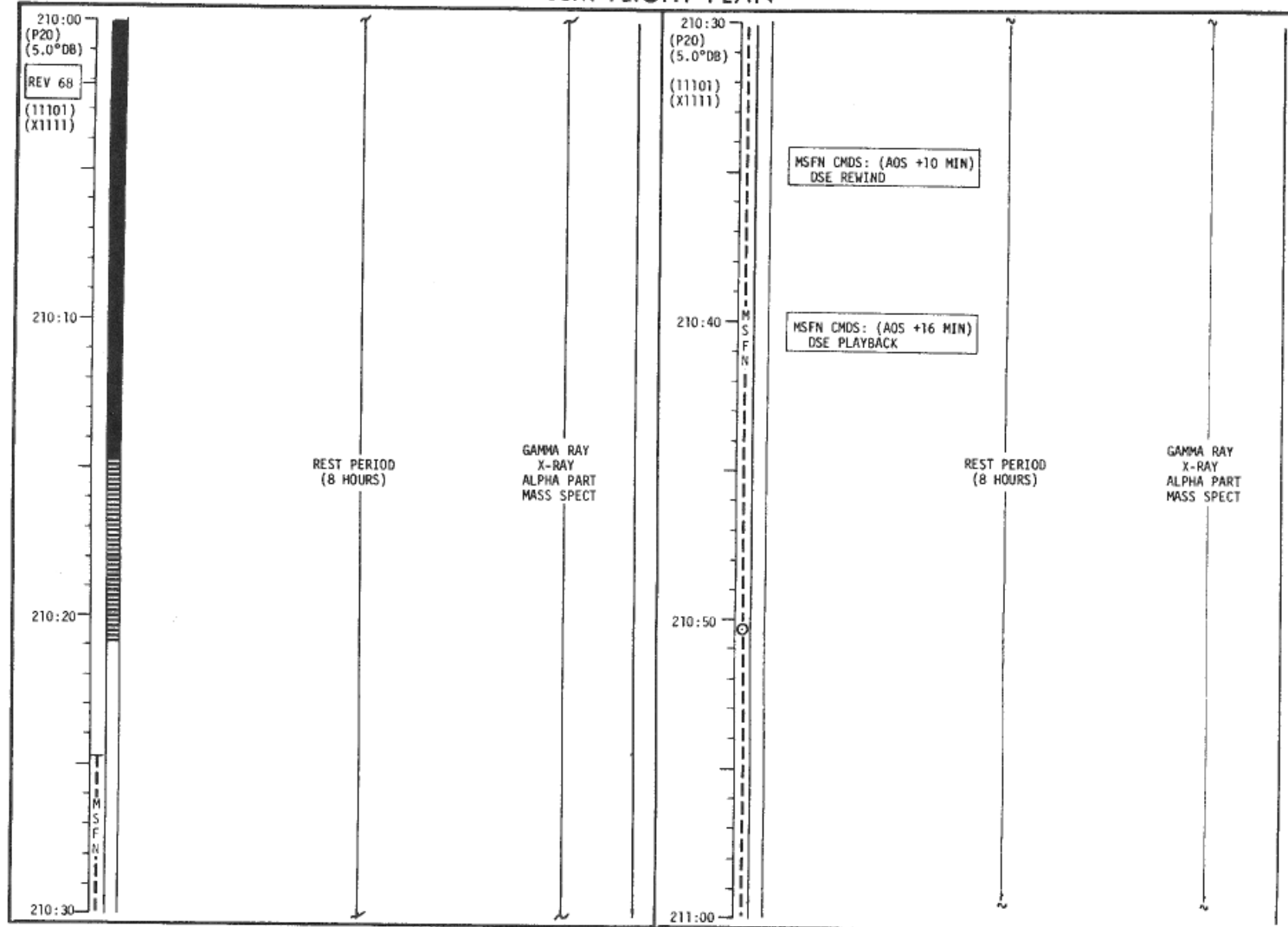
0134 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-321

0234 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-322

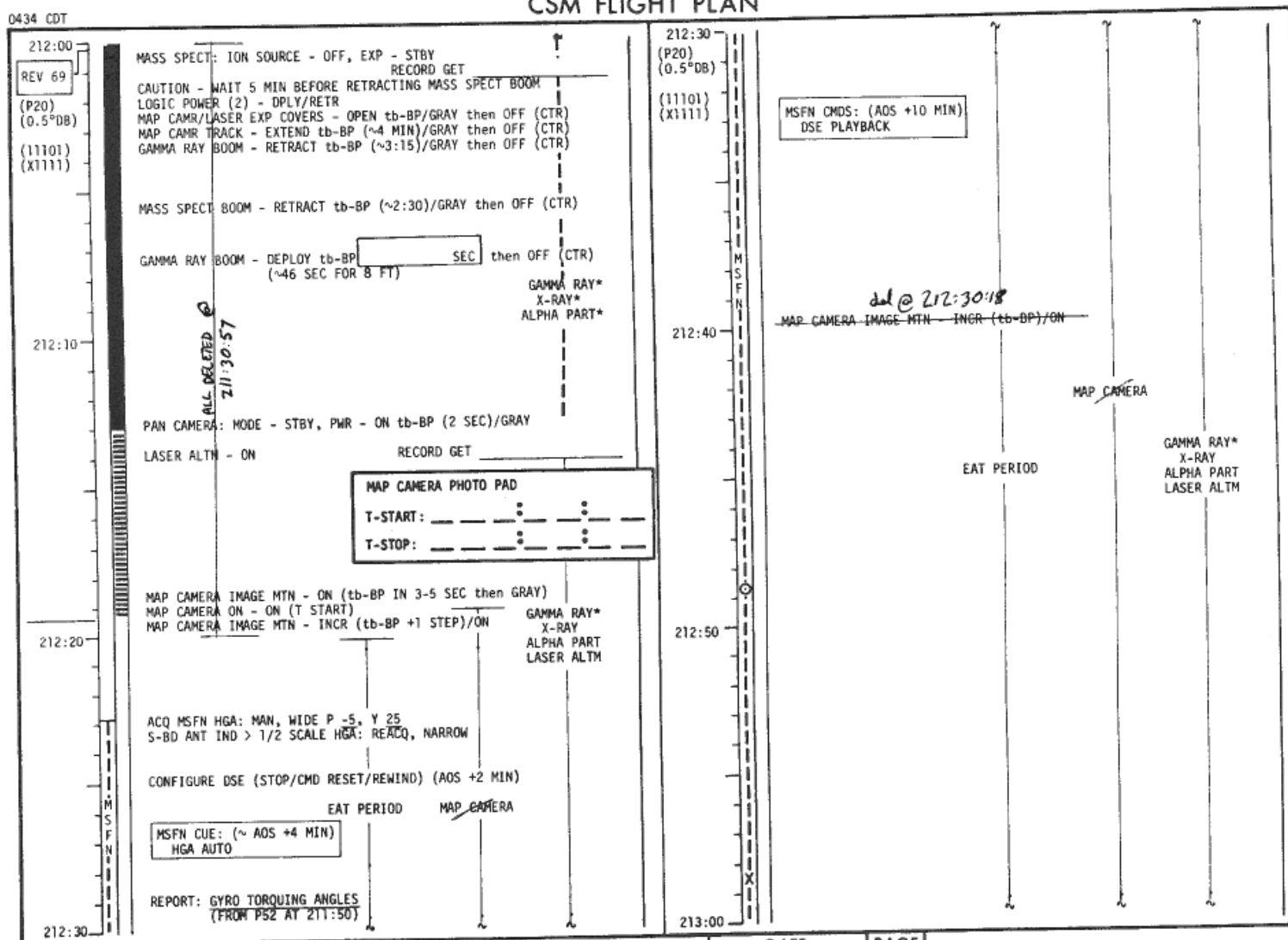
0334 CD1

CSM FLIGHT PLAN

211:00 (P20) (5.0°DB) (11101) (X1111)	REST PERIOD (8 HOURS)	211:30 (P20) (5.0°DB) (11101) (X1111)	MSFN UPDATE: CONSUMABLES GAMMA RAY 8 FT DEPLOY TIME (212:07) MAP CAMERA PHOTO PAD (212:17) FLIGHT PLAN MSFN CMDS: (AOS +68 MIN) DSE RECORD	GAMMA RAY X-RAY ALPHA PART MASS SPECT
211:10		VERIFY DSE TAPE MOTION (HBR/RCD/FWD/CMD RESET)	CSM CONSUMABLES UPDATE GET: _____ RCS TOTAL _____ QUAD A _____ B _____ C _____ D _____ H ₂ TANK 1 _____ 2 _____ 3 _____ O ₂ TANK 1 _____ 2 _____ 3 _____	
211:20		LMP DON BIOMED HARNESS CMP DOFF BIOMED HARNESS CMC MODE - FREE P52 (OPTION 3) (LIFT-OFF ORIENT)	P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X _____ Y _____ Z _____ GET _____	
211:30		P20, CMC MODE - AUTO GDC ALIGN MANUALLY ROLL CW 40° ck @ 211:30:32	GAMMA RAY* X-RAY* ALPHA PART* MASS SPECT*	
211:30 (P20) (0.5°DB)	MSFN CMDS: (AOS +60 MIN) DSE REMIND CSM SYSTEMS CHECKLIST POST-SLEEP CHECKLIST PAGE 5/1-26 MSFN UPLINK CSM S.V. & V66	212:00	P20 OPT 5 (+X FWD SIM ATT) (212:14) V23N78 (+180.00) V22N79 (+000.50) (142,000/066,001) ck @ 211:30:53	

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-323

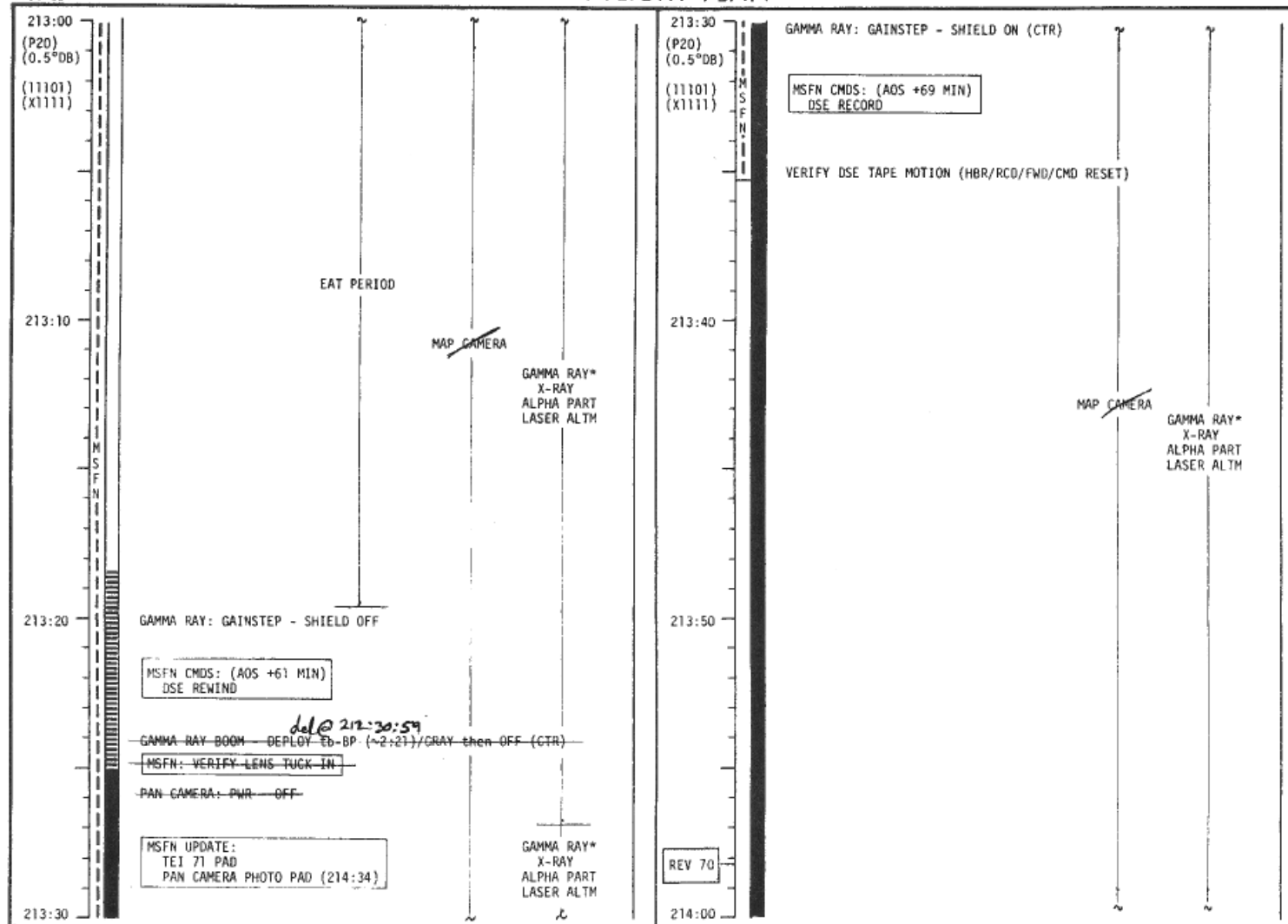
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-324

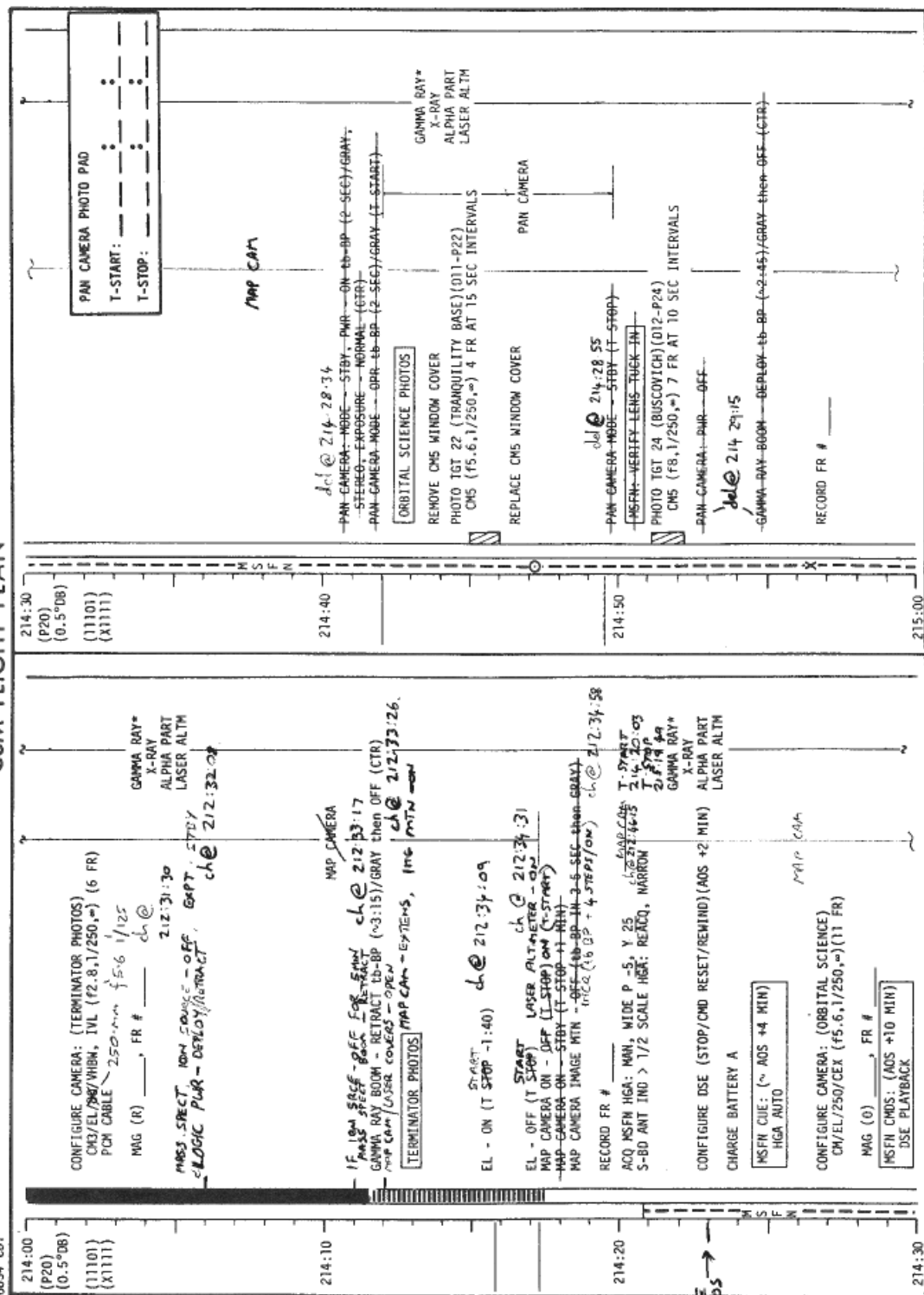
0534 L

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-325

06.34 CDT



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-326

0734 600



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-327

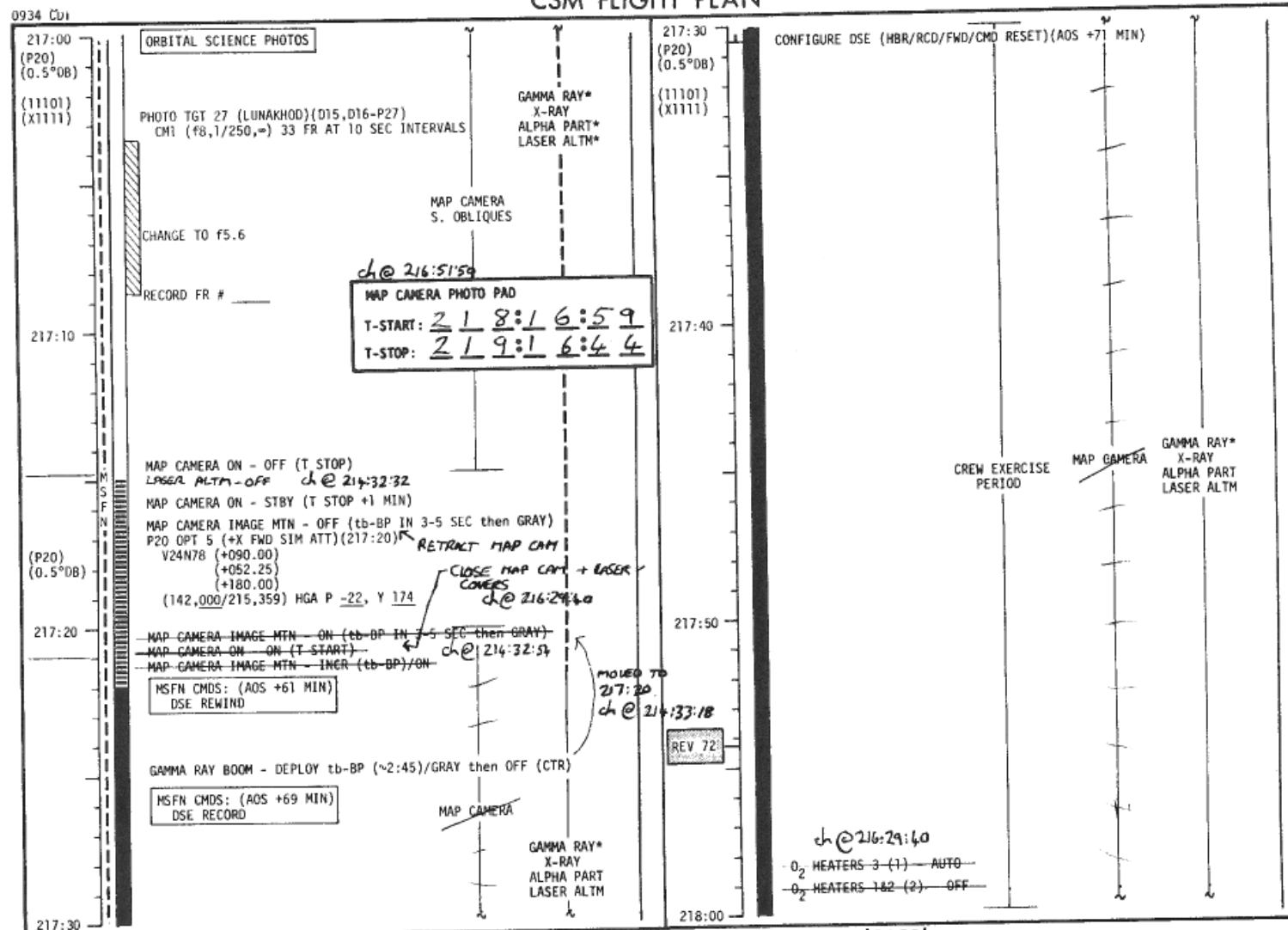
0834 CDT

CSM FLIGHT PLAN

216:00 (P20) (0.5°DB) (11101) (X1111)	GAMMA RAY BOOM RETRACT tb-BP (~3:15)/GRAY then OFF (CTR) LASER ALTM - ON ^{del} 214:31:59 RECORD GET 0:00 - MISSION TIMER: RESET/START (T START) (SR -8 MIN) SOLAR CORONA PHOTO PAD (SR) ^{GIVEN @} 214:59:52 T-START: 216:03:55 START MISSION TIMER AT SUNRISE -8 MIN CMC MODE - FREE DIM INTERIOR LIGHTS 5:00 - DAC - ON 6:40 - CHANGE DAC SHUTTER TO 1/500 6:50 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/4 7:00 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/8 7:10 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/15 7:20 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/30 7:30 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/60 7:40 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/125 7:50 - 1 FRAME EL, CHANGE EL SHUTTER TO 1/500 8:00 - DAC - OFF REMOVE EL FROM WINDOW, COVER LENS AND CYCLE 1 FRAME REMOVE DAC FROM WINDOW, COVER LENS, AND RUN AT 24 fps AND SHUTTER SPEED 1/500 FOR 2 SEC, LIGHTS UP CMC MODE - AUTO RECORD MAG % ; RECORD FR # CONFIGURE CAMERA: (ORBITAL SCIENCE) CM/EL/250/CEX (f8,1/250,=) (48 FR) MAG (P) , FR # MAP CAMERA IMAGE MTN - ON (tb-BP IN 3-5 SEC then GRAY) MAP CAMERA ON - ON (T START) MAP CAMERA IMAGE MTN - INCR (tb-BP +3 STEPS)/ON LASER ALTM - ON ch @ 214:31:59 ACQ MSFN HGA: MAN, WIDE P 3, Y 18 S-BD ANT IND > 1/2 SCALE HGA: REACQ, NARROW ORBITAL SCIENCE PHOTOS REMOVE CM5 WINDOW COVER PHOTO TGT 13 (HUMBOLT)(D7-P13) CM5 (f8,1/250,=) 15 FR AT 15 SEC INTERVALS MAP CAMERA S. OBLIQUES CONFIGURE DSE (STOP/CMD RESET/REWIND) REPLACE CM5 WINDOW COVER MSFN CUE: (~ AOS +6 MIN) HGA AUTO	216:30 (P20) (0.5°DB) (11101) (X1111)
216:10	PAN CAMERA: MODE - STBY, PWR - ON tb-BP (2 SEC)/GRAY MAP CAMERA S. OBLIQUES GAMMA RAY* X-RAY* ALPHA PART* LASER ALTM* PAN CAMERA: POWER - OFF (MSFN CUE)	216:40
216:20	MAP CAMERA PHOTO PAD T-START: 216:18:30 T-STOP: 217:18:15	216:50
216:30	MSFN UPDATE: MAP CAMERA PHOTO PAD (217:10) TERMINATOR PHOTO PAD (218:07) PAN CAMERA PHOTO PAD (218:39) TEI 73 PAD	217:00

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-328

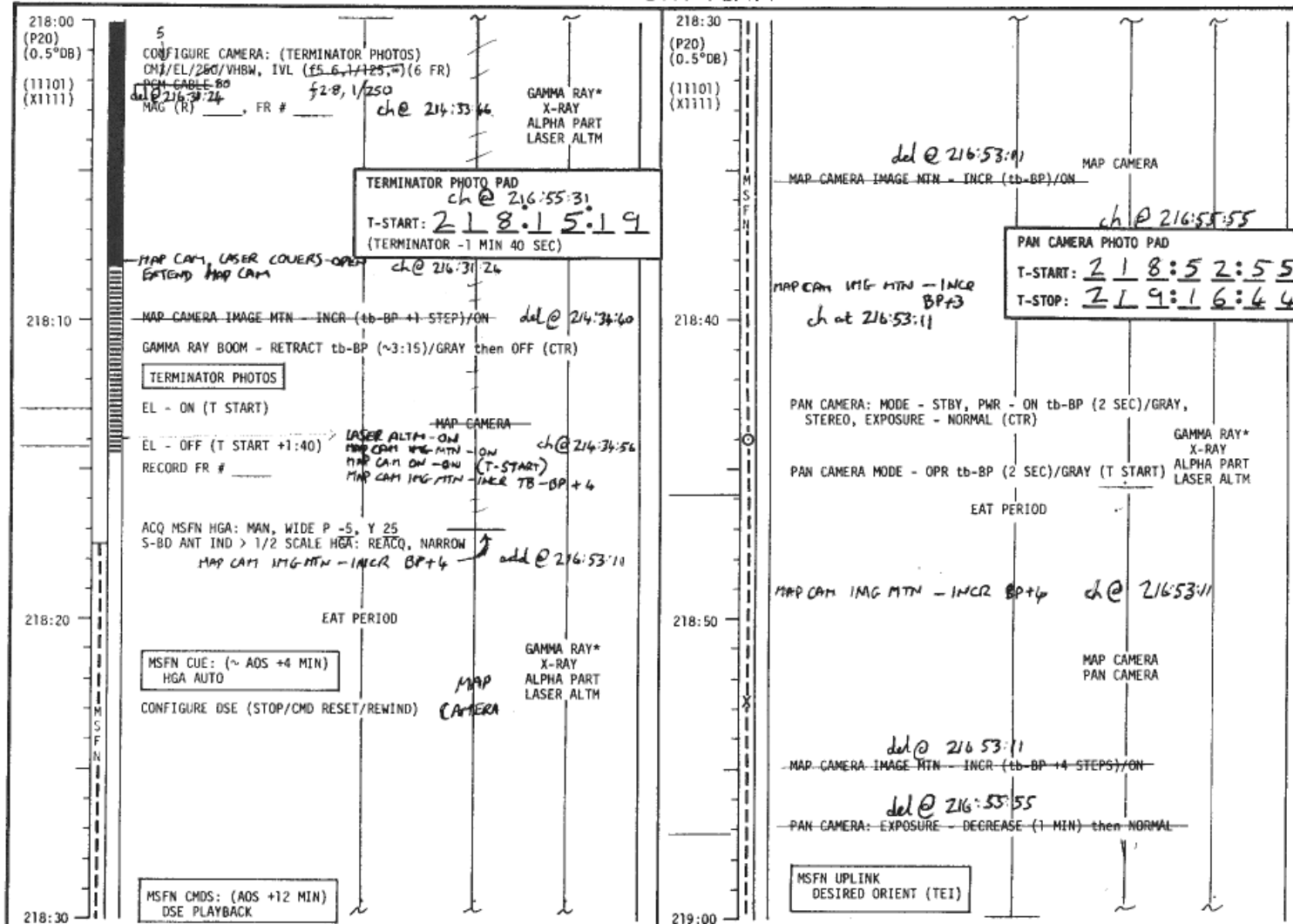
CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-329

1034 CDT

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-330

CSM FLIGHT PLAN

1134 CDT

219:00
(P20)
(0.5°DB)

(11101)
(X1111)

MSFN UPDATE:
TERMINATOR PHOTO PAD (220:10)

MAP CAMERA
PAN CAMERA

PAN CAMERA: EXPOSURE DECREASE (1 MIN) then NORMAL *ch @ 216:55:55*

MAP CAMERA TRACK - RETRACT tb-BP (~4 MIN)/GRAY then OFF (CTR)

219:06:35 PAN CAM EXP-DECR

CONFIGURE CAMERA: (TERMINATOR PHOTOS)

CM3/EL/250/VHBM, 1VL (F5.6, 1/125, ∞) (6 FR)

~~PGM CABLE~~ *del @ 216:32:23*

MAG (R) FR #

219:07:28 PAN CAM EXP-NORM

TERMINATOR PHOTOS

PAN CAMERA - MONO (T STOP -3:20)

EL - ON (T STOP -2:00)

EL - OFF (T STOP -0:40)

MAP CAMERA ON - OFF (T STOP)

PAN CAMERA MODE - STBY (T STOP)

RECORD FR #

MSFN: VERIFY LENS TUCK IN

MAP CAMERA ON - STBY (T STOP +1 MIN)

MAP CAMERA IMAGE MTN - OFF (tb-BP IN 3-5 SEC then GRAY)

PAN CAMERA: PWR - OFF

MAP CAMERA TRACK - EXTEND tb-BP (~4 MIN)/GRAY then OFF (CTR)

MSFN CMDS: (AOS +63 MIN)
DSE REWIND

GAMMA RAY BOOM - DEPLOY tb-BP (~2:45)/GRAY then OFF (CTR)

CMC MODE - FREE

P52 (OPTION 3)
(LIFT-OFF ORIENT)

REPORT: GYRO TORQUING
ANGLES

P52 (OPTION 1)
(TEI ORIENT)

P20, CMC MODE - AUTO
GDC ALIGN
CONFIGURE DSE (HBR/RCD/FWD
CMD RESET)(AOS +71 MIN)

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

GAMMA RAY*
X-RAY
ALPHA PART
LASER ALTM

GAMMA RAY*
X-RAY
ALPHA PART
LASER ALTM

219:30
(P20)
(5.0°DB)

(11101)
(X1111)

P20 OPT 5 (+X FWD SIM ATT)
V22N79 (+005.00)

219:40

219:50

REV 73

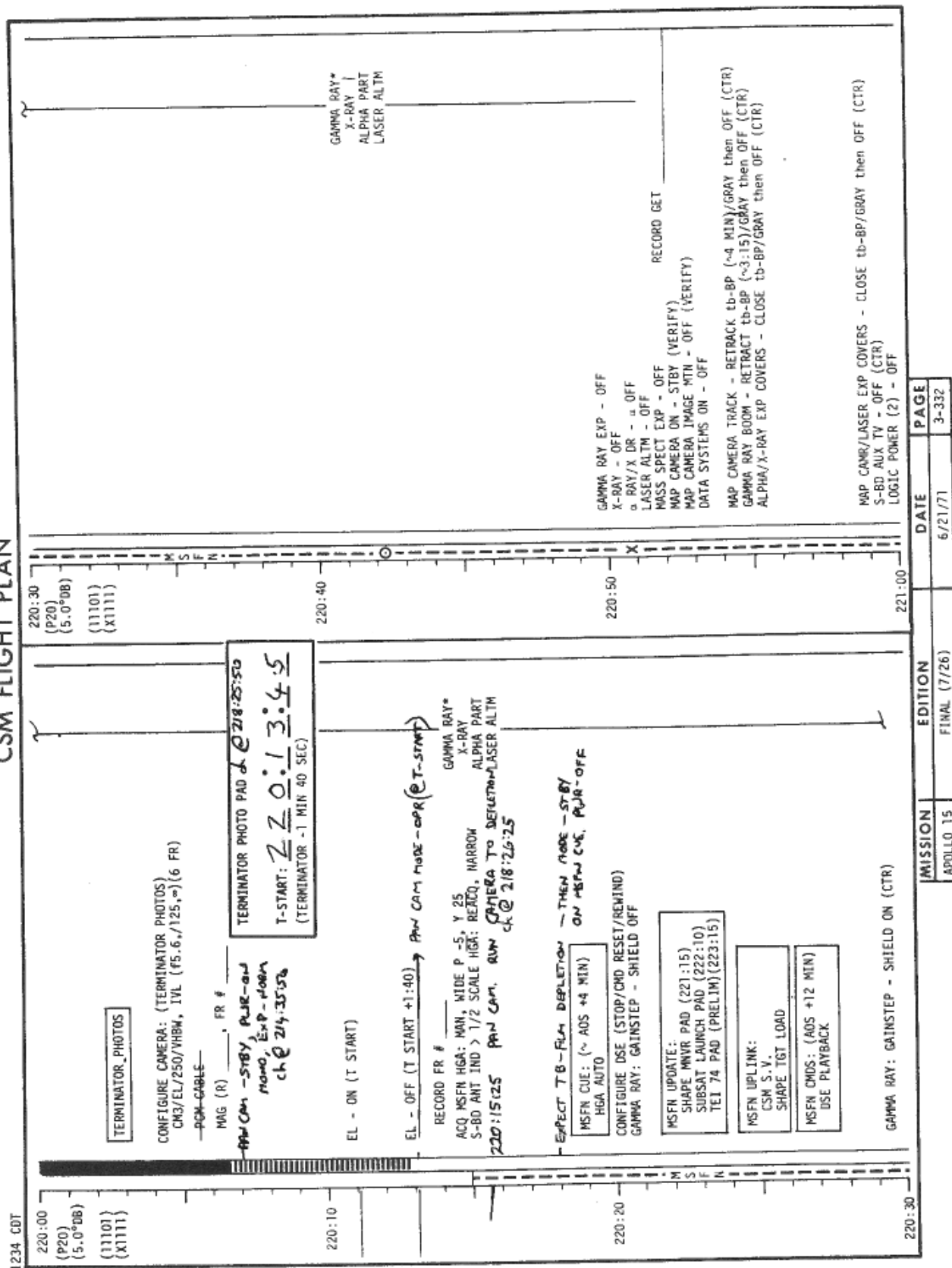
220:00

219:30

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-331

PAN EXP
change
@ 216:55:55

1234 COT



1404 CDT

CSM FLIGHT PLAN

221:30
(11102)
(X1111)

CONFIGURE FOR URINE DUMP

P52 (OPTION 3)
(TEI ORIENT)

P52 INU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

221:40

GDC ALIGN

H₂ & O₂ FUEL CELL PURGE
WASTE WATER DUMP
URINE DUMP

GAMMA RAY EXP - ON
X-RAY - STBY
α RAY/X DR - α ON
MASS SPECT EXP - STBY
DATA SYSTEMS ON - ON
S-BD AUX TV - SCI
PCM BIT RATE - HIGH

221:50

H₂ PURGE LINE HEATERS - OFF

REV 74

GAMMA RAY*
ALPHA PART*

222:00

O₂ HEATERS 1&2 (2) - AUTO
O₂ HEATERS 3 (1) - OFF

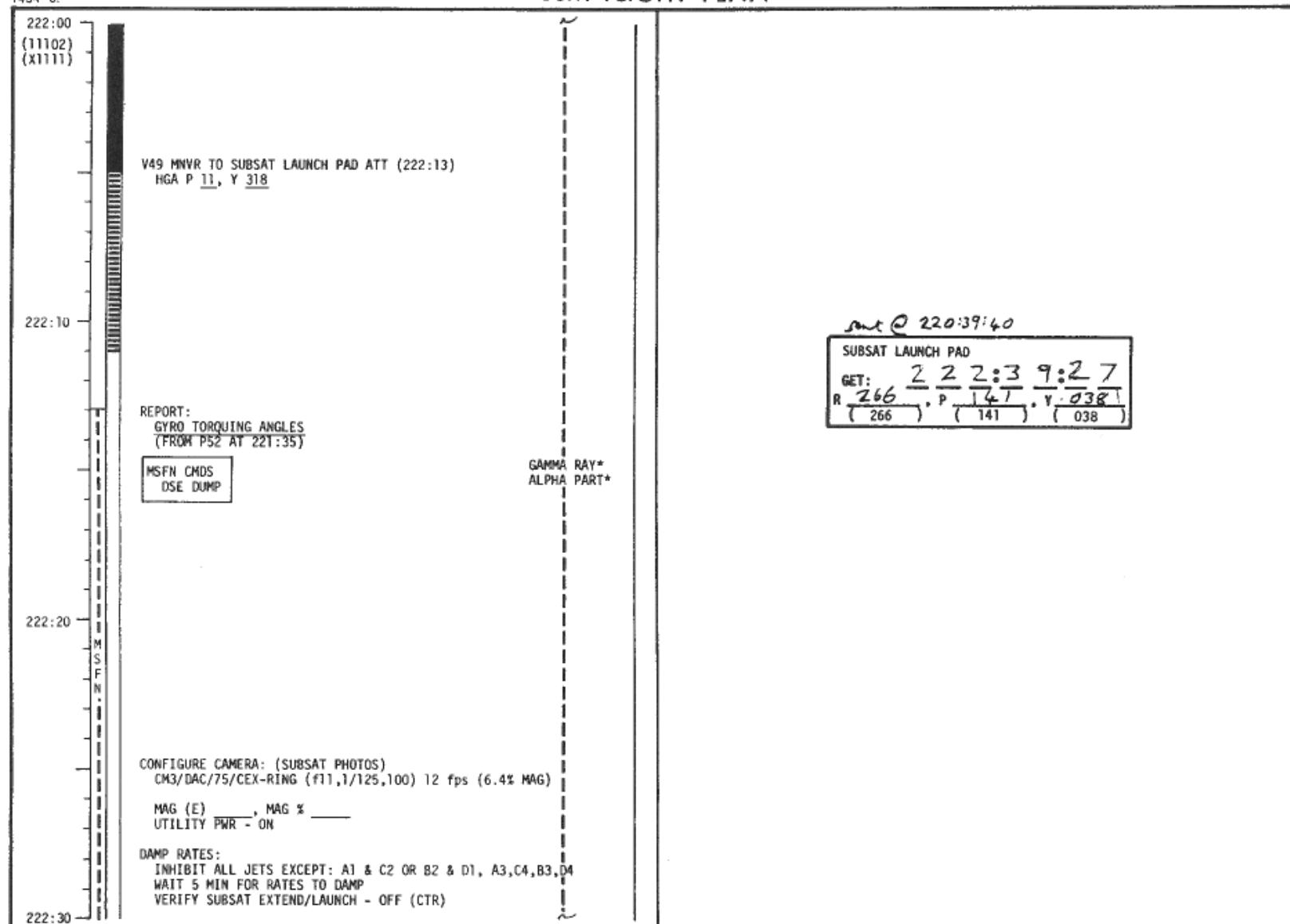
CB O₂ TANK 100 L (3) IN B, CLOSED

ch 218:26:25

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-334

1434 C.

CSM FLIGHT PLAN



MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-335

1504 CDT

CSM FLIGHT PLAN

222:30	VERIFY:	
(11102)	cb PYRO A/SEQ A - CLOSE	
(X1111)	cb PYRO B/SEQ B - CLOSE	
	cb LOGIC POWER (2) - CLOSE	
	LOGIC POWER (2) - JETT	
	MSFN: VERIFY SIM PYRO BUS (2) ARMED AND RATES $\leq .05^\circ/\text{SEC}$	
	CMC MODE - FREE	
	SUBSAT - EXTEND/LAUNCH (LAUNCH -12 SEC) tb-BP UNTIL LAUNCH	
	SUBSAT LAUNCH 222:36:13	
	MSFN: VERIFY SUBSAT LAUNCH	
	PHOTO SUBSAT FOR ~ 30 SEC STARTING AT LAUNCH +9 SEC	
	CMC MODE - AUTO	
	SUBSAT - RETRACT tb-BP (~ 12 SEC)/GRAY then OFF (CTR)	
	LOGIC POWER (2) - OFF	
	RECORD DAC MAG %	
	ENABLE ALL JETS	
	MSFN UPDATE:	
	TEI 74 PAD (NOMINAL)(223:15)	
	TEI 75 PAD	
	MAP UPDATE REV 75 (223:17)	
	MSFN UPLINK:	
	CSM S.V. & V66	
	TEI 74 TGT LOAD	
		GAMMA RAY* ALPHA PART*
	CSM SYSTEM CHECKLIST	
222:50	CONTAMINATION CONTROL	PAGE S/1-16
	C&WS OPERATIONAL CHECKS	S/1-17
	CM RCS MONITORING CHECK	S/1-1
	SM RCS MONITORING CHECK	S/1-1
	SPS MONITORING CHECK	S/1-1
223:00		

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-336

CSM FLIGHT PLAN

223:00 (11102) (X1111)	P30 VERIFY TEI TIG AND ΔV 's V49 MNVR TO TEI PAD BURN ATT (223:12) OMNI <u>D</u>	GAMMA RAY* ALPHA PART*	P30 MANEUVER <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">KEGA, DENE B</th> <th>T</th> <th>E</th> <th>I</th> <th></th> <th></th> <th>PURPOSE</th> </tr> <tr> <th colspan="2">SET STARS</th> <th>S</th> <th>P</th> <th>S</th> <th>G</th> <th>& N</th> <th>PROP/GUID</th> </tr> <tr> <td></td> <td></td> <td>+</td> <td>3</td> <td>5</td> <td>7</td> <td>6</td> <td>8</td> <td>WT N47</td> </tr> <tr> <td>R ALIGN</td> <td><u>1 0 2</u></td> <td>+</td> <td>0</td> <td>0</td> <td>0</td> <td>5</td> <td>7</td> <td>P TRIM N48</td> </tr> <tr> <td>P ALIGN</td> <td><u>1 7 8</u></td> <td>+</td> <td>0</td> <td>0</td> <td>0</td> <td>8</td> <td>8</td> <td>Y TRIM</td> </tr> <tr> <td>Y ALIGN</td> <td><u>0 2 8</u></td> <td>+</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> <td>3</td> <td>HRS GETI</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>0</td> <td>0</td> <td>0</td> <td>4</td> <td>8</td> <td>MIN N33</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>0</td> <td>4</td> <td>5</td> <td>0</td> <td>5</td> <td>SEC</td> </tr> <tr> <td>ULLAGE</td> <td><u>+X</u></td> <td>+</td> <td>2</td> <td>9</td> <td>4</td> <td>5</td> <td>2</td> <td>ΔV_x N81</td> </tr> <tr> <td></td> <td><u>12 sec</u></td> <td>-</td> <td>0</td> <td>7</td> <td>6</td> <td>1</td> <td>3</td> <td>ΔV_y</td> </tr> <tr> <td></td> <td></td> <td>-</td> <td>0</td> <td>1</td> <td>7</td> <td>1</td> <td>4</td> <td>ΔV_z</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>0</td> <td>0</td> <td>0</td> <td>R (000)</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>0</td> <td>0</td> <td>0</td> <td>P (000)</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>0</td> <td>0</td> <td>0</td> <td>Y (000)</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>H_A N44</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> <td>1</td> <td>H_P</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>3</td> <td>0</td> <td>4</td> <td>6</td> <td>8</td> <td>ΔVT</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td>2</td> <td>1</td> <td>BT</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>3</td> <td>0</td> <td>2</td> <td>8</td> <td>5</td> <td>ΔVC</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>3</td> <td>7</td> <td>SXTS</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>2</td> <td>2</td> <td>4</td> <td>3</td> <td>0</td> <td>SFT</td> </tr> <tr> <td></td> <td></td> <td>+</td> <td>3</td> <td>0</td> <td>5</td> <td>0</td> <td>0</td> <td>TRN</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>0</td> <td>5</td> <td>3</td> <td>BSS</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td>1</td> <td>0</td> <td>3</td> <td>SPA</td> </tr> <tr> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td>3</td> <td>1</td> <td>SXP</td> </tr> </table>	KEGA, DENE B		T	E	I			PURPOSE	SET STARS		S	P	S	G	& N	PROP/GUID			+	3	5	7	6	8	WT N47	R ALIGN	<u>1 0 2</u>	+	0	0	0	5	7	P TRIM N48	P ALIGN	<u>1 7 8</u>	+	0	0	0	8	8	Y TRIM	Y ALIGN	<u>0 2 8</u>	+	0	0	2	2	3	HRS GETI			+	0	0	0	4	8	MIN N33			+	0	4	5	0	5	SEC	ULLAGE	<u>+X</u>	+	2	9	4	5	2	ΔV_x N81		<u>12 sec</u>	-	0	7	6	1	3	ΔV_y			-	0	1	7	1	4	ΔV_z			X	X	X	0	0	0	R (000)			X	X	X	0	0	0	P (000)			X	X	X	0	0	0	Y (000)			+						H _A N44			+	0	0	2	2	1	H _P			+	3	0	4	6	8	ΔVT			X	X	X	2	2	1	BT			X	3	0	2	8	5	ΔVC			X	X	X	X	3	7	SXTS			+	2	2	4	3	0	SFT			+	3	0	5	0	0	TRN			X	X	X	0	5	3	BSS			X	X		1	0	3	SPA			X	X	X		3	1	SXP
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223:10 M S F N	GAMMA RAY EXP - OFF X-RAY - OFF α RAY/X DR - α OFF MASS SPECT EXP - OFF MAP CAMERA ON - STBY (VERIFY) MAP CAMERA IMAGE MTN - OFF (VERIFY) DATA SYSTEMS ON - OFF S-BD AUX TV - OFF (CTR)																																																																																																																																																																																																																																	
223:20 (P40) (0.5°DB)	SXT STAR CHECK ch @ 222:19:30 MAP UPDATE REV <u>75</u> LOS <u>2 2 3:2 9:4 5</u> 180° <u>2 2 3:5 2:5 7</u> AOS WITH TEI <u>2 2 4:0 3:0 3</u> AOS WITHOUT TEI <u>2 2 4:1 5:3 0</u>																																																																																																																																																																																																																																	
223:30	P40 TRIM MSFN CMDS: DSE RECORD VERIFY DSE TAPE MOTION (LBR/RCD/FWD/CMD RESET)																																																																																																																																																																																																																																	

CSM FLIGHT PLAN

223:40

223:50

224:00

		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 & ΔVC >+50 FPS SWITCH TO SCS AUTO & RESTART SPS	BT +2 SEC & ΔVC = -40 FPS	TRIM X AND Z AXES TO 0.2 FPS

TIG: 223:46:06
BT: 2 MIN 17.8 SEC
ΔVT 3049.7 FPS
ULLAGE: 4 JET, 13 SEC
ORBIT: N/A

TEI (000,000,000)

P:00

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

V49 MNVR TO LUNAR SURFACE
PHOTO ATT (223:57)

~~(328,030,026)~~

(127,270, 030) ch @ 222-48-68

BURN STATUS REPORT

[illegible]

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-338

634 CDT

224:00 (11102) (X1111)

ACQ MSFN 00W1 **BC** **222:49:49**

REPORT: BURN STATUS
INHIBIT ALL JETS EXCEPT: A1 & C2 OR B2 & D1, A3, C4, B3, D4
cb SCS CONTR DIR 1 MNB - OPEN
cb SCS CONTR DIR 2 MNA - OPEN
RHC PAR DIR (2) - OFF OR MNA/MNB
S-80 AUX TV - SCI

MSFN UPDATE:
MAP CAMERA PHOTO PAD

PCM BIT RATE - HIGH
LOGIC POWER (2) - DPLY/RETR

MAP CAMR/LASER EXP COVERS - OPEN tb-BP/GRAY then OFF (CTR)
MAP CAMERA TRACK - EXTEND tb-BP (~4 MIN)/GRAY then OFF (CTR)

MAP CAMERA PHOTO PAD
T-START: **224:03:00**
T-STOP: **224:03:00**

DATA SYSTEMS ON - ON
GAMMA RAY: GAINSTEP - SHIELD ON (CTR), EXP - ON
X-RAY - STBY
a RAY/X DR - a ON
MASS SPECT EXP - STBY
MAP CAMERA IMAGE HTN - ON (tb-BP IN 3-5 SEC then GRAY)
MAP CAMERA ON - ON (T START)
MAP CAMERA IMAGE HTN - INCR (tb-BP + 1 STEPS)/OFF
MONITOR FOR FILM DEPLETION (tb-BP)

MAP CAMERA
GAMMA RAY*
ALPHA PART*

V49 MNR TO VISUAL TARGET ATT (224:30) ---
-- (006,125,005) HGA P -25, Y 19

MAP CAMERA TRACK - RETRACT tb-BP (~4 MIN)/GRAY then OFF (CTR)
MASS SPECT BOOM - DEPLOY tb-BP (~2:40)/GRAY then OFF (CTR)
MAP CAMR/LASER EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)

MASS SPECT: EXP - ON, ION SOURCE - STBY
RECORD GET

224:10 (11102) (X1111)

224:40 (11102) (X1111)

224:50 (11102) (X1111)

225:00 (11102) (X1111)

VISUAL TGT 12 & 13 EASTERN MARIA

V44 MANEUVER TO 127, 295, 030
HGA P23 Y229

MSFN CHDS:
DSE DUMP

MSFN UPLINK:
DESIRED ORIENT (PTC)

GAMMA RAY*
ALPHA PART*
MASS SPECT OUTGAS

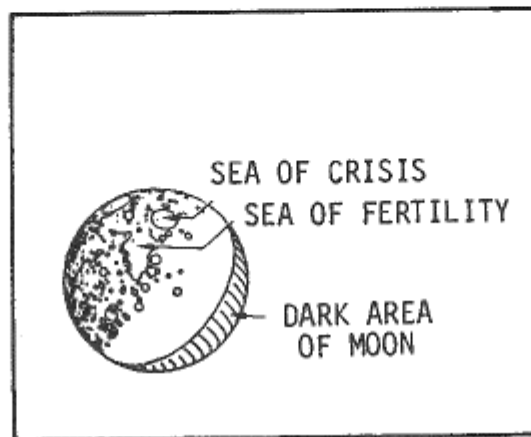
GAMMA RAY: GAINSTEP - SHIELD OFF

GAMMA RAY: GAINSTEP - SHIELD ON (CTR)

MISSION	EDITION	DATE	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	3-339

FOV = 50°

GET 225:40



FINAL (7/26)

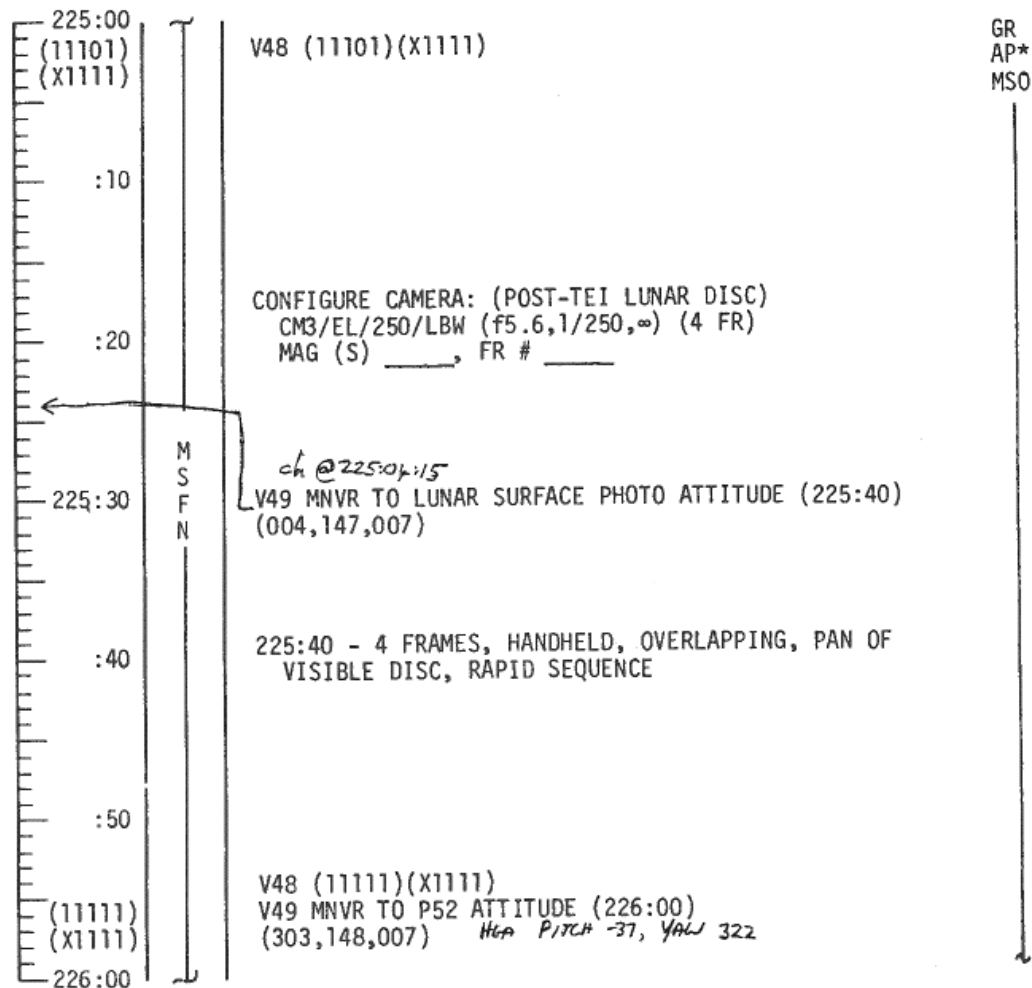
6/21/71

MCC-H

1734 CDT

FLIGHT PLAN

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	225:00 - 226:00	10/TEC	3-341

FLIGHT PLANNING BRANCH

MCC-H

1834 CDT

FLIGHT PLAN

GR
AP*
MSO

NOTES

226:00
(11111)
(X1111)P52 IMU REALIGN
OPTION 3 REFSMMAT
TEI ORIENTATION

STARS _____

SA _____

TA _____

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN
OPTION 1 PREFERRED
PTC ORIENTATIONV49 MNVR TO X-RAY POINTING ATTITUDE (226:28)
(327,143,055) HGA P+13, Y 212 *ch@ 225:27 58**X-RAY -OFF for 1 second, then ch@ 225:29:06*

X-RAY - ON

ALPHA/X-RAY EXP COVERS - OPEN tb BP/GRAY then OFF (CTR)

GAMMA RAY BOOM - DEPLOY tb-BP (~2:45)/GRAY then OFF (CTR)

RECORD GET _____

L10H CANISTER CHANGE
(19 INTO B, STOW 17 IN A4)CMP DON BIOMED HARNESS
LMP DOFF BIOMED HARNESS

EAT PERIOD

:10

:20

226:30

:40

:50

227:00

M
S
F
NGR
XR
AP
MSO

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____:_____:_____

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	226:00 - 227:00	10/TEC	3-342

FLIGHT PLAN BRANCH

FLIGHT PLAN

MCC-H

1934 CDT

NOTES

227:00
(11111)
(X1111)

:10

:20

227:30

:40

:50

228:00

M
S
F
N

EAT PERIOD

GR
XR
AP
MSO

GR
AP*
MSO

PTC

EARTH DISTANCE
~ 193,584 NM

X-RAY - STANDBY ch @ 225:29:42
(V48 line missing)

ALPHA/X-RAY EXP COVERS - CLOSE to BP/GRAY then OFF (CTR)

RECORD GET

LOGIC POWER (2) - OFF

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G/8-2

COMM: HGA REACQ MODE P -40, Y 90

V49 MNVR TO PTC ATTITUDE

(N20,090,000)

P20 OPT 2, X-AXIS

N78 (0,0,0)

N79 (-0.3500, +000.50)

N34 (0,0,0)

MASS SPECT: MULT-LOW, DSCRM-HIGH, EXP-ON, ION SOURCE-ON

RECORD GET

QUADS C&D WILL BE
USED FOR PTC RATE
DAMPING, JETS B2
& D2 FOR PTC SPINUP

Low ch @ 225:30:06

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	227:00 - 228:00	10/TEC	3-343

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2034 CDT

NOTES

228:00
:20
:40
229:00
:20
:40
230:00

M
S
F
N

CSM SYSTEMS CHECKLIST
PRE-SLEEP CHECKLIST
COMM - HGA

PAGE S/1-26

REST PERIOD
(8 HOURS)

GR
AP*
MS
PTC

DAP LOAD STATUS
(11111)(X1111)

ONBOARD READOUT
BAT C _____
PYRO BAT A _____
PYRO BAT B _____
RCS A _____
B _____
C _____
D _____
DC 1ND SEL - MNA OR B

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	228:00 - 230:00	10/TEC	3-344

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2234 CDT

NOTES

230:00
:20
:40
231:00
:20
:40
232:00

M
S
F
N

REST PERIOD
(8 HOURS)

GR
AP*
MS

DAP LOAD STATUS
(11111)(X1111)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	230:00 - 232:00	10/TEC	3-345

FLIGHT PLANNING BRANCH

MCC-H

0034 CDT

FLIGHT PLAN

NOTES

232:00

:20

:40

233:00

:20

:40

234:00

M
S
F
NREST PERIOD
(8 HOURS)

PTC

GR
AP*
MSDAP LOAD STATUS
(11111)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	232:00 - 234:00	10/TEC	3-346

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0234 CDT

NOTES

234:00

:20

:40

235:00

:20

:40

236:00

M
S
F
N

REST PERIOD
(8 HOURS)

PTC

GR
AP*
MS

DAP LOAD STATUS
(11111)(X1111)

CSM SYSTEMS CHECKLIST
POST-SLEEP CHECKLIST

PAGE S/1-26

CSM CONSUMABLES UPDATE
GET: ____ I : ____
RCS TOTAL ____
QUAD A ____ B ____
C ____ D ____
H₂ TOTAL ____
O₂ TOTAL ____

UPDATE TO CSM
CONSUMABLES
FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	234:00 - 236:00	10/TEC	3-347

FLIGHT PLANNING BRANCH

MCC-H

0434 CDT

FLIGHT PLAN

d @ 235:53:42

NOTES

236:00
(11111)
(X1111)
:10
(11101)
(X1111)
:20
236:30
:40
:50
237:00

M
S
F
N

~~GAMMA-RAY GAIN-STEP, SHIELD - OFF~~
~~GAMMA-RAY Beam RETRACT~~

EXIT G&N PTC

P52 IMU REALIGN
OPT 3 REFSMMAT
PTC ORIENTATION

GAMMA-RAY BOOM - RETRACT ON MSFN CUE

REPORT: GYRO TORQUING ANGLES

CYCLE CMC MODE - FREE/AUTO
V48 (11101)(X1111)
V67 (+99000)(+00020)(+00003)
V49 MNVR TO OPTICS CALIBRATION ATT
(066,152,350) HGA P -70, Y 295
P23 CALIBRATION STAR N70 (00020)
P00
V49 MNVR TO SIGHTING ATT
(084,120,330) HGA P -57, Y 360
P23 CISELUNAR NAVIGATION
3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00120)
N88 (+15707)(+98142)(+11018)

X-RAY - ON d @ 235:54:58
2. N70 (00000) (00000) (00110)
N88 (-38535)(+79355)(+47094)

3. N70 (00013) (00000) (00120)

DURING TEC, P23'S WILL BE PERFORMED ON A NON-INTERFERENCE BASIS WITH OTHER CREW ACTIVITIES AS IF A "NO-COMM" CONTINGENCY EXISTED. MCC-H WILL UPLINK A STATE VECTOR WHICH WILL BE STORED IN THE LM SLOTS. MCC-H WILL COMPUTE AND BIAS MID-COURSE CORRECTION MANEUVERS USING THE CSM VECTOR UPDATED BY P23 DATA.

GR
AP*
MS

LOAD W-MATRIX

EARTH DISTANCE
~ 181,215 NM

57 BELLA TRIX (EFH)

50 POLLUX (ENH)

13 CAPELLA (EFH)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	236:00 - 237:00	10/TEC	3-348

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0534 CDT

NOTES

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS
MCC-5 TGT LOAD
UPDATE TO CSM
MCC-5 MNVR PAD

- 237:00

(11101)

(X1111)

:10

: 20

— 237 : 30

:40

:50

— 238:00

MSFN

V49 MNVR TO X-RAY POINTING ATTITUDE (237:15)

(, ,) HGA P , Y

LOGIC POWER (2) - DEPLOY/RETR

ALPHA/X-RAY EXP COVERS - OPEN to BP/GRAY then OFF (CTR)

GR

XR

AP

MS

EAT PERIOD

EARTH DISTANCE
~ 178,796 NM

CONFIGURE FOR URINE DUMP
VERIFY REPRESS PKG 0₂ PRESSURE - 865-935 PSI

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	237:00 - 238:00	11/TEC	3-349

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-5
BURN TABLE

MANEUVER	P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
CORRIDOR CONTROL	10°/SEC COMPLETE	±10° COMPLETE	BT + 1 SEC AND $\Delta V_C = 0$	TRIM X AXIS ONLY TO 0.2 FPS
IP CONTROL	10°/SEC TERMINATE	±10° TERMINATE	BT + 1 SEC AND $\Delta V_C = 0$	TRIM X & Z AXIS TO 0.2 FPS

FINAL (7/26)

6/21/71

3-350

0634 CDT

NOTES

$$\begin{pmatrix} 11101 \\ X1111 \end{pmatrix}$$

:10

:20

- 238:30

:40

:50

- 239:00

MSFN

MASS SPEC: EXP - STBY, ION SOURCE - OFF
CAUTION: WAIT 5 MIN BEFORE MASS SPECT BOOM RETRACT
GAMMA RAY BOOM - RETRACT tb-GRAY/BP (~3:15)/GRAY then OFF (CTR)
MASS SPECT BOOM - RETRACT tb-GRAY/BP (~2:30)/GRAY then OFF (CTR)
ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)
RECORD GET

LOGIC POWER (2) - OFF ← DELAYED TO 238:30 ch 238-06:30

GAMMA RAY EXP - OFF

α RAY/X DR - α OFF

X-RAY EXP - OFF

MASS SPECT EXP - OFF, ION SOURCE - OFF

URINE DUMP

DATA SYSTEMS ON - OFF

S-BD AUX TV - OFF (CTR)

~~P30-EXTERNAL-ΔV~~

~~ENABLE ALL JETS~~

~~V49 MNVR TO PAD BURN ATTITUDE~~~~cb SCS CONTR DIR 1 MNB - CLOSE~~~~cb SCS-CONTR DIR 2 MNA - CLOSE~~

~~SXT-STAR CHECK~~

~~P40 SPS THRUSTING OR~~

~~P41 RCS THRUSTING~~

~~MCC-5~~

~~BURN STATUS REPORT~~

cb SCS CONTR DIR 1 MNB - OPEN

~~cb SCS CONTR DIR 2 MNA - OPEN~~

RHC PWR DIR (2) - OFF OR MNA/MNB

LiOH CANISTER CHANGE

(20 INTO A, STOW 18 IN A4)

TIG: 238:46:06
BT: NOM ZERO
ΔVT: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

BURN STATUS REPORT

X	X			.		.ATIG
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				UNBA

TEI +15 HR

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	238:00 - 239:00	11/TEC	3-351

FLIGHT PLANNING BRANCH

FLIGHT PLAN

CORONA WINDOW CALIBRATION

V49 MNVR TO CORONA WINDOW CALIBRATION ATT (239:05)
~~(090,011,025)~~ HGA P ~~69~~ Y ~~191~~ 239:08
~~(057,005,025)~~ P ~~48~~ Y 238 ch @ 238:49:15

CONFIGURE CAMERA

CM4/EL/80/VHBW-BRKT (f2.8,1/500,∞) (5 FR)
 MAG (R) _____, FR # _____

~~INHIBIT JETS A3, C4, B3, D4 DMP RATES FOR 5 PINS, CMC - FREE~~

~~CYCLE 1 FRAME, CHANGE SHUTTER TO 1/125~~

1 FRAME, CHANGE SHUTTER TO 1/60

1 FRAME, CHANGE SHUTTER TO 1/30

1 FRAME, CHANGE SHUTTER TO 1/500 1/125

~~CYCLE 1 FRAME~~ ch @ 238:50:13

RECORD FR # _____

~~ENABLE ALL JETS~~ CMC MODE-AUTO

UV PHOTOS - TRANSEARTH COAST

POSTPONED TO 247:36

V49 MNVR TO EARTH UV PHOTO ATT (239:25)

(204,178,324) OMNI D

210, 242, 322 ch @ 245:40:32 due to postponement

CONFIGURE CAMERA: (UV)

CM5/EL/105/UV, BRKT, CONT (f8,1/60,∞) (8 FR)

RINGSLIDE

MAG (N) _____, FR # _____

REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES

~~INHIBIT ALL JETS EXCEPT A1 & C2 or B2 & D1, A4, C3, B4, D3~~ del @ 247:04:59

VERIFY FDAI SCALE 5/1

WAIT 5 MIN FOR RATES TO DAMP

VERIFY RATES ARE <0.2°/SEC IN ALL AXES

REMOVE CM5 WINDOW COVER AND MOUNT UV CARDBOARD SHADE AND CAMERA

CMC FREE ch @ 247:05:46

2 FRAMES, FILTER 1, CHANGE SHUTTER TO B

1 FRAME, FILTER 2, EXP TIME 20 SEC and 1 @ 2 sec exp.

CHANGE SHUTTER TO 1/250

2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500 ch @ 11:40:01

2 FRAMES, FILTER 4

RECORD FR # _____

CONFIGURE CAMERA: (UV COLOR)

CM5/EL/105/CEX, BRKT, CONT (f8,1/250,∞) (1 FR)

RINGSLIDE

MAG (M) P _____, FR # _____

1 FRAME, FILTER 4

RECORD FR # _____

REMOVE CAMERA AND UV CARDBOARD SHADE

CMC AUTO

NOTE: COMMENTS AS TO CONDITION OF WINDOW 5

REPLACE CM5 WINDOW COVER

~~ENABLE ALL JETS~~

ch @
 247:03:46

FINAL (7/26)

6/21/71

3-352

MCC-H

0734 CDT

FLIGHT PLAN

NOTES

239:00
(11101)
(X1111)

:10

:20

239:30

:40

:50

240:00

M
S
F
N~~CHARGE BATTERY B~~ *POSTPONED TO 246 HRS
ch @ 237:37:23*

CORONA WINDOW CALIBRATION

UV PHOTOS

postponed to 247:36

FOV = 3°

GET = 239



CSM SYSTEMS CHECKLIST

CM EVA PAGE S/3-1
 CABIN PREP FOR CSM EVA
 V49 MNVR TO CSM EVA ATTITUDE (239:45)
 (352,063,050) HGA P 4, Y 225

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	239:00 - 240:00	11/TEC	3-353

FLIGHT PLANNING BRANCH

MCC-H

0834 CDT

FLIGHT PLAN

NOTES

240:00	M S F N	
(11101)		
(X1111)		
:10		
:20		
240:30		CONCLUDE CABIN PREP FOR CSM EVA PREPARE TV/DAC POLE
:40		PREPARE EVA EQUIPMENT
:50		DON PGA'S CDR & LMP DON BIOMED HARNESES
241:00		

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	240:00 - 241:00	11/TEC	3-354

FLIGHT PLANNING BRANCH

MCC-H

0934 CDT

FLIGHT PLAN

NOTES

241:00
(11101)
(X1111)

:10

S-BAND AUX TV - TV
COMM CHECK

:20

SYSTEM PREP FOR DEPRESS
DISABLE ALL JETS EXCEPT:
QUAD C, D1, D3, D4
O₂ HEATERS 1,2, & 3 (3) - AUTO
O₂ TANK 1. 50 W HEATER, MIN B(1) - OPEN
O₂ TANKS 2+3, 50 W HEATERS, MIN A(2) - OPEN

241:30

M
S
F
N

CONCLUDE DOWNING PGA'S
CMP DON EVA EQUIPMENT

:40

CDR/LMP INTEGRITY CHECK

CMP INTEGRITY CHECK

:50

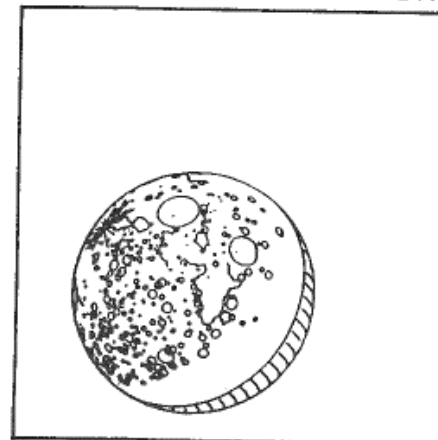
CABIN DEPRESS

HATCH OPENING

242:00

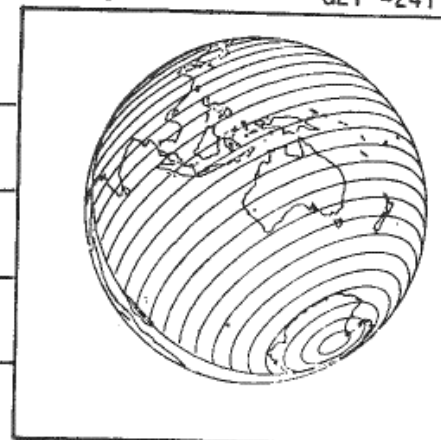
FOV 5°

GET = 241



FOV 3°

GET = 241



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	241:00 - 242:00	11/TEC	3-355

FLIGHT PLANNING BRANCH

MCC-H

1034 CDT

FLIGHT PLAN

NOTES

242:00	CMP EGRESS			
(11101)	FAMILIARIZATION			
(X1111)				
:10	INSTALL TV/DAC, ADJUST			
:20	RETRIEVE MAPPING CAMERA CASSETTES			
242:30	REST			
	RETRIEVE PAN CAMERA CASSETTES			
:40	REST			
	REMOVE TV/DAC			
:50	INGRESS			
	HATCH CLOSING			
	CABIN REPRESS			
243:00				

CSM EVA LENGTH
1 HR. MAX

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	242:00 - 243:00	11/TEC	3-356

FLIGHT PLANNING BRANCH

MCC-H

1134 CDT

FLIGHT PLAN

NOTES

 243:00
 (11101)
 (X1111)

:10

:20

243:30

:40

:50

244:00

M
S
F
N

OPS DEPLETION

CONCLUDE CABIN REPRESS

DOFF PGA'S
CMP & LMP DOFF BIOMED HARNESSSESCLEANUP PROCEDURES
O₂ HEATERS 3 (1) - OFF

STOW EQUIPMENT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	243:00 - 244:00	11/TEC	3-357

FLIGHT PLANNING BRANCH

MCC-H

1234 CDT

FLIGHT PLAN

NOTES

244:00
 (11101)
 (X1111)
 :10
 :20
 244:30
 :40
 :50
 245:00

M
S
F
N

WASTE WATER DUMP & O₂ FUEL CELL PURGE
 CHARGE BATT B.
 DELAYED FROM 239 HRS
 ch @ 237:37:23

CONCLUDE EQUIPMENT STOWAGE
 RECONFIGURE CABIN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	244:00 - 245:00	11/TEC	3-358

FLIGHT PLAN BRANCH

FLIGHT PLAN

MCC-H

1334 CDT

NOTES

UPDATE TO CSM
GAMMA RAY BOOM
RETRACT TIME (15 FT)

245:00
(11101)
(X1111)
:10
:20
(11111)
(X1111)
245:30
:40
:50
246:00

M
S
F
N

*FOUR STEPS BELOW CALLED FOR EARLY

*S-BAND AUX TV - SCI

V48 (11111)(X1111)

CONCLUDE CABIN RECONFIGURATION

V49 MNVR TO X-RAY POINTING ATTITUDE (245:45)

(, ,) HGA P , Y

*DATA SYSTEMS ON - ON

*DISABLE ALL JETS EXCEPT A1 & C2 OR D1 & B2,A3,C4,B3,D4

LOGIC POWER (2) - DEPLOY/RETR

ALPHA/X-RAY EXP COVERS-OPEN tb BP/GRAY then OFF (CTR)

GAMMA RAY BOOM - DEPLOY-tb BP(~2:45)/GRAY then OFF(CTR)

GAMMA RAY BOOM - RETRACT - tb BP[SEC] then OFF (CTR)

(~ SEC = 15 FT)

MASS SPECT BOOM-DEPLOY-tb BP (~2:40) then OFF (CTR)

GAMMA RAY EXP - ON

*X-RAY EXP - ON

α RAY/X DR - α ON

MASS SPECT: EXP-ON, ION SOURCE-STBY

RECORD GET

DISCRIMINATOR - LOW - ch @ 245:56:44

MSO
XR
AP
GR
AT
15
FT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	245:00 - 246:00	11/TEC	3-359

FLIGHT PLANNING BRANCH

MCC-H

1434 CDT

FLIGHT PLAN

NOTES

246:00
(11111)
(X1111)
:10
:20
246:30
:40
:50
247:00

M
S
F
N

CREW EXERCISE PERIOD

V49 MNVR TO X-RAY POINTING ATTITUDE (246:35)
(, ,) HGA P 00, Y 240 ch @ 26556.23

EAT PERIOD

MASS SPECT: EXP-ON, ION SOURCE-ON, DSCRM-HIGH, MULT-LOW
RECORD GET

MSO
XR
AP
GR
AT
15
FTMS
XR
AP
GR
AT
15
FT

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	246:00 - 247:00	11/TEC	3-360

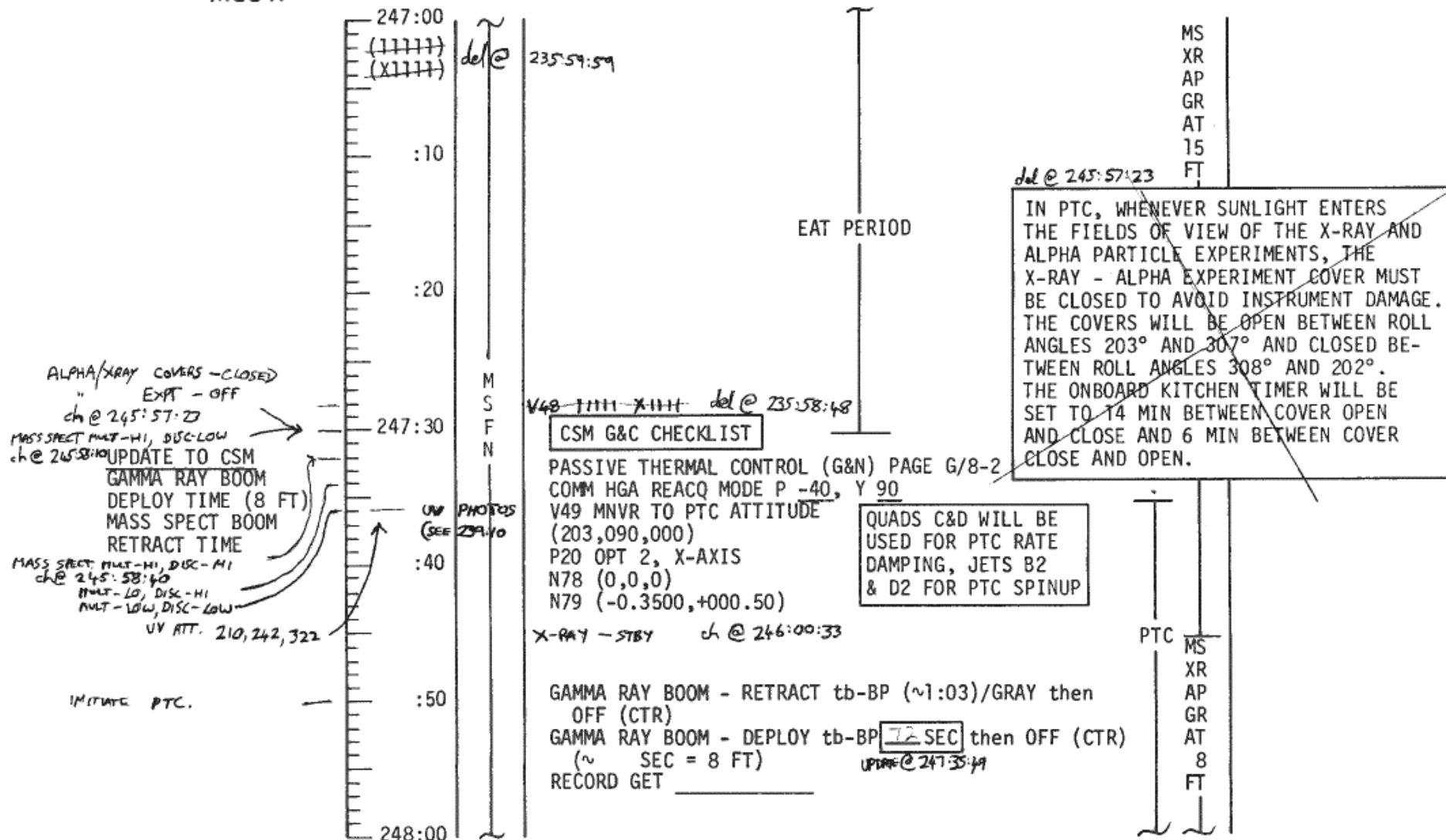
FLIGHT MANAGING BRANCH

FLIGHT PLAN

MCC-H

1534 CDT

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	247:00 - 248:00	11/TEC	3-361

FLIGHT PLANNING BRANCH

MCC-H

1634 CDT

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11111)(X1111)
11101 ch @ 23600.15

MASS SPECTROMETER BOOM RETRACTION SEQUENCE
MASS SPECT BOOM RETRACT tb-BP 33 SEC then OFF (CTR)
(~42 SEC) *update 247:36.23*

ABOVE SEQUENCE MUST BE REPEATED
5 TIMES BETWEEN GET 248:00 AND
GET 249:30 WITH LAST STEP TO
FULLY RETRACTED POSITION. EACH
SAMPLE PERIOD WILL LAST ~~30~~ ²⁰ MINUTES.

ch @ 246:01:32

XR
AP
MS
GR
AT 8
FT

PTC

M S F N

248:00
STEP 1
:10
STEP 2
32 sec
:20
STEP 3
32 sec
248:30
STEP 4
32 sec
:40
STEP 5
32 sec
:50
249:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	248:00 - 249:00	11/TEC	3-362

FLIGHT PLANNING BRANCH

MCC-H

1734 CDT

FLIGHT PLAN

NOTES

249:00
:10
:20
249:30
:40
:50
250:00

CSM SYSTEMS CHECKLIST

CONTAMINATION CONTROL PAGE S/1-16
MASS SPECT BOOM-DEPLOY tb-BP(~2:40)/GRAY then OFF (CTR)

MOVE TO 249:30 (ch @ 246:02:50)

CDR DOFF BIOMED HARNESS
LMP DON BIOMED HARNESS
ALPHA/X-RAY EXP COVERS-CLOSE tb-BP/GRAY then OFF (CTR)
GAMMA RAY BOOM - RETRACT tb-BP/GRAY THEN OFF (CTR)
RECORD GET

63 sec deploy
ch @ 247:38:04

EAT PERIOD

XR
AP
MS
GR
8
FT
PTC
MS
AP*
GR
AT
0
FT

DAP LOAD STATUS

(11111)(X1111)

11101 ch @ 236:00:15

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	249:00 - 250:00	11/TEC	3-363

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

1834 CDT



M S F N

EAT PERIOD

NOTES

DAP LOAD STATUS
(11111)(X1111)
11101 ch @ 236:00:15

MS
AP*
GR
AT 0
FT

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

PTC

P52 IMU REALIGN
OPTION 3 REFSMAT
PTC ORIENTATION

REPORT: GYRO TORQUING ANGLES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	250:00 - 251:00	11/TEC	3-364

FLIGHT PLANNING BRANCH

MCC-H

1934 CDT

FLIGHT PLAN

NOTES

251:00
 (11101)
 (X1111)
 :10
 :20
 251:30
 :40
 (11111)
 (X1111)
 :50
 252:00

M
S
F
N

LiOH CANISTER CHANGE

(21 INTO B, STOW 19 IN A4)

~~V48 (11101)(X1111)~~ *del @ 236:01:17*

EXIT G&N PTC

V49 MNVR TO OPTICS CALIBRATION ATT

(066,152,350) HGA P -69, Y 301

P23 CALIBRATION STAR N70 (00020)

P00

V49 MNVR TO SIGHTING ATT

(084,141,330) HGA P -59, Y 001

P23 CISELUNAR NAVIGATION

3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00110)
 N88 (-38535)(+79355)(+47094)

2. N70 (00011) (00000) (00120)

3. N70 (00013) (00000) (00120)

del @ 236:01:38~~V48 (11111)(X1111)~~

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE 6/8-2

COMM HGA REACQ MODE P -40, Y 90

V49 MNVR TO PTC ATTITUDE

(N20,090,000)

Y
PTC
I

XR
AP*
MS
GR
AT
O
FT

DAP LOAD STATUS

(11111)(X1111)

11101 ch @ 236:00:15

EARTH DISTANCE

~ 154,731 NM

50 POLLUX (ENH)

11 ALDEBARAN (EFH)

13 CAPELLA (EFH)

QUADS C&D WILL BE
 USED FOR PTC RATE
 DAMPING, B2 & D2
 FOR PTC SPINUP

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	251:00 - 252:00	11/TEC	3-365

FLIGHT PLANNING BRANCH

MCC-H

2034 CDT

FLIGHT PLAN

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS

252:00
:10
:20
252:30
:40
:50
253:00

M
S
F
N

P20 OPT. 2, X-AXIS
N78 (0,0,0)
N79 (-0.3500, +000.50)
N34 (0,0,0)

GAMMA RAY BOOM - DEPLOY tb-BP (~2:45)/GRAY then OFF (CTR)
GAMMA RAY GAINSTEP - SHIELD OFF
RECORD GET
LOGIC POWER (2) - OFF

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST PAGE S/1-26
COMM - HGA
GAMMA RAY GAINSTEP - SHIELD ON (CTR)

REST PERIOD
(9 HOURS)

GR
XR
AP*
MSGR
AP*
MS

PTC

11101 NOTES
dn @ 236:02:57

DAP LOAD STATUS
(11111)(X1111)

ONBOARD READOUT

BAT C

PYRO BAT A

PYRO BAT B

RCS A

B

C

D

DC IND SEL - MNA OR B

EARTH DISTANCE
~ 152,756 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	252:00 - 253:00	11/TEC	3-366

FLIGHT ANNING BRANCH

MCC-H

2134 CDT

FLIGHT PLAN

NOTES

253:00
:20
:40
254:00
:20
:40
255:00

M
S
F
NREST PERIOD
(9 HOURS)

PTC

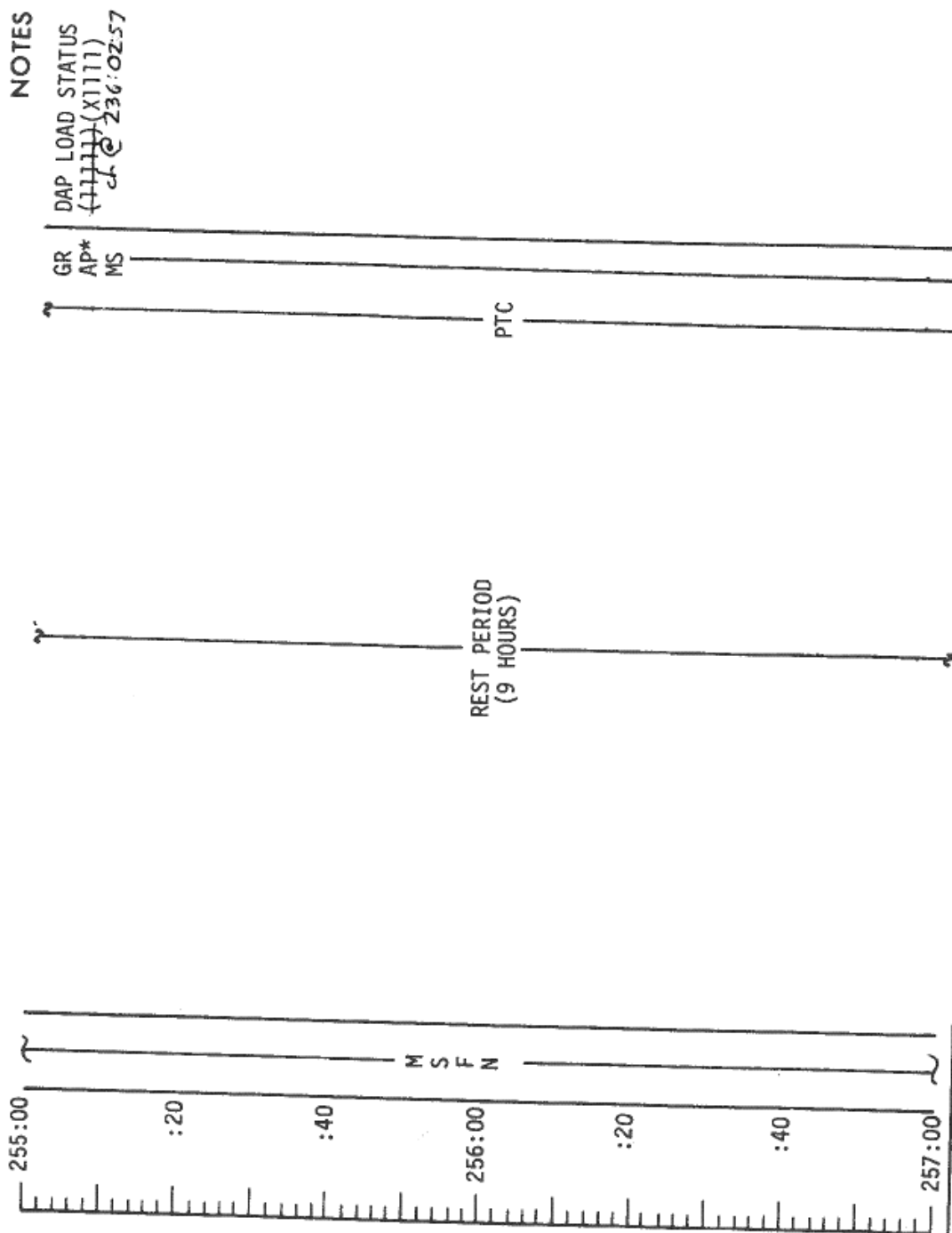
GR
AP*
MSDAP LOAD STATUS
(11111)(X1111)
11101 @ 236:02:57

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	253:00 - 255:00	11/TEC	3-367

FLIGHT PLANNING BRANCH

MCC-H

2334 CDT



NOTES

DAP LOAD STATUS
(11111)(X1111)
236:02:57

GR
AP*
MS

PTC

REST PERIOD
(9 HOURS)

Σ 5 4 2

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	255:00 - 257:00	11/TEC	3-368

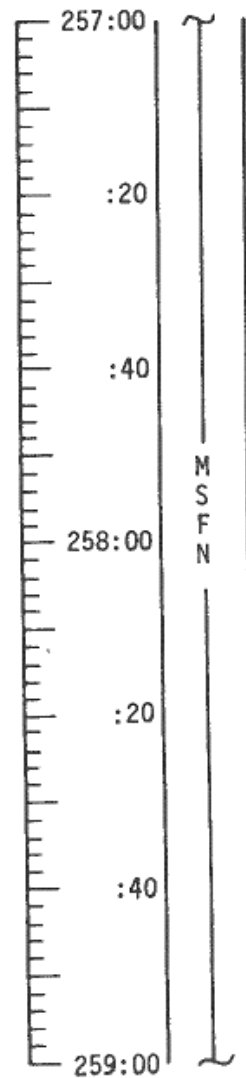
FLIGHT P' 'NING BRANCH

FLIGHT PLAN

MCC-H

0134 CDT

NOTES



REST PERIOD
(9 HOURS)

GR
AP*
MS

PTC

DAP LOAD STATUS
(11111)(X1111)
ch @ 236:02:57

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	257:00 - 259:00	11/TEQ	3-369

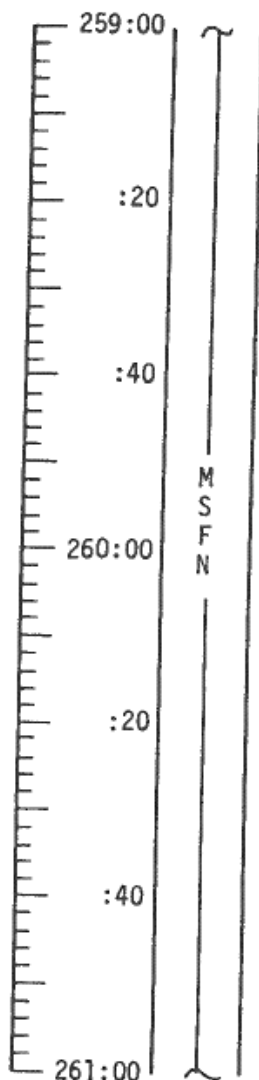
FLIGHT PLANNING BRANCH

MCC-H

0334 CDT

FLIGHT PLAN

NOTES



REST PERIOD
(9 HOURS)

PTC

GR
AP*
MS

DAP LOAD STATUS
(11111)(X1111)
20 236:02:57

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	259:00 - 261:00	11/TEC	3-370

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0534 CDT

NOTES

261:00
:10
:20
261:30
261:40
:50
262:00

M
S
F
N

REST PERIOD
(9 HOURS)

PTC

GR
AP*
MS

DAP LOAD STATUS
(11111)(X1111)
cl @ 236:02:57

UPDATE TO CSM
CONSUMABLES
LIGHT PLAN

cl @ 261:40
(11111)
(X1111)

CSM SYSTEMS CHECKLIST

PAGE S/1-26

POST-SLEEP CHECKLIST
EXIT G&N PTC
V49 MNVR TO X-RAY POINTING ATTITUDE (261:50)
(, ,) HGA P , Y
CMP DON BIOMED HARNESS
LMP DOFF BIOMED HARNESS
LOGIC POWER (2) - DEPLOY/RETR
MAP CAMR/LASER EXP COVERS - OPEN tb BP/GRAY
then OFF (CTR)
ALPHA/X-RAY EXP COVERS - OPEN tb-BP/GRAY then OFF (CTR)
RECORD GET
GAMMA RAY GAINSTEP - SHIELD OFF

EAT PERIOD

EARTH DISTANCE
~ 133,473 NM

CSM CONSUMABLES UPDATE

GET: _ _ _ _ : _ _

RCS TOTAL

QUAD A

B

C

D

H₂ TANK 1

2

3

O₂ TANK 1

2

3

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	261:00 - 262:00	11/TEC	3-371

FLIGHT PLANNING BRANCH

FLIGHT PLAN

NOTES

MCC-H

0634 CDT

262:00
(11111)
(X1111)
:10
:20
262:30
:40
:50
263:00

M
S
F
N

GAMMA RAY GAINSTEP - SHIELD ON (CTR) 2 STEPS
ch @ 261:50:37

EAT PERIOD

P52 IMU REALIGN
OPTION 3 REFSMMAT
PTC ORIENTATION

GR
XR
AP
MS

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____ : _____ : _____

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	262:00 - 263:00	11/TEC	3-372

FLIGHT PLANNING BRANCH

MCC-H

0734 CDT

FLIGHT PLAN

NOTES

263:00
 (11111)
 (X1111)
 (11101)
 (X1111)
 :10
 :20
 263:30
 :40
 :50
 (11111)
 (X1111)
 264:00

M
S
F
N

REPORT: GYRO TORQUING ANGLES
 L10H CANISTER CHANGE
 (22 INTO A, STOW 20 IN A4)
 CYCLE CMC MODE - FREE/AUTO
 V48 (11101)(X1111)

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
 (066,152,350) HGA P -68, Y 307
 P23 CISELUNAR NAVIGATION
 OPTICS CALIBRATION STAR N70 (00020)
 P00
 V49 MNVR TO SIGHTING ATTITUDE
 (082,166,330) HGA P -59, Y 000
 P23 CISELUNAR NAVIGATION
 3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00120)
 N88 (+09762)(+92766)(+36044)

2. N70 (00011) (00000) (00120)

3. N70 (00013) (00000) (00120)
 ALPHA/X-RAY EXP COVERS - CLOSE to BP/GRAY then OFF
 RECORD GET *X-RAY TO 5784*
~~V48 (11111)(X1111)~~ *changed @ 261:51:13*

GR
XR
AP

EARTH DISTANCE
 ~ 128,773 NM

142 ZETA TAURI (EFH)

11 ALDEBARAN (EFH)

13 CAPELLA (EFH)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	263:00 - 264:00	12/TEC	3-373

FLIGHT PLANNING BRANCH

MCC-H

0834 CDT

FLIGHT PLAN

NOTES

264:00
(11111)
(X1111)

:10

:20

264:30

:40

:50

265:00

M
S
F
N

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G/8-2
COMM: HGA REACQ MODE P-40, Y 90

V49 MNVR TO PTC ATTITUDE
(N20,090,000)

P20 OPT. 2, X-AXIS

N78 (0,0,0)

N79 (-0.3500, +000.50)

N34 (0,0,0)

MAP CAMR/LASER EXP COVERS - CLOSE to BP/GRAY then OFF (CTR)

VISUAL LIGHT FLASH PHENOMENON EXPERIMENT
SET KITCHEN TIMER TO 50 MIN

ALL CREWMEN DON EYESHIELDS

REPORT: DON EYESHIELDS (GET _____:_____:_____) _____

FLASH FREQUENCY

FLASH DESCRIPTION

CREW POSITION W.R.T. X,Y, AND Z AXES AND
LOCATION IN CM

QUADS C&D WILL BE
USED FOR PTC RATE
DAMPING, JETS B2
& D2 FOR PTC SPINUP

GR
AP*
MS

PTC

DURING FIRST 50 MIN-
UTES, ONE CREWMAN
WILL FACE THE DIREC-
TION OF THE -X AXIS.
DURING THE LAST 10
MINUTES HE WILL FACE
THE DIRECTION OF THE
+X AXIS. EXPERIMENT
WILL BE TERMINATED
ON MSFN CUE.

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	264:00 - 265:00	12/TEC	3-374

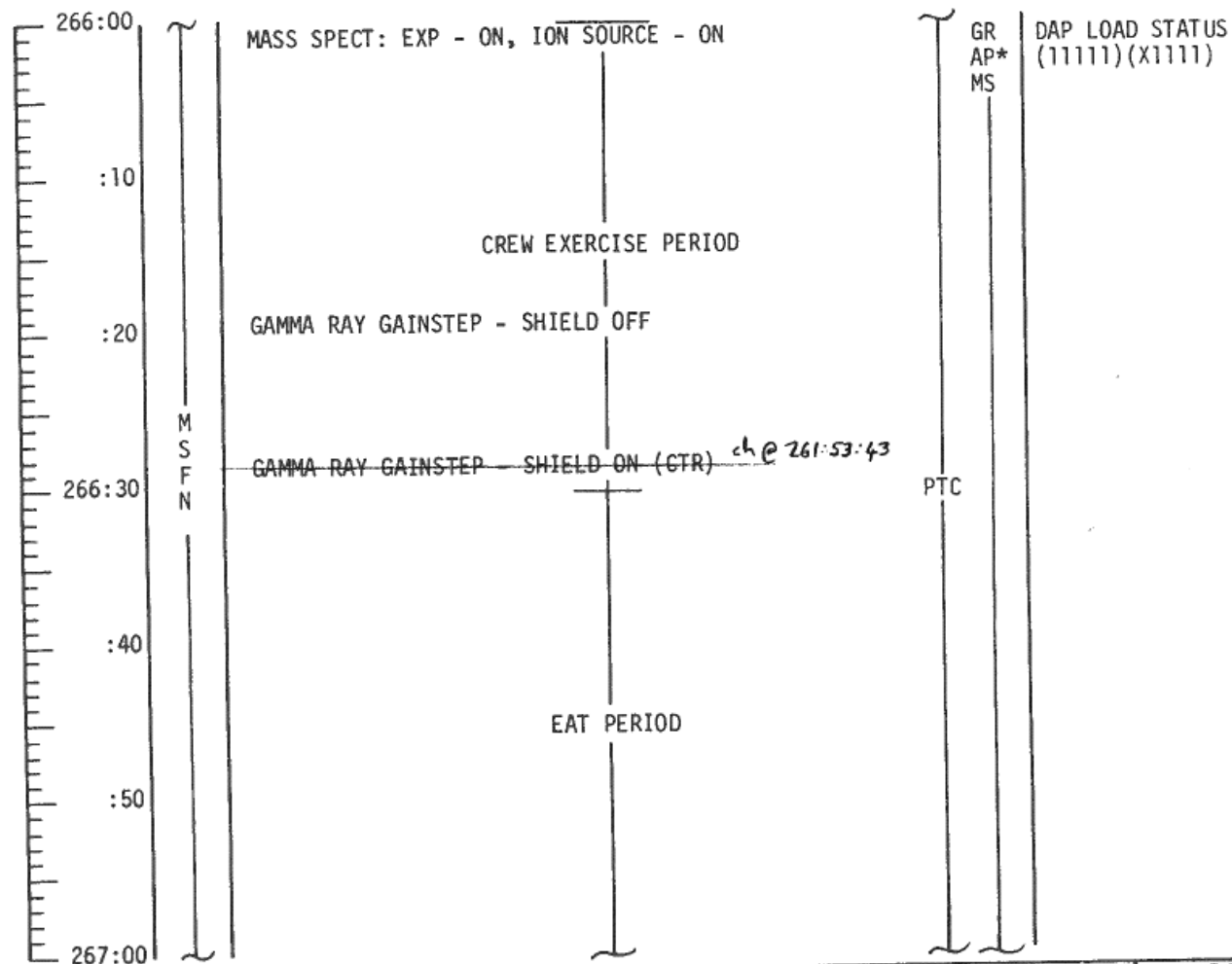
FLIGHT PLANING BRANCH

FLIGHT PLAN

MCC-H

1034 CDT

NOTES



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	266:00 - 267:00	12/TEC	3-376

FLIGHT PLAN - NING BRANCH

FLIGHT PLAN

MCC-H

1134 CDT

NOTES

267:00
:10
:20
267:30
MSFN
1101:40
ch@261:55:17 (11117)
(X1111)
:50
(11102)
(X1111)
268:00

EAT PERIOD

GAMMA-RAY DOOR RETRACT, TB-BP 2.5 MINUTES - GRAY - OFF
GAMMA-RAY GAINSTEP - SHIELD OFF ch@261:57:10

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENTATION)

REPORT: GYRO TORQUING ANGLES
EXIT G&N PTC, CYCLE CMC MODE - FREE/AUTO
V49 MNVR TO OPTICS CAL ATTITUDE
(066,152,350) HGA P -68, Y 310
ALPHA/X-RAY EXP COVERS-OPEN TB-BP/GRAY then OFF (CTR)
RECORD GET
P23 CISELUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00020)
P00, V48 (11102) (X1111)
V49 MNVR TO SIGHTING ATTITUDE
(081,176,330) HGA P -59, Y 000
P23 CISELUNAR NAVIGATION

GR
AP*
MS

DAP LOAD STATUS
(11111)(X1111)

FOV 4°

GET = 267



PTC

P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____:_____:_____

GR
XR
AP
MS

EARTH DISTANCE
~ 116,230 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	267:00 - 268:00	12/TEC	3-377

FLIGHT PLANNING BRANCH

FLIGHT PLAN

UV PHOTOS - TRANSEARTH COAST

V49 MNVR TO EARTH UV PHOTO ATT (268:50)
(217,045,332) OMNI D

CONFIGURE CAMERA: (UV)

CM5/EL/105/UV, BRKT, CONT (f4.3,1/60, ∞) (8 FR)

RINGSLIDE

MAG (N) _____, FR # _____

REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES

INHIBIT ALL JETS EXCEPT A1 & C2 or B2 & D1, A4, C3, B4, D3

VERIFY FDAI SCALE 5/1

WAIT 5 MIN FOR RATES TO DAMP

VERIFY RATES ARE $<0.2^\circ/\text{SEC}$ IN ALL AXES

REMOVE CM5 WINDOW COVER AND MOUNT UV CARDBOARD SHADE AND CAMERA

2 FRAMES, FILTER 1, CHANGE SHUTTER TO B

1 FRAMES, FILTER 2, EXP TIME 20 SEC and 1 @ 2 sec exp.

CHANGE SHUTTER TO 1/250

2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500

2 FRAMES, FILTER 4

RECORD FR # _____

CONFIGURE CAMERA: (UV COLOR)

CM5/EL/105/CEX, BRKT, CONT (f8,1/250, ∞) (1 FR)

RINGSLIDE

MAG (M) _____, FR # _____

1 FRAME, FILTER 4

RECORD FR # _____

REMOVE CAMERA AND UV CARDBOARD SHADE

NOTE: COMMENTS AS TO CONDITION OF WINDOW 5

REPLACE CM5 WINDOW COVER

ENABLE ALL JETS

FINAL(7/26)

6/21/71

3-378

FLIGHT PLAN

MCC-H

1234 CDT

NOTES

de 261:55:43

268:00
(11102)
(11111)
11101
X1111
:10
:20
268:30
:40
:50
269:00

M
S
F
N

3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00120)
N88 (+13540) (+86760) (+47847)

2. N70 (00013) (00000) (00120)

3. N70 (00021) (00000) (00110)

GAMMA-RAY GAINSTEP - 5 STEPS
de 261:56:15

UV PHOTOS

GR
XR
AP
MS

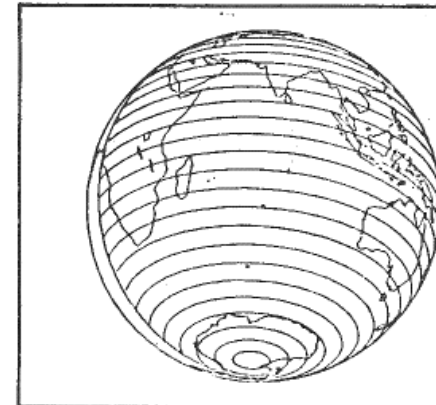
60 EL NATH (EFH)

13 CAPELLA (EFH)

21 ALPHARD (ENH)

FOV 4°

GET = 268



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	268:00 - 269:00	12/TEC	3-379

FLIGHT PLANNING BRANCH

FLIGHT PLAN

LUNAR ECLIPSE PHOTOS

CONFIGURE CAMERA: (LUNAR ECLIPSE)

INSTALL CAMERA SHIELD

CM4/NK/55/VHBW, BRKT (f1.2, 1/500, ∞) (8 FR)

MAG () _____, FR # _____

CM2/EL/250/CEX (f5.6, 1/500, ∞) (8 FR)

PCM CABLE

MAG (P) _____, FR # _____

V49 MNVR TO LUNAR ECLIPSE ATT (269:00)

(040,012,041) HGA P -22, Y 226

PHOTO SEQUENCE (for moon entering earth's umbra)

00:00 - MISSION TIMER, RESET/START (T START) *(268:59:47)*
DISABLE JETS A3, C4, B3, D4 *read up @ 268:24:31*
DIM INTERIOR LIGHTS
COVER EL LENS, CYCLE 1 FRAME
CHANGE EL SHUTTER TO 1 SEC

05:00 - 1 FRAME EL
CHANGE EL SHUTTER TO B

08:00 - 1 FRAME EL, EXP TIME 2 SEC
CHANGE to 80mm LENS AND f2.8
CHANGE EL SHUTTER TO 1 SEC

11:00 - 1 FRAME EL

CHANGE EL SHUTTER TO B

14:00 - 1 FRAME EL, EXP TIME 2 SEC

17:00 - 1 FRAME EL, EXP TIME 10 SEC

CYCLE NK 1 FRAME, CHANGE NK SHUTTER TO T

19:00 - 1 FRAME EL, EXP TIME 2 MIN

1 FRAME NK, EXP TIME 2 SEC

20:00 - 1 FRAME NK, EXP TIME 4 SEC

21:00 - 1 FRAME NK, EXP TIME 8 SEC

22:00 - 1 FRAME NK, EXP TIME 15 SEC

23:00 - 1 FRAME NK, EXP TIME 30 SEC

24:00 - 1 FRAME NK, EXP TIME 60 SEC

CHANGE NK SHUTTER TO 1/500 SEC

CYCLE NK 1 FRAME

CHANGE EL SHUTTER TO 1/500

COVER EL LENS, CYCLE 1 FRAME

LIGHTS UP, ENABLE JETS

RECORD EL FR # _____

RECORD NK FR # _____

FINAL (7/26)

6/21/71

3-380

MCC-H

1334 CDT

FLIGHT PLAN

NOTES

269:00
(11102)
(X1111)

:10

:20

269:30

:40

:50

270:00

M
S
F
N

LUNAR ECLIPSE PHOTOS

ENTRY CHECKLIST

EMS ENTRY CHECK

PAGE E/1-3

GR
XR
AP
MS

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	269:00 - 270:00	12/TEC	3-381

FLIGHT PLANNING BRANCH

FLIGHT PLAN

SXT PHOTO TEST

CONFIGURE CAMERA

CM/DAC/SXT/VHBW (EXP 1/500) 24 fps (5% MAG)
MAG (H) _____, MAG % _____
~~PGM CABLE~~
UTILITY POWER - ON

DISABLE JETS A3,B3,C4,D4

P52 (NO MARKS)

N70 (00000)

N88 (+78378)(+47837)(+39604)

VERIFY THRU SXT THAT OPTICS BORESIGHTED ON STAR

G&N PWR (AC - PNL 5) - OFF

MOUNT DAC ON SXT

DIM INTERIOR LIGHTS, DAC - ON AT 24 fps FOR 2 SEC

CHANGE TO TIME & 1/60

1 FRAME - 60 SEC EXP TIME

1 FRAME - 20 SEC EXP TIME

1 FRAME - 5 SEC EXP TIME

1 FRAME - 1 SEC EXP TIME

CHANGE TO 24 fps & 1/500

RUN DAC FOR 2 SEC, LIGHTS UP

V49 MNVR TO SXT PHOTO TEST ATT (270:15)

(090,000,034) HGA P -54, Y 194

P52 (NO MARKS)

N70 (00000)

N88 (+78378)(+47837)(+39604)

REMOVE DAC

VERIFY THRU SXT THAT OPTICS BORESIGHTED ON STAR

MOUNT DAC ON SXT

DIM INTERIOR LIGHTS, DAC - ON AT 24 fps FOR 2 SEC

CHANGE TO T1 & 1/60

1 FRAME - 60 SEC EXP TIME

1 FRAME - 20 SEC EXP TIME

1 FRAME - 5 SEC EXP TIME

1 FRAME - 1 SEC EXP TIME

CHANGE TO 24 fps & 1/500

RUN DAC FOR 2 SEC, LIGHTS UP

RECORD MAG %

REMOVE AND STOW DAC

G&N PWR - AC1 or AC2 (PNL 5)

ENABLE JETS

V49 MNVR TO LUNAR ECLIPSE ATT (270:50)

(040,011,041) HGA P -22, Y 227

FINAL (7/26)

6/21/71

3-382

MCC-H

1434 CUT

FLIGHT PLAN

NOTES

270:00
(11102)
(X1111)

:10

SXT PHOTO TEST

:20

S-BD AUX TV - TV
TV (MAD) 270:20 - 270:50 CM/TV-AVG (f5.6)

270:30

M
S
F
N
T
VCHARGE BATTERY A
PRESS CONFERENCE

:40

:50

S-BAND AUX TV - SCI
LUNAR ECLIPSE PHOTOS

271:00

GR
XR
AP
MS270:49:53
T-START
read up @ 269:49:21

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	270:00 - 271:00	12/TEC	3-383

FLIGHT PLANNING BRANCH

FLIGHT PLAN

LUNAR ECLIPSE PHOTOS

CONFIGURE CAMERA: (LUNAR ECLIPSE)

INSTALL CAMERA SHIELD

CM4/NK/55/VHBW, BRKT (f1.2, 1/500, ∞) (8 FR)

MAG () _____, FR # _____

CM2/EL/250/CEX (f5.6, 1/500, ∞) (8 FR)

PCM CABLE

MAG (P) _____, FR # _____

V49 TRIM TO LUNAR ECLIPSE ATT (270:50)

(040,011,041) HGA P -22, Y 227

PHOTO SEQUENCE (for moon leaving earth's umbra)

00:00 - DET, RESET/START (T START) *T-START 270:49:53*

DISABLE JETS A3, C4, B3, D4

DIM INTERIOR LIGHTS

CYCLE NK 1 FRAME, CHANGE NK SHUTTER TO T

06:00 - 1 FRAME NK, EXP TIME 60 SEC

07:00 - 1 FRAME NK, EXP TIME 30 SEC

08:00 - 1 FRAME NK, EXP TIME 15 SEC

09:00 - 1 FRAME NK, EXP TIME 8 SEC

10:00 - 1 FRAME NK, EXP TIME 4 SEC

COVER EL LENS, CYCLE 1 FRAME

CHANGE EL SHUTTER TO B

11:00 - 1 FRAME NK, EXP TIME 2 SEC

1 FRAME EL, EXP TIME 2 MIN

13:00 - 1 FRAME EL, EXP TIME 10 SEC

16:00 - 1 FRAME EL, EXP TIME 2 SEC

CHANGE EL SHUTTER TO 1 SEC

19:00 - 1 FRAME EL

CHANGE TO 250mm LENS AND f5.6

CHANGE EL SHUTTER TO B

22:00 - 1 FRAME EL, EXP TIME 2 SEC

CHANGE EL SHUTTER TO 1 SEC

25:00 - 1 FRAME EL

CHANGE EL SHUTTER TO 1/500 SEC

COVER EL LENS, CYCLE 1 FRAME

CHANGE NK SHUTTER TO 1/500 SEC

CYCLE NK 1 FRAME

LIGHTS UP, ENABLE JETS

RECORD EL FR # _____

RECORD NK FR # _____

STOW CAMERAS

REMOVE CAMERA SHIELD

FLIGHT PLAN

MCC-H

1534 CDT

NOTES

271:00
(11102)
(X1111)

:10

LUNAR ECLIPSE PHOTOS

:20

~~MASS SPECT EXP - STBY, ION SOURCE - OFF~~ ch @ 268:39:09
~~CONFIGURE FOR URINE DUMP~~

~~CAUTION: WAIT 5 MIN BEFORE MASS SPECT BOOM RETRACT~~
~~GAMMA RAY BOOM - RETRACT to BP (~3:15)/GRAY then OFF (CTR)~~
~~MASS SPECT BOOM - RETRACT to BP (~2:30)/GRAY then OFF (CTR)~~
~~ALPHA/X-RAY EXP COVERS - CLOSE to BP/GRAY then OFF (CTR)~~
~~RECORD GET~~ ch @ 268:39:32

271:30

~~GAMMA RAY GAINSTEP - SHIELD OFF~~
~~X-RAY EXP - OFF~~

FOV 2°

GET = 272

:40

~~α RAY/X DR - α OFF~~
~~MASS SPECT EXP - OFF~~
~~GAMMA RAY GAINSTEP - SHIELD ON (CTR)~~
~~GAMMA RAY EXP - OFF~~
~~DATA SYSTEMS ON - OFF~~
~~S-BD AUX TV - OFF (CTR)~~
~~cb SCS CONTR DIR 1 MNB - CLOSE~~
~~cb SCS CONTR DIR 2 MNA - CLOSE~~
~~ENABLE ALL JETS~~

all deleted @ 268:39:48

:50

(11101)

(X1111)

272:00

V48 (11101)(X1111)
~~CONFIGURE FOR URINE DUMP~~

GR
XR
AP
MS

ch @ 268:39:02

"Just under S-band Ant, TV, Science add

V48 - MNVR TO CONTAMINATION PHOTO ANT
014, 195, 016. HGA - -23, 252"

ch @ 268:39:48

V48 (11101, 01111)

PSL, OPT 3

GAMMA RAY BOOM, DEPLOY, 41 SECS - OFF

GAMMA RAY GAINSTEP - CENTER

START CONTAMINATION PHOTOS

ch @ 268:40:32

UPDATE TO CSM

MCC-6 MNVR PAD

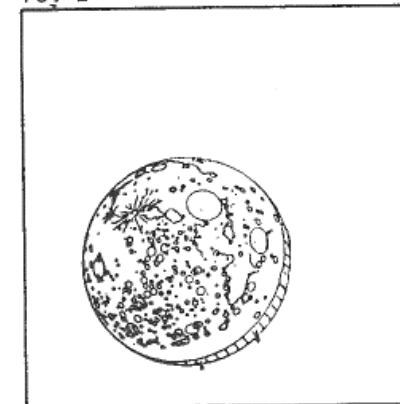
ENTRY PAD

(ASSUMES MCC-6)

UPLINK TO CSM

CSM S.V. (MSFN)

TO LM SLOTS



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	271:00 - 272:00	12/TEC	3-385

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-6 ~~BURN TABLE~~ CANCELLED

MANEUVER	P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
CORRIDOR CONTROL	10°/SEC COMPLETE	+10° COMPLETE	BT + 1 SEC AND $\Delta V_C = 0$	TRIM X AXIS ONLY TO 0.2 FPS
IP CONTROL	10°/SEC TERMINATE	+10° TERMINATE	BT + 1 SEC AND $\Delta V_C = 0$	TRIM X & Z AXIS TO 0.2 FPS

NOTES

MCC-H

1707)

(1117)

10

20

272:30

40

:50

273:00

FOV 5° GET = 272

GET = 272



TIG: 272:58:20
BT: NOM ZERO
ΔVT: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

H₂ PURGE LINE HEATER - OFF

100

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (7/26)	6/21/71	272:00 - 273:00	12/TEC	3-387

FLIGHT PLANNING BRANCH

END CONTINUATION PHOTOS
dn@ 268:43:03

START MASS SPEC. BOOM
TEST PROCS IN REALTIME
DATE 268143:35

FLIGHT PLAN

GR, XR, AP, MSO - ON (273:05)

DISABLE ALL JETS EXCEPT A1 & C2 OR B1 & D2, A3, C4, B3, D4

cb SCS CONTR DIR 1 MNB - OPEN

cb SCS CONTR DIR 2 MNA - OPEN

RHC PWR DIR (2) - OFF OR MNA/MNB

S-BD AUX TV - SCI

DATA SYSTEMS ON - ON

GAMMA RAY EXP - ON

α RAY/X DR - α ON

X-RAY EXP - ON

ALPHA/X-RAY EXP COVERS - OPEN tb - BP/GRAY then OFF (CTR)

GAMMA RAY BOOM - DEPLOY tb - BP (~2:45)/GRAY then OFF (CTR)

MASS SPECT BOOM - DEPLOY tb - BP (~2:40)/GRAY then OFF (CTR)

MASS SPECT: EXP - ON, ION SOURCE - STBY

RECORD GET _____

MCC-H

1734 CDT

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS

273:00
(11101)
(X1111)
:10
:20
273:30
:40
:50
(11111)
(X1111)
274:00

M
S
F
N

FLIGHT PLAN

~~BURN STATUS REPORT~~ *ch @ 268:44:25*
~~X-RAY-ON, CONES-OPEN, RECORD GET~~

~~GR, XR, AP, MSO-ON~~
V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(066,152,350) HGA P -67, Y 314
P23 CISELUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00020)
P00
V49 MNVR TO SIGHTING ATTITUDE
(079,185,330) HGA P -59, Y 359
P23 CISELUNAR NAVIGATION
3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00120)
N88 (+13540)(+86760)(+47847)

2. N70 (00013) (00000) (00120)

3. N70 (00021) (00000) (00110)

~~GAMMA-RAY BOOM, DEPLOY~~ *ch @ 268:45:05*

V48 (11111)(X1111)

NOTES

GR
XR
AP
MSO

EARTH DISTANCE
~ 102,349 NM

60 EL NATH (EFH)
BETA TAURI

13 CAPELLA (EFH)

21 ALPHARD (ENH)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	273:00 - 274:00	12/TEC	3-389

FLIGHT PLANNING BRANCH

MCC-H

1834 CDT

FLIGHT PLAN

NOTES

274:00
(11111)
(X1111)
:10
:20
274:30
:40
:50
275:00

M
S
F
N

V49 MNVR TO X-RAY POINTING ATTITUDE (274:15)

()
~~MASS SPECT: MULT-LOW, DSCRM-HIGH, EXP-ON, ION SOURCE-ON~~ *del @ 274:05:21*
RECORD GET *Low*
~~LOGIC POWER (2) - OFF~~ *del @ 268:45:47*

GR
XR
AP
MS

ALPHA/X-RAY COVERS CLOSED
CDR DON BIOMED HARNESS
CMP DOFF BIOMED HARNESS
V49 MNVR TO X-RAY POINTING ATTITUDE (275:00)
(196, 346, 012) HGA P *ch @ 274:37:43*, Y
REPORT: CM RCS INJECTOR VALVE TEMPS
(SYS TEST METER 5C, 5D, 6A, 6B, 6C, 6D)
ALPHA/X-RAY COVERS OPEN

LiOH CANISTER CHANGE
(23 INTO B, STOW 21 IN A5)

CM RCS INJECTOR TEMP

5C _____ 5D _____
6A _____ 6B _____
6C _____ 6D _____

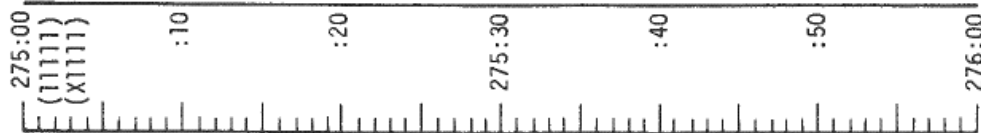
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	274:00 - 275:00	12/TEC	3-390

FLIGHT PLAN BRANCH

FLIGHT PLAN

MCC-H

1934 CDT



M S F N

EAT PERIOD

CYCLE CMC MODE - FREE/AUTO
V48 (11101)(X1111)

NOTES

GR
XR
AP
MS

FOV 1° GET = 276



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	275:00 - 276:00	12/TEC	3-391

FLIGHT PLANNING BRANCH

MCC-H

2034 CDT

FLIGHT PLAN

NOTES

276:00
 (11101)
 (X1111)
 :10
 :20
 276:30
 :40
 :50
 (11111)
 (X1111)
 277:00

M
S
F
N

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
 (066,152,350) HGA P -66, Y 317
 P23 CISELUNAR NAVIGATION
 OPTICS CALIBRATION STAR N70 (00020)
 P00

V49 MNVR TO SIGHTING ATTITUDE
 (078,191,330) HGA P -59, Y 359
 P23 CISELUNAR NAVIGATION
 3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00120)
 N88 (+13540)(+86760)(+47847)

2. N70 (00013) (00000) (00120)

3. N70 (00021) (00000) (00110)

GAMMA RAY GAINSTEP-SHIELD OFF

GAMMA RAY GAINSTEP - SHIELD ON (CTR)

V48 (11111)(X1111)

GR
XR
AP
MS

EARTH DISTANCE
 ~ 93,233 NM

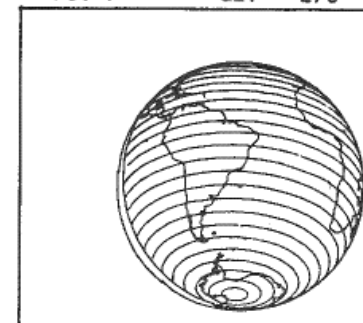
60 EL NATH (EFH)

13 CAPELLA (EFH)

21 ALPHARD (ENH)

FOV- 7°

GET = 276



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	276:00 - 277:00	12/TEC	3-392

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2134 CDT

NOTES

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS

277:00
:10
:20
277:30
:40
:50
278:00

M
S
F
N

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G/8-2
COMM: HGA REACQ MODE P -40, Y 90
V49 MNVR TO PTC ATTITUDE
(N20,090,000)
P20 OPT. 2, X-AXIS
N78 (0,0,0)
N79 (-0.3500, +000.50)
N34 (0,0,0)

QUADS C&D WILL BE
USED FOR PTC RATE
DAMPING, JETS B2
& D2 FOR PTC SPINUP

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST PAGE S/1-26
COMM - HGA

REST PERIOD
(9 HOURS)

XR
AP
MS

PTC

DAP LOAD STATUS
(11111)(X1111)

X-RAY & ALPHA
PARTICLE EXPERIMENT
COVERS WILL BE OPEN
CONTINUOUSLY UNTIL
GET 288:05

ONBOARD READOUT

BAT C _____
PYRO BAT A _____
PYRO BAT B _____
RCS A _____
B _____
C _____
D _____
DC IND SEL - MNA OR B

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	277:00 - 278:00	12/TEC	3-393

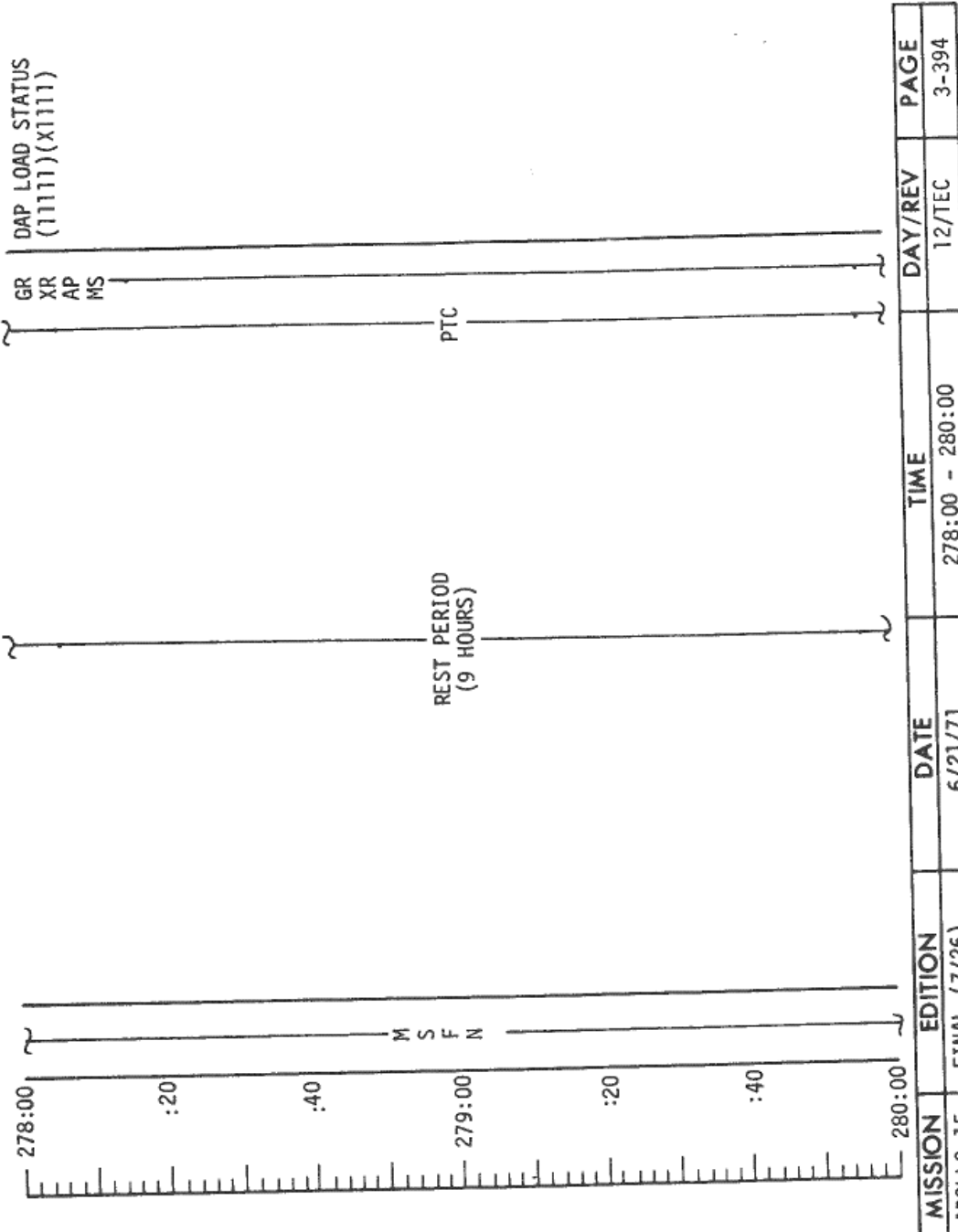
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

2234 CDT

NOTES



DAP LOAD STATUS
(11111)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	278:00 - 280:00	12/TEC	3-394

FLIGHT PLANNING BRANCH

MCC-H

0034 CDT

NOTES

GR
XR
AP
MS

DAP LOAD STATUS
(11111)(X1111)

- 280:00

:20

:40

281:00

:20

:40|

282:00

MSFN

REST PERIOD
(9 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	280:00 - 282:00	12/TEC	3-395

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0234 CDT

NOTES

DAP LOAD STATUS
(111111)(X11111)

GR
XR
AP
MS

REST PERIOD
(9 HOURS)

PTC

M S F N

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	282:00 - 284:00	12/TEC	3-396

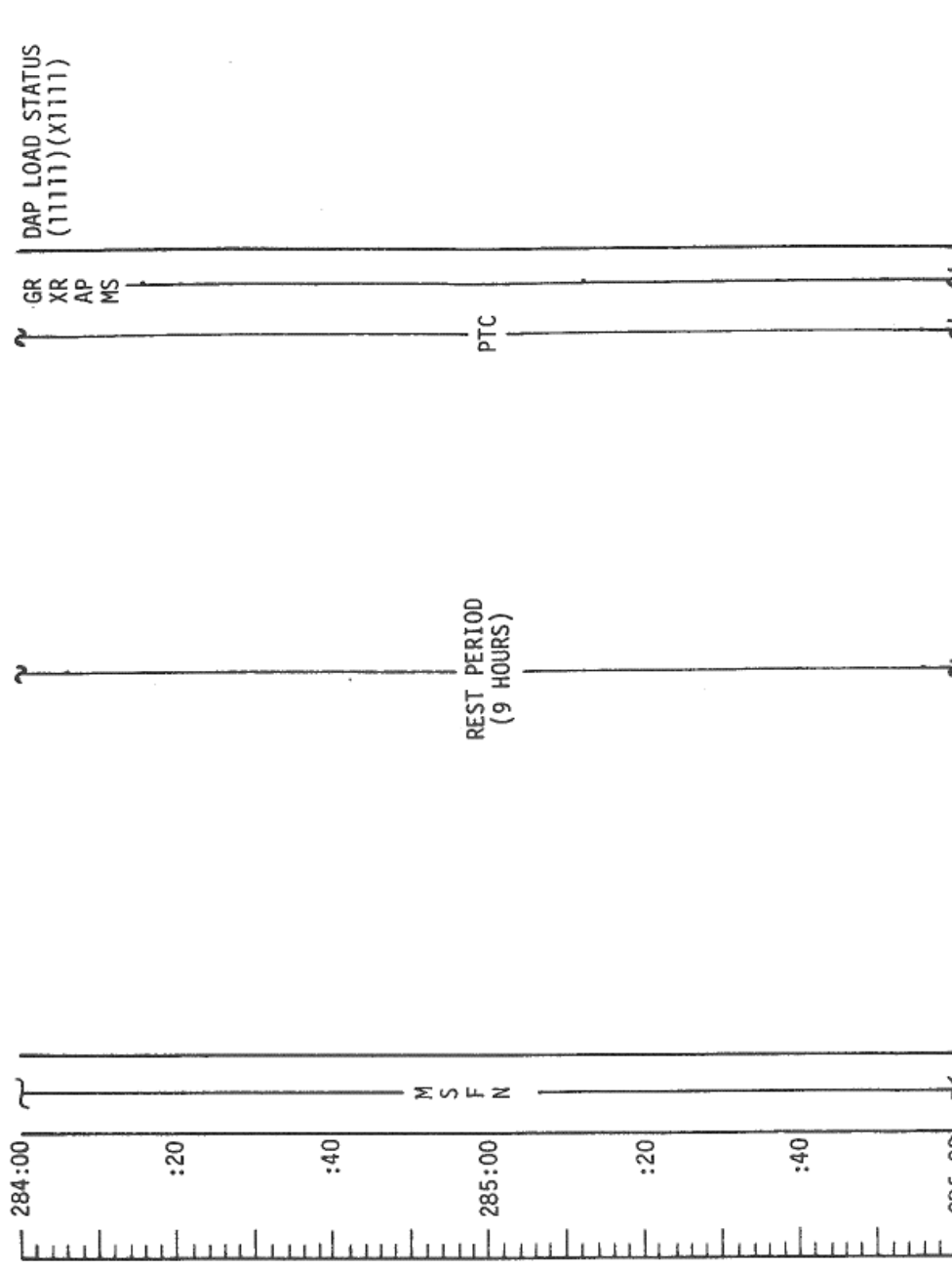
FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0434 CDT

NOTES



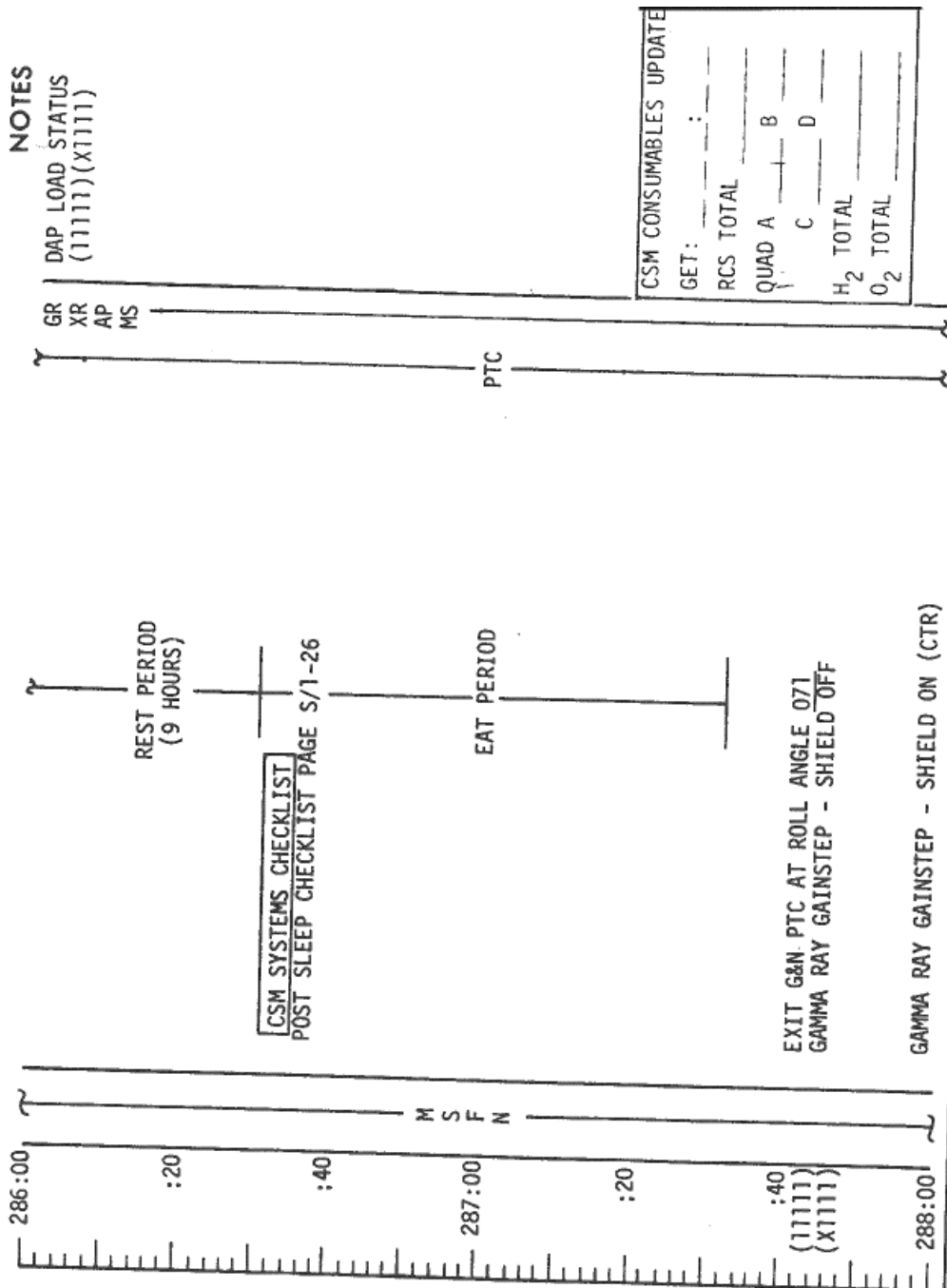
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	284:00 - 286:00	12/TEC	3-397

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-H

0634 CDT



NOTES
DAP LOAD STATUS
(11111)(X1111)

CSM CONSUMABLES UPDATE	
GET:	:
RCS TOTAL	
QUAD A	B
C	D
H ₂ TOTAL	
O ₂ TOTAL	

UPDATE TO CSM
CONSUMABLES
FLIGHT PLAN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	286:00 - 288:00	12/TEC	3-398

FLIGHT TRAINING BRANCH

FLIGHT PLAN

MCC-H

0834 CDT

NOTES

X-RAY - OFF
ALPHA PART - OFF
ch @ 286:52:44

GO/NO-GO FOR MCC-7

EI-6 HR

288:00
(11111)
(X1111)
:10
:20
288:30
:40
:50
289:00

M
S
F
N

LOGIC POWER (2) - DPLY/RETR
GAMMA RAY EXP - OFF
MASS SPECT: EXP - OFF, ION SOURCE - OFF
GAMMA RAY BOOM - RETRACT tb-BP(1:40) then OFF (CTR)
ALPHA/X-RAY EXP COVERS - CLOSE tb-BP/GRAY then OFF (CTR)
RECORD GET
LOGIC POWER (2) - JETT
GAMMA RAY BOOM - JETT tb-BP/GRAY
MASS SPECT BOOM - JETT tb-BP/GRAY
DATA SYSTEMS ON - OFF
LOGIC POWER (2) - OFF
S-BD AUX TV - OFF (CTR)
ENABLE ALL JETS
cb SCS CONTR DIR 1 MNB - CLOSE
cb SCS CONTR DIR 2 MNA - CLOSE

LMP DON BIOMED HARNESS
CDR DOFF BIOMED HARNESS
LiOH CANISTER CHANGE
(24 INTO A, STOW 22 IN A5)
REPORT: CM INJECTOR VALVE TEMPS
(SYS TEST METER 5C, 5D, 6A, 6B, 6C, 6D)

ENTRY CHECKLIST

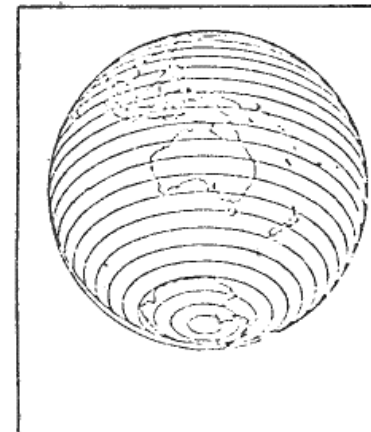
CYCLE CMC MODE - FREE/AUTO
V48 (11102)(01111)
GO/NO-GO FOR MCC-7

P52 IMU REALIGN
OPTION 3 REFSMMAT
PTC ORIENTATION

REPORT: GYRO TORQUING ANGLES

GR
XR
AP
MS

FOV 12° GET = 289



P52 IMU REALIGN

N71: _____

N05: _____

N93: _____

X _____

Y _____

Z _____

GET _____

CM RCS INJECTOR TEMP

5C _____ 5D _____

6A _____ 6B _____

6C _____ 6D _____

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL(7/26)	6/21/71	288:00 - 289:00	13/TEC	3-399

FLIGHT PLANNING BRANCH

MCC-H

0934 CDT

FLIGHT PLAN

NOTES

289:00
 (11102)
 (01111)
 :10
 :20
 289:30
 :40
 :50
 290:00

M
S
F
N

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
 (330,073,330) OMNI D
 P23 CISELUNAR NAVIGATION
 OPTICS CALIBRATION STAR N70 (00001)
 P00
 V49 MNVR TO SIGHTING ATTITUDE
 (297,044,000) OMNI D
 P23 CISELUNAR NAVIGATION
 3 MARKS ON EACH STAR

1. N70 (00040) (00000) (00220)

2. N70 (00000) (00000) (00220)
N88 (+79939)(-53163)(-27991)3. N70 (00000) (00000) (00210)
N88 (+85577)(-21967)(+46840)4. N70 (00000) (00000) (00210)
N88 (+93634)(-23622)(+25973)5. N70 (00000) (00000) (00210)
N88 (+96452)(+04966)(+25929)

40 ALTAIR (MFH)

221 DELTA CAPRICORNI
(MFH)

223 BETA PEGASI (MNH)

224 MARKAB (MNH)

126 GAMMA PEGASI (MNH)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	289:00 - 290:00	13/TEC	3-400

FLIGHT PLANNING BRANCH

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FLIGHT PLAN

UV PHOTOS - TRANSEARTH COAST

V49 MNVR TO EARTH UV PHOTO ATT (290:15)
(226,352,312) OMNI D

CONFIGURE CAMERA: (UV)
CM5/EL/105/UV, BRKT, CONT (f8,1/60, ∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____
REMOVE RT2 FLIGHT DATA FILE STOWAGE BOX

DAMP RATES
INHIBIT ALL JETS EXCEPT A1 & C2 or B2 & D1,
A4, C3, B4, D3
VERIFY FDAI SCALE 5/1
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ARE $<0.2^\circ/\text{SEC}$ IN ALL AXES
REMOVE CM5 WINDOW COVER, MOUNT UV CARDBOARD SHADE
AND CAMERA

2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
1 1/2 FRAMES, FILTER 2, EXP TIME 20 SEC *and 1 @ 2 sec exp.*
CHANGE SHUTTER TO 1/250
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500
2 FRAMES, FILTER 4
RECORD FR # _____

CONFIGURE CAMERA: (UV COLOR)
CM5/EL/105/CEX, BRKT, CONT (f8,1/250, ∞) (1 FR)
RINGSLIDE
MAG (~~M~~ P) _____, FR # _____
1 FRAME, FILTER 4
RECORD FR # _____

ch@ 286:53:29 (Q ACTUALLY USED)

V49 MNVR TO MOON PHOTO CALIBRATION ATT (290:40)
(002,333,000) HGA P 7, Y 250

CONFIGURE CAMERA: (UV CALIBRATION)
CM5/EL/105/UV, BRKT, CONT (f8,1/60, ∞) (8 FR)
RINGSLIDE
MAG (N) _____, FR # _____

DAMP RATES
WAIT 5 MIN FOR RATES TO DAMP
VERIFY RATES ARE $<0.2^\circ/\text{SEC}$ IN ALL AXES

2 FRAMES, FILTER 1, CHANGE SHUTTER TO B
2 FRAMES, FILTER 2, EXP TIME 20 SEC
CHANGE SHUTTER TO 1/250
2 FRAMES, FILTER 3, CHANGE SHUTTER TO 1/500
2 FRAMES, FILTER 4
RECORD FR # _____
REMOVE CAMERA AND UV CARDBOARD SHADE
NOTE: COMMENTS AS TO CONDITION OF WINDOW 5
REPLACE CM5 WINDOW COVER
ENABLE ALL JETS

11:40:01

FLIGHT PLAN

MCC-H

1034 CDT

NOTES

290:00
(11102)
(01111)

:10

:20

290:30

:40

:50

291:00

M
S
F
N

UV PHOTOS

UPDATE TO CSM
MCC-7 MNVR PAD &
ENTRY PAD

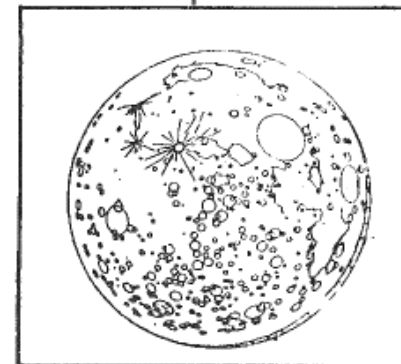
UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS
MCC-7 TGT LOAD
DESIRED ORIENT
(ENTRY)

EI-4 HR

V49 MNVR TO P52 ATTITUDE
(081,036,054) HGA P -23, Y 217
ATT DEADBAND - MIN
RATE - LOW
BMAG (3) - ATT 1/RATE 2
SC CONT - SCS

FOV 1°

GET = 290



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	290:00 - 291:00	13/TEC	3-403

FLIGHT PLANNING BRANCH

FLIGHT PLAN

MCC-7
BURN TABLE

MANEUVER	P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
CORRIDOR CONTROL	10°/SEC COMPLETE	±10° COMPLETE	BT + 1 SEC AND $\Delta C_c = 0$	TRIM X AXIS ONLY TO 0.2 FPS

MCC-H

1134 CDT

FLIGHT PLAN

NOTES

291:00
(11102)
(01111)

:10

:20

291:30

:40

:50

292:00

M
S
F
N

P52 IMU REALIGN
OPTION 3 REFSMMAT
PTC ORIENTATION

STARS __, __
SA __, __
TA __, __

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN
OPTION 1 PREFERRED
ENTRY ORIENTATION

P52 IMU REALIGN

N71: __, __

N05: ____

N93: ____

X ____

Y ____

Z ____

GET ____:____:____

SC CONT - CMC
BMAG (3) - RATE 2
P30 EXTERNAL ΔV
V49 MNVR TO PAD BURN ATT

SXT STAR CHECK
P40 SPS THRUSTING OR
P41 RCS THRUSTING

BURN STATUS REPORT

X	X		•	ATIG
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

TIG: 291:58:20
BT: NOM ZERO
 ΔV T: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

MCC-7

EI - 3 HR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	291:00 - 292:00	13/T&C	3405

FLIGHT PLANNING BRANCH

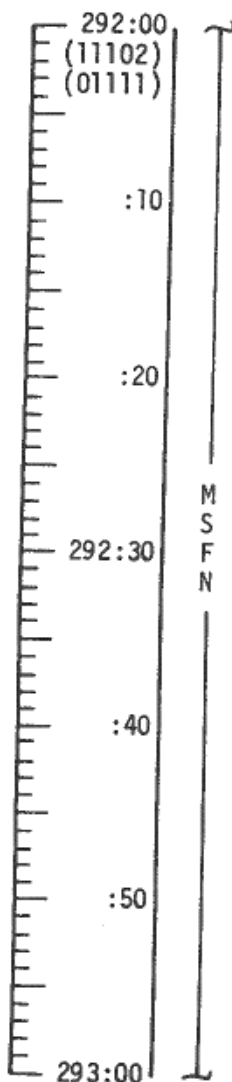
MCC-H

1234 CDT

FLIGHT PLAN

NOTES

UPLINK TO CSM
CSM S.V. (MSFN)
TO LM SLOTS



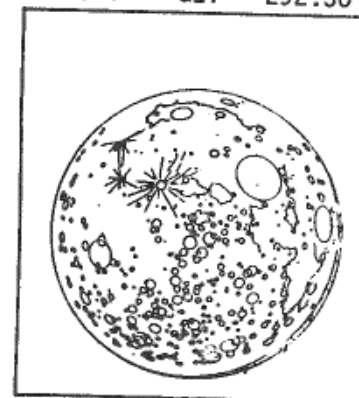
BURN STATUS REPORT
V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(060,235,330) HGA P -12, Y 214
P23 CISELUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00001)
P00
V49 MNVR TO SIGHTING ATTITUDE
(038,267,000) OMNI C
P23 CISELUNAR NAVIGATION
3 MARKS ON EACH STAR

1. N70 (00000) (00000) (00210)
N88 (+96452)(+04966)(+25929)

2. N70 (00000) (00000) (00220)
N88 (+59893)(-32359)(-73251)

3. N70 (00040) (00000) (00220)

FOV 1° GET = 292:30



EARTH DISTANCE
~ 24,776 NM

126 GAMMA PEGASI (M
(MNH)

120 ALPHA GRUIS (MFI
(MFH)

40 ALTAIR (MFH)

EI - 2 HR
GO/NO-GO FOR PYRO
ARM SEQUENCE

LOGIC SEQUENCE CHECK. PAGE E/1-2
GO/NO-GO FOR PYRO ARM (CUE MSFN)
LOGIC ON

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	292:00 - 293:00	13/TEC	3-406

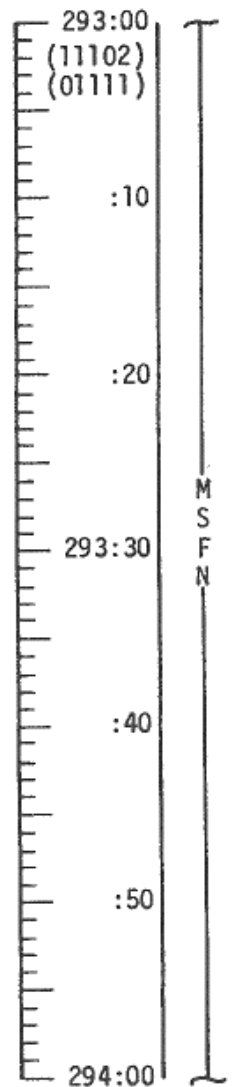
FLIGHT MANAGING BRANCH

FLIGHT PLAN

MCC-H

1334 CDT

NOTES



P52 IMU REALIGN
OPTION 3 REFSMMAT
ENTRY ORIENTATION

REPORT: GYRO TORQUING ANGLES

GDC ALIGN
V49 MNVR TO HORIZON CHECK ATTITUDE
BORESIGHT & SXT STAR CHECK

EMS ENTRY CHECK	PAGE E/1-3
PRIMARY WATER EVAP ACTIVATION	PAGE E/1-4
SEC WATER EVAP ACTIVATION	PAGE E/1-4
CONFIGURE CAMERA EQUIP FOR FIREBALL AND CHUTES PHOTOS	
CM RCS PREHEAT (IF REQD)	PAGE E/1-4
FINAL STOWAGE	PAGE E/1-4

P52 IMU REALIGN

N71: _____

N05: _____

N93:

X _____

Y _____

Z _____

GET _____ : _____ : _____

EI - 1 HR

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	293:00 - 294:00	13/TEC	3-407

FLIGHT PLANNING BRANCH

MCC-H

1434 CDT

FLIGHT PLAN

NOTES

GO/NO-GO FOR
PYRO ARM
UPDATE TO CSM
ENTRY PAD
RECOVERY PAD
UPLINK TO CSM
CSM S.V. & V66

EI - 30 MIN
VHF-A SIMPLEX
COMM CHECK

294:00
(11102)
(01111)
:10
:20
294:30
:40
(ENTRY
DAP)
:50
295:00

M
S
F
N

TERMINATE RCS PREHEAT
CM RCS ACTIVATION
GO/NO-GO FOR PYRO ARM (CUE MSFN)
LOGIC ON
SET DET (UP, TO EI)
EMS INITIALIZATION
RSI ALIGNMENT
CM RCS CHECK

PAGE E/1-5

PAGE E/1-6

PAGE E/2-1

PAGE E/2-1

PAGE E/2-1

PAGE E/2-1

SEPARATION CHECKLIST

P61 ENTRY PREP PAGE E/2-2
P62 CM/SM SEP & PRE-ENTRY MNVR
SECS PYRO ARM

CM/SM SEP 294:43

V49 MNVR TO ENTRY ATT
(000,152,000)

EI 294:58:20

TRAJECTORY EVENTS	TIME FROM 400K FT MIN:SEC
400K FT (GET 294:58:20)	00:00
ENTER S-BAND BLACKOUT	00:18
0.05G	00:29
KA-INITIATE CONSTANT DRAG	01:14
RDOT = -700 FPS	01:20
PEAK G	01:24
SUBCIRCULAR VELOCITY	02:10
P64 TO P67	02:12
EXIT S-BAND BLACKOUT	03:34
GUIDANCE TERMINATION	06:50
DROGUE DEPLOYMENT	07:47
MAIN DEPLOYMENT	08:36
SPLASHDOWN	13:26

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 15	FINAL (7/26)	6/21/71	294:00 - 295:00		3-408

FLIGHT PLANNING BRANCH

MSC