NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

REFERENCE

SKYLAB FLIGHT PLAN

SL-1/SL-2, SL-3, AND SL-4

(APRIL 30, 1973 SL-1 LAUNCH)

(NASA-TM-X-68459) REFERENCE SKYLAB FLIGHT PLAN, SL-1/SL-2, SL-3, AND SL-4 (APRIL 30, 1973 SL-1 LAUNCH) C. Hassler, et al (NASA) 1 May 1972 312 p

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PREPARED BY

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HOUSTON, TEXAS

MAY 1, 1972

FLAG SHEET

SKYLAB REFERENCE FLIGHT PLAN

This flag sheet identifies changes to the mission requirements that affect the flight plan.

1. Scheduling of blood sampling (M110) and urine sampling (M071) has been revised by CCB action as follows: (not incorporated in this issue).

   a) Blood samples are taken as follows:
      SL-2: day 2,4,12, and 27.
      SL-3 and 4: day 2,4,12,19,29,37,47, and 55.

   b) Full urine samples are required on the first seven (7) and last seven (7) days of each mission.

   c) Full urine samples are required on day before, day of, and day after blood sampling.

   d) Half (1/2) urine samples shall not be taken on consecutive days.

   e) If two (2) UCTA's per crewman are used on the first day, half (1/2) samples shall be taken from each UCTA.

   f) Half (1/2) samples of urine should be taken on the following days:
      SL-2: day 8,10,14,16,18, and 20.
      SL-3 and 4: day 8,10,14,16,21,23,31,33,35,43,45, and 49.

2. A period of 30 minutes is set aside each day for each crewman for personal exercise except when the crewman is subject for M509, EVA, or M171. (incorporated in this issue)

3. T025, "Coronagraph Contamination Measurement", is included although the requirements are in the process of being redefined. In this issue, 5 viewing periods are scheduled for SL-1/SL-2 and 10 viewing periods are scheduled for SL-3. SL-4 viewing periods are TBD.

4. The Skylab Educational Program requires video participation by the crew. The exact nature of this program has not yet been defined. For planning purposes, one crew man-hour per week has been allocated to meet the educational TV requirement. (incorporated in this issue)

5. A number of investigators selected from a national contest of Skylab Student Projects will be performed. Until specific investigations are assigned 1 1/2 crew man-hours per week have been allocated for flight planning purposes. (incorporated in this issue)

6. The ozone photography portion of S063 "UV Airglow Horizon Photography" is scheduled during 2 of the 15 Z-LV passes on SL-1/SL-2. Due to recent changes in the stowage list, this experiment will be deleted from the next SL-1/SL-2 timeline.

7. Operational radiation measurements have been included pending approval of the DTO defining the required measurements.

8. T027/S073 "Contamination Measurement and Gegenschein/Zodiacal Light" has been scheduled against the proposed changes to the experiment observing programs.

9. The schedule for M509 "Astronaut Maneuvering Equipment" in the SL-3 timeline will be modified in the June 1 update to facilitate atmosphere management considerations.

NOTE

Refer to page 1-9 and 1-10 for a listing of experiment constraints which were not met in this issue of the SL-1/SL-2 and SL-3 timelines.

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INTRODUCTION

This flight plan schedules the Skylab mission operations and crew activities to fulfill, when possible, the objectives defined in the Mission Requirements Document, 1-MRD-001D, volume 1, dated November 1, 1971. Detailed timelines are presented for the SL-1/2 and SL-3 activation and deactivation sequence while summary timelines are presented for SL-1/2 and SL-3.

The trajectory parameters used for this flight plan are for the April 30, 1973, Workshop Launch and were obtained from the Skylab Reference Trajectory to be published by the MSC Mission Planning and Analysis Division.

NOMENCLATURE

AA	Aerosol Analyzer
ACT	Activation
AE	Activity Element
AGO	Santiago
AL	Airlock
ALSA	Astronaut Life Support Assembly
AM	Airlock Module
AMRV	Astronaut Maneuvering Research Vehicle
AMU	Astronaut Maneuvering Unit
AOS	Acquisition of Signal
APCS	Attitude and Pointing Control System
ASC	Ascension
ASMU	Automatically Stabilized Maneuvering Unit
A-SOL SAL	Anti-Solar Scientific Airlock
ATM	Apollo Telescope Mount
ATMDC	Apollo Telescope Mount Digital Computer
ATT	Attitude
AZ	Azimuth
B(Beta)	Minimum angle between the Earth-Sun Line and the Vehicle Orbital Plane
B&W	Black and White
BDA	Bermuda
BET	Best Estimate of Trajectory
BMAG	Body-Mounted Attitude Gyro
BMMD	Body Mass Measurement Device
BP	Biopack
BPMS	Blood Pressure Measuring System
BPSS	Biopack Subsystem
CB	Circuit Breaker
CCU	Crew Communication Umbilical
CCW	Counter Clockwise
C&D	Control and Display
CDR	Commander
CM	Command Module
CMN	Crewman
CMC	Command Module Computer
CMD	Command
CMG	Control Moment Gyro
CMGS	Control Moment Gyro Subsystem
COAS	Crewman Optical Alignment Sight
CRO	Carnarvon
CS	Crew Station
CSM	Command and Service Module
CST	Central Standard Time
CW	Clockwise
C&W	Caution & Warning
CYI	Grand Canary Island

D	Dump
DA	Deployment Assembly
DAC	Data Acquisition Camera
DAP	Digital Auto Pilot
DAS	Digital Address System
DCS	Digital Command System
DOD	Department of Defense
DOY	Day of year
DSE	Data Storage Equipment
D/T	Delayed Time
DTO	Detailed Test Objective
EA	Experiment Assembly
ECS	Environmental Control System
ED	Educational
EMOD	Erasable Memory Dump
EOH	Experiment Operations Handbook
EPCS	Experiment Pointing Control Subsystem
EPS	Electrical Power System
ER	Earth Resources
ERD	Experiment Requirements Document
EREP	Earth Resources Experiment Package
ERG	Ergometer
ESS	Experiment Support System
ETC	Earth Terrain Camera
EVA	Extravehicular Activity
EXP	Experiment
EXT	Exterior
FAC	Facility
FAS	Fixed Airlock Shroud
FCMU	Foot Controlled Maneuvering Unit
FMS	Force Measuring System
FMSC	Film Magazine Stowage Container
FMU	Force Measuring Unit
FO	Functional Objective
FOV	Field of View
FWD	Forward
G&N	Guidance and Control
GDC	Gyro Display Coupler
GDS	Goldstone
GET	Ground Elapsed Time
GG	Gravity Gradient
GMT	Greenwich Mean Time
GND	Ground
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
GWM	Guam
HAO	High Altitude Observatory
HAW	Hawaii
HBR	High Bit Rate

HCO	Harvard College Observatory
HD	Highly Desirable
HHMU	Hand Held Maneuvering Unit
HOU	Houston
HPN	Heavy Primary Nuclei
HQ	Headquarters
HRS	Hours
HSK	Honeysuckle Creek
HSS	Habitability Support System
IG	Inner Gimbal
IMC	Image Motion Control
IMD	Inhibit Momentum Dump
IMU	Inertial Measuring Unit
INIT	Initiate
IPS	Inches Per Second
IR	Infrared
IRS	Inertial Reference System
ISS	Inertial Subsystem
IU	Instrument Unit
IVA	Intervehicular Activity
KSC	Kennedy Space Center
LBNP	Lower Body Negative Pressure
LBR	Low Bit Rate
LCG	Liquid Cooled Garmet
LES	Launch Escape System
LIMS	Limb Motion Sensor
LO	Lift-off
LOS	Loss of Signal
LV	Launch Vehicle
LVMS	Leg Volume Measuring System
M	Mandatory
MA	Metabolic Activity
MAG	Magazine
MD	Mission Day
MAD	Madrid
MCC	Mission Control Center
MCC-H	Mission Control Center - Houston
MCSS	Microscopic Camera Subsystem
MDA	Multiple Docking Adapter
MD/CSU	Motor Drive/Cassette Support Unit
MIL	Merritt Island
MIN	Minute(s)
MOL	Molecular
MPF	Multispectral Photographic Facility
MRD	Mission Requirements Document
MSC	Manned Spacecraft Center

MSFC	Marshall Space Flight Center
MSFEB	Manned Space Flight Experiment Board
MSFN	Manned Space Flight Network
MSS	Motion Sickness Susceptibility
MU	Measuring Unit
N2	Nitrogen
N/A	Not Applicable
NAV	Navigation
NC1	Phase Adjust Maneuver
NCC	Corrective Combination Maneuver
NEG	Negative
NM	Nautical Mile
NOAA	National Oceanographic and Atmospheric Administration
NPV	Non-Propulsive Vent
NRL	Naval Research Laboratory
NSR	Coelliptic Maneuver
O	Observer
O2	Oxygen
OA	Orbital Assembly
OBS	Operational Biomedical Harness
ODB	Operational Data Book
OG	Outer Gimbal
OGI	Occulogyral Illusion
OMSF	Office of Manned Space Flight
OPS	Operations
OTG	Otolith Test Goggles
OWS	Orbital Workshop
PCM	Pulse Code Modulation
PCU	Pressure Control Unit
PERF	Performance
PGA	Pressure Garment Assembly
PGU	Propulsion Gas Umbilical
PH	Personal Hygiene
PLN	Planning
PLT	Pilot
PMT	Photomultiplier Tube
PNL	Panel
POTS	Precision Optical Tracking System
PRF	Pulse Repetition Frequency
PROG	Program
PS	Payload Shroud
PSS	Propellant Supply Subsystem
PT	Physical Training
PWR	Power
QTY	Quantity

RAD	Radiation
RCDR	Recorder
RCS	Reaction Control System
REF	Refrigerator
REV	Revolution
RLS	Rotating Litter Chair
RPM	Revolutions Per Minute
R&R	Rest and Recreation
RSS or RS	Refrigeration Sybsystem
RT	Real Time
S	Subject
SAA	South Atlantic Anomaly
SAL	Scientific Airlock
SC	Spacecraft
SCT	Scanning Telescope
S/HK	Systems Housekeeping
SHT	Shutter
SI	Solar Inertial
SIA	Speaker Intercom Assembly
SL	Skylab
SLOH	Skylab Operations Handbook
SM	Service Module
SMMD	Specimen Mass Measurement Device
SMRD	Spin Motor Rotation Detector
SOL-SAL	Solar Scientific Airlock
SOP	Secondary Oxygen Pack
SPAN	Solar Particle Alert Network
SPEC	Specification(s)
sps	samples per second
SPS	Service Propulsion System
SPT	Scientist Pilot
S-SAL	Solar Scientific Airlock
ST	Stow
STS	Structural Transition Section
STU	Student
SU	Set Up
SWS	Saturn Workshop
SXT	Sextant
SYS	System
TACS	Thruster Attitude Control Subsystem
TBD	To Be Determined
TBS	To Be Supplied
TCS	Thermal Control System
TEX	Texas
TGT	Target
TM	Telemetry
TPI	Terminal Phase Initiation
TPF	Terminal Phase Final
TPM	Terminal Phase Midcourse
TPTR	Teleprinter
TV	Television

UHF	Ultra-High Frequency
UMB	Umbilical
UNATTD	Unattended
USB	Unified S-Band
UV	Ultraviolet
VAN	Vanguard
VCG	Vectrocardiogram
VHF	Very High Frequency
VVOH	Vacuum Valve Operating Handle
VX	Voice
VTS	Viewfinder Tracking System
W/O	Without
WMC	Waste Management Compartment
WMS	Waste Management System
WR & WRDM XFER	Wardroom Transfer
XFER	Transfer
X-IOP/Z	Solar Inertial Attitude
X-REA	X-ray Event Analyzer
X-RT	X-ray Telescope
X-PONDER	Transponder
XUV	Extreme Ultraviolet
Z-LV(E)	Earth Pointing Attitude
Z-LV(R)	Rendezvous Pointing Attitude

SECTION 1

FLIGHT PLAN NOTES

Flight Plan Notes
Mission Description

1. The Flight Plan Notes have been included to provide:

   . Information relative to system hardware operations that may or may not be called out in the timeline.

   . Groundrules for scheduling experiments and other activities.

   . Miscellaneous information pertinent to an understanding of the timeline.

   . Experiment scheduling accomplishments.

   . Constraints violated in scheduling.

2. Table 1-1 presents Skylab mission oriented parameters and event times.

3. Figures 1-1 and 1-2 illustrate the traces of window centerlines on the celestial sphere for the duration of the Skylab missions for the CSM and OA, respectively (SL-4, TBS). Docked solar inertial attitude is used. The CSM traces are from nominal eye positions to the center of the window, while the OA traces represent the normal through the center of the window.

4. Figure 1-3 presents the beta angle history and sunlight time for Skylab.

5. Table 1-2 presents known constraints violated in scheduling experiments for SL-2, SL-3 and SL-4(TBS).

6. Table 1-3 presents the experiments with functional objectives allocated per day for the SL-2, SL-3 and SL-4 (TBS) missions.

7. Figure 1-4 is a man-hour allocation summary for SL-2, SL-3 and SL-4 (TBS).

PARAMETER	MISSION			
	SL-1	SL-2	SL-3	SL-4
CSM Number	--	116	117	188
Launch Vehicle	2 Stage Saturn V	Saturn IB	Saturn IB	Saturn IB
Launch	30 Apr 73	1 May 73	30 July 73	31 Oct 73
Day of Year (DOY)	120	121	211	304
(GMT)	$17^h30^m00^s$	$16^h59^m33.6^s$	$04^h43^m57.9^s$	$14^h56^m55.1^s$
Insertion ha/hp/nm	236.9/235.8	120.0/80.9	120.0/80.9	120.0/80.9
Inclination	50.0	50.0	50.0	50.0
CSM/OWS Docking (GET)	--	$08^h00^m00^s$	$08^h40^m00^s$	$08^h40^m00^s$
Orbital Elements after Docking				
ha/hp, nm	234.6/234.4	234.6/234.4	235.7/233.4	237.0/230.2
Period, min	93.3	93.3	93.3	93.3
Trim #1		122 15:20:13	211 17:00:33	TBD
Trim #2 (DOY) (GMT)		129 12:08:42.4	229 12:25:06.3	318 15:32:46
Trim #3 (DOY) (GMT)		144 12:02:00.6	249 12:50:36.5	338 15:46:41
Trim #4 (DOY) (GMT)			263 12:39:00.0	
Activation Complete SWS (DOY) (GMT)		122 21:00	212 07:00	TBD
ATM (DOY) (GMT)		124 01:30	213 04:24	TBD
EVA (DOY) (GMT)		146 10:00	213 22:00	TBD
			237 14:45	TBD
			264 11:00	TBD

Table 1-1. Skylab Mission Parameters (Sheet 1 of 2)

PARAMETER	MISSION			
	SL-1	SL-2	SL-3	SL-4
Mission Duration	--	28	56	56
Experiment Days	--	21	45	TBD
Storage Period, Days	--	--	61	34
SWS Deactivation (DOY) Begin (GMT)	--	148 07:30	266 11:00	TBD
CSM/SWS (DOY) Undocking (GMT)		149 08:01	267 08:38	360 TBD
Splashdown (DOY) Time (GMT) Latitude (DEG) Longitude (DEG)		149 13:01:43 30°N[2] 60°W[2]	267 13:35:57 30°W[2] 60°W[2]	360 22:45[2] 20N[2] 165°W[2]

2. Estimated; data not available at time of publication

Table 1-1. Skylab Mission Parameters (Sheet 2 of 2)

1. Center CM Hatch
2. Left CM Side Window
3. Left CM Dock Window
4. Right CM Dock Window
5. Right CM Side Window
6. Optics Axis

(all views from nominal eye position to center of window)

⊙ 0418 GMT, 1 May 1973

△ 0614 GMT, 29 May 1973

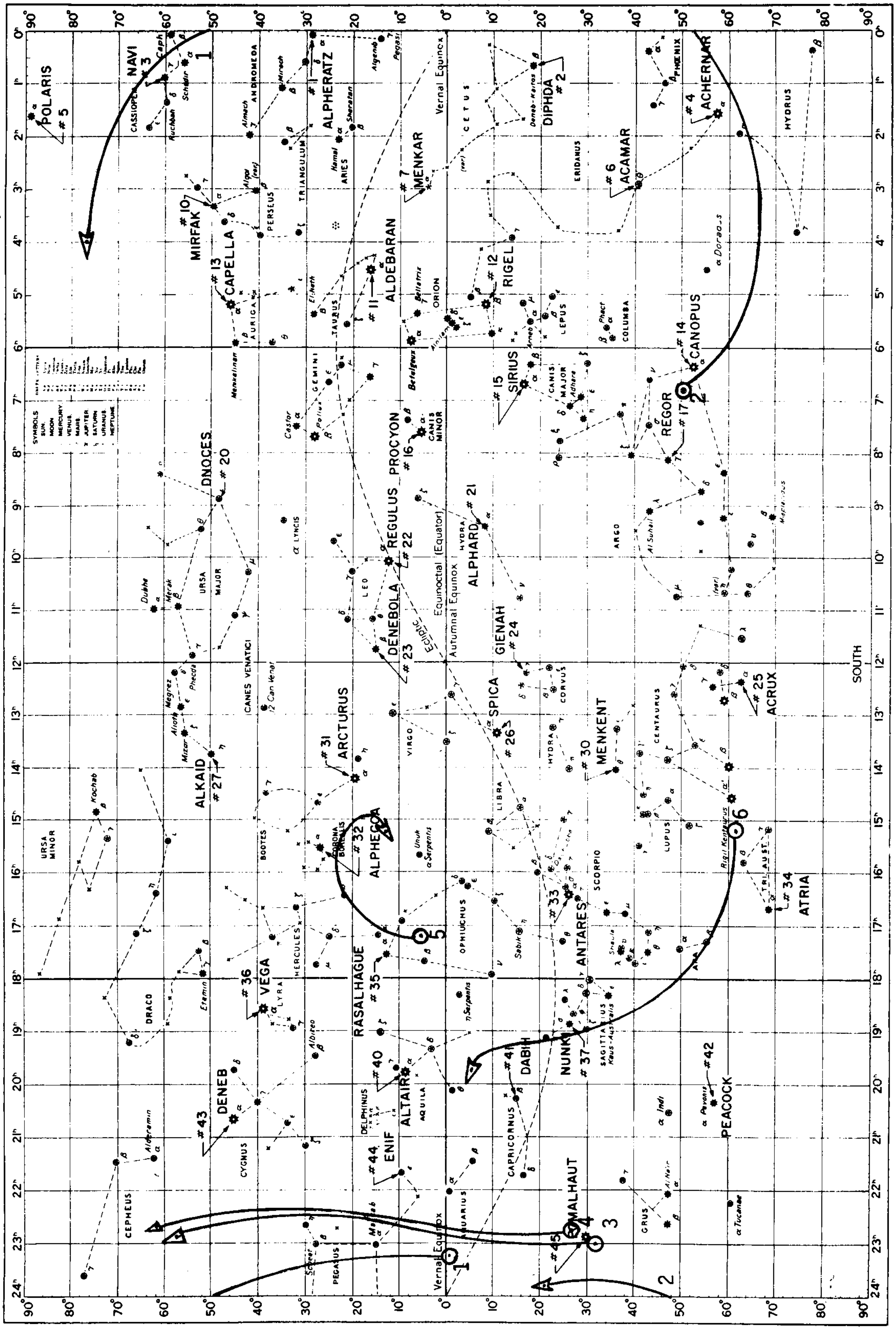


Figure 1-1a. CM Window Traces for SL-2

⊙ July 30, 1973
+ Sept. 21, 1973

1. Center CM Hatch
2. Left CM Side Window
3. Left CM Dock Window
4. Right CM Dock Window
5. Right CM Side Window
6. Optics Axis

(All views from nominal eye position to center of window)

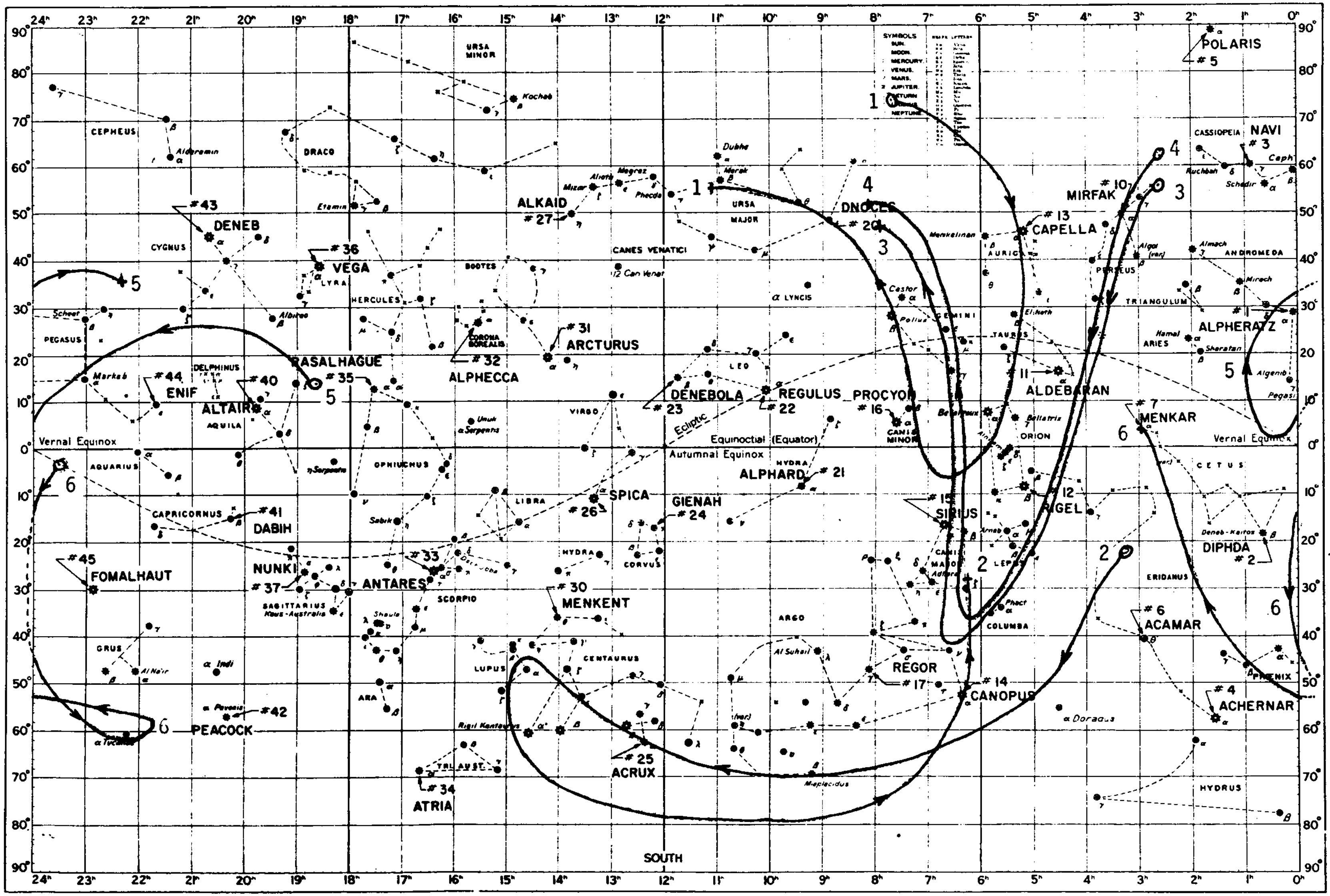


Figure 1-1b. CM Window Traces for SL-3

⊙ 0418 GMT, 1 May 1973
Δ 0614 GMT, 29 May 1973
(Normal through center of window)

7. Structural transition Sect. No. 1
8. Structural transition Sect. No. 2
9. Structural transition Sect. No. 3
10. Structural transition Sect. No. 4
11. Solar Airlock
12. Anti-solar Airlock
13. Multiple Docking Adapter
14. Ward Room

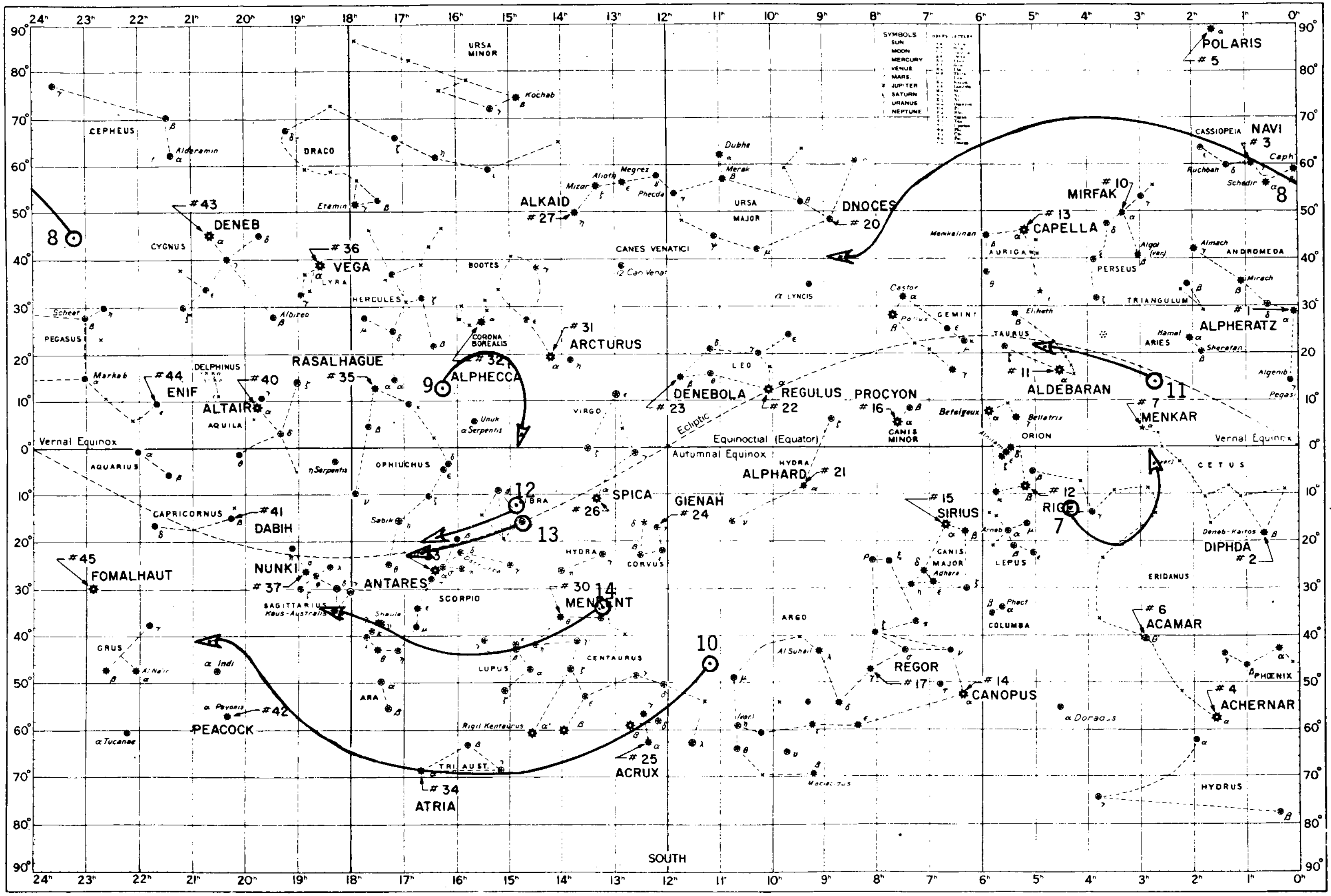


Figure 1-2a. Saturn Workshop Window Traces for SL-2

⊙ July 30, 1973
\+ Sept. 21, 1973
(Normal through center of window)

7. Structural Transition Section #1
8. Structural Transition Section #2
9. Structural Transition Section #3
10. Structural Transition Section #4
11. Solar Airlock
12. Anti-Solar Airlock
13. Multiple Docking Adapter
14. Ward Room

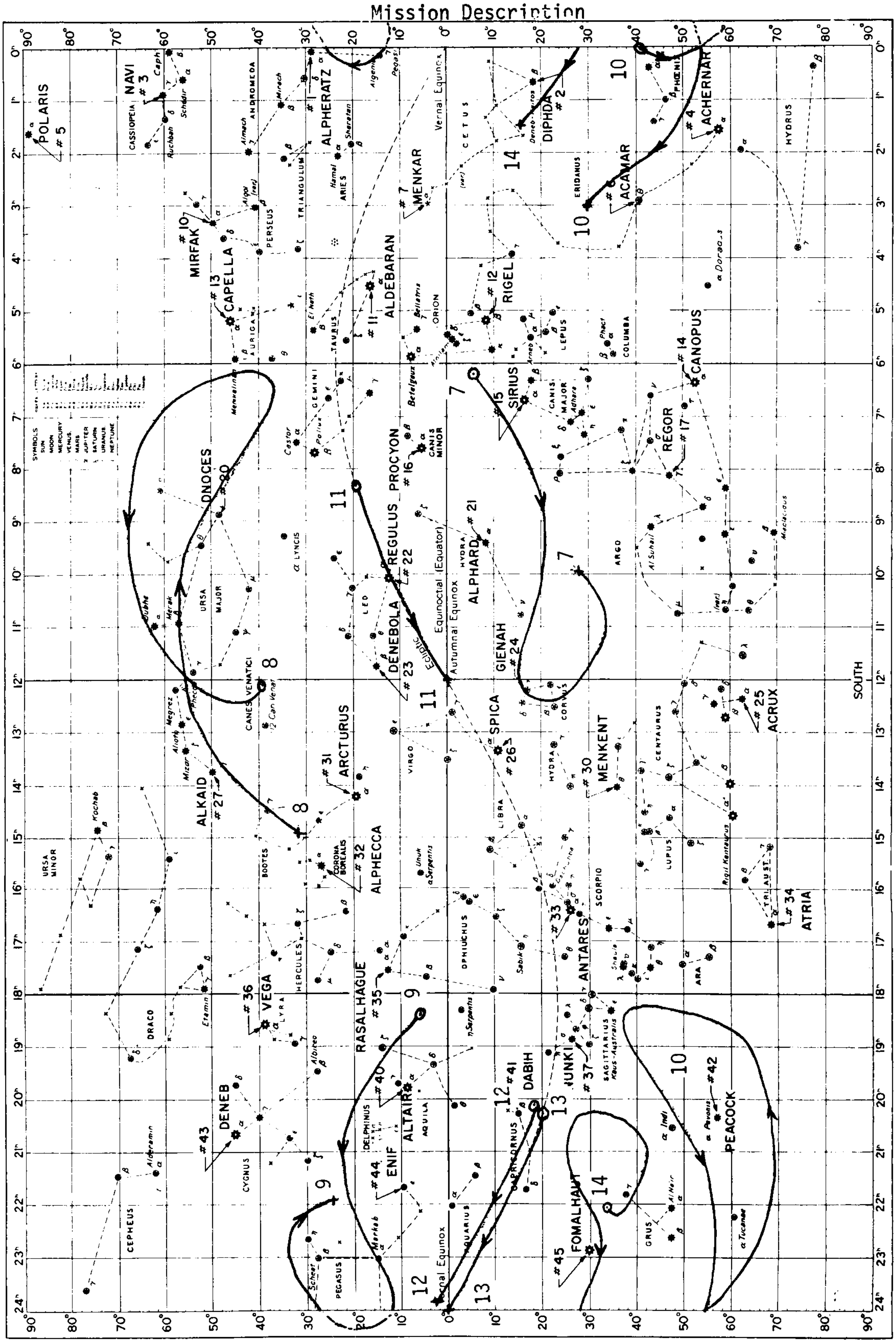


Figure 1-2b. Saturn Workshop Window Traces for SL-3

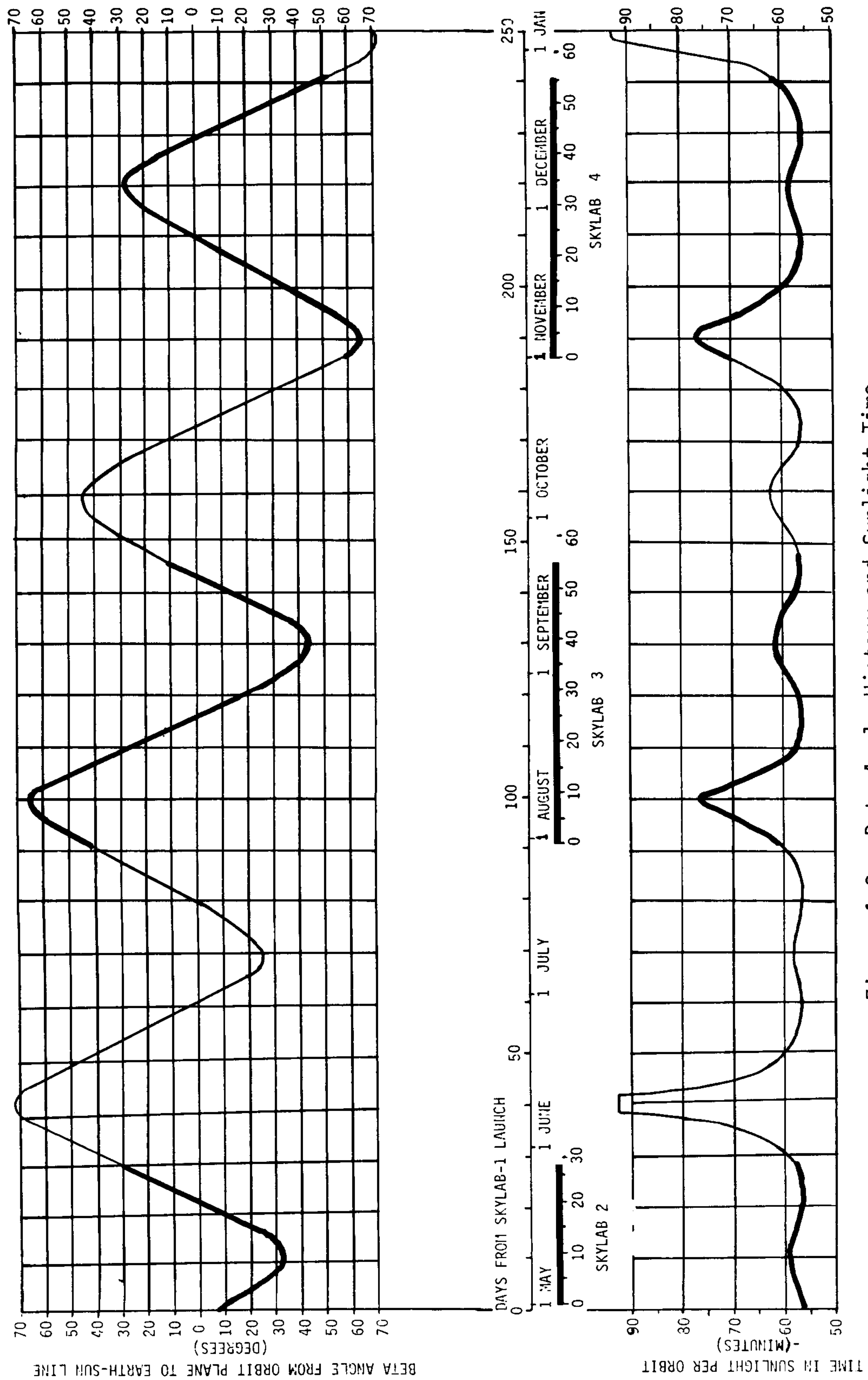


Figure 1-3. Beta Angle History and Sunlight Time

Day of Year	CMN	Activity	Scheduling Violation	Reason
123	PLT	M092/M171	Wrong time of day	First available time for experiment performance
124	CDR	RAD DTO	Between PLN AND R&R	SAA crossing availability
125	CDR	RAD DTO	After R&R	SAA crossing availability
125	PLT	M092/M171	Wrong Day	EREP pass on day 6
130	PLT	M092/M093	Wrong Day	EREP pass on day 9
132	ALL	Lunch	Greater than 1 hour from normal time	EREP pass and M092/171 in before lunch period
133	PLT	M092/M171	Wrong Day	EREP pass on day 12
135	ALL	Sleep	Early wake up	Early EREP pass
137	PLT	S149	Experiment retracted on Off-Duty-Day	Nine hour warm-up required prior to stow
139	PLT	M092/M171	Wrong Day	EREP pass on day 18
144	ALL	Sleep	Early wake up	Reentry simulation
144 145 146 147 148 149	ALL	Meals, M071 Sleep, Etc.	Early schedule for remainder of mission	Synchronize sleep periods with reentry events and EVA

Table 1-2a. Scheduling Constraints Not Met for SL-2.

Day of Year	CMN	Activity	Scheduling Violation	Reason
211 212 213	ALL	Sleep, eat, PH, M071, PLN, R&R, etc	Non-standard days and times	Synchronize sleep periods with docking, activation and EVA
212	CDR	M092/M171	Wrong day and time	First available time for performance
225	CDR PLT	Morning PH	None scheduled	M509 performed entire morning
229	ALL	Morning eat, PH, M071	Non-standard sequence	Scheduled around trim burn
235	SPT PLT	M092/M171	Wrong day	Scheduled around EREP pass
237	ALL	Sleep, eat, M071, PLN, R&R, etc	Non-standard day	Scheduled around EREP pass and EVA
238	ALL	Sleep	Early sleep period	Scheduled around EREP pass
239	ALL	Eat, PLN, R&R	Non-standard sequence	Scheduled around EREP pass
243	ALL	PLN, R&R	Non-standard sequence	Scheduled around EREP pass
247	ALL	P50, P51, P52	Scheduled during dinner and PLN	Preparation for re-entry sim.
249	PLT	M092/M171	Wrong day	Scheduled around EREP pass
249	ALL	Morning eat, PH, M071	Non-standard sequence	Scheduled around trim burn
249	ALL	Evening eat, PLN, R&R	Non-standard times	Scheduled around EREP pass
252	PLT	M092/M093	Wrong day	Scheduled around EREP pass

Table 1-2b. Scheduling Constraints Not Met for SL-3

(Sheet 1 of 2)

Day of Year	CMN	Activity	Scheduling Violation	Reason
258	CDR SPT	Evening eat, PLN, R&R	Non-standard times	Scheduled around EREP pass and M092/M093
259	ALL	Sleep	Crew wakes early	Scheduled around EREP pass
261	ALL	Sleep	Crew wakes early	Scheduled around EREP pass
261	ALL	Evening eat, PLN, PH, M071, R&R	Non-standard times	Scheduled around M092/M171 and early sleep
262	ALL	Sleep	Scheduled early	Scheduled around re-entry sim.
262	ALL	Evening eat, PH, PLN, R&R, M071	Non-standard times	Scheduled around early sleep
263 264 265 266 267	ALL	Sleep, eat, PH, M071, PLN, R&R, etc	Non-standard days and times	Synchronize sleep periods with EVA, undocking and deorbit events
264	SPT	M092/M093	Wrong day	Scheduled around EVA and EREP pass

Table 1-2b. Scheduling Constraints Not Met for SL-3

(Sheet 2 of 2)

DAY OF YEAR

ACTIVITY	CMN	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149
Activation	ALL	X	X																											
Off Duty	ALL							X									X								X					
EVA	CDR/SPT																										X			
M071/73	ANY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
M074	SPT			1												1												1		
M092/93	CDR									1						1						1								
	SPT									1						1						1								
	PLT										1					1						1								
M092/171	CDR			1			1						1						1							1		1		
	SPT			1			1						1						1					1						
	PLT			1		1								1						1				1			1			
M131	CDR					2									2						2									
	SPT				1	2			1					1	2			1			2		1			1				
	PLT				1	2			1					1	2			1			2		1			1				
M133	SPT				1	1	1		1			1		1		1		1				1		1	1	1	1			
M151	ANY		6	1,2	2,5	1,3	1,6					3,5	1	1,2,6	2			5						1,6			4			
M172	SPT			1												1												1		
ATM	SPT/ANY				X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X				
EREP	CDR/PLT				X	X	X		X,X	X	X	X	X,X		X	X			X	X						X				
S190B	SPT								1,1	1	1	1	1,1			1			1							1				
D008	CDR																				1,2						1,2			
D024	CDR/SPT																										X			
M110	ALL			1	1							1																1		
M479		—	—	—	—	—	—	—	—	—	—	—	—	—	—	SL-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M487	PLT/ANY								1							1											1			
M509	CDR/PLT		X		1							2						3								4				
M516	PLT/ANY		1,3											2													5			
M551	PLT/CDR								1	1				1																
M552	PLT/CDR															1	1													
M553	PLT/CDR													1																
M554	PLT/CDR																	1												
M555	PLT/CDR																		1	----	----	----	----	1						
S009	CDR/ANY			1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1		
S015	CDR	2	2	2	1,2	2	2	2	2	2	1																			
S019	PLT/CDR			1,2		3,4	5,6			789											10	11,12								
S020		—	—	—	—	—	—	—	—	—	—	—	—	—	—	SL-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S063	SPT														1					1										
S073/T027	PLT/ANY			1,2								5	3	4	1-4			7,8	1,7	4,9	3	7	123 10	2						
S149	PLT/ANY															1	--	1										2	----	
S183	PLT/CDR										123										456		7,8	9,10			11,12			
T002	PLT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	SL-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
T003	PLT/ANY		1	1	1	1	1	1	1	1	1	1	123	1	1	1	1	1	1	1	1	1	123	1	1	1	1	1		
T013		—	—	—	—	—	—	—	—	—	—	—	—	—	—	SL-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
T020		—	—	—	—	—	—	—	—	—	—	—	—	—	—	SL-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
T025	PLT/CDR		X	1											1			1				1	1							
T027	PLT/ANY					1	----	----	----	----	----	1																		
RAD DTO			6	1,1	1	1	1				6										6							6		
MICRO DTO													1,2														1,3			
STUDENT								1		1	111			1						1,1			1	1			1	1		
ED T V									1	1		1		1						1		1	1	1						
Reentry Sim																									X					
Deactiv.																												X	X	X
TRIM BURN			X							X																X				

X=EXP. PERFORMANCE
ARABIC NUMERAL=FO PERFORMANCE

Table 1-3a. Experiment Allocation Matrix (SL-2), FO Accomplishment

Flight Plan Notes
Mission Description

DAY OF YEAR

ACTIVITY	CMN	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224
Activation	ALL		X	X												
Off Duty	ALL							X							X	
EVA	ALL				X											
M071/73	ANY		X	X	X	X	X	X	X	X	X	X	X	X	X	X
M074	SPT			1												
M092/93	CDR						1						1			
	SPT						1						1			
	PLT						1						1			
M092/171	CDR		1							1						1
	SPT			1						1						1
	PLT			1						1						1
M131	CDR								2							
	SPT					1			2					1		
	PLT					1			2					1		
M133	SPT			1	1	1			1			1			1	
M151	ANY			1,3	4,3	5,2						2,5				1
M172	SPT			1												
ATM	ANY					X	X		X	X	X	X	X	X		X
EREP	PLT/CDR															
S190B	SPT															
D024	CDR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M110	SPT/ALL			1		1							1			
M479		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M487	PLT/ANY						1									
M509	CDR/PLT					1						2				
M516	PLT															
S019	PLT/CDR				1		2,3,4		5,6	7						
S020	PLT/CDR				3				1,2,4							
S063	SPT						2							2		2
S073/T027	PLT/ANY					1,2			5		2,3,4	2	1,2,3,6,10			
S149	PLT/ANY	--	2													
S183	PLT/CDR															
T002	PLT															
T003	PLT/ANY			1	1	1	1	1	1	1	1	1	1	1,2,3	1	1
T013	PLT/ANY										1					
T020	CDR/PLT															
T025	PLT/CDR			1												
RAD DTO				1,6	1	1	1							6		
MICRO DTO																
STUDENT									111							
ED T V									1	1						
S071/S072		-	-	-	-	-	-	-	-	S071/S072	-	-	-	-	-	-
Reentry Sim																
Deactivation																
TRIM BURN			X													

ACTIVITY	CMN	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Activation	ALL															
Off Duty	ALL							X								
EVA	ALL													X		
M071/73	ANY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
M074	SPT														1	
M092/93	CDR			1						1						1
	SPT			1						1						1
	PLT			1						1						1
M092/171	CDR						1						1			
	SPT						1					1				
	PLT						1					1				
M131	CDR															
	SPT								1							
	PLT								1							
M133	SPT		1			1			1			1			1	
M151	ANY	2,5				5						1,5		4		
M172	SPT														1	
ATM	ANY	X	X	X	X	X	X		X	X	X	X	X	X	X	X
EREP	PLT/CDR			1	2				3		4	①	②5		③6	7
S190B	SPT										1	①	②2		③3	4
D024	CDR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M110	SPT/ALL					1							1			
M479		-	-	-	-	-	-	-	-	-	-	-	-	-	SL-4	-
M487	PLT/ANY								1							
M509	CDR/PLT	3				4										
M516	PLT															
S019	PLT/CDR									8,9	10,11 12,13					
S020	PLT/CDR								567	-	-	-	567			
S063	SPT	2	2	2	2	2	2									
S073/T027	PLT/ANY	7	8,4,5													
S149	PLT/ANY					3	---	---	3							
S183	PLT/CDR														1-4	
T002	PLT				1	2			3				4			5
T003	PLT/ANY	1	1	1	1	1	1	1	1,2,3	1	1	1	1	1	1	1
T013	PLT/ANY															
T020	CDR/PLT											1				
T025	PLT/CDR													1	111 11	
RAD DTO									6							
MICRO DTO																
STUDENT		11	1		111						111					
ED T V		1	1			11					11					
S071/S072		-	-	-	-	X	-	-	S071	-	-	-	-	X		
Reentry Sim																
Deactivation																
TRIM BURN						X										

ACTIVITY	CMN	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254
Activation	ALL															
Off Duty	ALL	X							X						X	
EVA	ALL															
M071/73	ANY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
M074	SPT															
M092/93	CDR						1						1			
	SPT						1						1			
	PLT						1							1		
M092/171	CDR			1						1						1
	SPT			1						1						1
	PLT			1							1					1
M131	CDR		2													
	SPT		2					1								
	PLT		2					1								
M133	SPT		1			1			1			1			1	
M151	ANY									1	1					
M172	SPT															
ATM	ANY		X	X	X	X	X	X		X	X	X	X	X		X
EREP	PLT/CDR		8		9 10		11			12	13 14	15	16	17		
S190B	SPT		5		6,7		8				9 10					
D024	CDR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M110	SPT/ALL							1								
M479		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M487	PLT/ANY															
M509	CDR/PLT															
M516	PLT															
S019	PLT/CDR															
S020	PLT/CDR											8,9,10	11			
S063	SPT									1		1	1	1		
S073/T027	PLT/ANY				1,3,4	9		3,4,7,8		6				1,2		3
S149	PLT/ANY															
S183	PLT/CDR		5			6,7,8	9									
T002	PLT															
T003	PLT/ANY	1	1	1,2,3	1	1	1	1	1	1	1	1	1	1,2,3	1	1
T013	PLT/ANY															
T020	CDR/PLT					2										
T025	PLT/CDR		1	1		1										
RAD DTO				6										6		
MICRO DTO													1,2			
STUDENT			11		1			1			11					
ED T V					11			1			1					
S071/S072																
Reentry Sim									X							
Deactivation																
TRIM BURN											X					

ACTIVITY	CMN	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269
Activation	ALL															
Off Duty	ALL								X							
EVA	ALL										X					
M071/73	ANY	X	X	X	X	X	X	X	X	X	X	X	X			
M074	SPT									1						
M092/93	CDR			1							1					
	SPT			1						1						
	PLT			1						1						
M092/171	CDR						1									
	SPT						1									
	PLT						1									
M131	CDR				2											
	SPT	1			2			1								
	PLT	1			2			1								
M133	SPT		1			1		1	1	1						
M151	ANY						1				4					
M172	SPT									1						
ATM	ANY	X	X	X	X	X	X	X	X	X						
EREP	PLT/CDR	18	19	20	21 22	23	24			25						
S190B	SPT						11			12						
D024	CDR	-	-	-	-	-	-	-	-	-	1					
M110	SPT/ALL		1									1				
M479		-	-	-	-	-	-	-	-	-	-	-				
M487	PLT/ANY	1														
M509	CDR/PLT															
M516	PLT															
S019	PLT/CDR															
S020	PLT/CDR															
S063	SPT	1	1	1	1,1	1										
S073/T027	PLT/ANY	2,3,8	2			7	2	2		6						
S149	PLT/ANY											4	---	---	---	
S183	PLT/CDR											10,11 12				
T002	PLT															
T003	PLT/ANY	1	1	1	1	1	1	1,2,3	1	1	1	1				
T013	PLT/ANY															
T020	CDR/PLT															
T025	PLT/CDR															
RAD DTO								6				6				
MICRO DTO											1	3				
STUDENT			111					11		1						
ED T V			11							1	1					
S071/S072																
Reentry Sim									X							
Deactivation													X	X		
TRIM BURN										X						

X-Exp. Performance
Arabic Numeral - FO Performance
EREP and S190B- Pass number
①, ②, ③ - EREP Solar Inertial Passes

Table 1-3b. Experiment Allocation Matrix (SL-3), FO Accomplishment

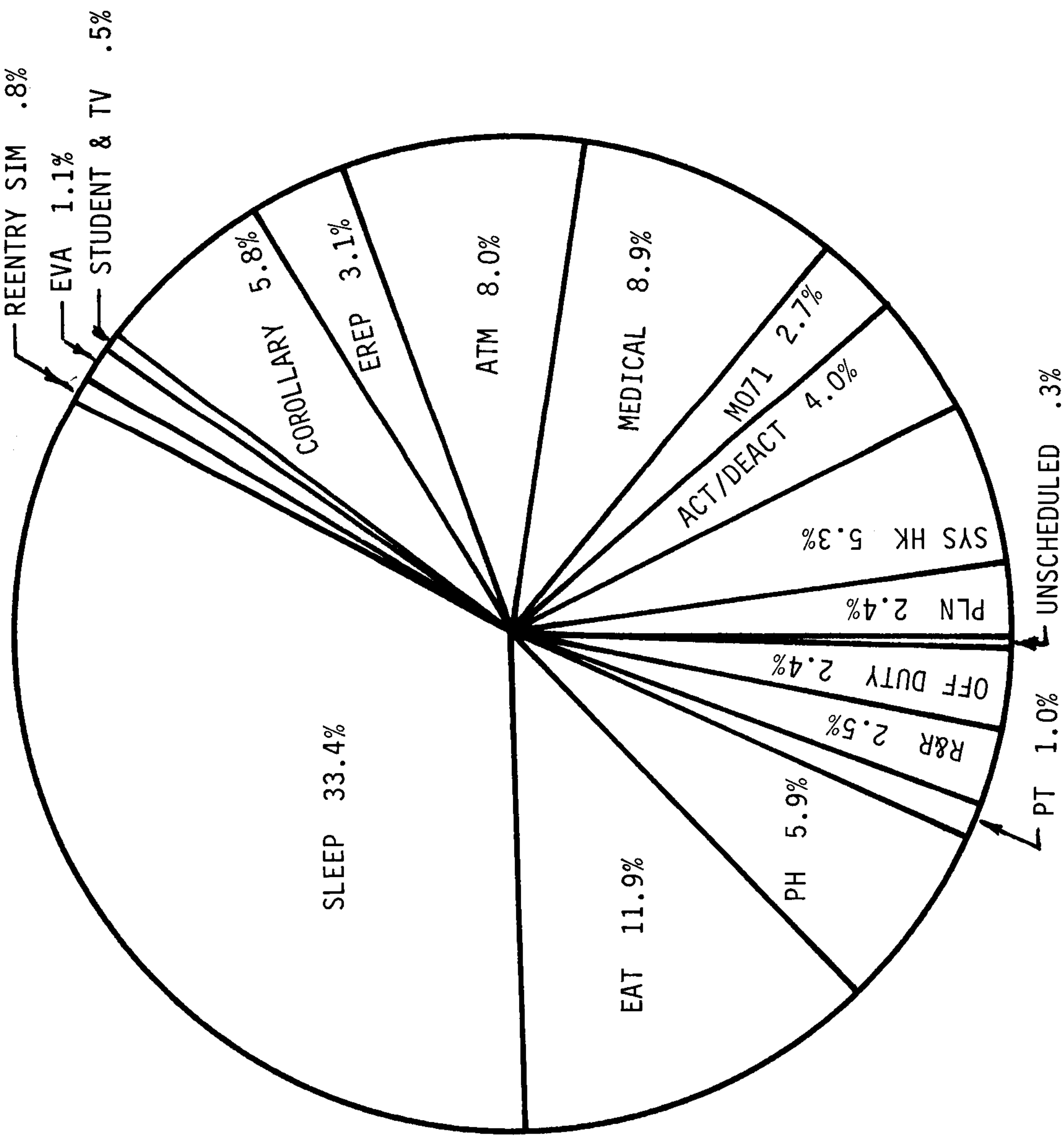


Table 1-4a. Skylab Man-Hour Allocation SL-2

TBS

Figure 1-4b. Manhour Allocation Summary (SL-3)

A. Crew Scheduling

1. Crew designations for SL-2, SL-3, and SL-4 are as follows:

Mission	Designation	Prime	Backup
2	CDR SPT PLT	Conrad Kerwin Weitz	Schweickart Musgrave McCandless
3	CDR SPT PLT	Bean Garriott Lousma	Brand Lind Lenoir
4	CDR SPT PLT	Carr Gibson Pogue	Brand Lind Lenoir

2. The nominal CM couch positions are:

Activity	Left	Center	Right
Launch thru docking	CDR	SPT	PLT
Undocking thru splashdown	CDR	SPT	PLT

3. The crew/garment configurations are delineated as follows:

Activity	Pressurized Hard Suit	Suited (Soft Suit)	Partial Suit W/O Helmets and Gloves	Shirt Sleeves
Launch		All		
Docking				All
AM/MDA Activation				All*
OWS Activation				All*
Experiment Ops				All
EVA Ops	2 CMN	1 CMN		
M509-3/IVA	1 CMN			2 CMN
Deactivation				All
Undocking & separation		All		
Entry				All

* w/masks

4. The operational biomedical harness will be worn as follows:

Activity	Crewmen
Launch	All
Rendezvous	All
Activation	TBD
Orbital Ops	TBD
EVA	2 CMN
Deactivation	TBD
Undocking & Separation	ALL
Deorbit & Entry	All

The OBS will not be used for daily monitoring but may be used if changes in crew condition are indicated by experimental biomedical data. The OBS is required for subject during M509/IVA hard suit operations.

The operational biomedical measurements include electrocardiogram, respiration rate, heart rate, body temperature, and subject identification.

5. A typical crew day is shown in Figure A-1.

- All crewmen are scheduled for 8 hours of sleep each day.
- The crew duty day is between 6 AM and 10 PM CST or CDT.
- Simultaneous 1 hour eat periods (7 AM, 12 noon and 6 PM Houston time) except for 1 crewman at ATM for noon meal(does not eat at console).
- Each crewman is scheduled 1.5 hours per day for personal hygiene (30, 15, 15, 30 minute blocks).
- Four to four and one-half hours each day are scheduled for systems housekeeping.
- Mission planning and R&R periods prior to crew day off may be used for experiment performance.
- Day off every 7 days (± TBD).
- Each crewman is allowed 30 minutes per day for exercise. Normally, this is scheduled with 15 minutes of PH just prior to dinner.

Two crewmen are scheduled for simultaneous mission planning and off-duty periods (1 hour each) at the conclusion of each crew day. The third crewman will delete mission planning and off-duty periods each day to increase ATM viewing time.

6. Crew days off will be scheduled to avoid impacting EREP passes of primary interest and/or the scheduling constraints levied against the major biomedical experiments.

7. No crew activities scheduled on day off except system housekeeping, flares (real time), M071, re-entry simulations, debriefings, and crew actions required for passive experiments (S009, S015).

8. Every third day is a medical day, with all three crewmen performing one series of M092/M093 or M092/M171. If this schedule conflicts with an EREP pass of primary interest, the medical series will be moved 24 hours (before or after the EREP pass).

9. Each crewman is assumed to be proficient in specific system operations and mission assigned experiments. Specialties as scheduled in the timelines are delineated in Table A-1.

10. Extravehicular activity is scheduled for a maximum of 3 hours from egress start to ingress completion. One EVA is scheduled on SL-2 DOY 146 for D024 and ATM. Three ATM EVA's are scheduled on SL-3, DOY 213, 237, 264, and two EVA's are scheduled on SL-4 (TBS).

    - Two crewmen will be fully suited for each EVA. The third crewman (softsuited) will be located forward of the airlock and will perform monitoring systems housekeeping as required.

    - Scheduling of EVA while in the South Atlantic Anomaly will be held to a minimum.

    - Although not a presently identified requirement, scheduling of EVA over the continental United States was attempted to achieve maximum network coverage.

11. One crewman will weigh all food residue after each meal.

12. Orbital Assembly (OA) crew station panel accessibility is shown in Figure A-2. Estimated crew translation times between crew stations are shown in Table A-2.

13. Crew status reports will be voiced to MCC each morning.

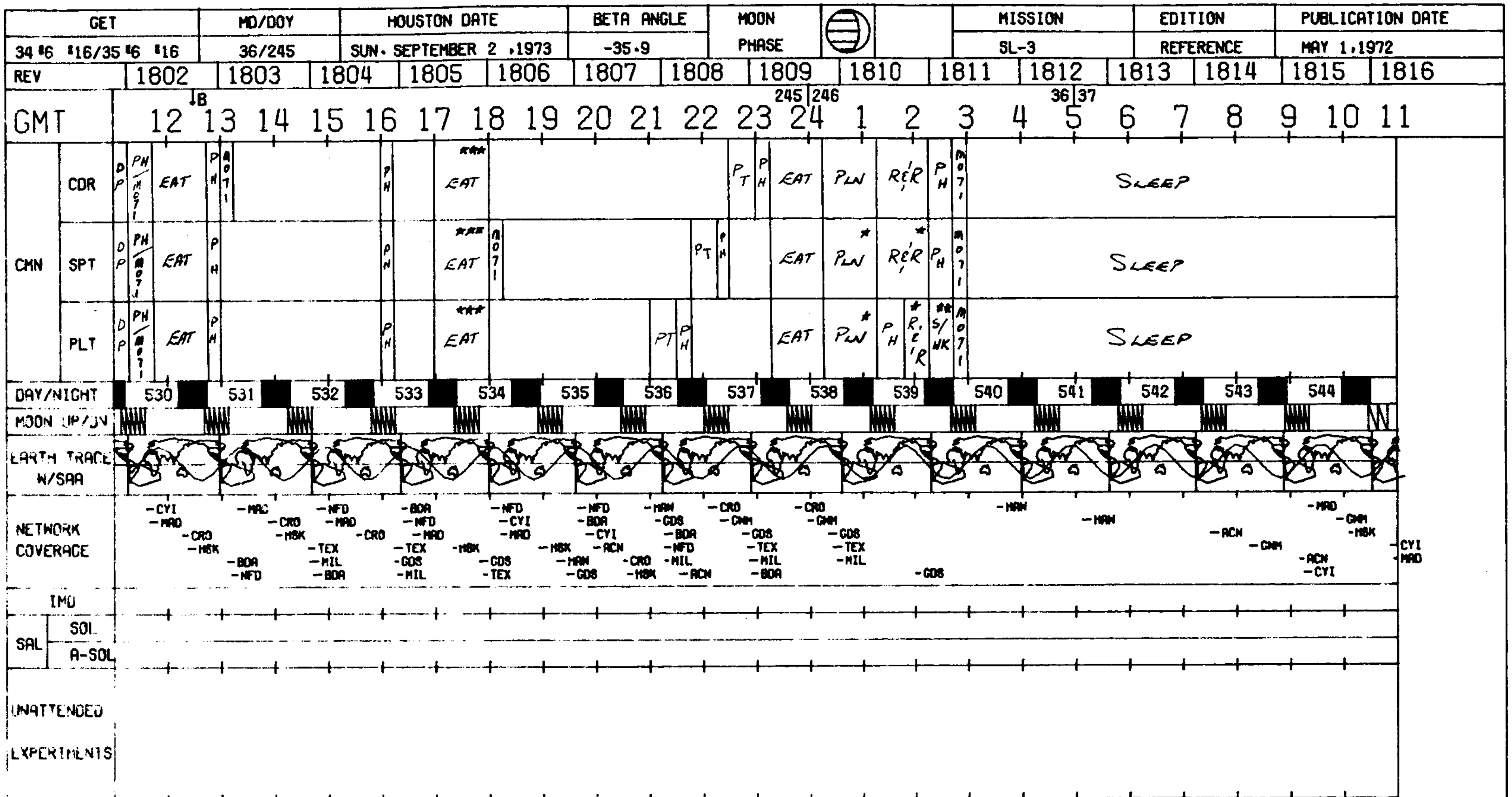
14. The ATM audible flare alarm in the OWS may be inhibited during sleep with concurrence of the ground.

15. Re-entry simulations are scheduled for DOY 144 of SL-2, DOY 247 and 262 of SL-3, and DOY TBS of SL-4 for crew review of detailed entry procedures.

16. At the end of each day, a crew status report will be made. This report will include the status of consumables, unscheduled maintenance, housekeeping checks, anomalies, and stowage.

17. ATM crew changes during sunlight require 5 minutes for change of crew briefings.

18. Whenever possible on SL-2, the SPT will be the observer of biomed experiment activities. On SL-3 and SL-4, this responsibility is equally assigned to all three crewmen.



NOTES	Daily Prep(post sleep cks) 15 min each CMN . Check Telprnt for updates . Configure systems . Check experiment status PH/M071 30 min each CMN . CMN mass measurement . Urine collection processing . (Weekly add 10 min for 1 CMN for WMC disinfect)
	Breakfast 1 Hour each CMN M071 9 Min 1 CMN to weigh all food residue PH 15 Min each CMN(floating)
	Lunch 1 Hour each CMN (1 CMN perform ATM concurrently) M071 9 Min 1 CMN to weigh all food residue PH 15 Min each CMN (floating) PH 30 Min each CMN
	Dinner 1 Hour each CMN M071 9 Min 1 CMN to weigh all food residue S/HK 30 Min 1 CMN (presleep checks) . Dump condensate (20 min) . Check teleprinter M071 15 Min each CMN . Log water consumption . Accounting for fecal weighing drying

* deleted on one crewman to increase ATM viewing time
** performed by CMN doing evening ATM
*** one CMN eats non-concurrent with other CMN to increase ATM time(not at console)

Figure A-1. Typical Crew Day

Flight Plan Notes
Crew Scheduling

Experiment	SL-2			SL-3			SL-4		
	C	S	P	C	S	P	C	S	P
Flight Planning	P			P			P		
AM/MDA/OWS Sys			P			P			P
ATM Exps	P	P	P	P	P	P	P	P	P
ATM Sys		P			P			P	
Med Sys		P			P			P	
M074 (Cal)		P			P			P	
M133		P			P				
M172 (Cal)		P			P			P	
M151	P	P	P	P	P	P	P	P	P
D008	P								
D024	P			P					
M479							B		P
M487	B	B	P	B	B	P	B	B	P
M509	B		P	P		B	P		B
M551-M555	B		P						
M516	B	B	P	B	B	P	B	B	P
S009	P	B	B						
S015	P								
S019	B		P	B		P			
S020				B		P	B		P
S063		P			P			P	
S071/72				P					
S073/T027	B	B	P	B	B	P	B	B	P
S149	B	B	P	B	B	P	B	B	P
S183	B		P	B		P			
EREP C&D	P		P	P		P	P		P
EREP V/TS	P		P	P		P	P		P
S190B		P			P			P	
T002						P			P
T003	B	B	P	B	B	P	B	B	P
T013				B	B	P			
T020				P		B	P		B
T025	B		P	B		P	B		P
T027	B	B	P						

P- Prime; B-Backup; C-CDR; S-SPT; P-Plt

Table A-1a. Crewmen Speciality Assignment

CREWMAN POSITION DESIGNATIONS FOR EVA

CREWMAN	SL-2 EVA 1 NOMINAL	SL-2 EVA 1 ALTERNATE	SL-3 EVA 1 NOMINAL	SL-3 EVA 1 ALTERNATE	SL-3 EVA 2 NOMINAL	SL-3 EVA 2 ALTERNATE
CDR	EV1	EV2		EV1/EV2	EV1	
SPT	EV2		EV1		EV2	
PLT		EV1	EV2			EV1/EV2

CREWMAN	SL-3 EVA 3 NOMINAL	SL-3 EVA 3 ALTERNATE	SL-4 EVA 1 NOMINAL	SL-4 EVA 1 ALTERNATE	SL-4 EVA 2 NOMINAL	SL-4 EVA 2 ALTERNATE
CDR	EV2			EV1/EV2	EV2	
SPT		EV1/EV2	EV2		EV1	EV2
PLT	EV1		EV1			EV1

EV1 - Crewman who egresses first and performs operations at the FAS Work Station (VF)

EV2 - Crewman who egresses second, transfers along handrails and performs operations at the Center Work Station (VC) and Sun-end Work Station (VS)

Table A-1b. Crewmen Specialty Assignment

ORBITAL ASSEMBLY CREW STATIONS		PANEL NUMBERS	STOWAGE NUMBERS
CM	-COMMAND MODULE	-	-
M	-MDA; FWD & AFT COMPT	100 SERIES	M100 SERIES
ST	-STS	200 SERIES	ST200 SERIES
A	-AM; FWD, LOCK & AFT COMPT	300 SERIES	A300 SERIES
VF	-EVA BAY	-	-
D024	-EVA EXT TO BAY	-	-
VC	-ATM CWS	-	-
VT	-ATM SUN END TRFR	-	-
VS	-ATM SUN END WS	-	-
D	-OWS FWD DOME	400 SERIES	D400
E	-OWS EXP COMPT	600 SERIES	E600
F	-OWS FWD COMPT	500 SERIES	F500
S	-OWS SLEEP COMPT	900 SERIES	S900
W	-OWS WARDROOM	700 SERIES	W700
H	-OWS WMC	800 SERIES	H800
P	-OWS PLENUM AREA	1000 SERIES	1000 SERIES

PANEL	
NO.	NAME
100	AXIAL HATCH
101	INT LIGHT PNL
102	SIA
103	VENT PNL
104	UTILITY OUT 2
105	M512 EXP
106	S190 EXP
107	WINDOW COVER LATCH
108	WINDOW COVER LATCH
109	S191 EXP D & C PNL
110	EREP PNL
111	S009 EXP
112	UTILITY OUT 1
113	M512 CHBR VENT VLV
114	M512 BLKHD VENT VLV
115	HIGH PWR ACCY OUT 1
116	SIA
117	WINDOW HTR PNL
118	RADIAL HATCH
120	FIRE SENSOR CNTL PNL
121	DAS
128	RNBM (UPPER)
129	RNBM (LOWER)
130	ATM D&C PNL
131	SIA
132	VIDEO PNL
133	TV STATION
134	UTILITY OUT 3
135	EREP COOL VLV
136	S192 EXP
139	HIGH PWR ACCY OUT 2
140	UTILITY OUT 4
160	ATM EXT CNST ROLL

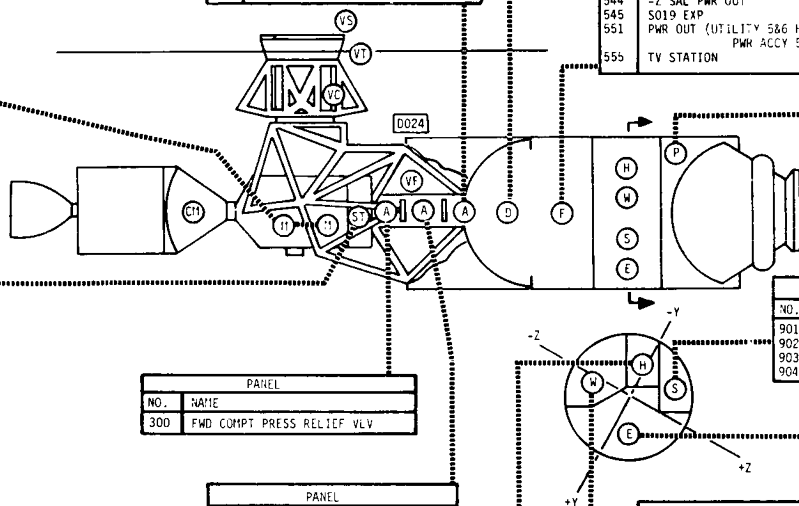
PANEL	
NO.	NAME
200	CB PNL ECS/I&C
201	CB PNL EPS
202	CB PNL
203	CNTL PNL ECS
204	CNTL PNL I&C
205	CNTL PNL EPS
206	CNTL PNL EPS, C&W
207	CNTL PNL LTG, C&W
208	CNTL PNL PROT SPECT
209	CNTL PNL TELEPRINT
210	PCG CNTL SCH
211	BUS DISTR. SCH
212	GMT CLOCK
213	UTILITY OUT 1
214	UTILITY OUT 2
216	CNTL PNL CNDSATE
217	CNTL PNL IVA
218	MOL SV B VENT VLV
219	UTILITY OUT 3 (MOL SV B) BED O_2 VLV
220	MOL SV A VENT VLV
221	UTILITY OUT 4 (MOL SV A BED O_2 VLV
223	SYS 1 LCG RES PRESS VLV
224	SYS 2 LCG RES PRESS VLV
225	O_2 N_2 CNTL SYS PNL
226	MOL SV A VLV CNTL
227	MOL SV B VLV CNTL
228	MOL SV A ABS DES VLV
229	MOL SV B ABS DES VLV
230	MOL SV A HT EXCH CNTL PNL
231	AM CLNT FLOW CABIN HX VLVS
232	MOL SV B HT EXCH CNTL PNL
233	MOL SV A AIRFLOW VLV PNL
234	MDA OWS AIR SEL VLV
235	ATM CLNT RES PRESS VLV
236	FIRE SENSOR CNTL PNL
237	FIRE SENSOR CNTL PNL
238	FIRE SENSOR CNTL PNL
239	MOL SV B AIRFLOW VLV PNL
241	STS WINDOW CRANK -z
242	STS WINDOW CRANK -Y
243	STS WINDOW CRANK -Z
244	STS WINDOW CRANK -Y

PANEL	
NO.	NAME
390	CNTL PNL OWS, LTG, TCS
391	AFT COMPT PRESS RELIEF VLV
392	FIRE SENSOR CNTL PNL

PANEL	
NO.	NAME
400	OWS HATCH, PRESS EQ VLV
401	SIA
402	PWR OUT (UTILITY 1&2 HIGH PWR ACCY 1&2)
403	SOLENOID VENT PORT
404	TV STATION
405	PNEUMATIC VENT PORT

PANEL	
NO.	NAME
500	WATER SYS PRESS PNL
517	-Z SAL
518	-Z SAL PWR OUT
520	-Z SAL SIA
521	PWR OUT(UTILITY 1&2 HIGH PWR ACCY 1&2)
522	T020 EXP
523	M509 EXP
524	T027 EXP
527	M172 EXP
529	FIRE SENSOR CNTL PNL
530	FIRE SENSOR CNTL PNL
531	PWR OUT(UTILITY 3&4, HIGH PWR ACCY 3&4)
534	T013 EXP
540	-Z SAL SIA
542	EXP RCDR CNTL PNL
543	-Z SAL
544	-Z SAL PWR OUT
545	S019 EXP
551	PWR OUT (UTILITY 5&6 HIGH PWR ACCY 5&6)
555	TV STATION

PANEL	
NO.	NAME
1001	REFR PUMP PKG VAC VENT VLV



PANEL	
NO.	NAME
901	SIA
902	SIA
903	SIA
904	M133 EXP

PANEL	
NO.	NAME
300	FWD COMPT PRESS RELIEF VLV

PANEL	
NO.	NAME
311	FWD HATCH PRESS EQ VLV
312	FWD HATCH HANDLE
313	LOCK PRESS RELIEF VLV
316	EVA SUPPORT CNTL PNL
317	EVA PNL 1
318	LOCK DEPRESS VLV
319	EVA HATCH
320	TV STATION
321	EXTENDABLE BOOM PNL
323	EVA PNL 2
325	AFT HATCH, PRESS EQ VLV
326	AFT HATCH HANDLE

PANEL	
NO.	NAME
700	CNTL PNL H_2O DUMP/ WINDOW HTR
701	S063 UV SYNC
702	SIA
703	M074 EXP
705	FOOD PREP TABLE
706	H_2O DUMP VLV
707	FOOD TRAY 1
708	FOOD TRAY 2
709	FOOD TRAY 3
711	UTILITY OUT WARDRM

PANEL	
NO.	NAME
600	SIA
601	UTILITY OUT 1&2
607	FLARE ALERT PNL
610	GMT CLOCK
611	CB PNL REFRIG
612	CB PNL HI PWR & UTIL OUT, TV
613	CB PNL LTG, EXP, C&W
614	CB PNL HSS TCS
615	CB PNL AM OWS PWR FEEDERS
616	CB PNL LTG, REFRIG, C&W
617	CB PNL EPS, INSTR, TCS
618	FIRE SENSOR CNTL PNL
619	FIRE SENSOR CNTL PNL
620	M171 ESS N_2 SUPPLY PNL
621	M092 EXP
622	METABOLIC ANALYZER
623	ESS
624	M171 EXP
625	M171 VAC VENT VLV
626	M507 EXP
627	SIA
628	UTILITY OUT 3&4
629	M092 VAC VENT VLV
630	CNTL PNL WARDROOM/WMC LTGS
631	PWR OUT (UTILITY 5&6, HIGH PWR ACCY 1&2)
632	M131 EXP
633	FIRE SENSOR CNTL PNL
634	TRASH AIRLOCK
638	FIRE SENSOR CNTL PNL
639	FIRE SENSOR CNTL PNL
640	VAN ALLEN BELT DOSIMETER
642	TV STATION

PANEL	
NO.	NAME
800	CNTL PNL WMC
801	SIA
803	PWR OUT UTILITY 172 HIGH PWR ACCY 1&2
817	CB PNL WASTE PROCESSOR
818	PROCESS OR VENT URINE DUMP
822	M074 EXP
825	WASTE COLLECTION MODULE
831	WATER DUMP VLV

Figure A-2. Crew Station Panel Accessibility

		H (Waste Mgt. Compartment)	W (Wardroom)	S (Sleep Compartment)	E (Experiment Compartment)	F (Forward Compartment)	D (Forward Dome)	A (Airlock Module)	ST (Structural Transition Section)	M (Multiple Docking Adapter)
Command Module	CM	2.8	2.8	2.8	2.6	2.3	1.8	1.2	.8	.6
Multiple Docking Adapter	M	2.2	2.2	2.2	2.0	1.7	1.2	.6	.2	
Structural Transition Section	ST	2.0	2.0	2.0	1.8	1.5	1.0	.4		
Airlock Module	A	1.6	1.6	1.6	1.4	1.1	.6			
Forward Dome	D	1.0	1.0	1.0	.8	.5				
Forward Compartment	F	.5	.5	.5	.3					
Experiment Compartment	E	.2	.2	.2						
Sleep Compartment	S	.2	.2							
Wardroom	W	.2								

NOTE:
Times are estimated and noted in minutes. These are unencumbered times, i.e. not suited and not carrying equipment. The time estimate applies for direct translation from Crew Station to Crew Station (Fig A-2) in either direction.

Table A-2. Translation Times (Estimated)

B. Activation/Deactivation (times are Julian Days and GMT - hours and min.)

1. SL-2 CSM Deactivation to quiescent mode is scheduled from $122^d01^h00^m$ to $122^d16^h07^m$ and for SL-3 from $211^d13^h25^m$ to $211^d16^h50^m$.

   a) After fuel cell shutdown (approximately 13 days until cryo depletion) residual H_2 will vent to space and O_2 will be vented to cluster.

   b) Detailed procedures for CSM systems deactivation to quiescent state are in CSM/SLOH Vol. 2, Sec. 4.5.

2. CSM quiescent mode configuration and power requirements are TBD pending redefinition.

3. SL-2 CSM Activation from quiescent mode is initiated at $149^d03^h20^m$ and for SL-3 at $267^d03^h30^m$.

   a) Detailed procedures for CSM systems activation from quiescent state are in CSM/SLOH Vol. 2, Sec. 4.5.

4. SWS Activation is scheduled as follows:

   SL-2: $122^d13^h00^m$ to $122^d17^h00^m$ and $122^d18^h30^m$ to $122^d21^h00^m$.

   SL-3: $211^d15^h05^m$ to $211^d17^h05^m$ and $212^d02^h50^m$ to $212^d07^h05^m$.

   SL-4: TBS

   a) OWS entry and activation is scheduled with the crew in shirtsleeves. If required, masks will be donned for initial entry into the MDA and OWS.

   b) Detailed SWS activation procedures are in MDA/AM/OWS SLOH Vol. 2.

   c) Detailed ATM activation procedures are in ATM SLOH Vol. 2, Sec. 4.

      •Initial systems activation is performed by IU or ground command and verified by telemetry monitoring.

5. SWS Deactivation is scheduled as follows:

   SL-2: $147^d14^h55^m$ to $147^d18^h20^m$, $148^d07^h30^m$ to $148^d11^h00^m$, $148^d12^h00^m$ to $148^d18^h00^m$, and $149^d03^h50^m$ to $149^d08^h03^m$.

   SL-3: $266^d15^h11^m$ to $266^d14^h00^m$, $266^d15^h00^m$ to $266^d17^h20^m$, $266^d19^h30^m$ to $266^d20^h30^m$, $267^d04^h00^m$ to $267^d07^h00^m$, and $267^d07^h30^m$ to $267^d08^h15^m$.

   SL-4: TBS

Flight Plan Notes
Activation/Deactivation

a) Detailed SWS deactivation procedures are in MDA/AM/SLOH Vol.2.

b) Detailed ATM deactivation procedures are in ATM SLOH Vol. 2, Sec. 4.

·ATM C&D console will be enabled for ground command.

C. Communications and Instrumentation

1. CSM

a) CSM high bit rate TM with the power amplifier turned off, will be the normal mode of operation.

b) S071/S072 experiment memory will be dumped by ground command via the CSM real time TM link.

c) The CSM tape recorder (DSE) will not normally be used to record routine systems data, with the exception of the periods from launch through activation and deorbit through re-entry.

d) The DSE is required for D008 operations (initial 2 weeks at approximately 6 to 7 hours/day and for astronaut operations) and electron spectrometer.

e) All normal cluster voice is via the CSM communications system. The CSM is an integral part of the intercom system and will also be used for downlinking R/T voice on S-band (VHF backup). If VHF is required, antenna switching must be performed by the crew.

f) Selection of CSM omni antennas is normally under ground control via CSM or AM command systems. Crew selection of antennas is available as backup.

g) TV ground rules and schedules are presented in note C.2.g, SWS Communications and Instrumentation.

2. SWS

a) Intercom

- Both parallel channels may be used simultaneously and either A or B can be recorded, but only the selected one can be recorded at a time unless the CSM audio stations are bussed together or the AM to CSM call or crew alert command is initiated.

- Experiment recording may be effected by crew at recorder control panels 204, 542, and 617 in the STS, OWS forward compartment and OWS experiment compartment. Voice recording can be initiated at AM tunnel Aft lock compartment panel 316 or at any of 13 speaker intercom boxes which are located as follows:

Location	Crew Station	Panel No.	Location	Crew Station	Panel No.
MDA Forward Compartment	M	102	Wardroom	W	702
MDA Forward Compartment	M	116	WMC	H	801
MDA Aft Compartment	M	131	Sleep Compartment	S	901
OWS Dome	D	401	Sleep Compartment	S	902
OWS Forward Compartment	F	520	Sleep Compartment	S	903
OWS Forward Compartment	F	540			
Experiment Compartment	E	600			
Experiment Compartment	E	627			

- The same voice channel is routed to all AM recorders.
- Selection of channel for recording is made at the AM instrumentation panel.
- The volume control on each SIA is bypassed by the C&WS caution time. The warning tone is applied directly to the SIA speaker except in the sleep mode. The sleep mode is overridden by AM crew alert or crew call.

b) Teleprinter

- Ground command functions will be given priority over teleprinter messages on the data uplink.
- The teleprinter will be controlled by ground command.
- All ground stations have teleprinter uplink capability.
- Detailed information concerning teleprinter message characteristics and specific update formats are found in SKYLAB FLIGHT PLAN UPDATE MESSAGES, MSC, September 27, 1971.

c) STDN (Spacecraft Tracking and Data Network) ground stations considered for this Skylab flight plan are Ascension, Bermuda, Carnarvon, Goldstone, Grand Canary, Guam, Hawaii, Huneysuckle Creek, Madrid, Merritt Island, Texas, Newfoundland for launch support, and the Vanguard off the coast of South America.

d) Cluster Data Systems General Information

Table C-1 presents AM and ATM experiment data recording requirements.

- Table C-2 presents a summary of which systems and functions are controlled by each cluster command system. Also indicated is whether the crew or ground has primary control over the function for normal mission operations.

- Table C-3 presents a summary of the cluster data links by function and frequency for each module data system. Where a function for one module is routed to another module is also indicated (i.e., D/T voice for all cluster modules is downlinked via the AM).

- Table C-4 presents a summary of tape recorder characteristics for each cluster data system, EREP and M133. This information will be used as a baseline for determining recorder utilization to be scheduled in the detailed timeline.

e) Airlock Module Data System

- The systems housekeeping recorder will normally be operated by ground command with crew as backup - as will the transmitter operations. The two experiment data recorders will be operated in the record mode by the crew. Dump of these recorders will be by ground command with crew backup.

- The AM tape recorders are replaceable in flight.

- AM systems housekeeping will normally be recorded 2 to 4 hours per day during the manned phases and nominally dumped once per revolution. During the first 2 weeks of SL-2 and from deactivation to end of the manned period AM recording will be continuous with dump normally once per revolution.

- AM recording should be limited to two hours to allow dump within a nominal site contact.

- The data recorder is prime for voice recording of operational and experiment voice data and is under crew control for voice recording. Voice recording requiring time tags necessitates the simultaneous dump of the PCM track and the voice track to allow time correlation.

- Antenna selection is normally made by ground command with crew backup.

f) ATM Data System

- ATM recorders may not record or dump simultaneously, however, one recorder may dump while the other records.

- The normal operation is for one ATM recorder to be used as the prime recorder, with the second as a backup in case the first fails; However the secondary records will be used one rev per day to ensure reliability.

- All ATM recorder dumps, regardless of length of data recorded, will require 5 minutes.

- The ATM recorder record and dump functions are normally controlled by ground command, but may be controlled by the crew. If no record or stop command is sent, the recorder will automatically return to the record mode 6 minutes following the dump command.

- As no ATM voice recording capability exists, when ATM operations require voice recording, the AM tape recorder must be used.

- Cluster operations requiring recording of attitude information necessitate ATM recording.

g) Television

- Color TV from the cluster (ATM monitor TV is black & white) will be transmitted via the CSM from one of 6 cluster TV connection point, located as follows:

  MDA, AM, OWS forward dome, OWS forward compartment, OWS experiment compartment, CSM.

- The TV camera is an Apollo color camera with a 30ft. cable.

- EVA coverage is via TV mounted on S073/T027 boom.

- Video recorder capability exists onboard the vehicle to record up to 30 minutes of color TV. The recorder has a 1 to 1 record/dump ratio with dump capability nominally controlled by ground command.

- TV transmission, other than crew setup of camera, and selection of source, is effected by ground control.

- TV coverage of rendezvous and docking, formation flight (undocking), experiment operations, workshop tour, systems housekeeping, EVA, and ATM are scheduled. Additionally educational TV programs are scheduled for recovery via recorded and RT TV.

- R/T TV to the MCC is available only from MIL and GDS. The capability to record TV exists at all ground stations.

- ATM TV is scheduled for one GDS or MIL pass each daylight period when pass is concurrent with ATM operation. Each will consist of cycling of the C&D monitor switch through H -1, H -2, XUV monitor, and WLC positions. Video from passes other than over GDS or MIL are not scheduled and are left to R/T decision.

h) The ground rules that will be used for scheduling ATM and AM recorder utilization in the detailed timeline are as follows:

- The ATM recorder and the AM data recorder will be run 2 to 4 hours per day for systems housekeeping and as required for experiment support and will be dumped as required (nominally once per revolution).

- The ATM recorder should be dumped every revolution or as required and not exceed 90 minutes of recording time as recorder capability is limited to 90 minutes.

- The AM data recorder should be dumped every revolution and not exceed two hours of recording time in order that nominal site contact time is not exceeded.

- A minimum acceptable site pass for ATM data dump is considered to be 6 minutes above 3 degrees elevation, because the ATM recorder requires 5 minutes for dump and 1 minute for configuration.

- An additional one minute above AM recorder dump time is required at each site pass for configuration and reconfiguration of the AM recorders.

- The ATM recorder and AM data recorder are normally under ground command for both record and dump.

- The AM experiment recorders are normally under crew control for recording and ground command for dump.

- Each recorder's recording and dump cycle will be shown on the detailed timeline. If only systems data is required, no indication will be shown for each recorder. Where the recording is required for specific experiments, the experiment number is so indicated. Recorder dumps will be indicated by a "D" in the proper recorder column. The block selected for a dump indicates the entire dump opportunity (site pass) while the number in the block indicates the time (in minutes) required to dump the data recorded on that particular recorder. No time will be indicated for the ATM recorder as all ATM recorder dumps require 5 minutes.

- CSM and MDA Spectrometer recordings will be shown on the detailed timeline.

i) EREP sensor data will be recorded on the EREP tape recorder. All recording will be 7-1/2 ips except when S192 is required - then recording will be at 60 ips. All EREP recorder utilization is by crew control. Further EREP tape recorder utilization ground rules are TBD.

- Voice recording in support of EREP is by utilization of the AM recorders. Attitude data recording requires the ATM recorder.
- EREP sensor data is recorded for return of EREP data tapes at the end of each mission.

j) M133 data is recorded on one of two available recorders reserved for M133 (one parameter requires AM recorder support). Tapes will be returned for post-mission evaluation.

k) Clocks located within the orbital assembly module are as follows:

- DDU - STS
- DDU - OWS experiment compartment (ceiling)
- GMT Clock - MDA
- Digital Clock (elapsed time or time remaining) - STS
- 4 Portable Timers (time remaining)

GMT clocks are resettable to zero by DCS command or manually by crew.

Experiment	Data Recorder	Exp 1 Recorder	Exp 2 Recorder	ATM Recorder
M092	D+V	D+(V)	D	D
M093	D+V	D+(V)	D	D
M131	D+V	D+(V)		D
M133*	D			
M171	D+V	D+(V)	D	D
M509	D+V	D+(V)		D
M509 (Suited)	D+V	D+(V)	D	D
M512	D+V			D
S020	D+V			D
S063	D+V			D
S073/T027	D+V	D+(V)	D	D
S183	D+V	D+(V)		D
T002	D+V			D
T013	D+V	D+(V)		D (RT)
T020	D+V			D
T027 (Sample Array)	D			
ATM ***	D+V			D
EREP**	D+V			D

D = Data Record V = Voice Record (V) = Backup Voice

* M133 has own recorder for detailed data.

** EREP has own scientific data recorder.

*** Onboard TV recorder capability exists for recording of ATM or operational video.

Other experiments not listed may require either log entries or voice annotation requiring data corder.

Table C-1. Experiment Recording Requirements

SYSTEM/FUNCTION	COMMAND SYSTEM			PRIMARY CONTROL FOR ORBITAL OPS	
	CSM	AM	ATM	CREW	GROUND
CSM					
Antenna Select	X	X (CSM OMNI)			X
Xmitter Operation	X				X
Dump exp. data (S071, S072)	X				X
DSE record & dump	X				X
EPS				X	
ECS				X	
G & N				X	
AM, MDA, OWS					
Antenna Select		X			X
Xmitter Operation		X			X
Data RCDR, record and dump		X			X
Exp tape RCDR 1 & 2, record				X	
Exp tape RCDR 1 & 2, dump		X			X
Video recorder		X		X	X
Exp S149		X			X
EPS		X			X
ECS		X			X
Voice Record				X	
Teleprinter		X			X
Refrigeration on/off		X			X
ATM					
Antenna Select		X	X		X
Xmitter Operation		X	X		X
Tape RCDR 1 & 2, record & dump		X	X		X
EPS			X		X
APCS		X (TACS)	X	X	
Thermal Control System			X	X	
Experiments				X	

Table C-2. Ground Command Summary

DATA SYSTEM	DOWNLINK	UPLINK	FREQUENCY (MHZ)
CSM (USB)	R/T TM R/T VX		2287.5 (All cluster R/T VX via CSM)
	D/T TM D/T VX R/T TV D/T TV		2272.5 (Primary D/T VX via AM)
		CMD VX	2106.4 (All cluster R/T VX via CSM)
CSM (VHF)	VX	VX	296.8/259.7
AM (UHF)		CMD (Including Teleprinter)	450
AM (VHF)	R/T TM D/T TM D/T VX		230.4 and 235.0 and 246.3 (All cluster D/T VX normally via AM)
ATM (UHF)		CMD	450
ATM (VHF)	R/T TM D/T TM		231.9 and 237.0

Table C-3. Skylab Data Link Summary

RECORDER CHARACTERISTIC	DATA SYSTEM				TV	EREP	M133
	CSM		AM	ATM			
No. of Recorders	1		3/4 *	2	1	1/1 *	2
No. of Channels/Recorder	5-PCM/1-VX/8-Spare		1-PCM/1-VX	1-PCM	1	28	7
	LBR (1)	HBR (2)					
Record Speed (ips)	3.75	15	1-7/8	4	12	7.5/60(4)	-
Dump Speed (ips)	120	15	41-1/4	72	12	N/A	N/A
Dump Ratio	32:1	1:1	22:1	18:1	1:1	N/A	N/A
Record Data Rate (KBPS)	1.6	51.2	5.12(3)	4	--	N/A	N/A
Dump Data Rate (KBPS)	51.2	51.2	112.64(3)	72	--	N/A	N/A
Maximum Record Time	120 min.	30 min.	4 hours	90 min	30	192 min/ 24 min	100 hrs
Maximum Dump Time	3.75 min.	30 min.	10.9 min	5 min	30	N/A	N/A
Data Content	Operational & Exp D008 TM and CSM voice, if required		MDA/AM/OWS Opr. TM, Exp. TM and Cluster VX	ATM Opr. and Exp. TM (Including Cluster Pointing)	TV	EREP Sensor scientific & support data	M133 Sensor Data

* Spares
(1) Low Bit Rate
(2) High Bit Rate
(3) Experiments M509, T013 require record and dump data rates of 5.76 and 126.72 KBPS, respectively.
(4) All EREP recording is at 7.5 ips except when S192 is used-then 60 ips speed is required.

Table C-4. Skylab Recorder Characteristic Summary

D. Guidance, Navigation, and Control

1. CSM

a) CSM G&N status during docked mode consists of the inertial and optics subsystem powered down and the CMC in standby.

b) IMU is not aligned periodically during SKYLAB quiescent mode unless operationally required.

c) Scheduled IMU realignments are shown in Table D-1.

d) Star availability for CSM IMU realignment for the duration of SL-2 and SL-3 is presented in figures D-1 and D-2 respectively which shows the path of the gimballed optics axis (45 degree half-cone-angle field of view).

e) Prior to TPI the SWS lights shall be tracked by COAS. The ground will turn acquisition lights off shortly after sunrise or set the AM timer to shut them off to prevent crew observation of the intense light at short range.

2. Orbital Assembly APCS

a) OA Primary Attitude Modes

- Solar Inertial (SI) - The solar inertial attitude is defined as the principal SWS X axis in the orbital plane with the Z axis coincident with the sun line. The +Z axis points directly toward the sun and at orbital noon the +X axis is in the direction of the velocity vector. Refer to Figure D-3, Skylab Dynamic Body Axis System for axes reference.

- Z-Local Vertical (Z-LV) - The Z-local vertical attitude is defined as the SWS geometric X axis in the orbital plane with the Z axis along the local vertical. The +X axis is in the direction of the velocity vector except for rendezvous when -X is in direction of velocity vector.

b) APCS Control Modes

- Standby Mode - Used during activation and deactivation of the APCS and when OA control by APCS is not required.

- Solar Inertial Mode - Maintained for CSM docking and undocking, nominal workshop operations and SWS storage.

- Solar Inertial (Experiment Pointing) Mode - Maintained for ATM experiment operation.

- Z-Local Vertical Mode - Maintained for CSM rendezvous and EREP pointing. Offset pointing while in Z-LV is possible in 0.1 degree increments up to 51.1 degrees about the previously selected Z-LV experiment pointing attitude reference.

- Attitude Hold (CMG) Mode will be used during post separation fly-around and the docked RCS trim burns.

c) Primary control of the APCS is by crew selection of attitude modes (switch positions on ATM C&D console) under control of the ATMDC. The crew can override automatic control or input supplementary pointing commands via the digital address system (DAS). Ground command may control the attitude by input to the ATMDC via the digital command system (DCS).

d) Ground command and crew access to the ATMDC is gained by crew selection of ENABLE position on CMPTR ENABLE/INHIBIT switch. Ground command access to ATMDC also requires crew selection of ENABLE position on GRD CMD ENABLE/INHIBIT switch.

e) During crew input to the ATMDC via the DAS, ATM DCS commands are automatically inhibited.

f) The ATMDC is scheduled for navigation and timing update daily, and prior to Z-LV maneuvers. The following navigation and timing parameters may be updated by ground uplink or crew input via DAS.

- Timer A and B
- Greenwich Meridian Celestial Longitude
- Bias term for rotation about sun reference axis to SI axis
- Z-LV maneuver time
- Change to previous ascending node crossing time
- Orbital ascending node
- Mean anomaly of earth in solar orbit
- Ascending node period
- Orbital Inclination
- Ratio of earth to orbital radius
- Change to previous orbital midnight time
- First order nodal regression rate
- Time interval between orbital midnights
- Bias CMG momentum components

- Orbital rate

- Minimum dump interval

All parameters are updated in each update. ATMDC updates are effected each morning and prior to each Z-LV maneuver.

g) TACS will be used for momentum management when necessary.

h) CMG desaturation maneuvers are inhibited during experiments S183, S019, M074 (SMMD calibration), BMMD operation, T027/S073 (Modes 1a, 1b, 1d, 1e, 2a, 3a, 3c), S063 (F02).

i) For Z-LV maneuvers CMG desaturation may not be inhibited one rev prior to a Z-LV pass nor two revs following the pass. Figure D- 4 represents the number of consecutive momentum dump inhibits which can be done without using TACS. Curve A resulted from a nominal case computer simulation of orbital dumps and inhibits for 16 days. Curve B is the conservative estimate of what is really required for momentum management and will be the basis for scheduling.

j) Control system gain changes are scheduled after CSM docking to configure the APCS for the docked mode and prior to CSM undocking to reconfigure the APCS for the unmanned mode. These changes are effected by ground command to the ATMDC.

k) A reference star will be tracked continuously or partly through the orbit on all manned orbits for which ATM and other selected experiments are scheduled. Reacquisition by the crew of one of the three specified target stars is required when star occultation occurs for TBD hours or during an experiment period requiring star tracker data. The three specified target stars are Canopus, Archernar, and Alpha Crux. The star reacquisition schedule is TBD. There are no requirements to operate the star tracker during the unmanned portions of the Skylab mission.

RENDEZVOUS SEQUENCE		
APPROXIMATE GET (HRS)	ALIGNMENT TYPE	PURPOSE/NOTES
0.6	P52 OPT 3	CHECK G-SENSITIVE LAUNCH DRIFTS
IMMEDIATELY FOLLOW-ING FIRST ALIGNMENT	P52 OPT 2 (TALIGN) USE NORMAL COARSE ALIGN FOLLOWED BY SIGHTING ON TWO STARS	ESTABLISHES RENDEZVOUS REFSMMAT (LVLH AT TPI)
2.3	NC1	
3.4	P52 OPT 3	DRIFT CHECK
NOTE: IF PC IS RQD, PERFORM P52 OPT 3 DURING 1st NIGHT PERIOD AFTER NC1. THEN ENTER P38 SEQUENCE.		
4.6	NC2	
8.0	DOCKING	
8.5	P52 OPT 3 TWO STARS	PROVIDES ACCURATE IMU FOR THE ESTABLISHMENT OF THE IMU/ATM MATRIX IN P50 + ANOTHER DRIFT CHECK
8.7	P50 OPT 1 PARTIAL UPDATE USING SUN SENSOR IN-FORMATION	P50 SHOULD BE PERFORMED WITH VEHICLE UNDER SUN SENSOR CONTROL (I.E., NOT DURING CG DUMP OR IN DARK-NESS) - GROUND WILL PROVIDE A TIME TO START IN THIS CASE - RELAY N23 TO GROUND
22.0 22.3	P52 OPT 3 TWO STARS RCS TRIM 1A (IF REQ'D)	AGAIN PROVIDES AN ACCURATE IMU FOR P50 + DRIFT CHECK AND FOR +X RCS BURNS (IF REQUIRED)
22.5	P50 OPT 2 TOTAL UPDATE USING SUN SENSOR + STAR TRACKER DATA	SUN SENSOR CONTROL RQD-- C&D PANEL MUST BE ACTI-VATED TO PROVIDE STAR TRACKER DATA (2 CMN RQD) RELAY N23 TO GROUND

Table D-1. IMU Alignments
(Sheet 1 of 3 Sheets)

RENDEZVOUS SEQUENCE (Cont'd)		
APPROXIMATE GET (HRS)	ALIGNMENT TYPE	PURPOSE/NOTES
22.7	P52 OPT 3, ATM SUN SENSOR + STAR	SAME RESTRICTIONS AS P52 OPT 2. THIS ALIGNMENT IS PERFORMED AS A FINAL VERIFICATION OF DOCKED ALIGNMENT CAPABILITY. (2 CMN REQ'D)
23.3	RCS TRIM 1b	
23.4	G&N POWER DOWN	N93 TORQUE ANGLES SHOULD BE APPROXIMATELY ZERO

ENTRY SIMULATIONS ARE SCHEDULED TO DUPLICATE THE FOLLOWING ENTRY SEQUENCE ON THE NEXT PAGE.

Table D-1. IMU Alignments
(Sheet 2 of 3 Sheets)

ENTRY SEQUENCE		
APPROXIMATE MINUS TIME TO SHAPING	ALIGNMENT TYPE	PURPOSE/NOTES.
-17.6	P51 ATM SUN SENSOR AND STAR TRACKER	REQUIRES SUN SENSOR CONTROL AND C&D PANEL DATA
NOTE: IF G&N IS POWERED UP LATE (IN DARKNESS) CREW CAN DO P51 (TWO STARS).		
-17.0	P52 OPT 1 USE NORMAL COARSE ALIGN FOLLOWED BY SIGHTING ON TWO STARS	ALIGNMENT IS TO A PRELIMINARY ENTRY REFSMMAT - 0-180-0 AT SPS2TIG
-16.5	P50 OPT 2	REAFFIRM ATM/NB ALIGNMENT
-15.8	P52 OPT 3 (not done during Entry Sim	DRIFT CHECK
G&N POWERDOWN		
-5.4	P51 USE ATM SUN SENSOR + STAR TRACKER DATA	SAME NOTES AS ALIGNMENT AT -19 HRS
-5.5	P52 OPT 1 NORMAL COARSE ALIGN FOLLOWED BY SIGHTINGS ON TWO STARS	ESTABLISHES FINAL ENTRY ORIENTATION: 0-180-0 AT SPS2TIG
-1.5	P52 OPT 3	DRIFT CHECK
-1.3	UNDOCKING	
	SHAPING BURN	ORBIT SHAPING
+1.3	P52 OPT 3	FINAL DEORBIT/ENTRY ALIGNMENT
+3.0	DEORBIT	

Table D-1. IMU Alignments
(Sheet 3 of 3 Sheets)

Initial ⊙ ⟶ Final
Track of Optics Axis Centerline

- - - - Initial Gimballed FOV Projection
—·—·— Final Gimballed FOV Projection
——— Boundary of Gimballed FOV Projections

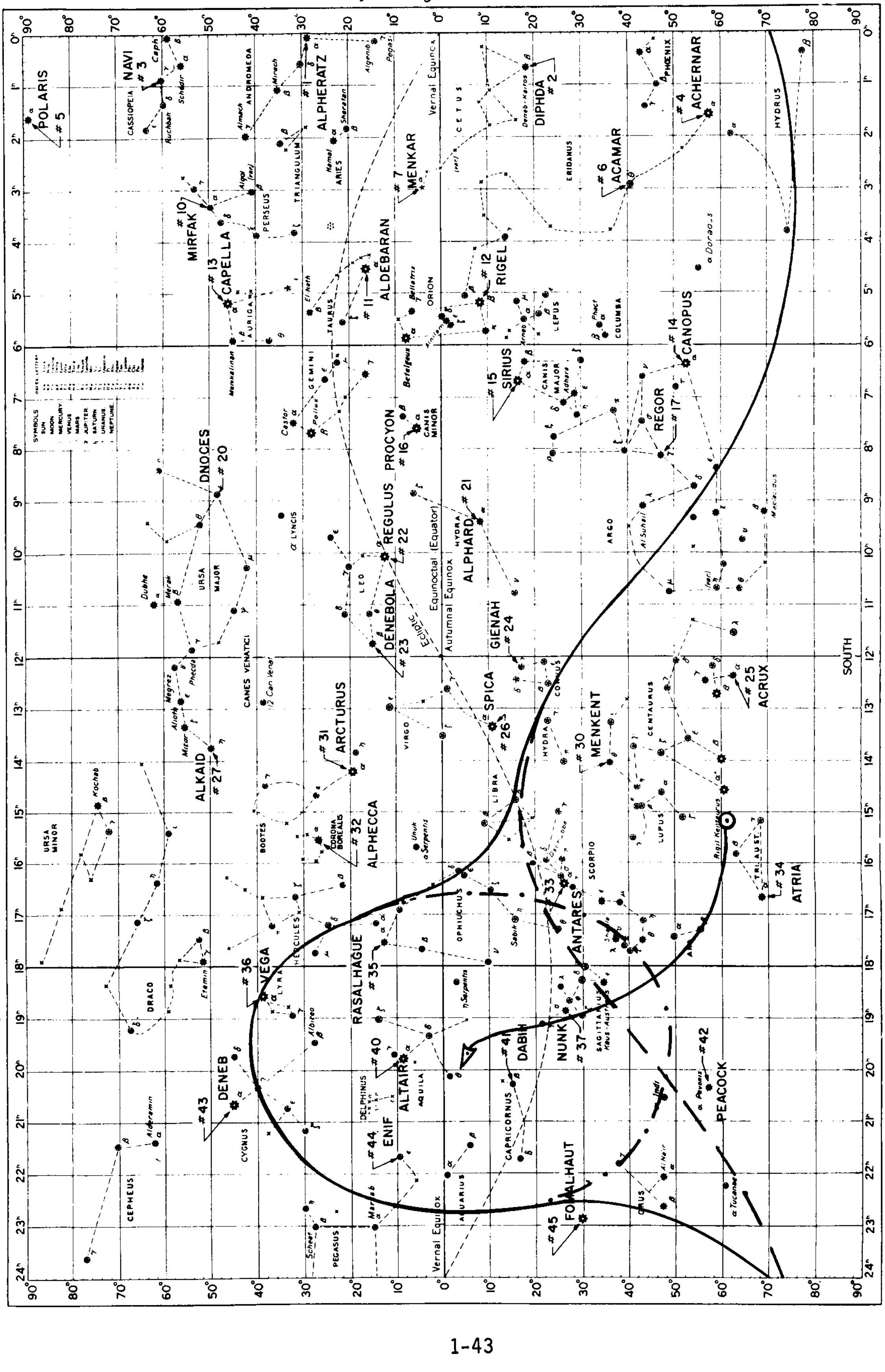


Figure D-1. Optics Field-of-View Projections on Celestial Sphere (SL-2)

—o—o—	July 30, 1973	Gimballed FOV Projection
—Δ—Δ—	Aug 14, 1973	Gimballed FOV Projection
—+—+—	Sept 21, 1973	Gimballed FOV Projection
———		Boundary of Gimballed FOV Projection

Track of Optics Counter-Line

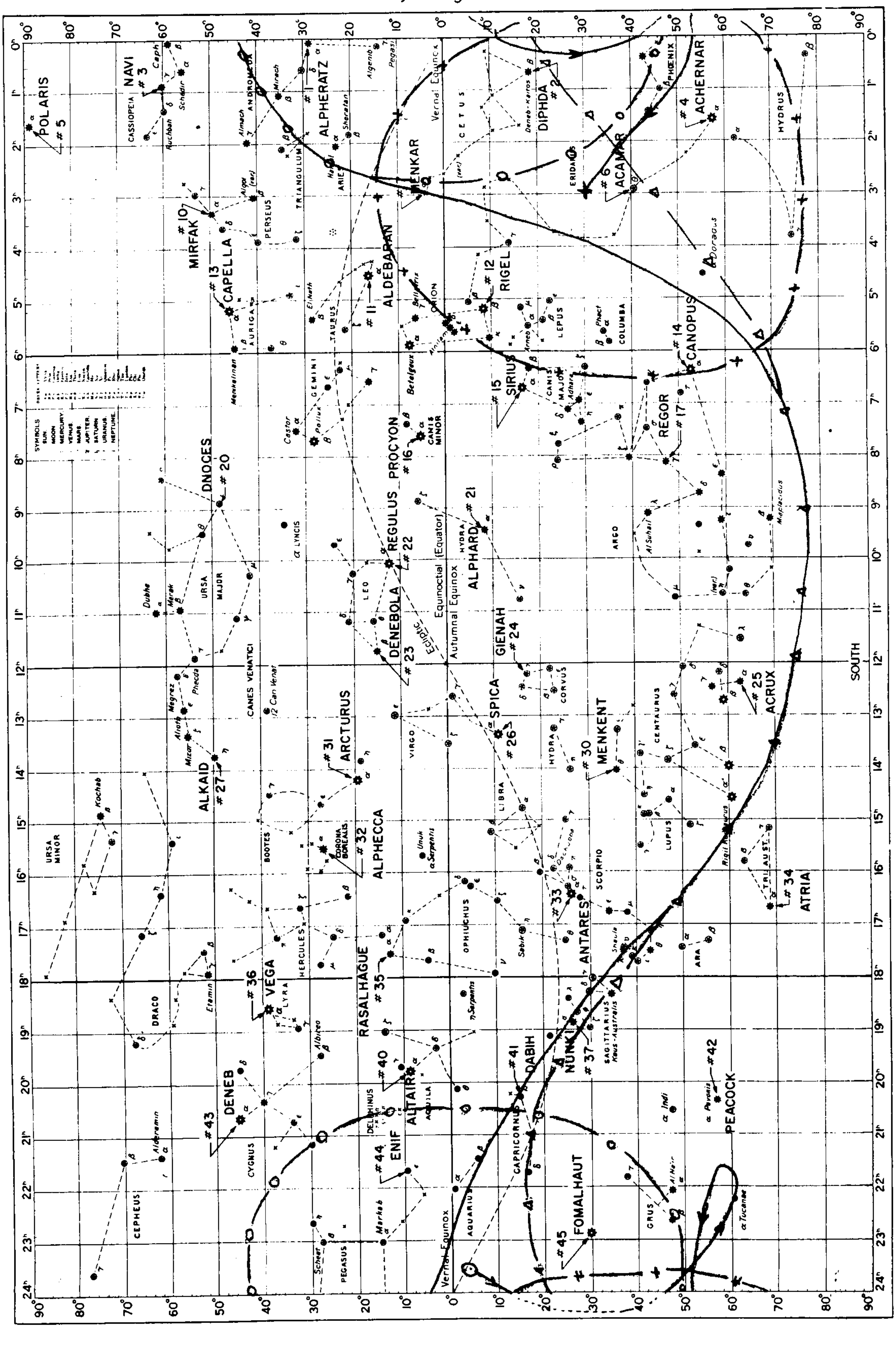


Figure D-1b. Optics Field-of-View Projections on Celestial Sphere (SL-3)

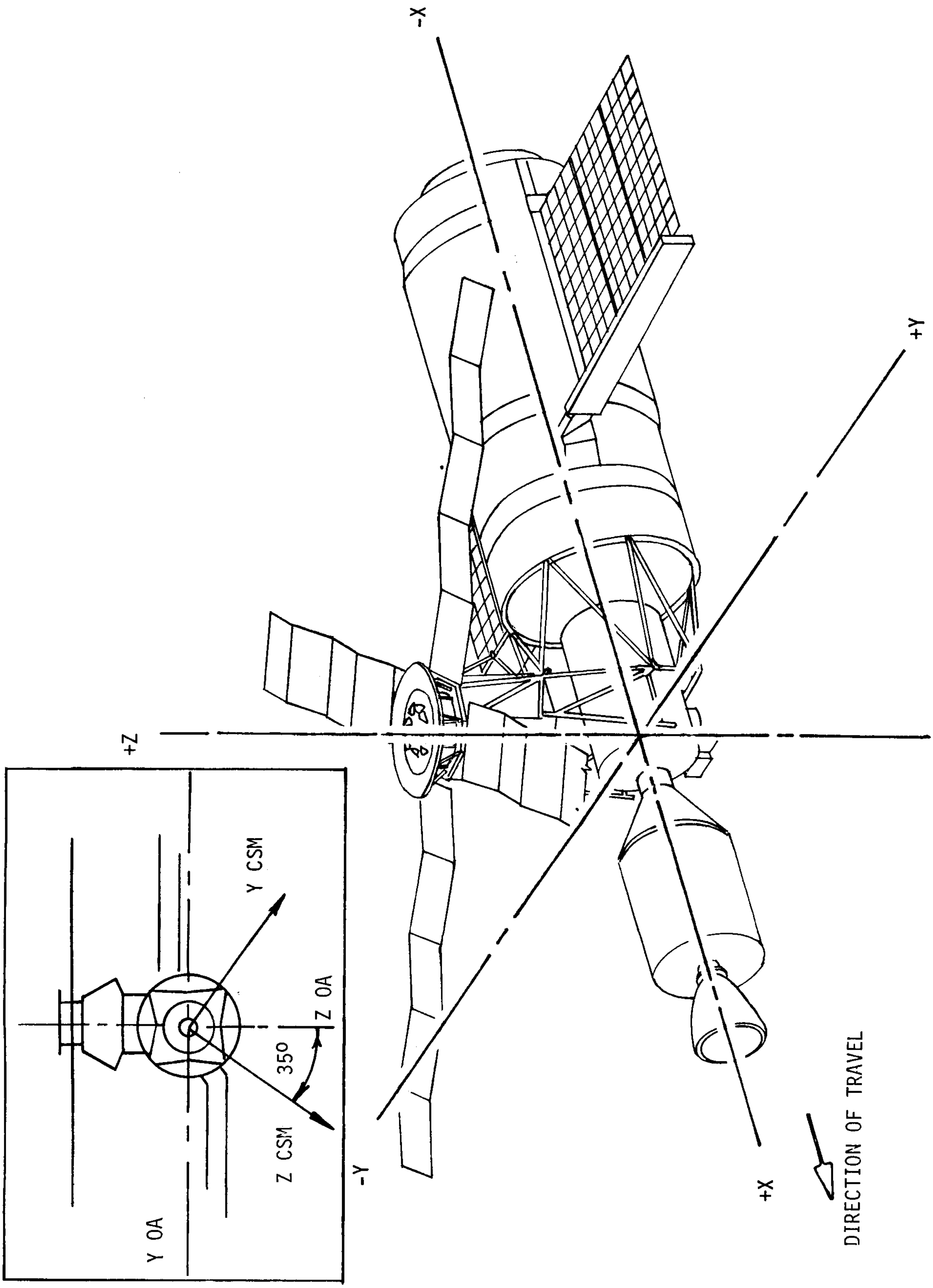


Figure D-3. Skylab Dynamic Body Axis System
(Inset - CSM docking attitude)

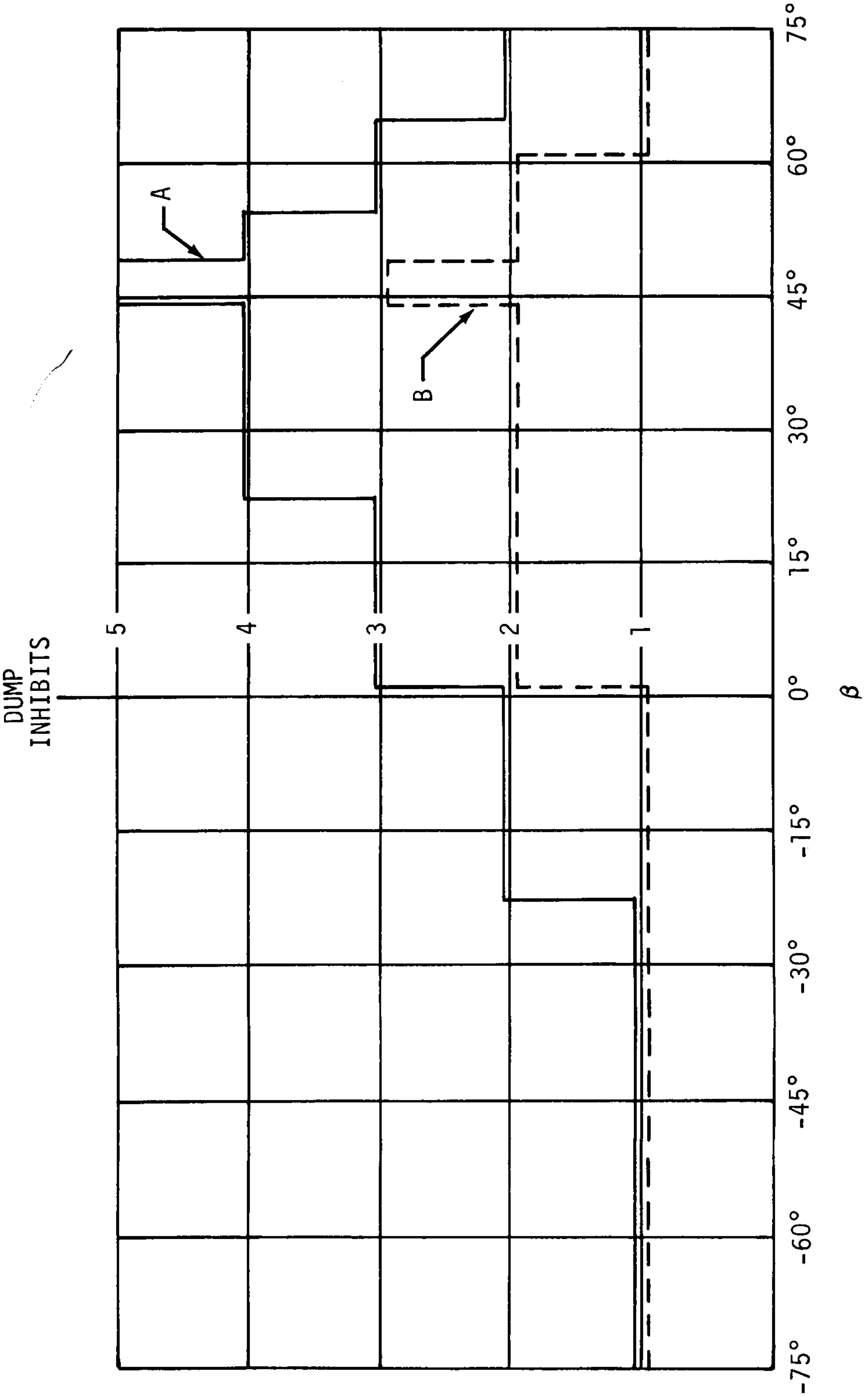


Figure D-4 MOMENTUM DUMP INHIBITS WITH NO TACS

E. Environmental Control

1. CSM

a) LiOH cartridge units are changed after 12 hours of use or if CM CO_2 partial pressure exceeds 5.5 mm Hg. Replacements are stored in MDA and deployed in the CM. The LiOH system is operated during CM use and during molecular sieve bakeout at deactivation. There are 10 units launched aboard the MDA, 10 launched with each of the SL-2 and SL-3 CSMs, and 6 in the SL-4 CSM. LiOH canister change schedule is as follows:

MISSION	DOY	GMT	COMMENTS
2	121	0300	Change one cannister
	122	1300	Remove both cannisters
	148	1650	Install both cannisters
	149	0500	Change one cannister
3	211	1520	Remove both cannisters
	266	1630	Install both cannisters
	267	0515	Change one cannister

b) At lift-off the CSM cabin will contain 60 percent O_2 and 40 percent N_2.

c) The CSM fuel cells remain on until H_2 cryogenic depletion (approximately 13 days).

d) CSM ECS activation requires that the cluster dewpoint be raised to 50^{o}F to prevent suit circuit heat exchanger dryout.

e) The cluster total pressure must be raised to a point higher than the CSM regulation point by over-ride of O_2 pressure control system prior to CSM suit loop activation.

f) During OWS activation the CSM suit loop will be deactivated within 30 minutes after opening the MDA hatch to prevent suit circuit heat exchanger dryout.

2. SWS

a) All command system controlled cluster ECS functions, except the habitation vent valves and the waste tank vent valves, have a manual crew over-ride. Ground command controls ECS functions, except fans and heaters, during storage and activation phases and provides crew back-up during manned phases.

b) Molecular sieve bakeout is performed approximately every 28 days of habitation.

c) Prior to the molecular sieve bakeout at deactivation, the CSM CO_2 removal system must be activated. Bakeout requires 5 hours for each bed. After bakeout the beds are placed in the stowage configuration.

d) Prior to molecular sieve bakeout at the end of the first 28 day period of SL-3 and SL-4 the second molecular sieve must be activated. The primary molecular sieve beds are then baked out and placed in the stowed condition. The mission is continued on the second molecular sieve.

e) Egress for EVA is provided in the AM lock compartment. The minimum time required to depressurize the AM lock compartment from 5.0 to 0.15 psia is 50 seconds and to pressurize the AM lock compartment from 0 to 4.95 psia is 25 seconds. Slower depressurization or pressurization is achievable by partially opening the appropriate equalization valve.

f) The OWS refrigeration system must run continuously throughout the Skylab mission. Either pump or loop selection can be made by the crew. Loop selection only is provided to ground control.

g) MSFN coverage is required during the following:

1) Transfer of the AM Coolant Loop Inverters to Ground Command. MSFN coverage is required to reactivate the necessary pumps for coolant loop operation since they will be shut off by switching the inverters to command.

2) Switching of the RSS pumps. Switching is accomplished by the crewmen but must be confirmed by the MSFN that pump switching did occur.

h) Following rendezvous and docking, the PGAs will be dried and then placed inside PGA bags. The bags with PGAs will be stowed in the CM on orbit to minimize crew handling in the event of a fire in the OWS and subsequent emergency crew transfer into the CM. Before EVA, the crew will retrieve the PGA bags from the CM and transfer the bags to the OWS suit donning station. PGAs will be removed from the bags and donned for EVA. Following EVA, the PGAs will again be dried, placed inside the PGA bags, and stowed in the CM.

F. Electrical Power

1. CSM

a) The entry and post-landing batteries A and B will be turned on five minutes prior to an SPS burn and turned off immediately after completion of burn.

b) Charging of the entry and post landing batteries A and B will begin at docking. Each battery will require approximately 10 hours of charging, for a total of 20 hours. Additional charging is TBD.

c) The fuel cells will operate until H_2 cryo is depleted (any residual H_2 will be vented to space and excess O_2 vented to the cluster atmosphere or overboard). Cryo depletion is after approximately 13 days (14-18 days for SL-3 and SL-4) at which time the CSM EPS will be paralleled with the AM/ATM EPS.

d) Twenty minutes prior to, during and 10 minutes after a fuel cell purge, the H_2 Purge Line Heater (PN3) must be turned on. O_2 is purged for 120 seconds per fuel cell and H_2 purged for 80 seconds. Purging frequency until fuel cell shutdown is once per day for O_2 and every other day for H_2.

e) Inverter 1 feeds AC bus 1 and inverter 2 feeds AC bus 2 for boost through docking and during deorbit and entry. For docked operations, both inverters will be used.

2. AM/ATM

a) Time of CSM-AM/ATM power transfer initiation for SL-2 is DOY 134, GMT 1340; SL-3 is DOY 224, GMT 1300. Time of power termination for SL-2 is DOY 149, GMT 0445; SL-3 is DOY 265, GMT 1200.

b) During some EREP passes or other periods of high electrical power usage, it may be necessary to inhibit certain astronaut support equipment. This power conservation is required to balance power usage with average electrical power available and prevent exceeding the maximum depth of discharge for the AM and ATM batteries. Some loads that can be inhibited during periods of high power usage are given in Table F-1.

Load	Maximum Potential Load If Not Inhibited (Watts)
OWS	
Waste Management Compt. Water Heater (1)	124
Wardroom Hot Water Heater (1)	124
Food Trays (3)	476
Duct Heaters (8)	1582
Waste Processors (3)	247
Light in Compartments Not Occupied	50
MDA	
Wall Heaters (4)	557
Radial Docking Port Heater (1)	17
ATM	
EPEA	65
Experiment Electronics	191

Table F-1. Candidates for Electrical Power Reduction

G. Systems Housekeeping

1. Periodic CSM housekeeping functions are scheduled in the timeline as follows:

Every 2 Days	Weekly Checks
Voltage checks Fuel cell checks Cryo system monitor Batt manifold pressure check & vent H_2O condensate check SPS monitor check RCS monitor check	Alt. prim. loop glycol pumps Top-off CM O_2 supply (repress package) Circulate glycol in sec. loop & recheck in 1 hour Circulate glycol in prim. loop thru radiator #2 & suit heat xchgr & recheck in 1 hour O_2 main regulator check Inspect & dry CM girth rings and CM window frames Place batt A&B on batt bus and check
Total crew time req'd ≈ 20 minutes	Total crew time req'd ≈ 45 minutes

2. Periodic SWS S/HK functions scheduled in the timeline are delineated in Table G-1. The functions are grouped into tasks which are common by function or frequency of performance. S/HK task identifiers are assigned to each task with the number indicating frequency of task performance in days and the letter indicating each separate task for the indicated frequency.

3. Checklists

   a) Pre-sleep checklist

      1) Stow any loose objects.

      2) Configure two intercom boxes to the A-sleep position and one to channel A-ON with reduced volume.

      3) Adjust ventilation diffusers as desired and heat control for crew comfort during sleep.

4) Configure bunks for sleep.

5) Check all cameras (except ATM and those experiments operating) to insure that all film is in the film vaults. (Only 2 transport mechanisms can be stored at once.)

6) Check status of experiments operating during sleep period.

7) Inhibit audible ATM flare alarm (with concurrence of ground).

8) Enable ATM ground command.

9) Ensure adequate paper supply for teleprinter.

10) Dump condensate system.

11) Set up breakfast tray and configure necessary switches and timer.

12) Set lights.

13) Fuel cell purge as req'd.

14) Take Mineral Supplements (W)

15) Log H_2O Gun counter readings (W)

b) Post-sleep checklist

1) Configure bunks for stowage position.

2) Configure intercom for normal operation.

3) Adjust ventilation diffusers and heat control for crew comfort.

4) Check status of experiments operating during sleep period.

5) Voice down crew status report.

6) Enable ATM audible flare alarm.

7) Check teleprinter for messages.

S/HK TASK I.D.	TASK	SCHEDULED INTERVAL (DAYS)	ESTIMATED CREW TIME (MIN)	CREW STA. & LOC.	REMARKS
1a	Dump condensate system	1	20	ST, H	Dump during presleep checklist.
	Reload teleprinter paper cartridge	1	5	ST	Reload during presleep checklist and due to TPTR paper-low indication.
1b	Dry urine drawers and cold plates	1	3-5 min/cmn	H	Perform during collection bag replacement (M071).
1c	Vacuum clean and dry any collected moisture	1	10	ALL	Vacuum loose particles as required.
	Resupply WR and WMC trash bags	1	5	W,H	
	Resupply experiment and sleep compartment trash bags	1	5	E,S	
	Dump trash airlock	1	15	E	Approximately 5 times daily, 3 minutes for each dump.
	ECS Periodic Verification	1	2	E	
3a	Resupply utility wipes	3	5	W,H,E,S	As required.
	Replace waste water bag	3	5	H	Replace as required
	Disenfect trash locker diaphram and inner locker	3	10	W,H,E,S	Schedule with 1c resupply of trash bags.
7a	Disinfect WMC collection module Urine drawers Urine stowage areas Fecal collector seat Urine receiver stowage area Urine receiver bracket	7	10	H	Disinfect WMC collection module during urine collection bag replacement. Cleaning may be required more often if odor develops or heavy urine spillage occurs. Schedule with 1b.

Table G-1. SWS Housekeeping Functions
(Sheet 1 of 3 Sheets)

S/HK TASK I.D.	TASK	SCHEDULED INTERVAL (DAYS)	ESTIMATED CREW TIME (MIN)	CREW STA. & LOC.	REMARKS
7b	Clean WMC coarse filter	7	10	H	Scheduled at any period during the day.
	Replace WMC fine filter	7	5	H	
	Clean OWS air mixing chamber screen	7	5	D	
	Clean AM return duct inlet screen	7	5	A	
	Replace vacuum cleaner bag	7	5	H	
10a	Replace $PPCO_2$ inlet cartridges	10	10	ST	Schedule $PPCO_2$ items at the same time. Other items scheduled individually, if necessary.
	$PPCO_2$ sensor drift check	10	10	ST	
	MDA status light test	10	-	A	
	OWS RSS status light test	10	-	E	
	Rapid Δ P and fire sensor periodic verification	10	20	ST, E	
	OWS emergency lighting periodic verification	10	-	E	
	Waste processor over-temp light test	10	-	E	
	Replace molecular sieve solids trap filter assembly	10	10	ST	
14a	WMC cleaning and disinfecting Disinfect urine receiver Fecal collect collector Fan switch Hand holds Overhead restraints Tissue dispenser doors and surfaces Towel and washcloth drying restraints	14	30	H	Items may be scheduled individually, but are alike in nature and should be considered as a block task.
	Trash airlock cleaning and disinfecting	14	15	E	

Table G-1. SWS Housekeeping Functions
(Sheet 2 of 3 Sheets)

S/HK TASK I.D.	TASK	SCHEDULED INTERVAL (DAYS)	ESTIMATED CREW TIME (MIN)	CREW STA. & LOC.	REMARKS
14a	(Continued)				
	Dry moisture from food chiller	14	10	W	
14b	Replace sleep restraints (3), top blankets of sleep restraints and pillows	14	10 min/ cmn	S	
28a	H_2O purification check	28	30	D	Check prior to connecting an unused tank to a H_2O system and prior to activation of the H_2O systems for SL-3 and SL-4
	Transfer H_2O source	28	10	D	
28b	Replace WMC charcoal canister	28	15	E	
	Replace fecal-urine collector filter	28	10	H	
	Replace molecular sieve A and B charcoal canisters	28	15	ST	
28c	Replace bottom blankets of sleep restraints	28	10	S	
28d	Bakeout molecular sieve(s)	28	15	ST	
	Replace outlet CO_2 filters	28	10	ST	Done after bakeout.
	PPO_2 Sensors - Replace	28	10	ST	

Table G-1. SWS Housekeeping Functions
(Sheet 3 of 3 Sheets)

H. Habitability

1. Unused food bags from the 12 man-day package in the CSM will be transferred to the OWS food pantry during activation. The bags will be used for days 1-5 or disposed if not used. 3 man-day left in CSM.

2. Every 7 days, a crewman is scheduled to remove a 7-day food supply from one of the eleven food storage containers (CS-F) and transfer the supply to the wardroom food pantry (CS-W).

3. Prior to each 7-day supply of the food pantry, leftovers in the pantry will be returned to the food lockers.

4. After each meal, a crewman is scheduled to place the food to be heated for the next meal in the food trays and set the timers. Frozen foods require 62 minutes to thaw and 70 additional minutes to heat to $150^{o}F$. Food at ambient temperature requires 30 minutes to heat to $150^{o}F$. Food tray timers can be set 15 minute increments up to a maximum of 12 hours.

5. Any food that remains after the completion of a meal must be weighed and documented prior to disposal.

6. The crewman must log the total amount of drinking water consumed during a 24-hour period. Deviations from the amount of water to be used for food reconstruction must also be logged.

7. Each defecation, vomitus deposit, and 120 ml sample of a crewmember's daily accumulated urine is processed for eventual return to Earth in the Command Module. Residual urine in its collection bag, after sample withdrawal at beginning of each day(normally between 11 and 12 GMT),is packaged in a trash bag and disposed of through the trash airlock.

8. The OWS trash airlock (CS-E) is scheduled for use 5 times per day. Those items deposited in the trash airlock are to be recorded on tape to be dumped to the ground. Trash dumps are part of normal systems housekeeping (See table G-1).

9. Visible moisture should be dried at any time, from any area or system, when noticed. Utility wipes may be used for the purpose of spot drying. Additional housekeeping functions are in table G-1.

10. Water volumes used to purge the water distribution system must be recorded.

11. The first and last "eat" periods in the OWS are scheduled as follows:

MISSION	FIRST EAT (DOY,GMT)	LAST EAT (DOY,GMT)
SL-2	122,2200	148,1100
SL-3	212,0719	266,0945
SL-4	TBS	TBS

I. Venting

1. Figure I-1 shows cluster axes, window locations, and vent locations.

2. Table I-1 lists the windows shown in figure I-1 and gives angular locations for these windows. This gives a reference as to which windows may be affected by venting.

3. Table I-2 lists the vents shown in figure I-1 and gives angular locations for the vents as well as duration and frequency.

4. Ground rules for venting are as follows:

   - No direct urine dumps into the waste tank
   - 4680 ml urine per day sealed in bags
   - Five trash dumps per day
   - Selective trash dumps containing bacterial growth potential
   - Condensate Tank will be normally vented into the waste tank. Contingency overboard dump.

5. CSM RCS firings should be minimized.

   - No controlled venting, dumping or RCS firings 15 minutes prior to, or during, optical experiment operations (except 30 minutes prior to, and during S019).
   - All window, optical and attitude sensor covers in place and during controlled venting dumping, and hypergol firings.
   - All protective covers in place at least 15 minutes after conclusion of RCS or controlled venting/dumping operations.

6. Table I-3 shows scheduling criteria for vents.

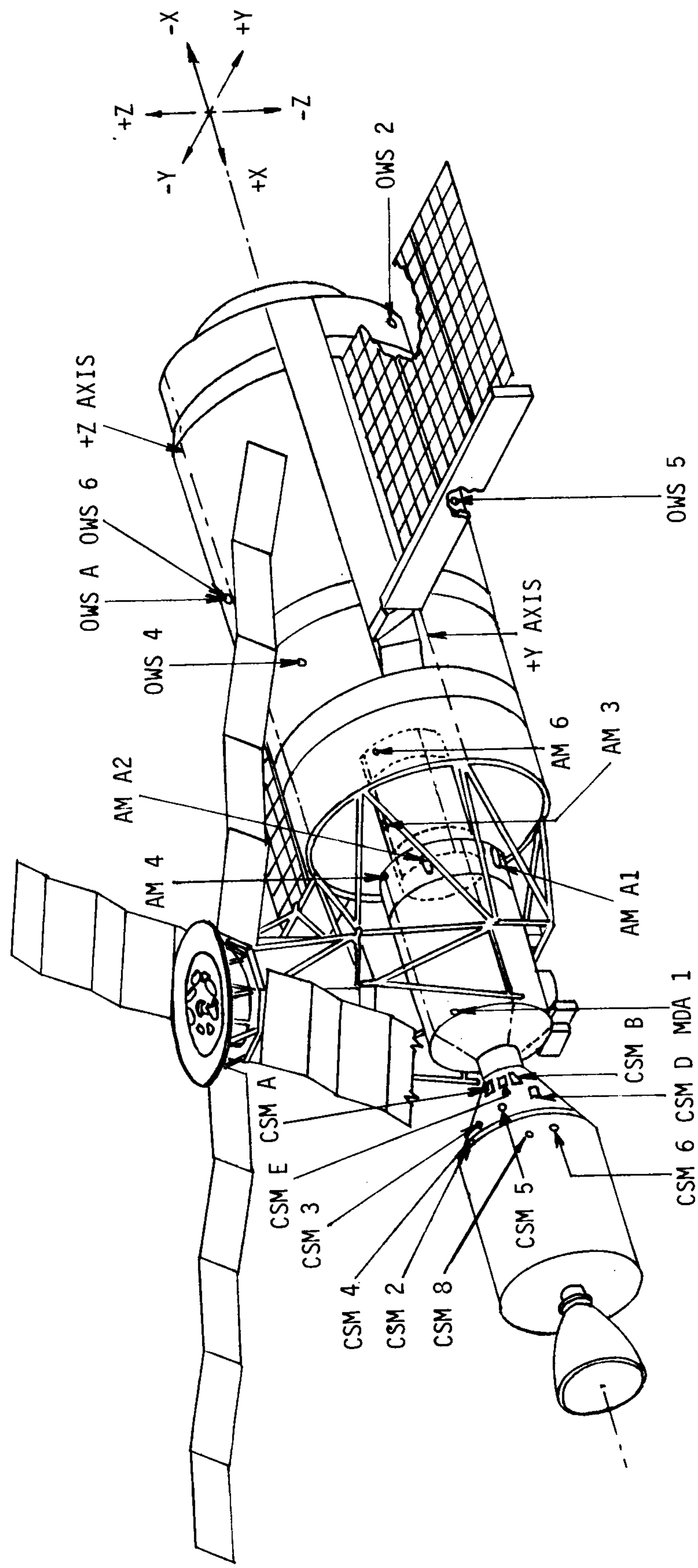


Figure I-1. OA Window and Vent Location
(Sheet 1 of 2 Sheets)

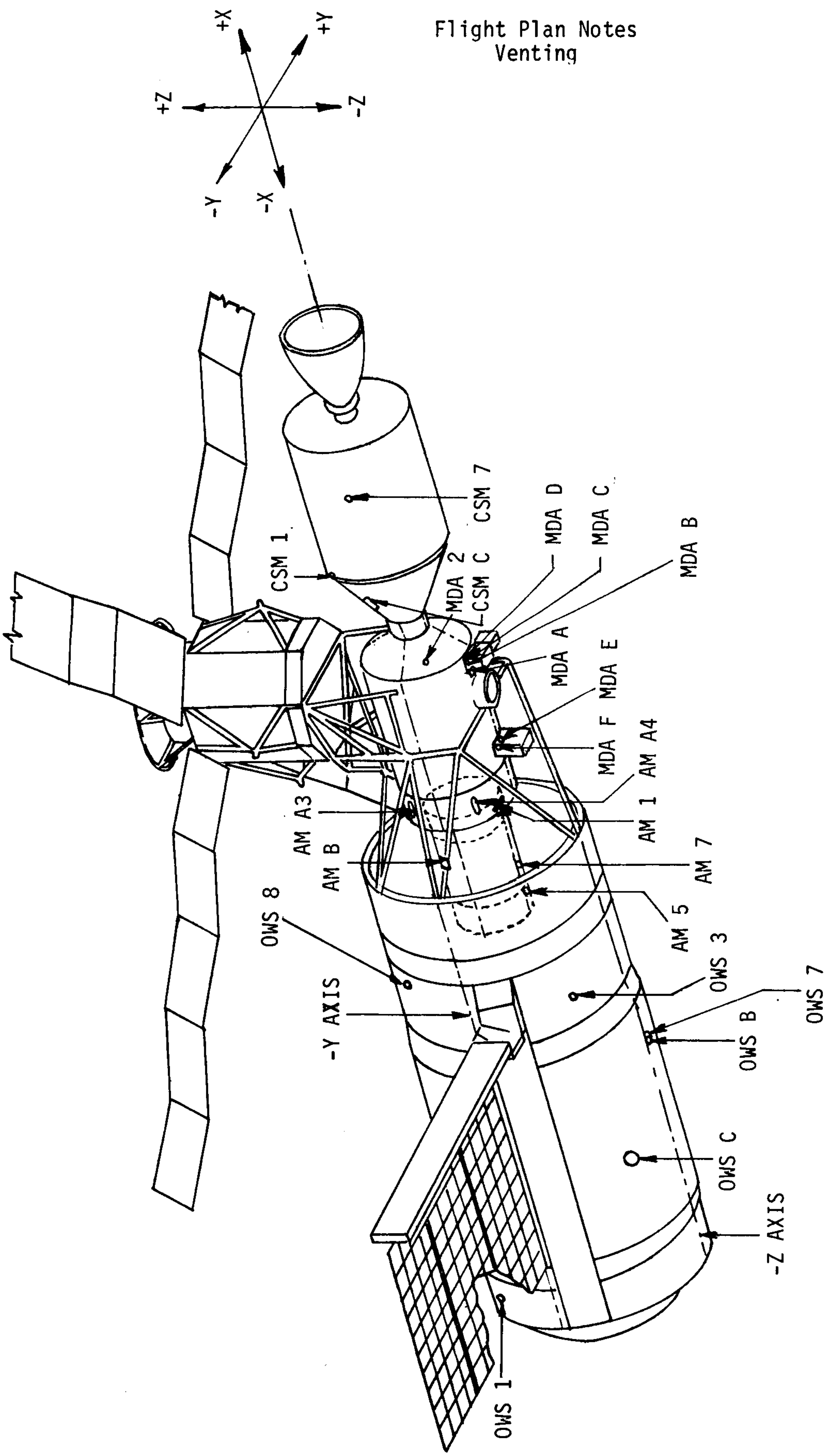


Figure I-1. OA Window and Vent Location
(Sheet 2 of 2 Sheets)

MODULE AND WINDOW NAME	WINDOW LOCATION ANGULAR (DYNAMIC AXIS)
CSM	
A. LEFT RENDEZVOUS (DOCKING)	3.3° OFF +Z TOWARD +Y
B. RIGHT RENDEZVOUS (DOCKING)	23.3° OFF +Y TOWARD +Z
C. LEFT SIDE VIEWING	25.5° OFF +Z TOWARD -Y
D. RIGHT SIDE VIEWING	5.5° OFF +Y TOWARD -Z
E. CENTER HATCH	35° OFF +Z TOWARD +Y
MDA	
A. S190 EXPERIMENT WINDOW	ON -Z AXIS
B. S191 VIEWFINDER/TRACKING PORT	12.7° OFF -Z TOWARD -Y
C. S191 CRYOGENIC UNIT PORT	2.9° OFF -Z TOWARD +Y
D. S191 SHORT WAVELENGTH PORT	13.7° OFF -Z TOWARD +Y
E. S192 SHORT WAVELENGTH PORT	0.3° OFF -Z TOWARD -Y
F. S192 THERMAL PORT	5.3° OFF -Z TOWARD -Y
AM	
A. AM VIEWING PORTS	
1)	37.87 OFF -Z TOWARD +Y
2)	37.87 OFF +Y TOWARD +Z
3)	37.87 OFF +Z TOWARD -Y
4)	37.87 OFF -Y TOWARD -Z
B. EVA HATCH WINDOW	45° OFF +Z TOWARD -Y
OWS	
A. SOLAR SCIENTIFIC AIRLOCK	0.15° OFF +Z TOWARD -Y
B. ANTI-SOLAR SCIENTIFIC AIRLOCK	1.88° OFF -Z TOWARD +Y
C. WARDROOM WINDOW	25.9° OFF -Z TOWARD -Y

Table I-1. OA WINDOW LOCATIONS

MODULE AND VENT NAME	CREW CON-TROLLED	ANGULAR LOCATION	FREQUENCY	DURATION	SCHEDULING CRITERIA
CSM					
1. Steam	N/A	27.5^{0} off +Z toward -Y	---	---	Contingency use only; CM cooled by OWS ECS.
2. Urine Dump	N/A	16^{0} off +Z toward -Y	---	---	Contingency use only; CMN will use OWS waste facility.
3. Aux Urine Dump	N/A	25^{0} off +Z toward +Y	---	---	Contingency use, back-up to above.
4. Waste Water Dump	N/A	6^{0} off +Z toward -Y	---	---	Contingency use; fuel cell water will be stored in SM tank.
5. Air	Yes	34.5^{0} off +Y toward +Z	once per mission	---	Exhausts docking tunnel at undock-ing.
6. Fuel Cell Hydrogen Purge	Yes	4^{0} off +Y toward -Z	every day for 13 days	80 sec per fuel cell	Manual purge, frequency requirements approximate.
7. Fuel Cell Oxygen Purge	Yes	4^{0} off -Y toward -Z	every other day for 13 days	120 sec per fuel cell	Manual purge, frequency requirements approximate.
8. Fuel Cell Hydrogen Cryogenic Dump	Yes	2.58^{0} off +Y toward +Z	---	See NOTE	Will vent fuel cell cryogenics if fuel cells are shut down prior to cryo depletion. O_2 cryogenics are vented to the cluster atmosphere or overboard. NOTE: Duration dependent upon cryo amount remaining.

Table I-2. Vent Location and Schedule
(Sheet 1 of 5 Sheets)

MODULE AND VENT NAME	CREW CON-TROLLED	ANGULAR LOCATION	FREQUENCY	DURATION	SCHEDULING CRITERIA
MDA					
1. Vent Valves	No	45° off +Z toward +Y	once	9 min 32 sec	Opened 5 min before SL-1 liftoff - closed when MDA press reaches nominal .5 psia. No further planned usage, manned or unmanned.
2. Experiment	Yes	30° off -Y toward -Z	M551, 552, 553, 554, 555 M479-37	See Note 0.24 sec	Open during each performance M551-2:39, 3 times; M552-8:00; M553-0:44, 2 times; M554-6:08; M555-118:22. Most contamination from M551, M552, and M553. Prior to each M479 performance.
AM					
1. Molecular Sieve (NPV) Bake out event (NPV)	No Yes	On -Z Axis	6/orbit 1/28 days	15 min 5 hrs for 1 bed (2 beds)	Cyclic during manned phases; no anticipated usage during unmanned portions.
2. Condensate Tank	Yes	---	1/day	6 min	Will normally be vented into the waste tank. May be vented earlier but not later than 24 hours. Contingency overboard vent.
3. EVA Depressurization	Yes	8° off +Z toward -Y	1/EVA	92 sec	Vents the Airlock prior to EVA
4. Nitrogen Regulator Relief	N/A	On +Z Axis	---	---	Contingency use only; active only if GN_2 supply system regulator fails open. Could occur with any N_2 overpressure.

Table I-2. Vent Location and Schedule
(Sheet 2 of 5 Sheets)

MODULE AND VENT NAME	CREW CON-TROLLED	ANGULAR LOCATION	FREQUENCY	DURATION	SCHEDULING CRITERIA
AM (Cont)					
5. Aft Compartment Relief	N/A	10^{o} off -Z toward +Y	---	---	Contingency use only; functions only if cabin pressure exceeds 5.5 psia
6. Airlock Compartment Relief	N/A	30^{o} off +Z toward +Y	---	---	Contingency use only; functions only if cabin pressure exceeds 5.5 psia
7. Forward Compartment Relief	N/A	10^{o} off -Z toward +Y	---	---	Contingency use only; functions only if cabin pressure exceeds 5.5 psia
OWS					
1. Waste Tank NPV-A	See 2.	18^{o} off +Z toward -Y	See 2.	See 2.	See 2.
2. Waste Tank NPV-B		18^{o} off -Z toward +Y			
Initial Blowdown	No		Once	(to 0.5 psia)	Initial blowdown to vacuum occurs prior to solar array deployment and CMG spinup.
Urine Dump	Yes		1/day	10 min	After sample withdraw, each bag (3) will be crimped to prevent urine leakage and placed inside trash bag and then dumped.
Trash Dump	Yes		5/day	10 min	Contains waste foods, clothes, towels, tissues

Table I-2. Vent Location and Schedule
(Sheet 3 of 5 Sheets)

MODULE AND VENT NAME	CREW CON-TROLLED	ANGULAR LOCATION	FREQUENCY	DURATION	SCHEDULING CRITERIA
OWS (Cont)					
Waste Processor	Yes		1/day	≈10 hr	Dries fecal matter and vomitus. Very small amount of moisture vented.
Water Purge and drain (WMC and WR)	Yes		1/Mission	20 hr	Drain water system at end of SL-2,3,4. Purge water system with iodine rich water at beginning of SL-3 and SL-4. Drain water system of air at beginning of SL-2.
3. Habitation Area NPV-A	See 4.	25^{0} off -Z toward -Y	See 4.	See 4.	See 4.
4. Habitation Area NPV-B		25^{0} off +Z toward +Y			
Initial Blowdown	No		Once	30 min	Initial blowdown to 0.74 psia occurs prior to solar array deployment and CMG spinup. Final blowdown to 2.0 psia occurs after crew departure.
Final Blowdown	No		1/Mission	4.5-6 hrs	
5. Experiment Vacuum					Vented during M092 or M171 performance; both vent under meteoroid shield; vented mass will come out the sal's, wardroom window, each annular end of meteoroid shield
M171	Yes	40^{0} off -Z toward +Y	M171-15	25 min	
M092	Yes	31^{0} off -Z toward +Y	M092-25	15 min	
6. Solar Scientific Airlock	Yes	0.14^{0} off +Z toward -Y	1/installation in SAL and 1/removal	Less than 5 min	Vacuum source for: S020, S063, S073/T027, T027 and T025 (very small volume vented)
7. Anti-Solar Scientific Airlock	Yes	4.3^{0} off -Z toward +Y	Same	Less than 5 min	Vacuum source for: S019, S063, S073/T027, S183, S149 (very small volume vented)

Table I-2. Vent Location and Schedule
(Sheet 4 of 5 Sheets)

MODULE AND VENT NAME	CREW CON-TROLLED	ANGULAR LOCATION	FREQUENCY	DURATION	SCHEDULING CRITERIA
8. Pneumatic Bottle Dump	No	43^{o} off +Z toward -Y	once	Less than 4 hours	Blown down after Initiation of habitation area pressurization. No further planned usage.

Table I-2. Vent Location and Schedule
(Sheet 5 of 5 Sheets)

LOCATION	CREW CONTROLLED VENT	PREFERRED SCHEDULING CONSIDERATIONS
CSM	Fuel cell purges	Prior to sleep period after ATM
MDA	M551 M552 M553	Schedule operation at night and at least 30 minutes prior to EREP and SAL experiments
	M554 M555	Same as above although not as critical
	M479	Schedule operation at night and at least 30 minutes prior to EREP and SAL experiments
AM	Mole Sieve Bakeout	Schedule during sleep period to preclude venting during optical experiment operations
	Condensate tank dump	Prior to sleep period after ATM
OWS	Urine Dump	Schedule with morning trash dump
	Trash Dump	Morning (after breakfast), mid morning, after lunch, mid afternoon, after dinner. Schedule at least 30 minutes prior to EREP and SAL experiments
	Waste Processor	Schedule after breakfast (actually, this will occur as crew need arises. In such a case, schedule SAL experiments at least 30 minutes after processor is activated.
	M092 M171	Schedule at least 30 minutes prior to SAL experiments
		The ground should inhibit S149 and ATM (unmanned) during deactivation vents (WMC and WR water system drain) and unmanned vents (habitation area blowdown) T025 and S073/T027 modes 1c and 3d requires coordination with contamination events. S073/T027 modes other than 1a, 1d, 1e, 2a, 3a, 4b, and 5b are not affected by vents.

Table I-3. Scheduling Considerations For Vents

J. Experiments

1. General

a) Table J-1 is an experiment accomplishment matrix for SL-2, SL-3, and SL-4 (TBS). The matrix gives the experiments and functional objectives scheduled as well as those not scheduled for the missions. Experiments are arranged by Flight scheduling precedence numbers.

b) Each experiment (except Medical, ATM and EREP) is assigned a Flight scheduling precedence number (100 to 450) for each mission. The precedence number is a measure of an experiment's value to the program on a given mission. The criteria for using the precedence number in scheduling experiments are as follows:

. Medical experiments, ATM and EREP take precedence above individual experiments and are considered first for Flight scheduling. With available time remaining, experiments are scheduled in order of preference.

. If a unique experiment requirement exists (e.g., Beta angle, new moon, etc.), the experiment is scheduled when that requirement is met.

. If a constraint does not permit an experiment to be scheduled (e.g. SAL availability), move through preferences until an experiment fits the available time block.

. Attempt to schedule film usage to prevent return of partial magazines.

. Attempt to fulfill total requirements as presented in the MISSION REQUIREMENTS document, I-MRD-001E, November 1, 1971.

c) Table J-2 is a man hour/mission hour utilization summary for each mission (SL-4,TBS). Experiments and times are those scheduled in each individual timeline. ATM data taking time indicates daylight time and setup time for each data period between the 400 K.M. atmospheric constraint. In addition to the 100 hour minimum ATM data taking time for SL-2(220 hours for SL-3 and SL-4), additional time will be allowed for JOP 7 and JOP 13.

d) Figure J-1 is a man hour utilization chart for SL-2, SL-3 and SL-4 (TBS). The chart shows man hours per day of year.

e) Table J-3 is a scheduling consideration and constraint matrix for Skylab experiments. The table indicates only that some major constraint or requirement exists. The Experiment Test Objective in Section 4 of this document gives specifics on the constraint.

f) Figure J-2 gives Scientific Airlock usage times as scheduled for SL-2. Ground rules for scheduling of SAL experiments are as follows:

. One performance of T025 (solar airlock) is required before any other SAL experiments are performed.

. Mode 1a and 0a (solar airlock) of S073/T027 must follow T025 but precede the performance of any other SAL experiments.

. Determine viewing opportunities of experiment objectives for desired mission (See 5-g, 5-h, ...of the Experiments section).

. Schedule experiment using Flight Scheduling Precedence logic.

. Minimize SAL operational (set up and stow) repetitions to conserve crew time.

. Attempt to meet all requirements per MRD.

g) Figure J-3 shows the boundary for the South Atlantic Anomaly as defined in the Radiation DTO. The boundary defined by D008 is also shown.

h) Scheduling criteria for the SAA as follows:

. EVA exposure is minimized.

. The X-Ray Event Analyzer of S056 cannot operate in the SAA.

. The Flare Auto Switch of S054 should be inhibited when passing through the SAA.

. Film exposure to the SAA should be minimized.

. S020 and S063 performances should be minimized.

. D008 must operate in the SAA.

. Radiation DTO requires operation in the SAA.

i) This Flight Plan has not kept account of film radiation accumulation, however, this will be done on future flight plans.

j) Due to size of limitations on the summary timeline, time blocks less than 10 minutes cannot be plotted in the crewman columns. Affected experiment tasks are noted in the NOTES column.

k) The following table presents the times for a full moon for SL-2, SL-3, and SL-4:

Year	Month	Day	Hour (GMT)
1973	5	17	0654
1973	6	15	2042
1973	7	15	1224
1973	8	14	0512
1973	9	12	1942
1973	10	12	0700
1973	11	10	1636
1973	12	10	0136

2. Medical

a) On SL-2, the PLT performs an additional M092/M171 on DOY 146 and the CDR performs an additional M092/M171 on DOY 147. On SL-3, the CDR and PLT perform an additional M092/M093 on DOY 263 and the SPT performs an additional M092/M093 on DOY 264.

b) Criteria for meeting the 24-hour urine freezing requirement after launch are as follows:

- Samples from individual urine collections will be frozen within 24 hours after urination. This 24-hour period is assumed to start at lift-off.
- The urine freezer in the OWS is chilled down prior to OWS activation.
- Urine may be processed only after WMC activation.
- One crewman will transfer all individual urine collections from the CM to OWS, obtain and identify samples, and store samples in the freezer.

Rendezvous of M=5 through M=8 are acceptable operationally: however, any delay past M=5 or delay in OWS entry will impact crew procedures, but the 24-hour requirement will not be violated. Urine will be placed in the freezer at the following times:

Mission	GET- HR:MIN
SL-2	23:15
SL-3	12:16
SL-4	TBS

3. ATM

a) Since specific solar behavior cannot be predicted prior to flight, blocks of time have been allocated throughout the timeline to meet anticipated ATM requirements, considering all other demands on the flights.

b) No less than 15 minutes of ATM usable observing is scheduled in any one time block.

c) The crewman performing ATM should be at the ATM console 75 percent of the ATM night periods.

d) ATM operations will require realtime re-scheduling during the mission to accommodate actual solar activity as it occurs,

e) In realtime scheduling, reasonable adjustments to the crew schedule (for all activities except sleep periods) may be made to accommodate realtime flare occurrences.

f) S063-2 should be scheduled 1 to 3 days after a realtime flare.

g) S149 should be scheduled 1 to 2 days after a realtime flare.

h) ATM requires 5 daylight passes for checkout on SL-2 and 4 daylight passes for checkout on SL-3 and SL-4.

i) A TBD rocket will be launched from White Sands on DOY 128 and DOY 134 of SL-2 (SL-3, TBS) for calibration purposes and must be correlated with ATM observation.

j) Lagranian point L4 will be available for ATM observation on June 26, 0000 to 0800 GMT and L5 available for observation on July 15, 1700 to 2400 GMT.

k) All ATM experiment power must be off (except TCS) during EVA in order to ensure safety for the crewman. However, prior to ingress, power will be turned on to insure nominal operation.

l) Table J-4 presents a description of ATM Joint Observing Programs (JOPS) and Building Blocks (BB).

m) Tables J-5 and J-6 present JOP/BB correlation and BB/Experiment correlation respectively.

4. EREP

a) EREP sensors (S190, S191, S192, S193, S194) are scheduled collectively as it is assumed they all can operate at some time during any EREP pass. The SPT crewman is shown performing "S190B" or "S063". For the first three EREP passes, he is shown as "EREP" which consists of assisting with the Z-LV maneuver, monitoring and checkout of equipment.

b) S063-1 requires 120° Z-LV passes for operation. EREP Z-LV times (it not 120° passes) are increased to meet the S063 constraint.

c) EREP selection logic for scheduling is as follows:

- For Solar Inertial passes, $-10^{\circ} \leq \beta \leq +10^{\circ}$.
- For 60° passes, $-50^{\circ} \leq \beta \leq +50^{\circ}$. For 120° passes $-30 \leq \beta \leq +50^{\circ}$.
- For S190 F01, S192 FO's, 1, 2, 3, 5, 6, and S194 F01, the sun elevation angle must be greater than 20° for the winter hemisphere and greater than 30° for the summer hemisphere.
- Each scheduled pass should have at least one schedulable backup pass, which does not necessarily have to be another scheduled pass.
- Backup passes cover same ground track as prime passes due to repeatability of ground track every 71 revolutions.
- Crew available time is considered to be 1300-0300 GMT.
- "EAT" period may be moved $\pm$ 1 hour to accommodate a pass.
- M092/93 and M092/171 may be moved $\pm$ 1 day or $\pm$ 1 hour to accommodate a pass.
- S190B is not scheduled for the first three EREP passes to allow the crewmen familiarization with the other EREP sensor operations.
- Weather probability not taken into account.
- 15, 25, and 20 Z-LV passes scheduled for SL-2, SL-3, and SL-4 respectively.
- 3 and 2 Solar Inertial passes scheduled for SL-3 and SL-4 respectively.

- Passes selected from a shopping list supplied for each mission by MSC MPAD personnel. Prime passes are highest ranking.
- Test sites and test conditions based on EREP Detailed Test Objective document, dated November 1970.
- The OA must be in Z-LV at least 4 minutes prior to EREP data take.

d) Due to activation, the earliest EREP may be scheduled is as follows:

Mission	DOY
SL-2	124
SL-3	212
SL-4	TBS

e) Due to deactivation, the latest EREP may be scheduled is as follows:

Mission	DOY
SL-2	147
SL-3	265
SL-4	TBS

f) Table J-7 gives parameters for those passes scheduled in the timeline for SL-2 and SL-3.

g) Table J-8 shows EREP prime and backup revolutions available for SL-2 and SL-3. The DOY is for primes. A backup occurs 5 days later (71 revolutions). Data is from MPAD shopping list.

h) Figure J-4 gives a pictorial representation of the EREP passes for SL-2 and SL-3. Traces are when data taking begins and ends.

i) Figure J-5 shows typical EREP pointing sequences and Z-LV capabilities.

5. Individual

a) M415 and S150 require no crew interface.

b) S071/S072 (SL-3) require a crewmember only to remove electrical power from the experiments upon completion. Any other operations would be as a backup to ground commands. The ground schedules data dumps and commands the experiments during operation.

c) S149 will be set up and stowed by the crew (two men), but will be commanded by the ground during operation. The crew will perform post-operation tasks and will be the backup for onboard activation. The crew must advise the ground when the experiment is ready for activation.

d) S063-2 desires coordination with high altitude flights.

e) S020 doors must be closed during orbital night in periods of contamination.

f) All experiment film should be in the film vault at the end of each day. See Section 4 of this document for other film constraints.

g) Programs are being developed to show viewing opportunities for the following experiments: S019, S063, S073/T027, S183, and T002. The program will show by mission day and GMT time the opportunities for viewing the experiment's particular area of interest. Figures J-6 and J-7 are examples of experiment viewing opportunities for S073/T027 mode 1-e (fixed position, celestial pole). The objective of this mode is to sight on the celestial poles, with simultaneous observations to the North Pole from a ground station. Constraints used to develop figure J-6 are as follows (each constraint is shown on the graphs):

- North celestial pole within spacecraft field of view.
- Experiment to be performed within one week of new moon.
- Simultaneous observation by spacecraft and a ground station. Ground observations to be made from Maui Island, Hawaiian Islands; (a) during the drakness between astronomical twilights and, (b) when the Moon is not above the horizon.
- Experiment to be conducted from the anti-solar airlock.
- Spacecraft observations at times other than when spacecraft is in Earth's shadow are permitted.

Constraints used to develop figure J-7 for the South celestial pole are the same as above except for ground observations.

For the spacecraft, with location continually changing and instrument freedom restricted to a half-cone angle of 112.5 degrees, each celestial pole is visible for a 60.5 minute period of each orbit (i.e., it is not visible for a 32.8 minute period of each orbit).

h) The constraint for S063-2 (twilight airglow) is that the spacecraft be in such a position that the depression angle of the sun is between 26.5 degrees and 37.5 degrees. In general, there are two twilight periods per orbit; sunset twilight and sunrise twilight, each occuring during orbital darkness. Figure J-8 shows the case when the beta angle is so high that the twilight periods have merged into one long period. Figure J-9 shows the total time per orbit that depression angles are suitable for the experiment.

i) The viewing times for experiment S019 are subject to the following constraints:

. Nightime on spacecraft

. Starfield within gimbal capability of mirror system

. Moon less than 50% illuminated or more than 90^{o} from starfield

The twenty-six criterion A starfields (See MRD) were tested, using these constraints, for the period of SL-2. Figure J-10 shows that at the beginning of the period, there will be eight starfields viewable, and these will be viewable for the entire night period. On May 10, the Moon will become more than 50% illuminated and most of the starfields cannot be used for observation. An exception is starfield 192, which is more than 90 deg from the Moon and hence acceptable. From May 25 on, the viewable starfields increase again to eight, but these will be viewable for less than the full night period.

j) Identical constraints exist for experiment S183. Figure J-11 shows viewing times for twenty-four starfields more or lessly evenly distributed around the galaxy.

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
M071	Mineral Balance	N/A	1-5	--	
M073	Bioassay of Body Fluids	N/A	1	--	
M074	Specimen Mass Measurement	N/A	1	--	
M092/M093	Inflight LBNP/Vectorcardiogram	N/A	1	--	
M092/M171	Inflight LBNP/Metabolic Activity	N/A	1	--	
M110	Inflight Blood Sampling	N/A	TBD	--	4 Performances/ crewman
M131	Human Vestibular Function	N/A	1,2	--	
M133	Sleep Monitoring	N/A	1	--	15 Runs scheduled
M151	Time and Motion Study	N/A	1-6	--	
M172	Body Mass Measurement	N/A	1	--	
ATM	---	N/A	--	--	105:00 Hrs. Observation
EREP	---	N/A	15 Passes	--	
S190B	Earth Terrain Camera	N/A	10 Passes	--	
M487	Habitability/Crew Quarters	450	1-9	--	2-9 at CMN convenience
T003	In-Flight Aerosol Analysis	400	1-4	--	4 at CMN convenience
M512 (M551-M555)	Metals Processing in Space	390	1	--	FO-1 completed for each experiment
T027	Sample Array	380	1	--	Deployed 139 hrs.

Table J-1a. Experiment Scheduling Accomplishment (SL-2)
(Sheet 1 of 3 sheets)

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
M509	Astronaut Maneuvering Equipment	380	1-4	--	
S019	UV Stellar Astronomy	290	1-12	--	
M479	Zero Gravity Flammability	280	--	1-5	SL-4
S073/ T027	Gegenschein/Zodiacal Light/ Contamination Measurement	270	22 scans	23 scans	Insufficient SAL and crew time
D024	Thermal Control Coatings	260	1	--	
S183	UV Panorama	250	1-12	--	
D008	Radiation in Spacecraft	240	1,2	--	
S015	Zero Gravity Single Human Cells	230	1,2	--	
S009	Nuclear Emulsion	220	1	--	Deployed 573 hrs.
T013	Crew Vehicle Disturbances	210	--	1	SL-3
T020	Foot Controlled Maneuvering Unit	200	--	1,2	SL-3/SL-4
T025	Coronograph Contamination Measurements	180	TBD	--	5 Runs
S149	Particle Collection	140	1,2	--	F01 deployed 35 hrs
S020	X-Ray/UV Solar Photography	130	--	1,2	SL-3
S063	UV Airglow Horizon Photography	120	1	1,2	2 Passes of FO-1
M516	Crew Activity/Maintenance Study	110	1-6	--	
T002	Manual Navigation Sightings	100	--	1-6	Insufficient crew time
M415	Thermal Control Coatings	N/A	1-4		Passive

Table J-1a. Experiment Scheduling Accomplishment (SL-2)
(Sheet 2 Of 3 sheets)

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
---	Operational Radiation Measurements	TBD	1-6	--	2-5 Require no crew interface
DTO 20.10	Environmental Microbiology	TBD	1-3	--	
---	Student Experiment	TBD	TBD	--	1½ Hours/Week
---	Educational TV	TBD	TBD	--	1 Hour/Week

Table J-1a. Experiment Scheduling Accomplishment (SL-2)
(Sheet 3 of 3 sheets)

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
M071	Mineral Balance	N/A	1-5	--	
M073	Bioassay of Body Fluids	N/A	1	--	
M074	Specimen Mass Measurement	N/A	1	--	
M092/M093	Inflight LBNP/Vectorcardiogram	N/A	1	--	Extra run on all 3 CMN
M091/M171	Inflight LBNP/Metabolic Activity	N/A	1	--	
M110	Inflight Blood Sampling	N/A	TBD	--	8 performances/CMN
M131	Human Vestibular Function	N/A	1,2	--	
M133	Sleep Monitoring	N/A	1	--	21 runs scheduled
M151	Time and Motion Study	N/A	1-5	--	
M172	Body Mass Measurement	N/A	1	--	
ATM	----	N/A	--	--	238:20 Hrs. Observation
EREP	----	N/A	28 passes	--	Includes 3 SI passes
S190B	Earth Terrain Camera	N/A	15 passes	--	Includes 3 SI passes
M487	Habitability/Crew Quarters	450	1-9	--	2-9 at CMN conveni-ence
T003	Inflight Aerosol Analysis	400	1-4	--	4 at CMN conveni-ence
M509	Astronaut Maneuvering Equipment	380	1-4	--	

Table J-1b. Experiment Scheduling Accomplishment (SL-3)
(Sheet 1 of 3 sheets)

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
S019	UV Stellar Astronomy	290	1-13	--	Additional pass to meet observing time
S073/T027	Gegenschein/Zodiacal Light/ Contamination Measurement	270	1-10	-- --	
D024	Thermal Control Coatings	260	1	--	
S183	UV Panorama	250	1-12	--	
T013	Crew Vehicle Disturbances	210	1	--	
T020	Foot Controlled Maneuvering Unit	200	1,2	--	
T025	Coronagraph Contamination Measurement	180	TBD	--	10 Performances
S149	Particle Collection	140	2,3,4	--	2 stowed,4 setup 75 hours for 3
S020	X-Ray/UV Solar Photography	130	1,2	--	47 hours for 2
S063	UV Airglow Horizon Photography	120	1,2	--	10 Z-LV passes for 1
M516	Crew Activity/Maintenance Study	110	1-5	--	
T002	Manual Navigation Sightings	100	6	1-5	1 performance of each FO (1-5) scheduled, 6 at CMN convenience
S071/S072	Circadian Rhythm - Pocket Mice/ Vinegar Gnat	N/A	1,2	--	Passive
---	Operational Radiation Measurements	TBD	1-6	--	2-5 require no crew interface

Table J-1b. Experiment Scheduling Accomplishment (SL-3)
(Sheet 2 of 3 sheets)

Experiment	Experiment Title	Order of Preference	Functional Objectives Completed	Functional Objectives Not Completed	Remarks
DTO 20.10	Environmental Microbiology	TBD	1-3	--	
---	Student Experiments	TBD	TBD	--	1½ Hours per week
---	Educational TV	TBD	TBD	--	1 Hour per week

Table J-1b. Experiment Scheduling Accomplishment (SL-3)
(Sheet 3 of 3 sheets)

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
MEDICAL		
M071		
1-5	53:35	53:35
M073	N/A	N/A
M074	03:00	03:00
M172	02:48	02:48
M092/M093	35:46	17:53
M092/M171	84:42	42:21
M131		
1	24:00	12:40
2	13:24	06:42
M133	06:45	06:45
M110	04:00	04:00
M151		
SU	01:00	01:00
1-6	TIME INCLUDED IN OTHER EXPERIMENTS	
MEDICAL TOTAL	229:00	150:44
ATM		
S052 S054 S055 S056 S082A S082B	167:27 TOTAL ATM TIME ALLOCATED(INCLUDES SETUP AND NIGHT CYCLES)	167:27
OBSERVING TIME	105:00	105:00

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
EREP		
S190A S191 S192 S193 S194	51:40	24:13
S190B	10:15	10:15
EREP TOTAL	61:55	34:28
INDIVIDUAL		
D008		
1	01:30	01:30
2	01:30	01:30
D024	INCLUDED IN EVA TIME	
MBIO		
1	01:00	01:00
2	00:36	00:12
3	00:30	00:30
M415		
1-4	NO ASTRONAUT ACTIVITY	
M487		
1	01:41	01:41
2-9	AT CREWMAN CONVENIENCE	
M509		
SU	00:50	00:50
1	04:50	02:25
2	05:44	02:52
3	07:06	03:40
4	04:35	02:35

Table J-2a. Experiment/Crew Utilization Summary (SL-2)
(Sheet 1 of 3 sheets)

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
INDIVIDUAL (CONT'D)		
M551	01:24	01:24
M552	00:14	00:14
M553	00:45	00:45
M554	00:20	00:20
M555	00:22	00:22
M516	INCLUDED IN OTHER ACTIVITIES	
RAD		
1	01:40	01:40
2-5	NO CREW INTERFACE	
6	00:51	00:51
S009	01:47	01:47
S015		
1	01:24	01:24
2	01:00	01:00
S019		
SU	01:41	01:41
1-12	07:03	07:03
ST	02:08	02:08
S063		
1	02:12	02:12
S073/T027		
SU	04:53	02:34
1-10	12:05	12:05
ST	05:10	02:35
INDIVIDUAL (CONT'D)		
S149		
1,SU	01:05	00:40
1,ST	01:00	00:35
2,SU	01:20	00:40
S183		
SU	03:46	01:53
1-12	07:00	07:00
ST	04:30	02:15
T003		
1	10:40	10:40
2	00:28	00:28
3	00:48	00:48
4	AT CREWMAN CONVENIENCE	
T025		
SU	02:46	02:46
TBD	05:51	05:51
ST	01:38	01:38
T027		
1,SU	01:34	00:47
1,ST	02:04	00:57
INDIVIDUAL TOTAL	115:20	91:47
PHYSICAL TRAINING	19:30	19:30
STUDENT ACTIVITIES	06:00	06:00
EDUCATIONAL TV	04:00	04:00
UNSCHEDULED TIME (30 MIN)	02:11	02:11

Table J-2a. Experiment/Crew Utilization Summary (SL-2)
(Sheet 2 of 3 sheets)

Experiment and Functional Objective	Total Time	
	Man Hr:Min Per Mission	Mission Hr:Min Per Mission
UNUSABLE TIME (< 30 MIN)	04:50	04:50
SYSTEMS HOUSE-KEEPING TIME	100:59	100:59
OFF DUTY TIME	47:35	----
MISSION PLANNING TIME	47:35	----
REST AND RECREA-TION TIME	47:15	----
EXPERIMENT TIME AVAILABLE	587:43	----

Table J-2a. Experiment/Crew Utilization Summary (SL-2)
(Sheet 3 of 3 Sheets)

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
MEDICAL		
M071 1-5	107:34	107:34
M073	N/A	N/A
M074	03:00	03:00
M172	03:00	03:00
M092/M093	110:32	55:16
M092/M171	132:50	66:25
M110	04:00	04:00
M131		
1	26:04	13:02
2	14:42	07:21
M133	09:45	09:45
M151 1-6	TIME INCLUDED IN OTHER EXPERIMENTS	
MEDICAL TOTAL	411:27	269:23
ATM		
S052 S054 S055 S056 S082A S082B	396:05 TOTAL ATM TIME ALLOCATED(INCLUDES SETUP AND NIGHT CYCLES)	396:05
OBSERVING TIME	238:20	238:20

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
EREP		
S190A S191 S192 S193 S194	97:13	47:06
S190B	14:38	14:38
EREP TOTAL	111:51	61:44
INDIVIDUAL		
MBIO		
1	01:00	01:00
2	00:36	00:12
3	00:30	00:30
M487		
1	01:35	01:35
2-9	AT CREW CONVENIENCE	
M509		
1	05:04	02:32
2	05:44	02:52
3	07:14	03:37
4	05:24	02:42
M516	TIME INCLUDED IN OTHER EXPERIMENTS	
RAD		
1	02:10	02:10
2-5	NO CREW INTERFACE	
6	01:09	01:09

Table J-2b. Experiment/Crew Utilization Summary (SL-3)
(Sheet 1 Of 3 sheets)

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
INDIVIDUAL (CONT'D)		
S019		
SU	01:50	01:50
1-12	06:36	06:36
ST	02:18	02:18
S020		
SU	02:39	02:39
1	04:00	04:00
2	-----	-----
ST	02:04	02:04
S063		
SU	05:43	05:43
1	04:56	04:56
2	16:37	16:37
ST	03:38	03:38
S071/S072	NO CREW INTERFACE	
1		
2		
S073/T027		
SU	11:47	05:53
1-10	39:48	39:48
ST	13:45	06:52
S149		
2,ST	01:40	00:50
3,SU	01:40	00:50
3,ST	01:40	00:50
4,SU	01:40	00:50

Experiment and Functional Objective	Total Time: Man Hr:Min Per Mission	Total Time: Mission Hr:Min Per Mission
INDIVIDUAL (CONT'D)		
S183		
SU	04:07	02:03
1-12	08:34	08:34
ST	06:28	03:14
T002		
1	00:50	00:50
2	00:55	00:55
3	00:50	00:50
4	01:05	01:05
5	00:50	00:50
6	AT CREW CONVENIENCE	
T003		
1	11:12	11:12
2	00:40	00:40
3	02:00	02:00
4	AT CREW CONVENIENCE	
T020		
1	05:00	02:30
2	04:40	02:20
T025		
SU	00:55	00:55
TBD	12:35	12:35
ST	00:47	00:47
INDIVIDUAL TOTAL	220:06	182:14
PHYSICAL TRAINING	44:44	44:44
STUDENT ACTIVITIES	12:05	12:05

Table J-2b. Experiment/Crew Utilization Summary (SL-3)
(Sheet 2 of 3 sheets)

Experiment and Functional Objective	Total Time	
	Man Hr:Min Per Mission	Mission Hr:Min Per Mission
EDUCATIONAL TV	08:07	08:07
UNSCHEDULED TIME (≥30 MIN)	26:51	26:51
UNUSABLE TIME (<30 MIN)	13:00	13:00
SYSTEMS HOUSE-KEEPING TIME	219:37	-----
OFF DUTY TIME	111:45	-----
MISSION PLANNING TIME	106:21	-----
REST AND RECREA-TION TIME	91:08	-----
EXPERIMENT TIME AVAILABLE	1773:07	-----

Table J-2b. Experiment/Crew Utilization Summary (SL-3) (Sheet 3 of 3 sheets)

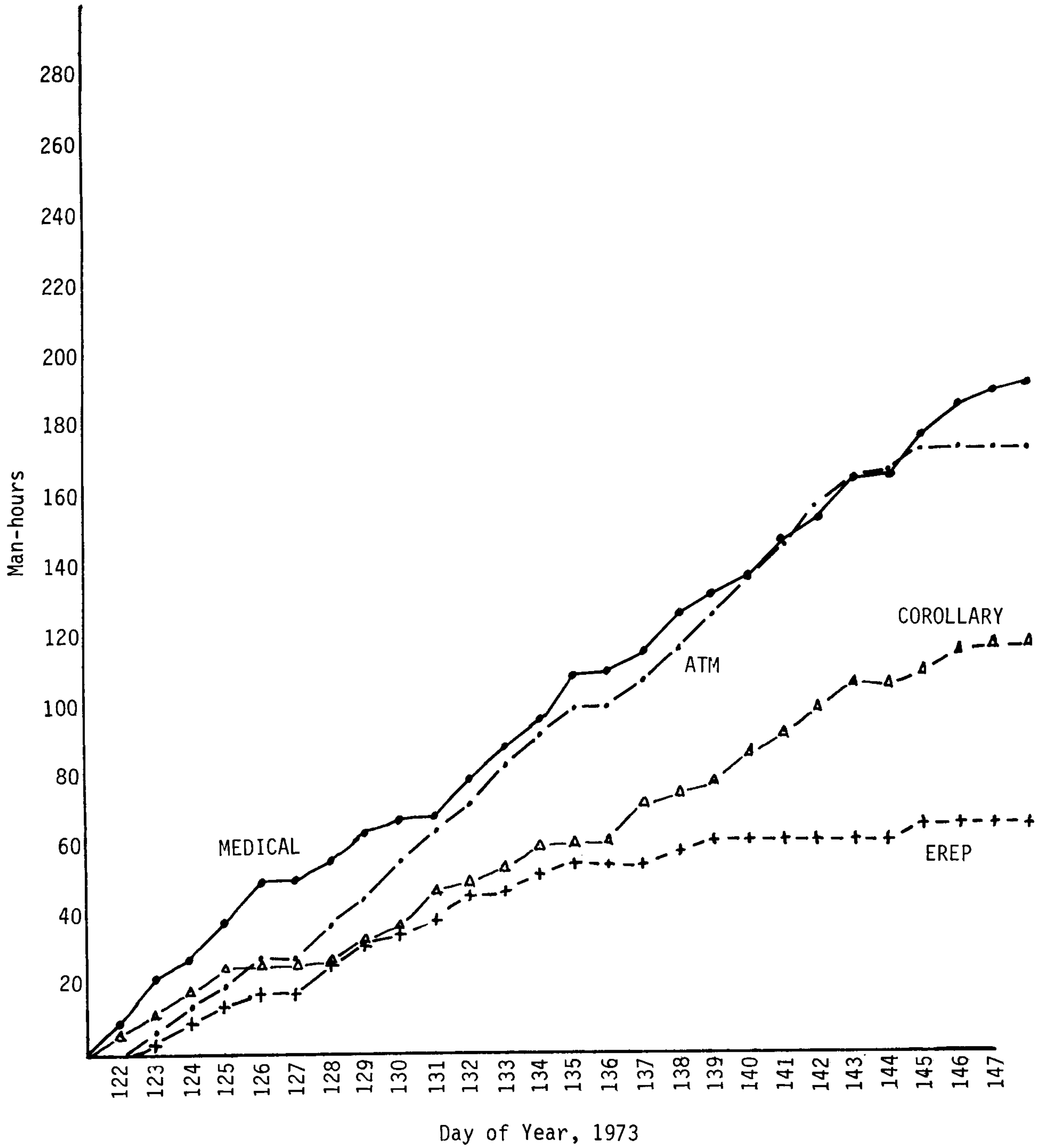


Figure J-1a. Man-hour Utilization (SL-2)

TBS

Figure J-1b. Manhour Utilization (SL-3)

Flight Plan Notes
Experiments

		Constraint	Scheduling										Communication							Mission/Orbit Location							OA Maneuvers				OA Environment					Other							
	Experiment	FO	Preparation Time(min)	Operation Time(min)	Securing Time(min)	Total Time(min)	Flight Scheduling Precedence X 10	FO Percentile Weight	1,2, or 3 Crewmen	CDR as Prime or Backup	SPT as Prime or Backup	PLT as Prime or Backup	AM Recorder-1 Housekeeping	AM Recorder-2,Exp.#1	AM Recorder-3,Exp.#2	ATM Recorder-1	ATM Recorder-2	DSE Recorder	Ground Station	Mission Time (Early/Middle/Late)	Specific Time in Mission	Orbital Period (Daylight/Night)	Anytime During Orbit	Sun Angle/Full Moon	South Atlantic Anomaly	OA Attitude (Z-LV/SI)	Inhibit Momentum Dump	Schedule Around Momentum Dump	Momentum Dump Has No Effect	OA Angular/Linear Movement	Venting	OA Lighting	OA Air Movement	OA Environment	Film Radiation	Scientific Airlock (Anti-Solar/Solar)	Hardware Pointing	Experiment Hardware/Volume	Temporal-Meals/Sleep/Experiment	Astronaut Fatigue Severe Exercise	EVA		
MEDICAL	M071	1-5						20	1	P	P	P									●		●				●	●		●									S M				
	M073	1						100	1	P	P	P											●				●	●		●													
	M074	1				30		100	1		P		●							EML			●				●			●				●									
	M092	1				60		100	2	P	P	P	●	●	●	●				E	●		●							●			●	●					ME	●			
	M093	1				46		100	2	P	P	P	●	●	●	●					●		●						●					●					ME	●			
	M110	1				30			1		P										●		●						●										S M				
	M171	1				85		100	2	P	P	P	●	●	●	●					●		●						●				●	●					ME	●			
	M131	1				60		60	2		P	P	●	●		●					●		●						●	●			●	●					ME				
		2				45		40	2	P	P	P	●	●		●				EML			●						●	●			●	●					E				
	M133	1	12	480	15	507		100	1		P		●								●		●						●														
	M151	1-6							1	P	P	P									●		●						●										E				
	M172	1				60		100	1		P		●							EML			●				●			●				●									
ATM	S052								1	P	P	P	●			●						D			Out	S				●	●						●				●		
	S054								1	P	P	P	●			●						D				S				●	●						●				●		
	S055								1	P	P	P	●			●						D			Out	S				●	●						●				●		
	S056								1	P	P	P	●			●						D				S				●	●						●				●		
	S082A								1	P	P	P	●			●						D				S				●	●										●		
	S082B								1	P	P	P	●			●						D				S				●	●						●				●		
	Hα1&2								1	P	P	P	●			●						D				S				●	●						●				●		
EREP	S190A								1	P			●			●					●	D,N		S,M		S,Z				●	●				●								
	S191								1			P	●			●					●	D,N		S		S,Z				●	●				●		●						
	S192		60		20				2	P			●			●					●	D,N		S,M		S,Z				●	●												
	S193								2	P			●			●					●	D,N		S		Z				●	●												
	S194								2	P			●			●					●	D,N		S		Z				●	●												
	S190B		30		20				1		P		●									D		S		Z				●	●				●	A							
INDIVIDUAL	D008	1				45	24	80	1	P			●					●			●				In				●														
		2				45		20	1	P			●					●			●								●														
	D024	1					26	100	1	P																													E		●		
	M479	1	19	8	3	118	28	35	1	B		P	●							L										●		●						H	E				
		2		8	3	51		15	1	B		P	●							L										●		●						H	E				
		3		14	3	87		20	1	B		P	●							L										●		●						H	E				
		4		8	3	51		15	1	B		P	●							L										●		●						H	E				
		5		8	9	65		15	1	B		P	●							L										●		●						H	E				
	M487	1				30	45		1	B		P	●										●						●														
	M509	1	60	145		205	38	15	2	B		P	●	●		●			●				●						●	●			●					V	E				
		2				165		25	2	B		P	●	●		●			●				●						●	●			●					V	E				
		3				215		40	2	B		P	●	●	●	●			●				●						●	●			●					V	E				
		4				155		20	2	B		P	●	●		●			●				●						●	●			●					V	E				
	M516	1							1	B	B	P											●						●														
	M551	1	25		8	33	39	20	1	B		P	●										●						●									H	E				
	M552	1	14		10	24	39	20	1	B		P	●										●						●									H	E				
	M553	1	45		10	55	39	20	1	B		P	●										●						●									H	E				
	M554	1	8		12	20	39	20	1	B		P	●										●						●									H	E				
	M555	1	22	10	22	54	39	20	1	B		P	●										●						●									H	E				
	S009	1	13	2	12	27	22	100	1	P	B	B	●							E	●			S	Out				●								●						

Table J-3. Experiment Scheduling Consideration and Constraint Matrix
(Sheet 1 of 2 sheets)

Flight Plan Notes
Experiments

Constraint		Scheduling										Communication							Mission/Orbit Location							OA Maneuvers					OA Environment					Other				
Experiment	FO	Preparation Time(min)	Operation Time(min)	Securing Time(min)	Total Time(min)	Flight Scheduling Precedence X 10	FO Percentile Weight	1,2, or 3 Crewmen	CDR as Prime or Backup	SPT as Prime or Backup	PLT as Prime or Backup	AM Recorder-1 Housekeeping	AM Recorder-2,Exp.#1	AM Recorder-3,Exp.#2	ATM Recorder-1	ATM Recorder-2	DSE Recorder	Ground Station	Mission Time (Early/Middle/Late)	Specific Time in Mission	Orbital Period (Daylight/Night)	Anytime During Orbit	Sun Angle/Full Moon	South Atlantic Anomaly	OA Attitude (Z-LV/SI)	Inhibit Momentum Dump	Schedule Around Momentum Dump	Momentum Dump Has No Effect	OA Angular/Linear Movement	Venting	OA Lighting	OA Air Movement	OA Environment	Film Radiation	Scientific Airlock (Anti-Solar/Solar)	Hardware Pointing	Experiment Hardware/Volume	Temporal-Meals/Sleep/Experiment	Astronaut Fatigue, Severe Exercise	EVA
S015	1	11	11	13	35	23	90	1	P			●							E	●		●						●					●							
	2				2		10	1	P			●							E	●		●						●					●							
S019	1-12	25	32	31	88	29	8.3	1	B		P	●									N		M		S	●			●	●	●			●	A	●	H,V	E		
S020	1	35	50	28	63	13	50	1	B		P	●			●				E,L		D				S			●	●	●				●	S	●	V	E		
	2	35	50	28	63		50	1	B		P	●			●						D				S			●	●	●				●	S	●	V	E		
S063	1	24	30	21	75	12	40	1		P		●			●						D		S	Out	Z			●	●	●				●	A	●	V	E		
	2	17	28	14	59		60	1		P		●			●						N		S	Out	S	●				●	●			●	S	●	V	E		
S073/	1					27		1△	B	B	P	●	●	●	●				EML			●						●			●			●	S,A		H,V	E		
T027	2							1△	B	B	P	●	●	●	●				EML		D,N				S	●		●	●	●	●			●	S,A	●	H,V	E		
	3							1△	B	B	P	●	●	●	●				EML		D,N				S	●			●	●	●			●	S,A	●	H,V	E		
	4							1△	B	B	P	●	●	●	●				EML		D,N				S	●			●		●			●	S,A	●	H,V	E		
	5	60		30				1△	B	B	P	●	●	●	●				E		D,N				S			●	●		●			●	S,A	●	H,V	E		
	6							1△	B	B	P	●	●	●	●			●	EML		N		M		S			●	●	●	●			●	A	●	H,V	E		
	7							1△	B	B	P	●	●	●	●			●	EML		N		M		S	●		●	●	●	●			●	A	●	H,V	E		
	8							1△	B	B	P	●	●	●	●				EML		D,N				S	●			●	●	●			●	A	●	H,V	E		
	9							1△	B	B	P	●	●	●	●				M		D				S			●	●	●	●			●	S	●	H,V	E		
	10							1△	B	B	P	●	●	●	●				E		N				S	●			●	●	●			●	A	●	H,V	E		
S149	1,4	25		25		14		2	B	B	P	●										●			S			●		●					A		H,V	E		
	2,3,5	25		25				2	B	B	P	●								●		●			S			●		●					A					
S183	1-12	32	36	51	119	25	8.3	1△	B		P	●			●						N		M		S	●			●	●	●			●	A	●	H,V	E		
T002	1				50	10	25	1			P	●			●						N							●	●	●	●					●		E		
	2				45		17	1			P	●			●						N							●	●	●	●			●		●		E		
	3				45		8	1			P	●			●						N							●	●	●	●			●		●		E		
	4				45		10	1			P	●			●						N							●	●	●	●			●		●		E		
	5				50		10	1			P	●			●						N							●	●	●	●			●		●		E		
	6				65		30	1			P	●			●						N							●	●	●	●			●		●		E		
T003	1				30	40	60	1	B	B	P									●		●						●												
	2				8		15	1	B	B	P								ML	●		●						●												
	3				24		15	1	B	B	P								ML	●		●						●										M		
	4				9		10	1	B	B	P									●		●						●												
T013	1	10	47		57	21	100	3	B	B	P	●	●		●			●			D				S	●			●								V			
T020	1				145	20	60	2	P		B	●			●							●						●	●			●	●				V	E		
	2				150		40	2	P		B	●			●							●						●	●			●	●				V	E		
T025	1	20	50	20	90	18	100	1	B		P	●			●						D				S			●	●	●	●			●	S	●	V			
T027	1	30		60	90	38	100	2	B	B	P	●							E			●						●							S		V			

INDIVIDUAL

△ 2 Crewmen Required For Setup And Stow

Table J-3. Experiment Scheduling Consideration and Constraint Matrix
(Sheet 2 Of 2 sheets)

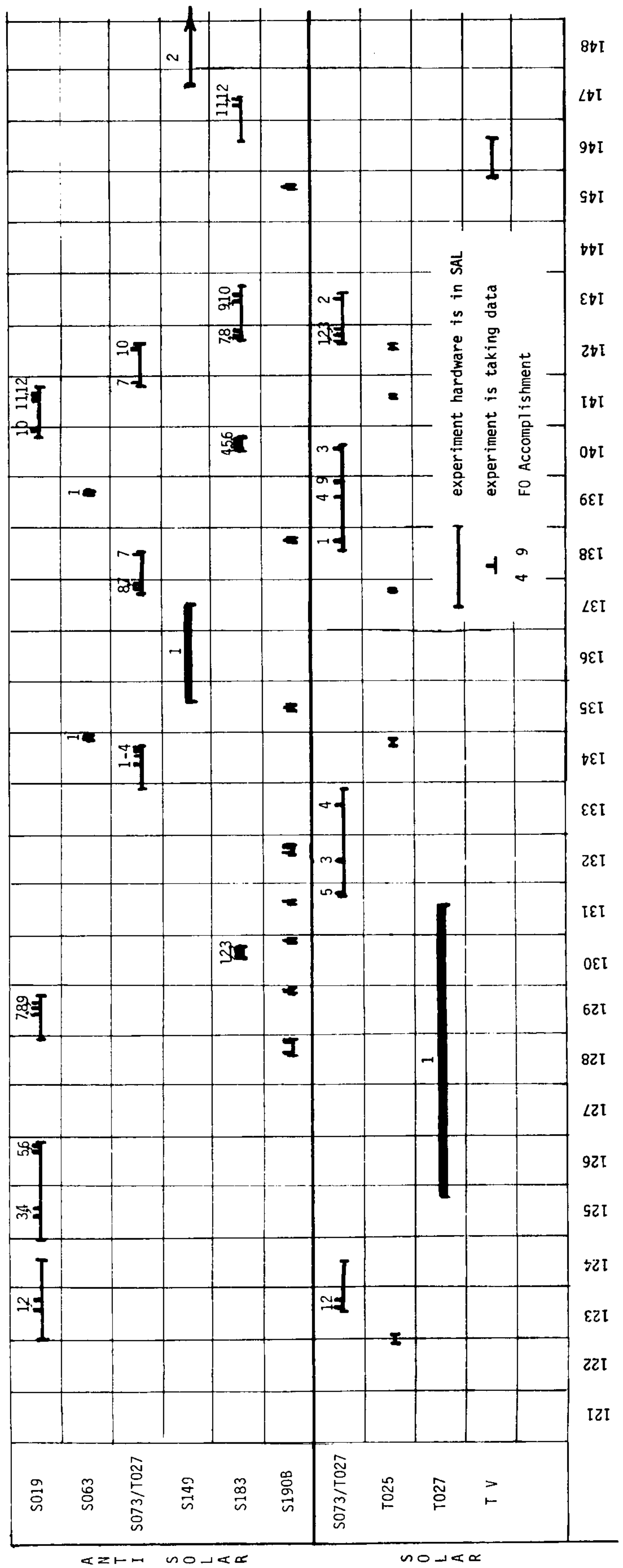


Figure J-2b. Scientific Airlock Usage SL-2

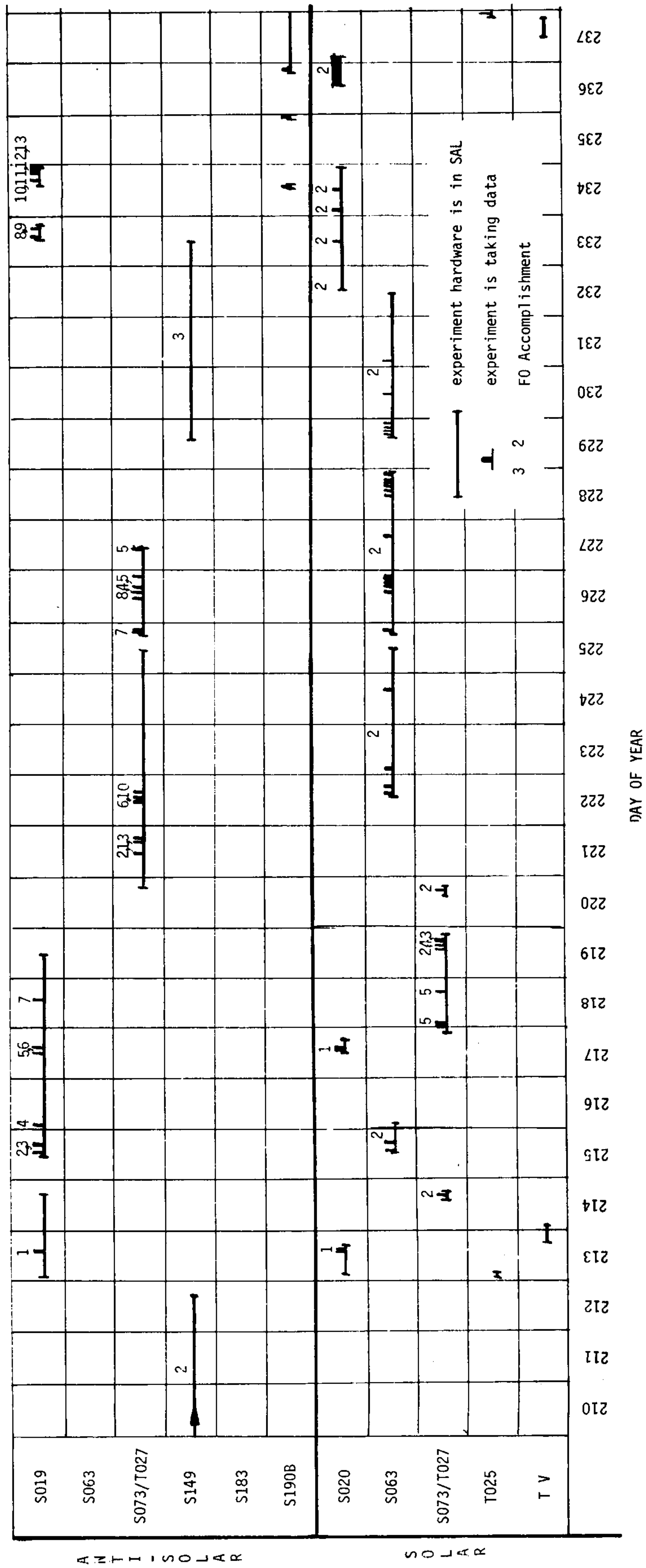


Figure J-2a. Scientific Airlock Usage SL-3
(Sheet 1 of 2 sheets)

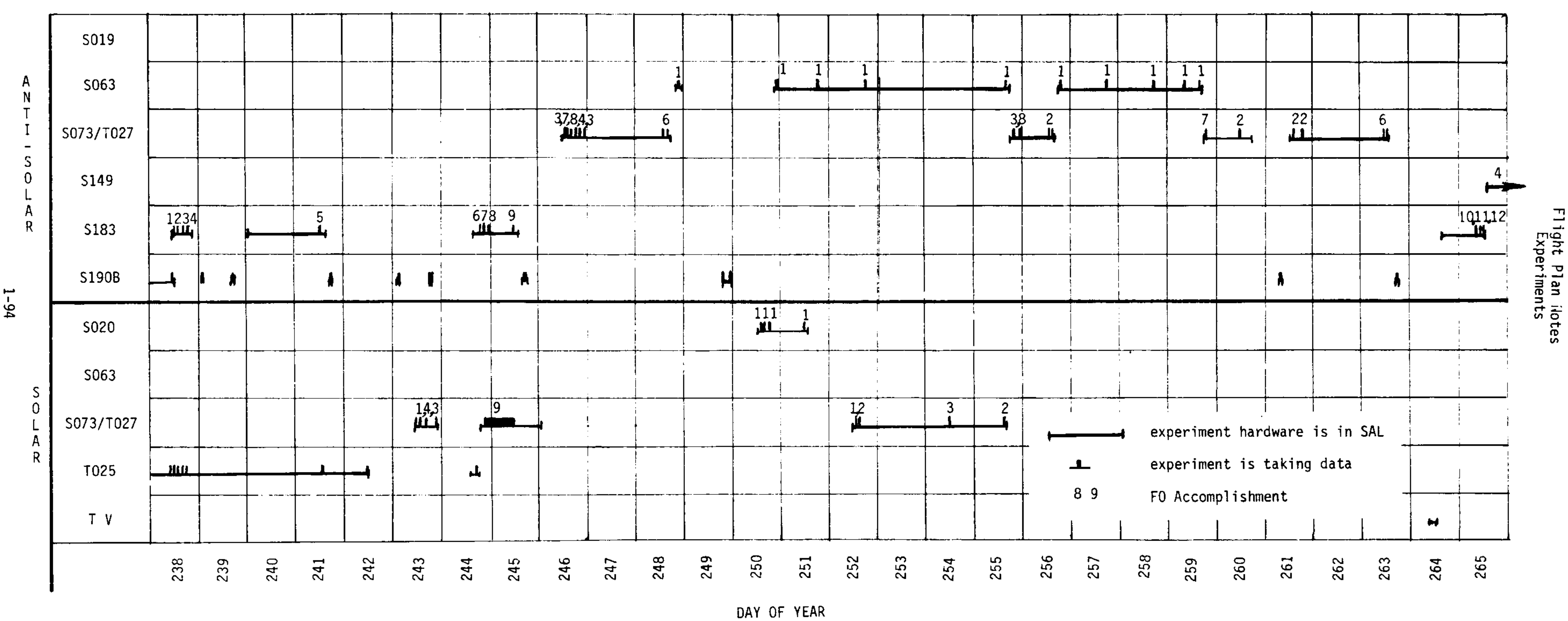


Figure J-2b. Scientific Airlock Usage SL-3
(Sheet 2 of 2 sheets)

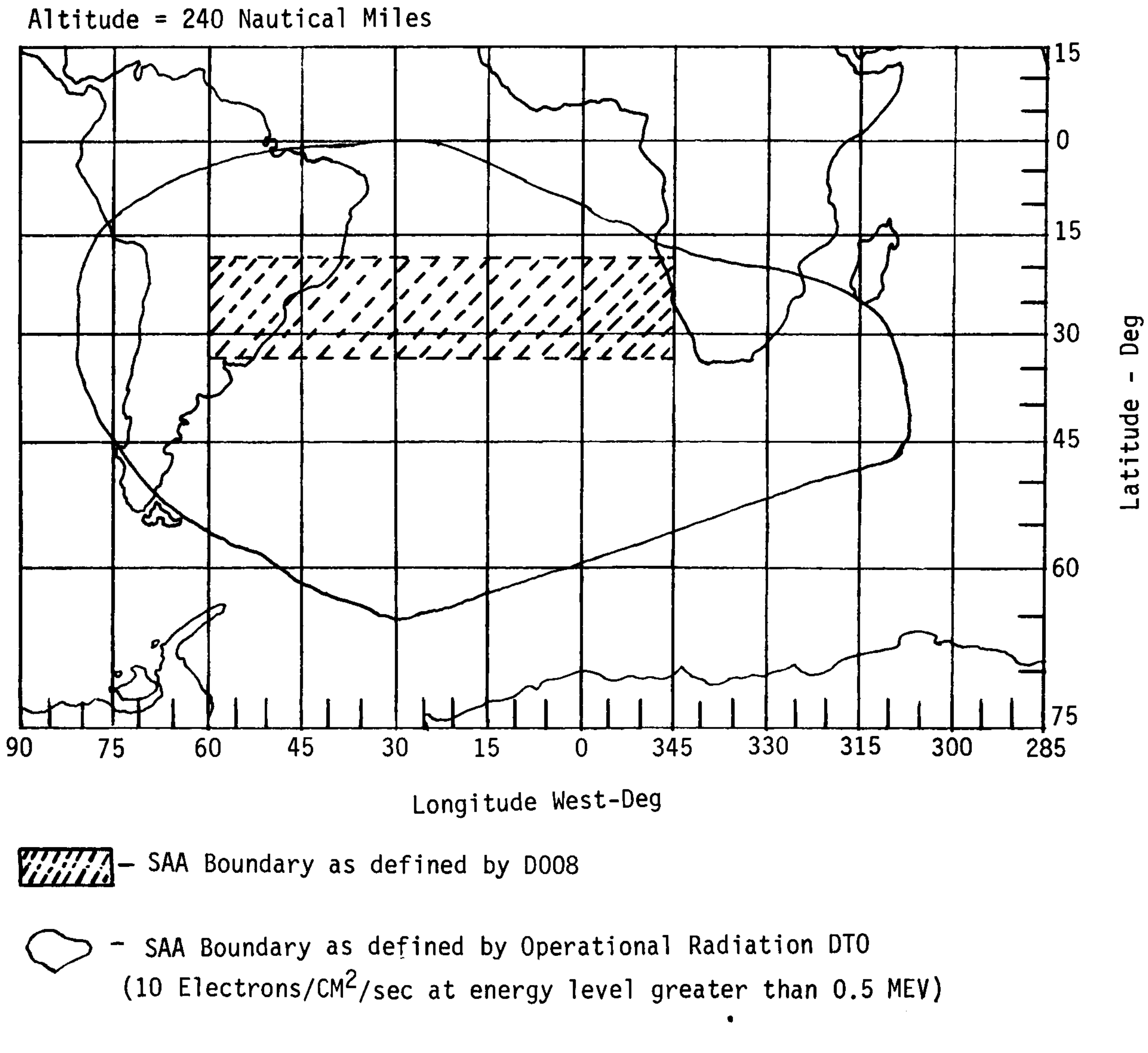


Figure J-3. SAA Boundary defined by D008 and radiation DTO

Joint Observing Program		Building Block	
1	Study of the Chromospheric Network and its Coronal Extension	1	Synoptic observations - sun centered
2	Active Regions	2	Corona
3	Flares	3	Spatial resolution, faint objects
4	Prominences and Filaments	4	Spatial and spectral resolution, bright features
5	Constant Latitude Studies	5	Spatial resolution, bright objects
6	Synoptic Observations of the Sun	6	Spectra
7	Atmospheric Extinction	7	Medium high time resolution
8	Coronal transients	8	Flare
9	Solar wind	9	Limb flare
10	Lunar Liberation Points, Lunar Calibration	10	Pre-flare,high time resolution
11	Chromospheric Oscillations and Heating	11	Spectra (film)
12	Program Calibration	13	Limb Study
13	Observation of Night Sky Objects	14	Corona background spectra
14	Solar Eclipse	15	Atmospheric extinction
		16	Coronal transients, fast
		17	Coronal transients, slow
		18	Chronosphere oscillations
		19	Velocities
		20	Night sky sources
		22	Calibration
		23	Active limb study

Table J-4. ATM Joint Observing Programs and Building Blocks

JOP	FO	Building Block 01	02	03	04	05	06	07	08	09	10	11	13	14	15	16	17	18	19	20	22	23
1	1			X			X					X										
	2			X			X					X										
	3			X																		
2	1		X		X	X	X	X			X											
	2		X		X	X	X	X						X								X
	3				X	X	X	X			X											
	4						X															
	5							X			X								X			
3	1								X													
	2								X													
	3									X												
4	1		X	X			X							X								
	2		X	X			X					X		X								
	3		X	X			X															
5	1		X				X					X	X									
6	1	X	X									X										
	2	X																				
7	1														X							
8	1										X					X	X					
	2																X					
	3															X	X					
9	1	X	X																			
	2	X	X																			
10	1	X	X																			
	2	X	X																			
11	1		X								X							X				
	2		X								X							X				
12	1											X										X
	2						X						X									X
	3															X						
13	1																			X		
	2																			X		
	3																			X		
14	1	NOT DEFINED AT THIS TIME																				

Table J-5. Joint Observing Program/Building Block Correlation

Building Block	S052	S054	S055	S056	S082A	S082B	H α 1	H α 2
1	X	X	X	X	X		X	X
2	X	X	X	X	X		X	X
3		X	X	X	X	X	X	X
4		X	X	X	X	X	X	X
5		X	X	X	X	X	X	X
6		X	X	X	X	X	X	X
7		X	X	X	X	X	X	X
8	X	X	X	X	X	X	X	X
9	X	X	X	X	X	X	X	X
10		X	X	X	X	X	X	X
11		X	X	X	X	X	X	X
13		X	X	X	X	X	X	X
14		X	X	X	X	X	X	X
15	X	X	X	X		X	X	X
16	X	X	X	X	X		X	X
17	X	X	X	X	X		X	X
18		X	X	X			X	X
19		X	X	X			X	X
20	X	X	X	X				
22		X	X	X	X	X	X	X
23		X	X	X	X	X	X	X

Table J-6. Building Block/Experiment Correlation

PASS	REV NUMBER	TIME OF AOS (GMT)				DURATION OF PASS (MINUTES)	BETA ANGLE (°)	SUN ELEVATION ANGLE (°)		GROUND TRACK
		MO	DAY	HOUR	MIN			AOS	LOS	
1	59/60	5	4	19	28	13	-22.1	67.6	33.2	California to New Foundland
2	72/73	5	5	17	07	13	-24.6	57.4	53.3	Baja to Newfoundland
3	87/88	5	6	18	00	14	-27.1	57.3	46.8	California to Newfoundland
4	114/115	5	8	14	50	20	-30.4	11.6	59.6	Mexico to Nova Scotia
5	118/119	5	8	21	29	13	-30.9	52.0	14	British Columbia to Virginia
6	132/133	5	9	20	43	15	-31.6	58.2	24.2	British Columbia to Delaware
7	146/147	5	10	20	00	15	-32.0	57.9	31.0	British Columbia to New Jersey
8	160/161	5	11	19	18	12	-32.0	56.6	43.2	British Columbia to Mass.
9	172/173	5	12	15	17	13	-31.5	22.8	56.3	So. Calif. to New Foundland
10	175/176	5	12	20	11	15	-31.3	57.7	33.7	British Columbia to No. Carolina
11	205/206	5	14	21	37	30	-28.3	7.7	46.5	Japan, No. Pacific to Mexico
12	214/215	5	15	11	52	20	-27.1	56.13	29.9	France to Turkey
13	261/262	5	18	19	06	13	-17.7	55.6	63.4	Wash. State to Louisana
14	275/276	5	19	18	22	26	-14.3	47.4	29.2	Wash. State to Brazil
15	361/362	5	25	17	17	27	-10.4	39	35	No. Calif. to Paraguay

Table J-7a. Prime EREP Passes (SL-2)

PASS	REV NUMBER	TIME OF AOS (GMT) MO	DAY	HOUR	MIN	DURATION OF PASS (MINUTES)	BETA ANGLE (°)	SUN ELEVATION ANGLE (°) AOS	LOS	GROUND TRACK
1	1546	8	15	17	46	18	42.2	41	34	Chile to Brazil
2	1560	8	16	17	03	17	37.6	40	44	Chile to Brazil
3	1619/20	8	20	20	42	16	17.9	69	24	Mexico to Nova Scotia
4	1645	8	22	14	22	32	9.6	31	27	Chile to Hungary
5	1677/78	8	24	21	06	14	- 1.2	69	13	So. Calif. to New Foundland
6	1701	8	26	11	44	18	- 8.3	62	47	Liberia to Greece
7	1719/20	8	27	18	54	16	-14.4	75	34	Mexico to New Foundland
8	1747/48	8	29	17	24	16	-22.5	50	56	Mexico to New York
9	1767	8	31	01	58	17	-27.8	33	62	Sumatra to Japan
10	1777/78	8	31	19	19	13	-30.4	57	36	No. Calif. to Newfoundland
11	1805/06	9	2	17	52	13	-36.5	54	45	So. Calif. to Newfoundland
12	1850/51	9	5	20	36	15	-42.8	48	15	British Columbia to New Jersey
13	1864/65	9	6	19	53	14	-43.6	48	21	British Columbia to New Jersey
14	1866/67	9	6	23	08	8	-43.7	41	21	No. Calif. to Mexico
15	1880/81	9	7	22	25	13	-43.7	44	13	Oregon to Panama
16	1893/94	9	8	20	04	14	-43.4	47	32	British Columbia to No. Carolina
17	1907/08	9	9	19	21	14	-42.4	45	37	British Columbia to Virginia
18	1949/50	9	12	17	10	13	-36.1	28	56	British Columbia to Connecticut
19	1965/66	9	13	19	42	20	-32.8	49	34	Oregon to Brazil
20	1979/80	9	14	18	58	24	-29.5	43	30	Washington to Brazil

Table J-7b. Prime EREP Passes (SL-3)

(Sheet 1 of 2 sheets)

PASS	REV NUMBER	TIME OF AOS (GMT)				DURATION OF PASS (MINUTES)	BETA ANGLE (°)	SUN ELEVATION ANGLE (°)		GROUND TRACK
		MO	DAY	HOUR	MIN			AOS	LOS	
21	1993/94	9	15	18	16	22	-25.9	40	41	Washington to Brazil
22	2003	9	16	09	46	20	-23.5	35	57	France to Saudi Arabia
23	2007/08	9	16	17	32	14	-22.2	32	68	Washington to Florida
24	2030	9	18	06	56	24	-16.0	58	27	Afghanistan to Australia
25	2065	9	20	17	50	10	- 4.6	24	62	Calif. to Mexico

Table J-7b. Prime EREP Passes (SL-3)

(Sheet 2 of 2 sheets)

SL-2			SL-3		
DOY	Prime Rev.	Backup Rev.	DOY	Prime Rev.	Backup Rev.
124	59	130,201	227	1546	1617
125	72	143	228	1560	1631
126	87	158	232	1619	1690, 1731
128	114	185	234	1645	1716, 1787
128	118	189, 260, 331	236	1677	1748, 1819
129	132	203, 274, 345	238	1701	1772, 1843
130	146	217, 288, 359	239	1719	1790, 1861
131	160	231, 302	241	1747	1818
132	172	None	243	1767	1838
132	175	246, 317	243	1777	1848
134	205	276, 347	245	1805	1876
135	214	285	248	1850	1921, 1992
138	261	232	249	1864	1935, 2006
139	275	346	249	1866	1937, 2008
145	361	None	250	2880	1951, 2022
			251	1893	1964, 2035
			252	1907	1978, 2049
			253	1923	1994, 2065
			254	1932	2003
			254	1936	2007
			255	1949	2020
			256	1965	2036
			257	1979	2050
			258	1993	2064
			261	2030	None

Table J-8. Prime and Backup EREP Passes Available for SL-2 and SL-3

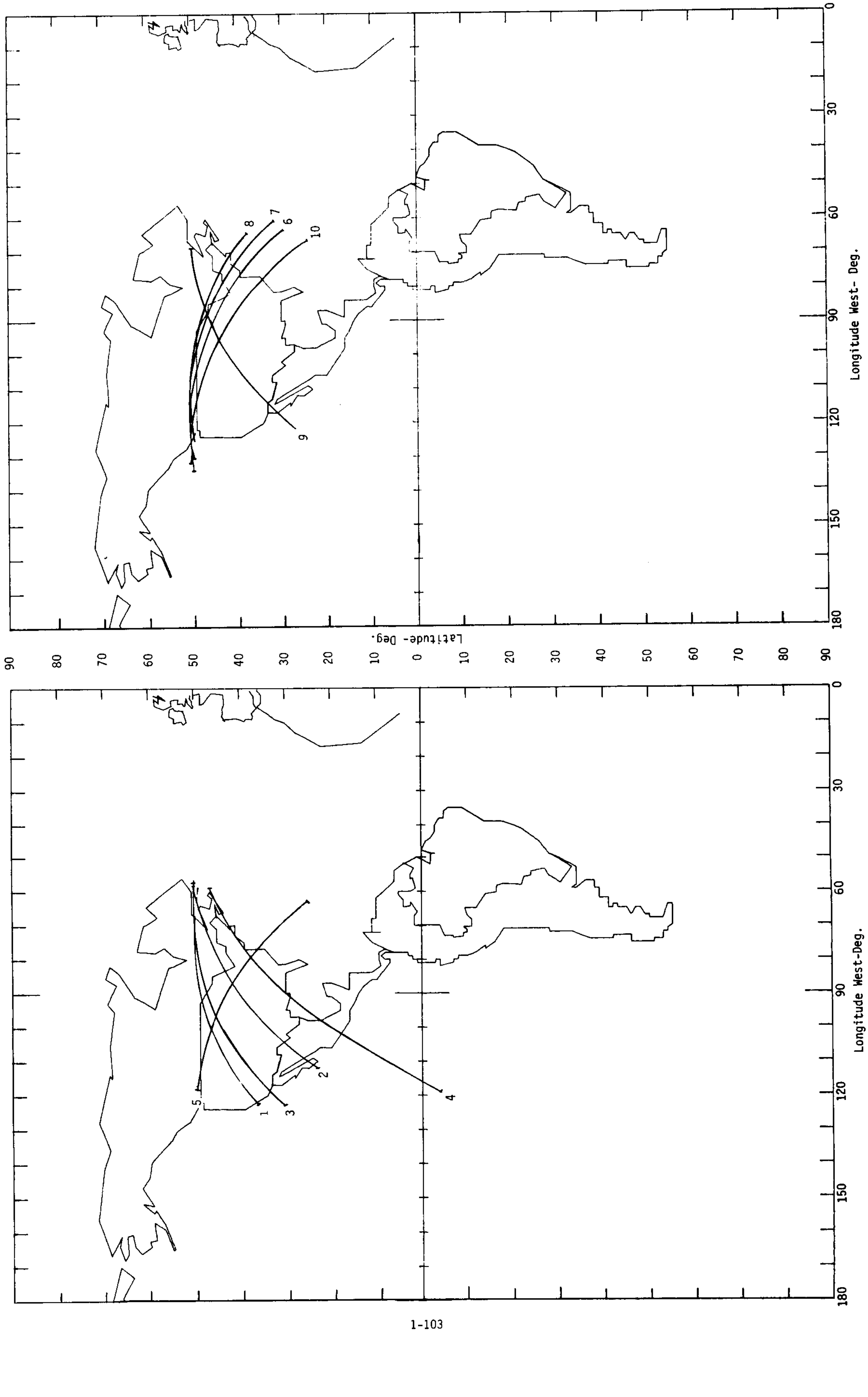


Figure J-4a. Prime EREP Passes (SL-2)
(Sheet 1 of 2 Sheets)

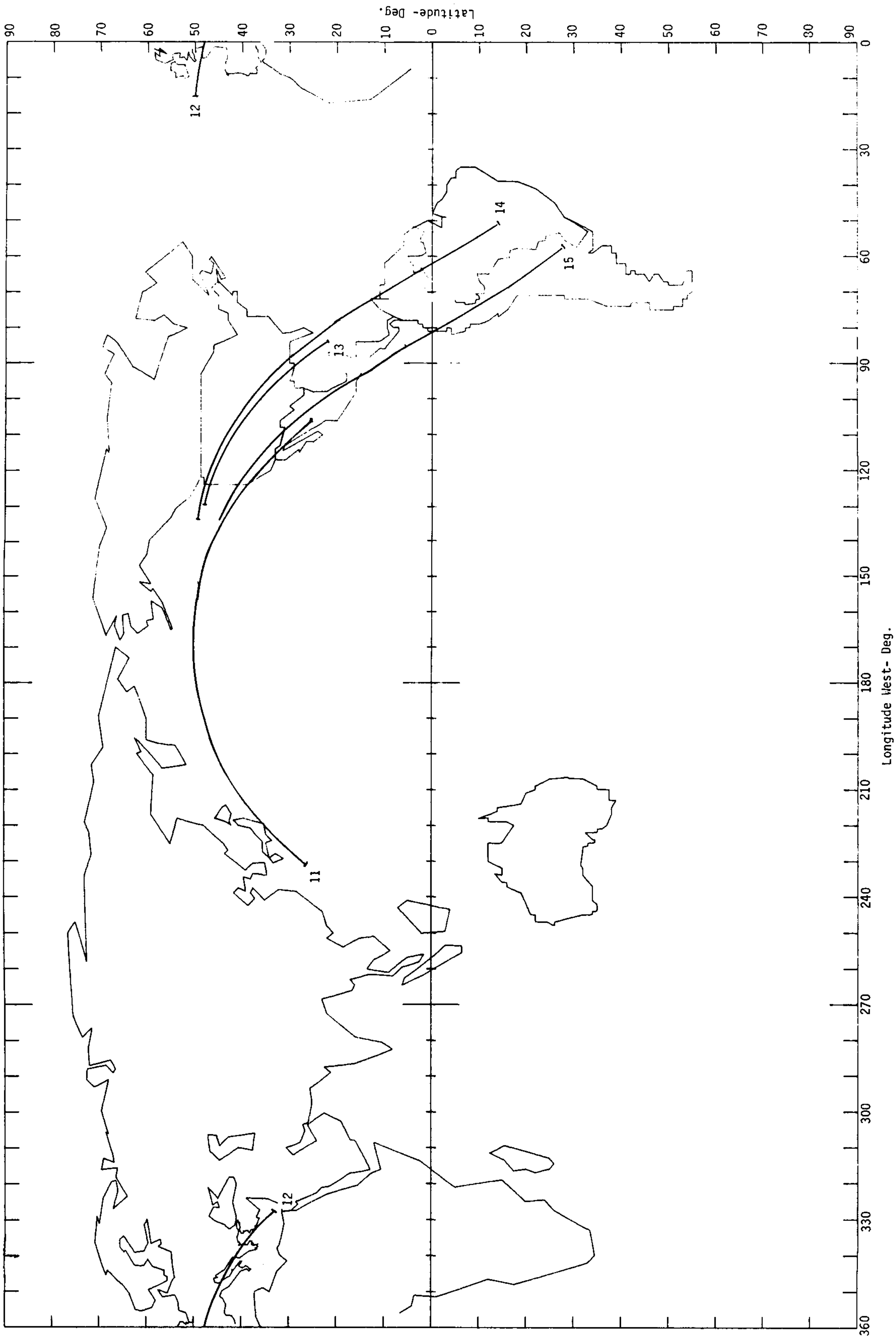


Figure J-4a. Prime EREP Passes (SL-2)
(Sheet 2 of 2 Sheets)

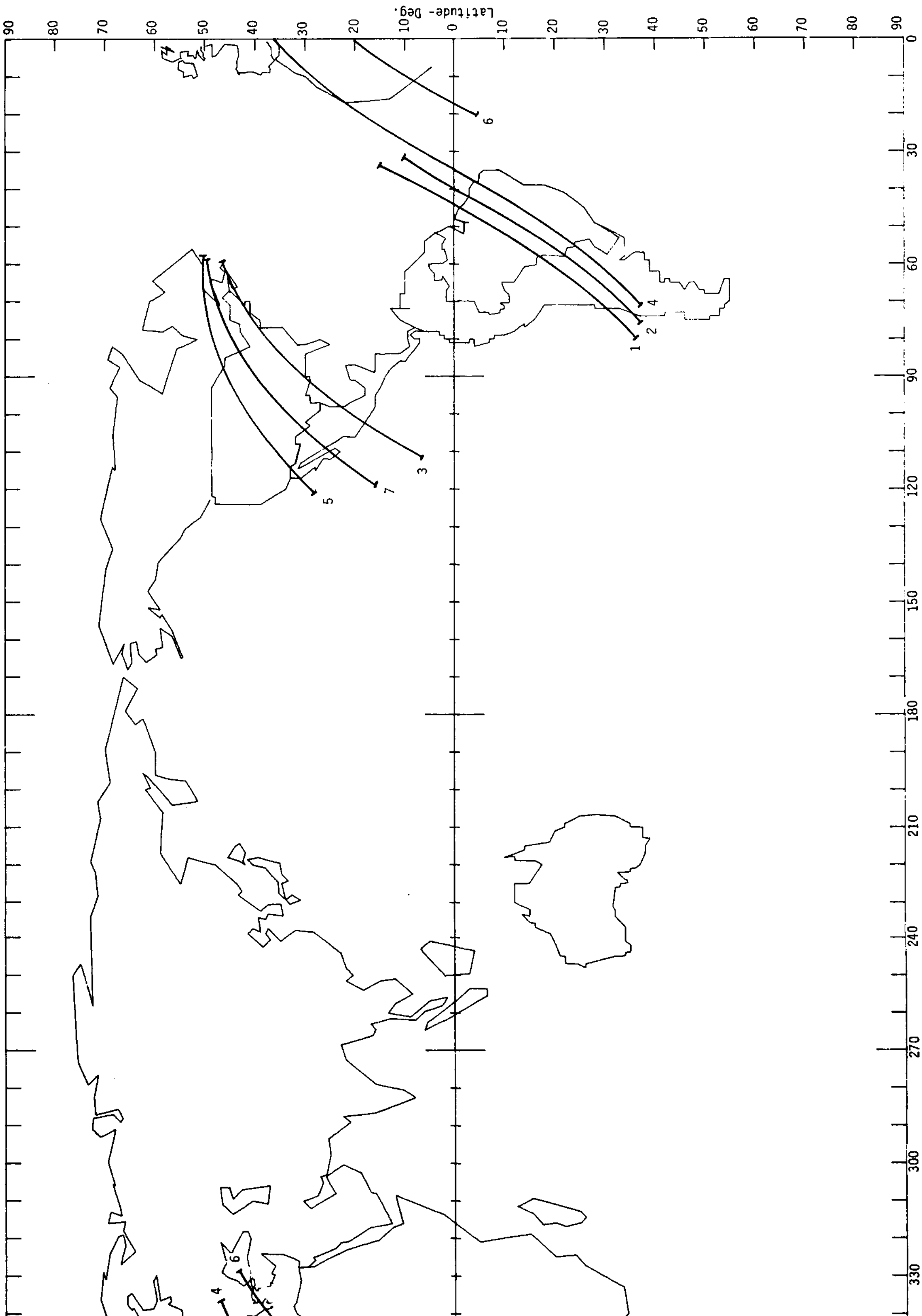


Figure J-4b. Prime EREP Passes (SL-3)
(Sheet 1 of 4 Sheets)

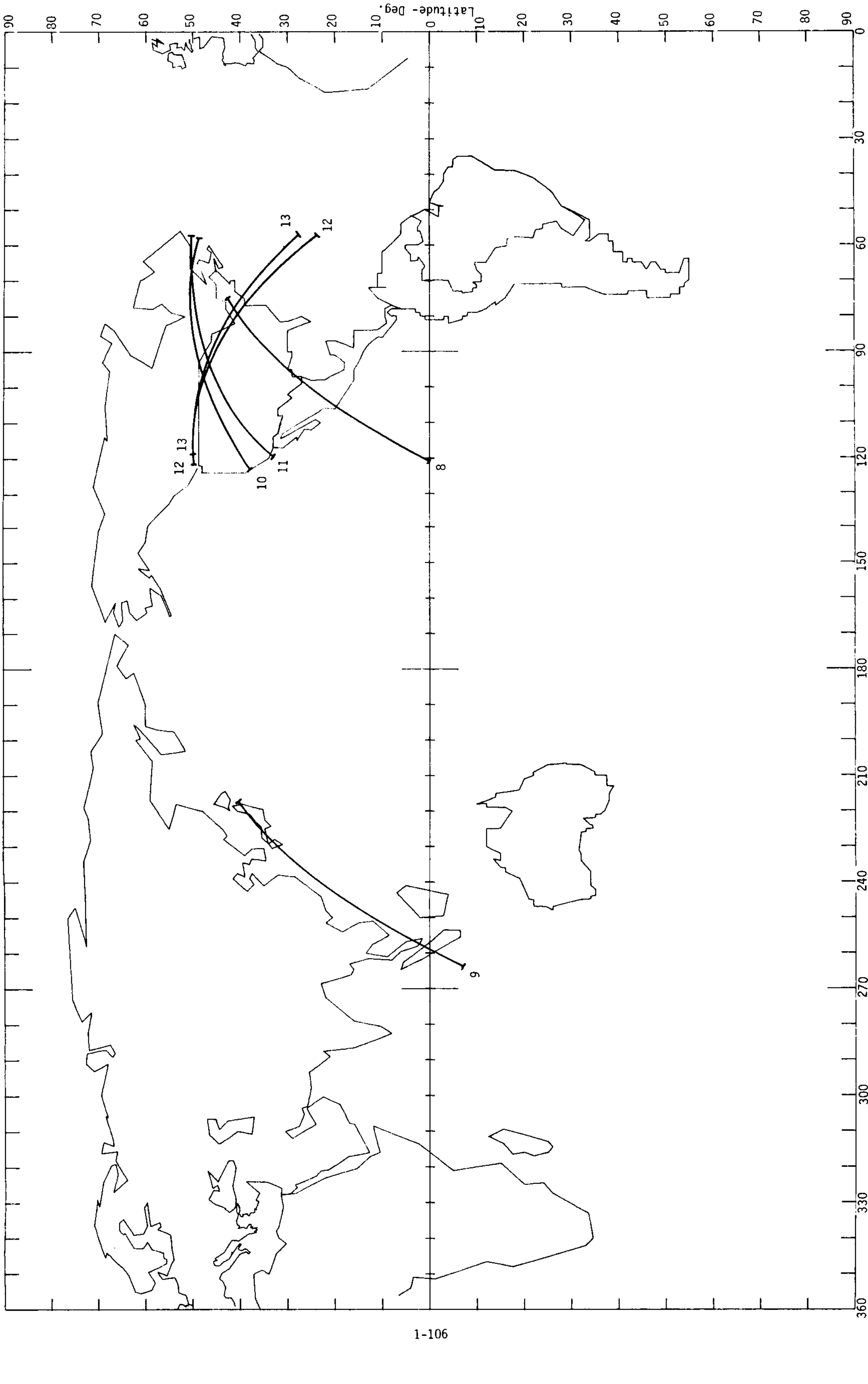


Figure J-4b. Prime EREP Passes (SL-3)
(Sheet 2 of 4 Sheets)

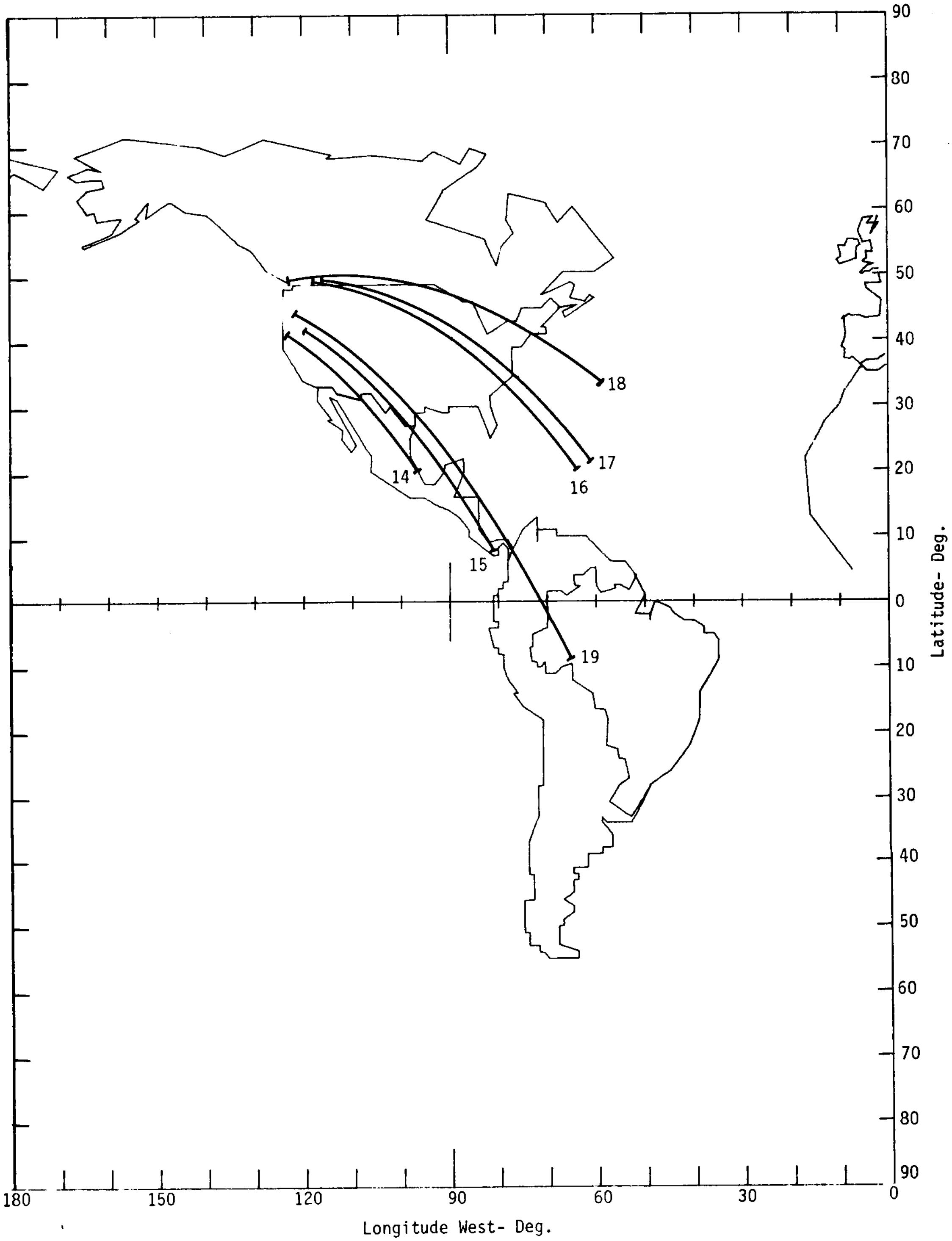


Figure J-4b. Prime EREP Passes (SL-3)
(Sheet 3 of 4 Sheets)

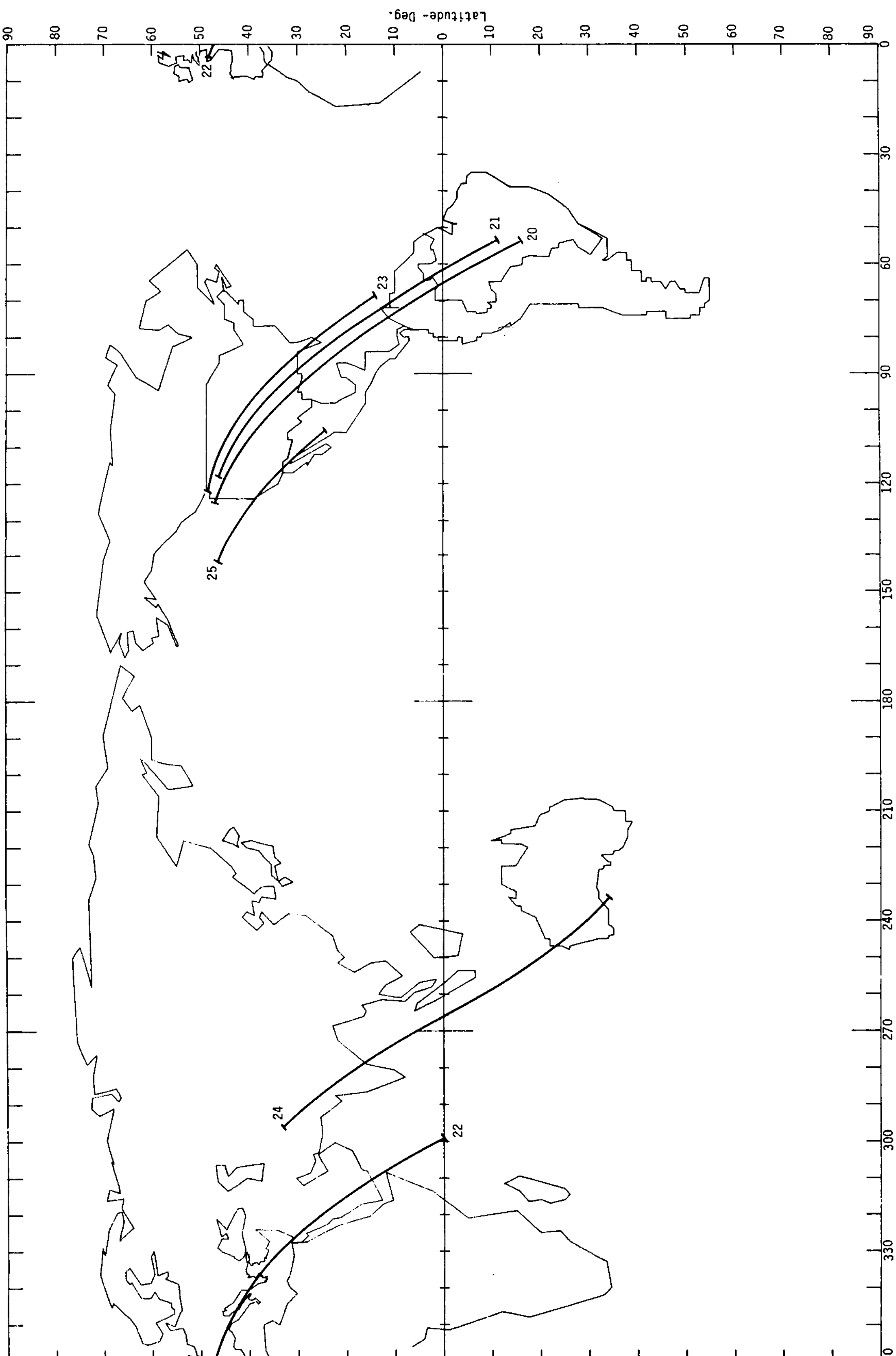
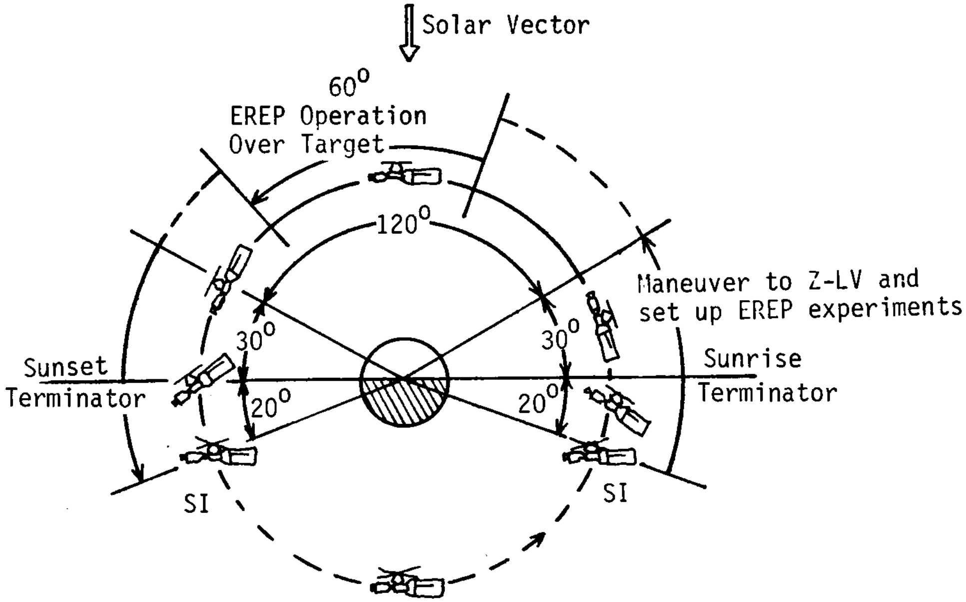


Figure J-4b. Prime EREP Passes (SL-3)
(Sheet 4 of 4 Sheets)



6̀0 orbital degrees centered about any orbital location.

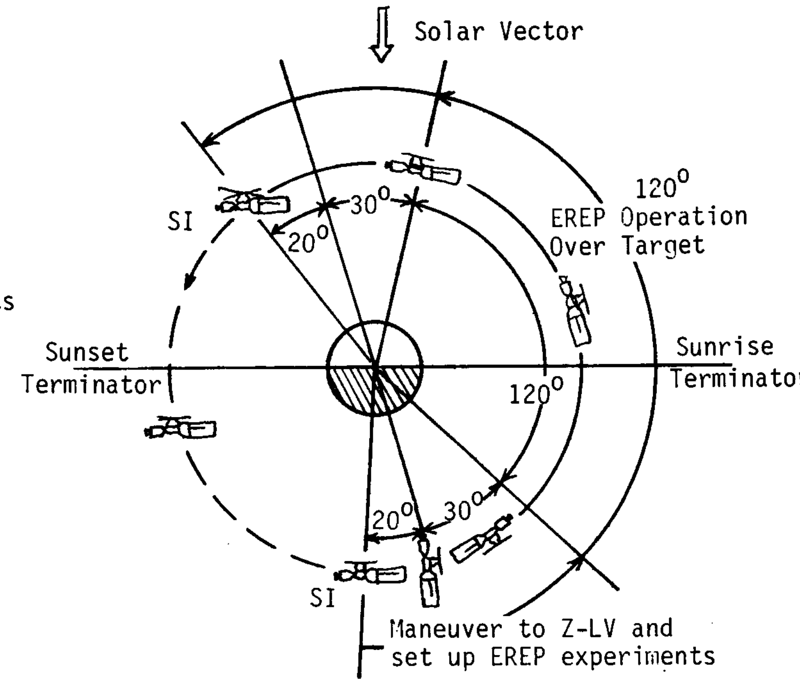
These Z-LV passes must not be performed during more than two consecutive revolutions.

If these Z-LV passes are contained within a 120°-arc centered about orbital noon, the SWS must remain in the solar-inertial mode for at least four revolutions before two other consecutive Z-LV passes are initiated.

If the Z-LV passes are at any other orbital location, the SWS must remain in the solar-inertial mode for at least five revolutions before initiating additional Z-LV passes.

During a given 24-hour period, the SWS shall provide a maximum of four continuous sequences of one Z-LV pass followed by one revolution of the solar-inertial mode.

Restricted to β angles between -50 and +50 degrees



120 orbital degrees centered about any orbital location

This mode must not be performed for more than one orbit at a time.

After one pass in this mode, the SWS must remain in the solar-inertial mode for four continuous revolutions before initiating another Z-LV pass.

Restricted to β angles between -30 and +50 degrees

Figure J-5. Typical EREP Pointing Sequences and Z-LV Capabilities

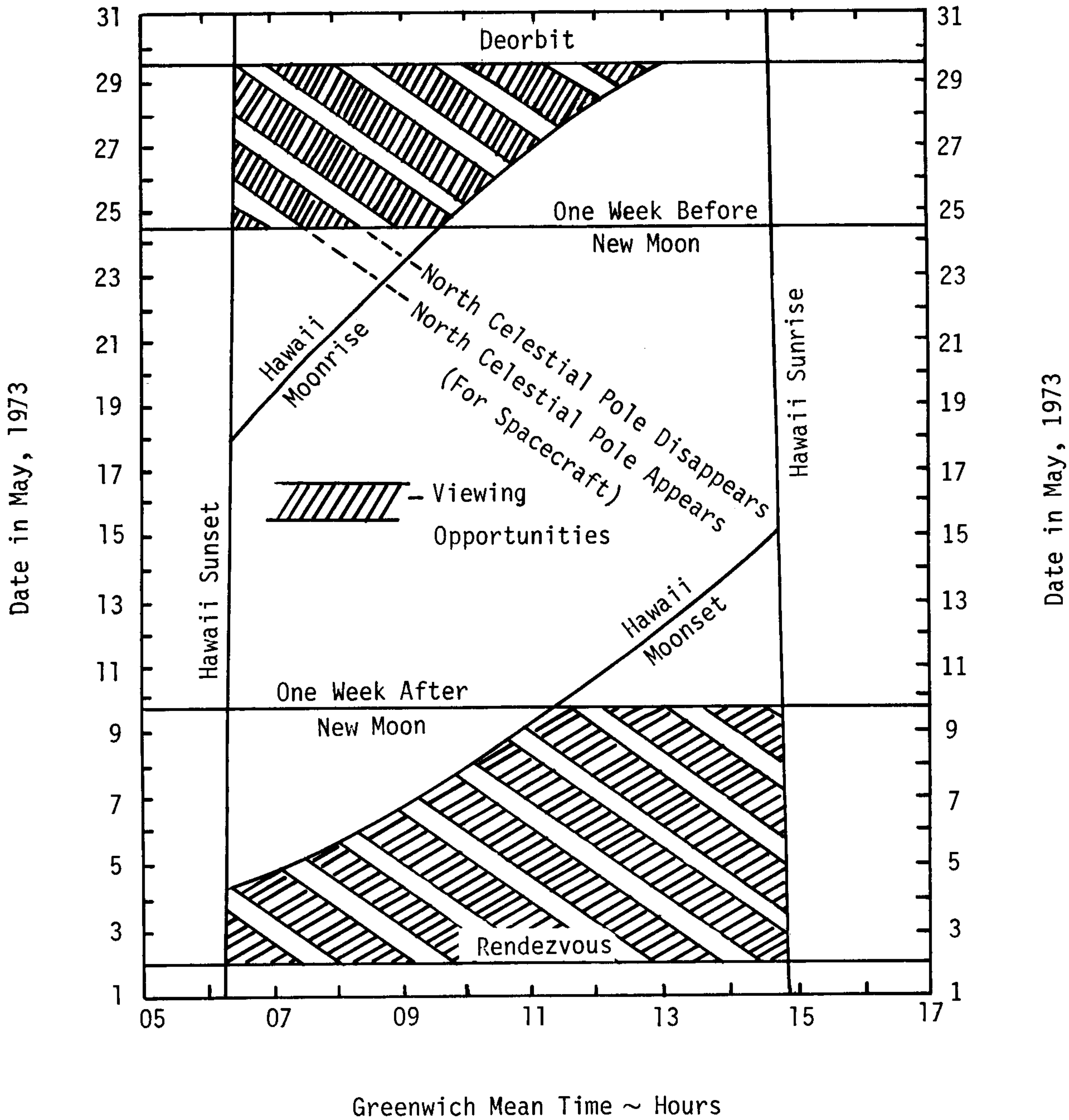


Figure J-6 Concurrent Spacecraft and Ground Station (Hawaii) Viewing Opportunities of North Celestial Pole ,One Week Of New Moon

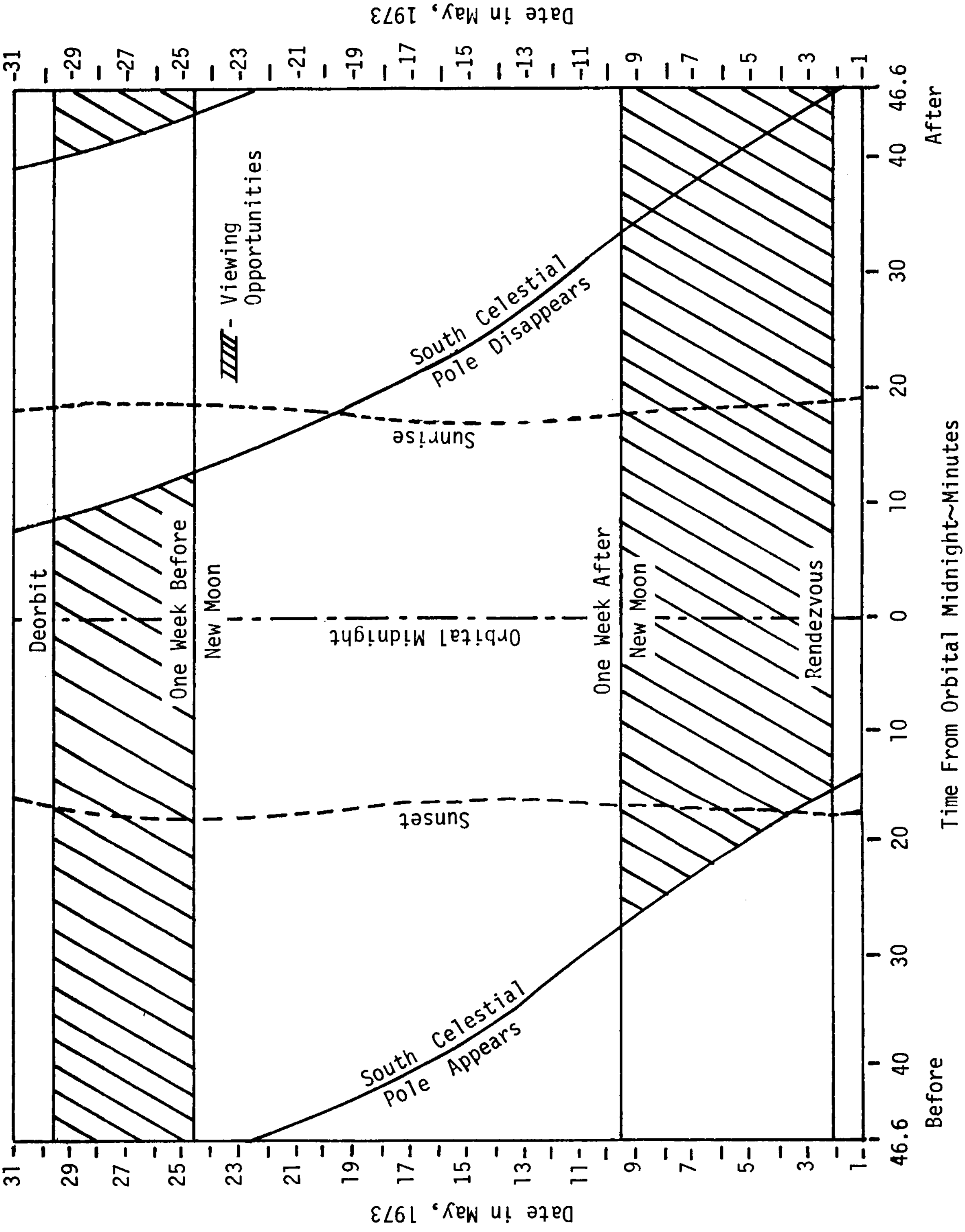
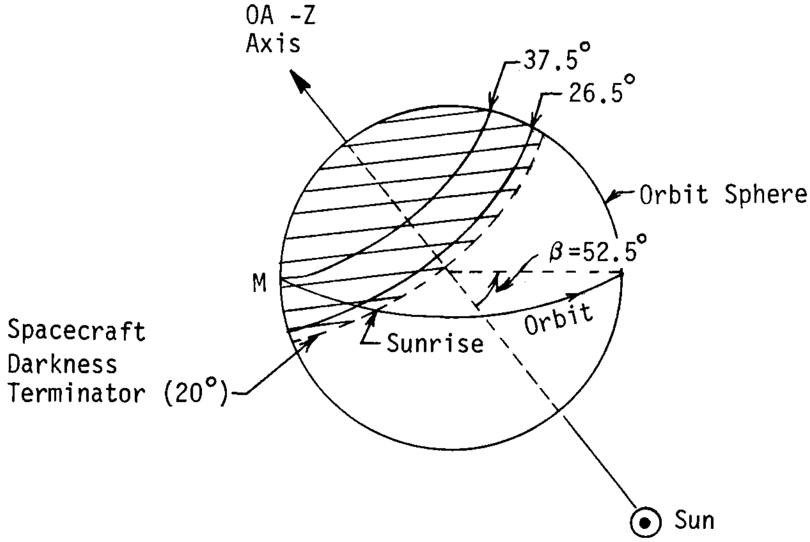


Figure J-7 Spacecraft Viewing Opportunities of South Celestial Pole



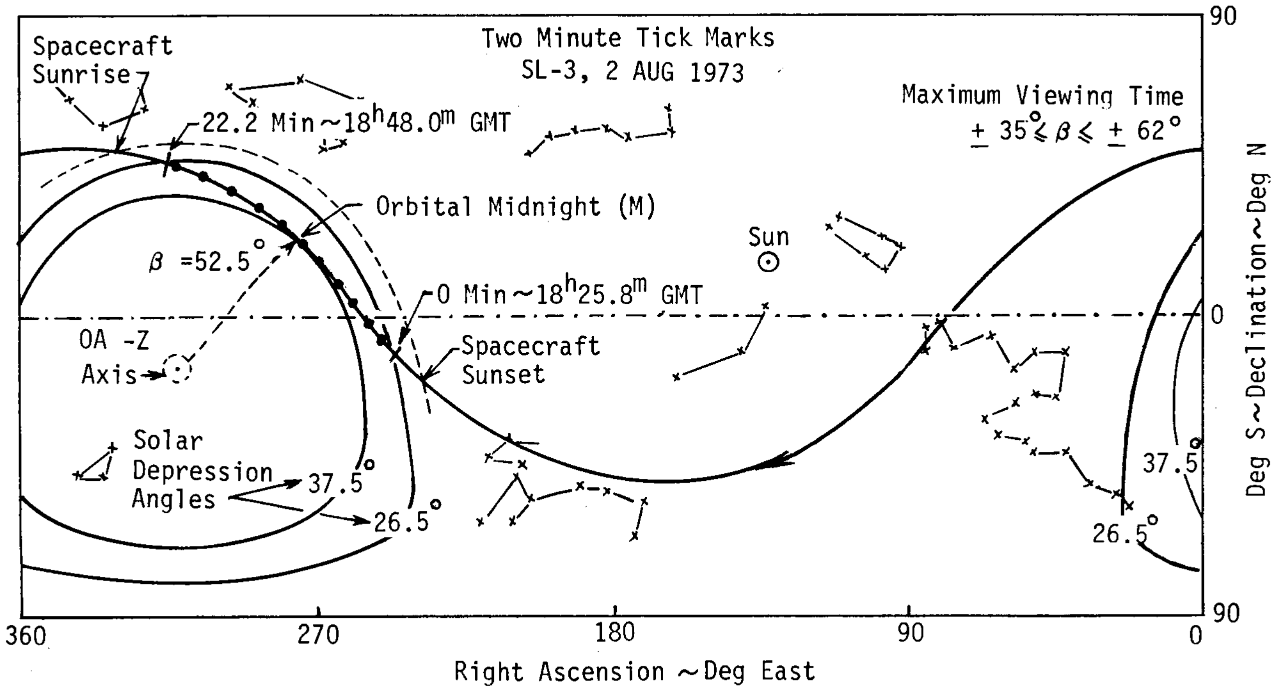


Figure J-8. Solar Depression Angles For S063-F02

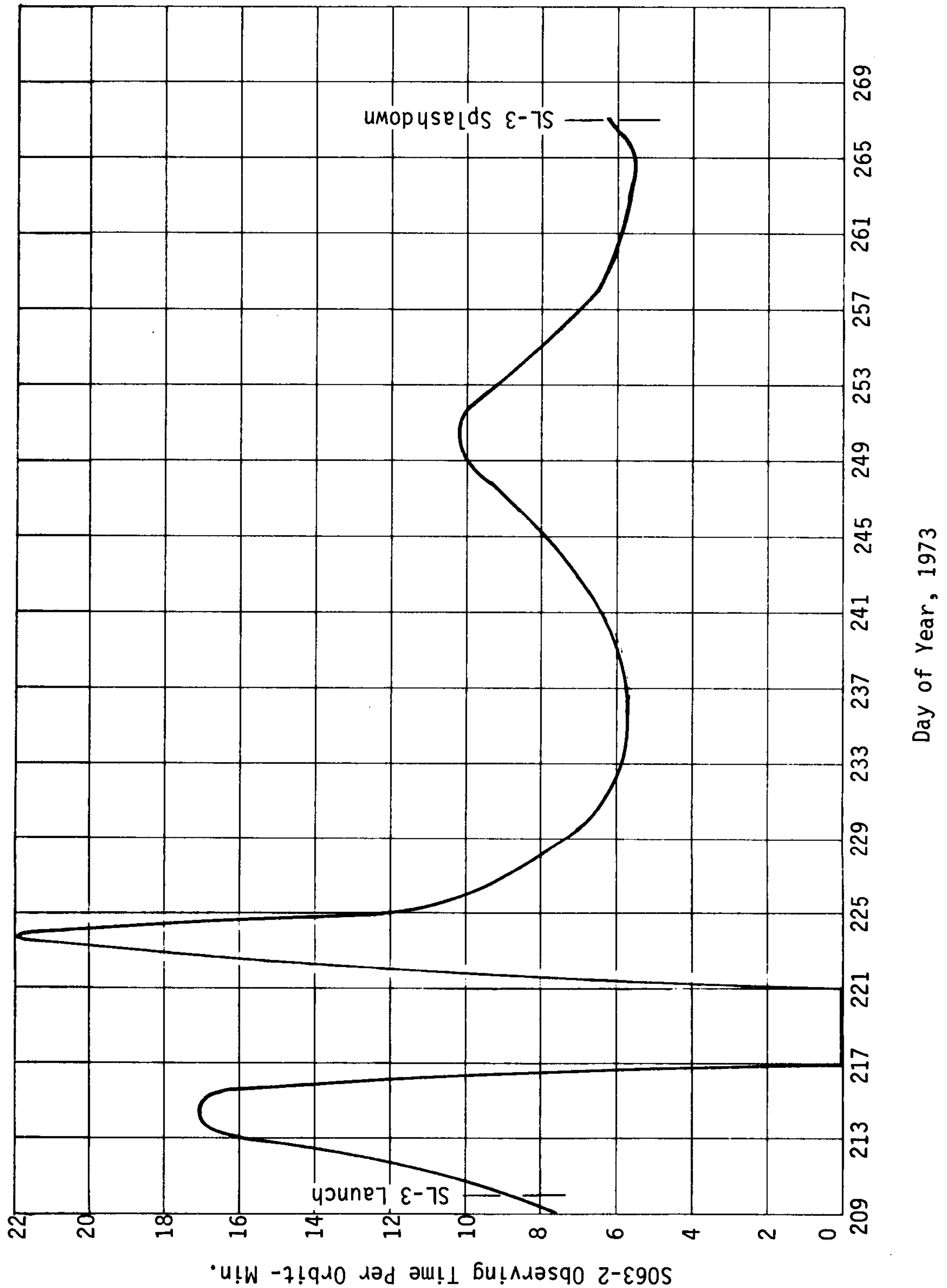


Figure J-9. Time Available for S063-2

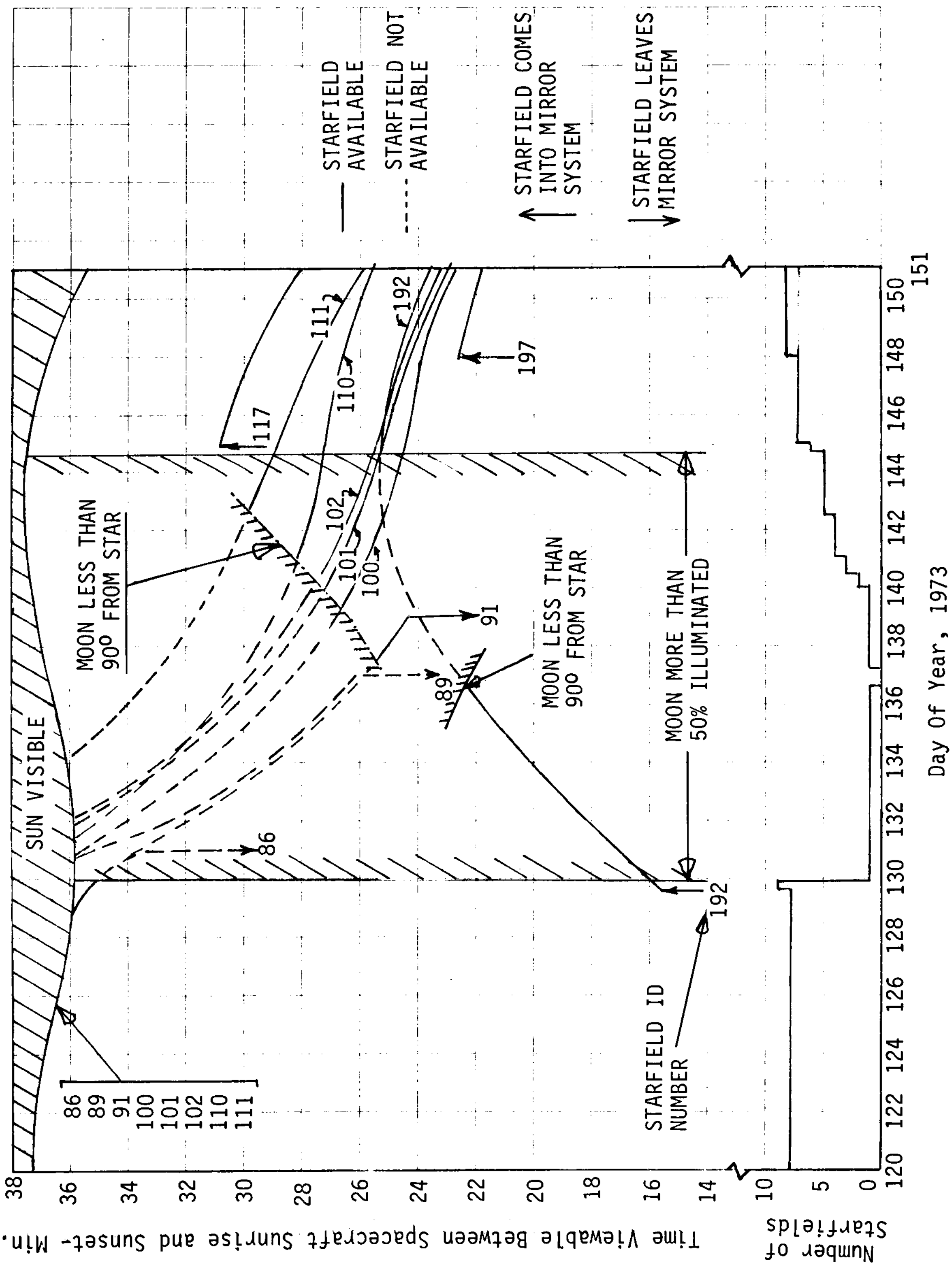


Figure J-10. S019 Viewing Opportunities
(Criteria A Starfields)

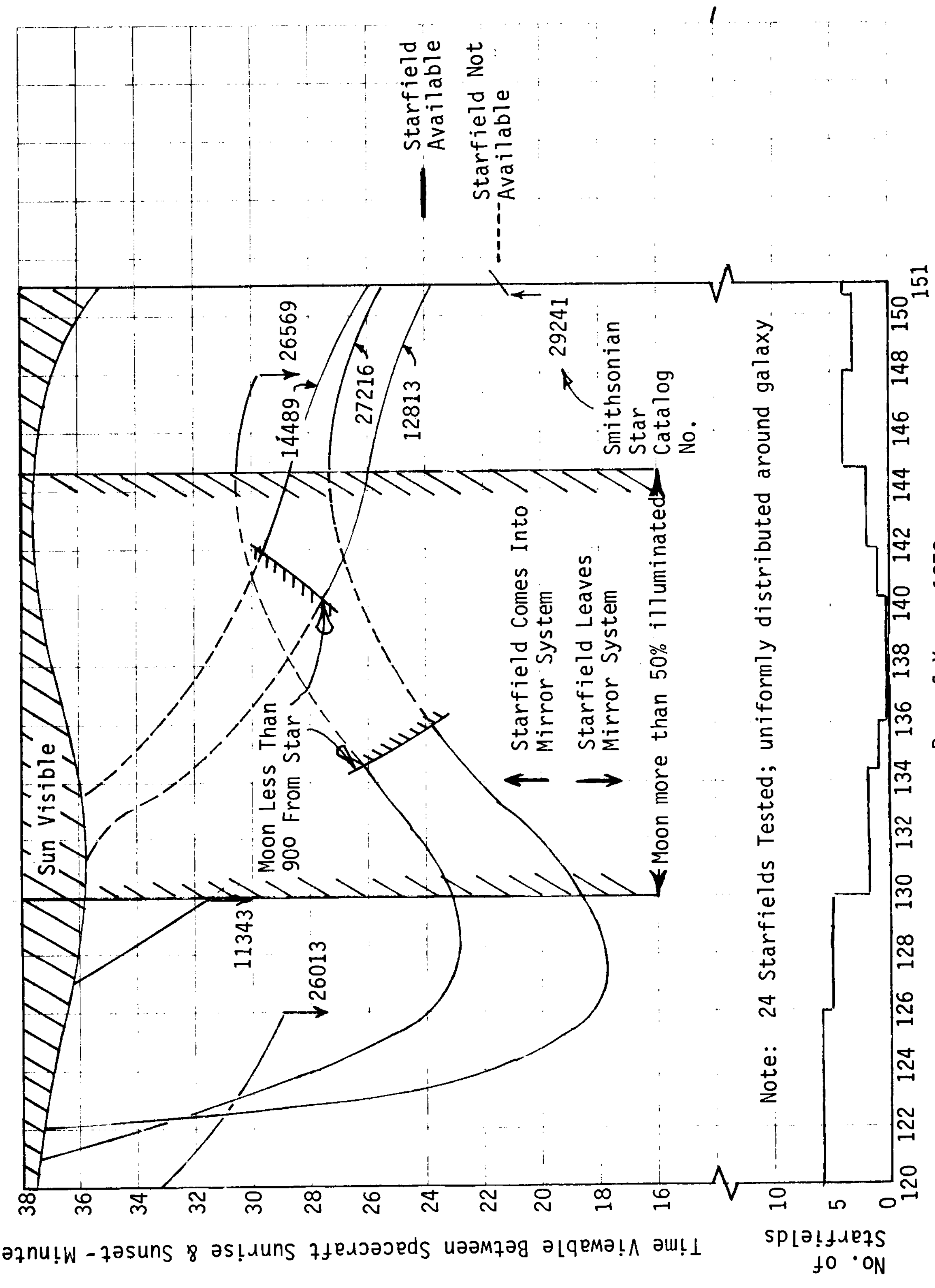


Figure J-11. S183 Viewing Opportunities

K. Photography

1. Details on experiment objectives and operations requiring cameras and film utilization are contained in the "Preliminary Reference Photographic Plan" for SL-2, SL-3, SL-4 (Revision A), October 31, 1971.

2. A sample teleprinter message for inflight use follows. Data contained on these updates consist of the functional objective to be satisfied, camera crew station location, camera identification, lens code, magazine or cassette code, f stop, shutter speed, focus setting, frame rate or frames to be taken, task run time, and activity to be photographed.

3. Teleprinter sample update:

```
Ø197 ØØ6    PHOTO PAD   14Ø  1912
---------------------------------
M151Ø2  11C  DACØ1  1ØMØ1 CIØ4
(T2.8,1/6Ø,1Ø)6FPS 5MIN M131Ø2
---------------------------------
Ø197 ØØ6    PHOTO PAD   END MSG
```

Stowage

1. The detailed timeline shows transfer of major items between orbital assembly compartments. Items are called out under "Stowage Transfer" and show the location where the item is found and where it is transferred. Transfer of items takes place throughout the mission.

2. All stowage transfers will be noted in the stowage checklist (not yet published).

3. Ground rules for transfer and stowage of items are:

   . Transfer of items to the SWS will be accomplished as stowage space becomes available.

   . Any item, if not transferred to another module location or disposed of, will be stowed in its original launch stowage location.

   . Any deviations from planned transfers or stowage should be noted by crew in order to maintain accurate C.G. definition for the entire orbital assembly and entry configuration for the CSM.

4. The trash airlock is used only for those items which contribute to microbial growth or contamination.

5. The detailed timeline shows inventory items for the OWS, MDA and AM. During the inventory period of each mission the crewman will note the quantity of each item remaining in order that resupply items may be brought on the next mission, should shortages exist.

6. If the status of the crewmen or the success of an experiment depends upon the use of a backup (spare) item or a supplied item for the next mission, then the item should be used. The use of the item should then be noted on the inventory list in order that it may be replaced on the next mission. Items that prove to be defective or are accidently put out-of-order should also be noted on the inventory list.

7. Dry uncontaminated waste matter in the CM will be deposited in the temporary stowage bags (one for each crewmember - left and right girth shelf and the LEB). Used food bags are stowed in the food stowage compartment (either LEB or LHEB), and transferred to the OWS trash airlock during activation.

8. While in the CM, urine will be collected by the Urine Collection Transfer Assembly (UCTA). After OWS activation, the urine will be transferred from the CM to the urine processor, a sample will be obtained and frozen, and the remainder dumped to the waste tank via the trash airlock. Any urine collection during the re-entry/recovery phase will be collected by the UTCA and processed on the recovery ship.

9. While in the CM, vomitus will be collected in the vomitus collection bag and temporarily stowed. After OWS activation, the vomitus will be transferred to the fecal drier to be dried. Any vomitus collected during the re-entry/recovery phase will be collected in the vomitus collection bag and temporarily stowed to be processed on the recovery ship.

10. Table L-1 shows food types and stowage locations.

FOOD TYPE	LOCATION	AMOUNT
Unrefrigerated Food	11 Food Storage Compartments each containing a 14 day supply (F557, F558, F559, F562, F563, F550, F554, F555, F556, F560, F561)	154 days
Unrefrigerated Food	Wardroom Food Pantry for storage of a 7-day supply of food; (W764, W770, W773, W774, (W775, W776)	7 days
Frozen	Food Storage Freezer divided into three 28 day supply compartments (F553, F552, F551)	84 days
Frozen	Wardroom Food Freezer divided into three compartments; one food chiller and two 28 day supply compartments (W756, W755)	56 days

Table L-1. Food Type and Stowage Location

M. Updates

1. Summaries of messages to be sent to and from the SWS are presented in tables M-1 and M-2.

2. Definitions applicable to the above tables are:

   - TPTR, message - teleprinter message Uplink
   - VX, message - voice message Update
   - CMD, message - command telemetry message Uplink
   - PAD - preadvisory data - Uplink or Update messages received in specific tabular order or format
   - Uplink message - non-voice RF communication
   - Update message - Voice RF communication

3. Specific PAD formats are found in SKYLAB FLIGHT PLAN UPDATE MESSAGES, MSC, May 1, 1972.

MESSAGE	SCHEDULED	REMARKS	MODE PRIMARY/BACKUP
FLIGHT PLAN UPDATES			
Summary Flight Plan for next day activities	Daily during evening meal	Prior to crew mission planning for next day activities	TPTR/VX
Detail Flight Plan (One per crewman)	Daily during sleep period	Tailored to each crewman's individual activities-use General Message format	TPTR/VX
General Message	Approx. three times daily	This PAD will also be used for short unformatted messages	TPTR/VX
Photo PAD	Daily & as required	Camera settings	TPTR/VX
Selected Consumables	Daily during sleep period	Use General Message format	TPTR/VX
ATM & ATMDC UPDATES			
Solar Activity PAD	Daily during sleep period & as required	Prior to first ATM period of the day & up to once every 3 hours	TPTR/VX
ATM Schedule	Daily during sleep period	Prior to the first ATM period of the day	TPTR/VX
ATMDC Updates Memory & Navigation	NAV PAD daily & prior to Z-LV maneuvers, others as required	First opportunity after breakfast & site contact prior to Z-LV maneuvers	CMD/ TPTR/VX
GMT Clock	Prior to EREP	One hour prior to initial attitude change	TPTR/VX
General Maneuver PAD	At least one rev prior to any maneuver	This is used for EREP maneuver data also	TPTR/VX

Table M-1. Scheduled Updates
(Sheet 1 of 4)

MESSAGE	SCHEDULED	REMARKS	MODE PRIMARY/BACKUP
TACS PAD	As required	Thruster data	TPTR/VX
Star Tracker	As required	Prior to ATM activation initially	TPTR/VX
CMG Updates Momentum Dump & Caging	As required		TPTR/VX
EREP UPDATES			
EREP Prep	At least two revs prior to EREP pass	EREP C&D panel configuration for EREP systems at beginning of data-taking pass	TPTR/VX
EREP Operate	At least two revs prior to EREP pass	EREP experiment timeline of switch operations during pass	TPTR/VX
V/TS (Viewfinder Tracking System)	During sleep period before EREP day	Truth site ID, V/TS pointing data, and cloud cover	TPTR/VX
S190B	At least two revs prior to EREP pass	Camera operation and settings	TPTR/VX

Table M-1. Scheduled Updates
(Sheet 2 of 4)

Flight Plan Notes
Updates

MESSAGE	SCHEDULED	REMARKS	MODE PRIMARY/BACKUP
EXPERIMENT UPDATES			
S009	Daily one rev prior to required adjustment	Beta Angle adjustment change to prevent earth occultation and period adjust to prevent exposure in SAA	TPTR/VX
S019	One rev prior to event	Starfield identification and pointing data	TPTR/VX
S020	One rev prior to quiet sun exposure & flare activity data per occurrences	Sunrise/Sunset times and exposure data	TPTR/VX
S063	One rev prior to event	Beginning and ending times of performance session, pointing & exposure/setup data	TPTR/VX
T027/S073 (Photometer System)	One rev prior to event	Photometer scan pointing, exposure/setup data, and scan start time	TPTR/VX

Table M-1. Scheduled Updates
(Sheet 3 of 4)

MESSAGE	SCHEDULED	REMARKS	MODE PRIMARY/BACKUP
S183	One rev prior to event	Starfield identification and pointing, exposure/setup data	TPTR/VX
T002	One rev prior to event	Specific target identification and pointing data	TPTR/VX
T025	One rev prior to event	Operational exposure data	TPTR/VX
CSM UPDATES			
Rendezvous Updates	Prelaunch and before burns	NC1, NPC, NC2, NCC, NSR, TPI	VX
P27 Update	When convenient	State Vector (SV) T EPHEM	TPTR/VX/CMD
Maneuver Update (P30)	Prior to undocking	SEP, Shaping, Deorbit	TPTR/VX
Entry Update	Prior to undocking, Daily	Target data	TPTR/VX
Block Data	Twice daily		TPTR/VX
CSM Docked Maneuver Pad	At least one rev prior to mnvr	RCS Trim Burns for 71-rev ground track repeatability	TPTR/VX

Table M-1. Scheduled Updates
(Sheet 4 of 4)

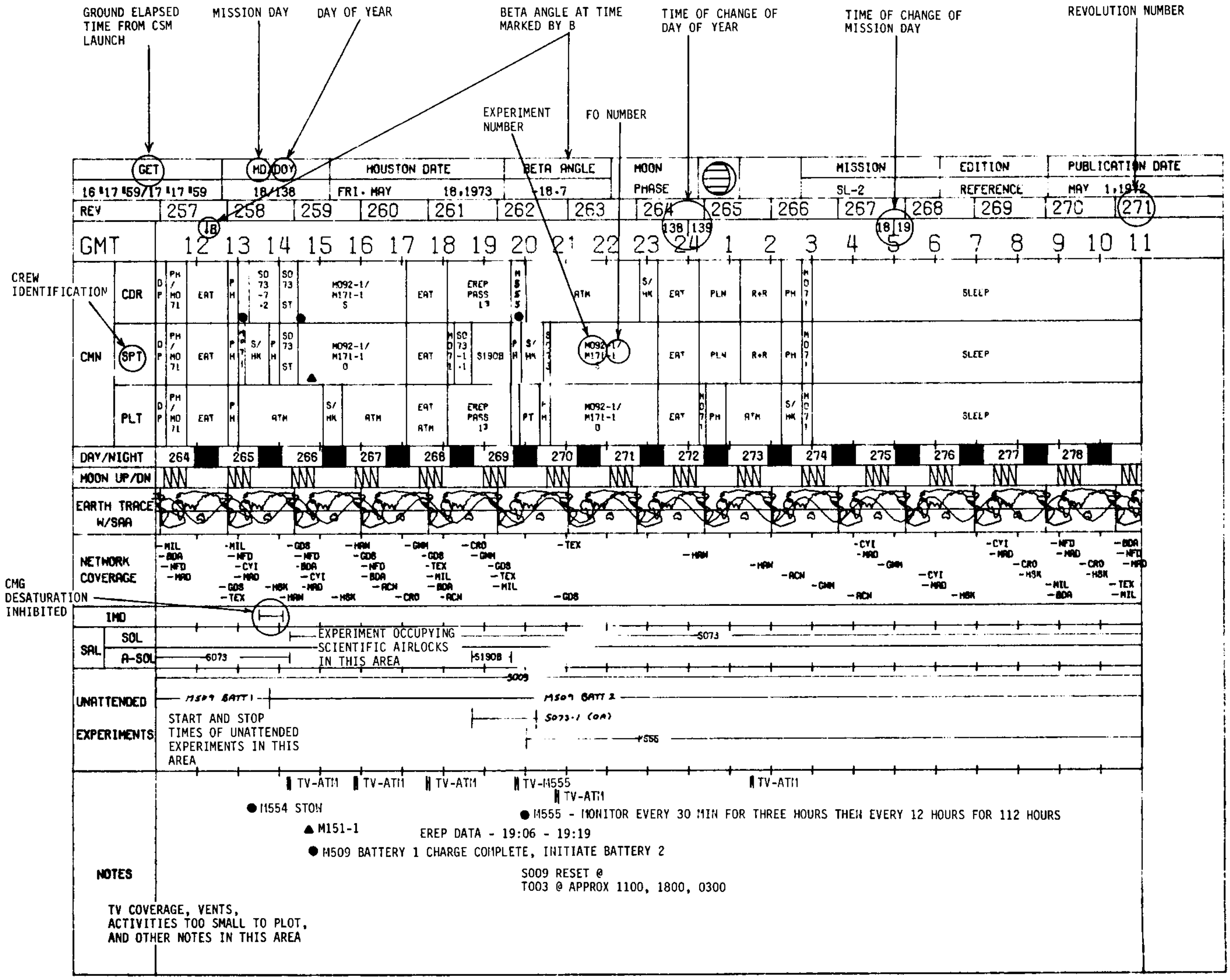
VOICE/DATA	SCHEDULED	REMARKS	MODE
EMOD dumps	Prior to CM entry & as required		CSM TM
Film usage	End of each day		VX
ATM film usage	End of each day		VX
EREP film/tape usage	End of each EREP pass		VX
Specific ATM data	End of each day		VX
Selected consumables	End of each day		VX
Crew status	Daily, each morning	Part of post sleep checklist	VX
Expendables status	Weekly		VX
Medical Experiment Summaries	End of each day		VX
Flight Plan accomplishment summary	End of each day	Accomplished vs scheduled	VX
Radiation Accumulation	Daily	Reading of Personal Radiation Dosimeters and radiation survey meter	VX
Iodine Monitoring	Every 14 days	Determine iodine content for each of 10 water tanks	VX
Private communication with Flight Surgeon and family	Daily	Family conversation will neither be monitored nor recorded	VX
Crew Debriefing	Weekly & daily in evening	Contains items not covered by the above & anomalies	VX/ AM Tape Dump

Table M-2. Voice/Data Downlinks

SECTION 2

SUMMARY TIMELINES

SUMMARY TIMELINE FORMAT



NOTES:

1. THE SUMMARY TIMELINES WERE GENERATED BY COMPUTER CONTROLLED CAL-COMP PLOTTER
2. THE FOLLOWING ABBREVIATIONS ARE USED IN THE SUMMARY TIMELINE

ACN- ASCENSION
ACT- ACTIVATION
A-SOL- ANTI-SOLAR
BDA- BERMUDA
CDR- COMMANDER
CMN- CREWMAN
C/O- CHECKOUT
CRO- CARNARVON
CYI- GRAND CANARY ISLAND
DE-ACT- DEACTIVATION
DP- DAILY PREPS
DOY- DAY OF YEAR
GDS- GOLDSTONE
GMT- GREENWICH MEAN TIME
GWM- GUAM
HAW- HAWAII
HSK- HONEYSUCKLE CREEK
IMD- INHIBIT MOMENTUM DUMP
MAD- MADRID
MD- MISSION DAY
MIL- MERRITT ISLAND
NFD- NEW FOUNDLAND
O- OBSERVER
PH- PERSONAL HYGIENE
PLN- PLANNING
PLT- PILOT
PT- EXERCISE
R+R- REST AND RECREATION
S- SUBJECT
SAA- SOUTH ATLANTIC ANOMALY
SAL- SCIENTIFIC AIRLOCK
S/HK- SYSTEMS HOUSEKEEPING
SOL- SOLAR
SPT-SCIENTIST PILOT
ST- STOW
SU- SETUP
SYS- SYSTEM
TEX- TEXAS
VAN- VANGUARD

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
0 :6 :1 /0 :17 :59	1 /121	TUE · MAY 1 ,1973	-11.8			SL-2	REFERENCE	MAY 1,1972

REV: 12 13 14 15 16 17 18 19 20 21 22 23 24 25

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

B; 121 | 122; 1 | 2

CMN

- CDR: EAT; PH / MD 71; SLEEP
- SPT: SL-2 LAUNCH; NC1 MANEUVER; NPC MANEUVER; NC2 MANEUVER; NCC MANEUVER; NSR MANEUVER; TPI MANEUVER; DOCKING; EAT; PH / MD 71; SLEEP
- PLT: EAT; PH / MD 71; SLEEP

DAY/NIGHT: 1 2 3 4 5 6 7 8 9 10 11 12

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE:
-GWM -CYI -MAD -GWM -HSK -MAD -CYI -CRO -HSK -BDA -NFD -MAD -CRO -HSK -TEX -MIL -BDA -NFD -MAD -CRO -NFD -MAD -TEX -GDS -MIL -BDA -HSK -GDS -TEX -NFD -CYI -MAD -HSK -HAW -GDS -NFD -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -NFD -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -VAN -GDS -TEX -MIL -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM

IMD

SAL: SOL; A-SOL

UNATTENDED EXPERIMENTS: S015; D024

NOTES

TV-RENDEVOUS/DOCKING

▽ REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

△ UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
0 ª17 ª59/1 ª17 ª59	2 /122	WED. MAY 2 ,1973	-15.4			SL-2	REFERENCE	MAY 1,1972

REV: 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

B (18); 122 | 123 (24); 2 | 3 (5)

CMN

CDR: PH, EAT, M071, ACT, EAT, PH/M071, ACT, RAD-6, T003-1, EAT, BIO EXP C/O, TO25 SU, SO19 SU, RAD-1, T025, TO25 ST, OB/HK, M071, SLEEP

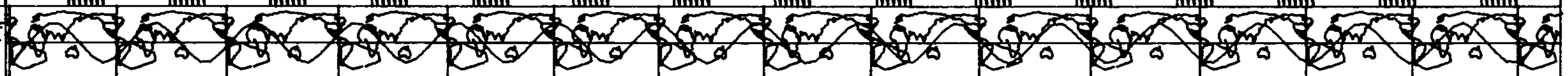
SPT: PH, EAT, M071, ACT, M071, ACT, EAT, PH/M071, ACT, M151 SU, EAT, BIO EXP C/O, M092-1/M171-1 O, PH, M071, SLEEP

PLT: PH, EAT, M071, ACT, EAT, PH/M071, ACT, P/H, M509 SU, EAT, M071, TO25 SU, M092-1/M171-1 S, PH, M071, SLEEP

DAY/NIGHT: 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -ACN -CYI -MAD -VAN -GWM -HSK -MAD -VAN -HSK -CYI -BDA -MAD -HSK -CRO -MIL -TEX -BDA -MAD -CRO -TEX -MIL -BDA -MAD -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -HAW -VAN -GWM -ACN -ACN -CYI -MAD -VAN

IMD

SAL: SOL — T025; A-SOL — S019

UNATTENDED EXPERIMENTS: S015; D024; M509 BATT1

NOTES

⊠ H M516-1 FOOD TRANSFER

⊠ H M516-4 M509 UNSTOW

▲ M151-6

● M092,M093,M131,M171,M133 ACTIVATION

● INITIATE M509 BATTERY #1 CHARGE
PRESSURIZE PSS BOTTLE

S015 LAMP CHECK @ 1820 & 1220

|—| VENT H VENT

|—| VENT

▲ M151-1

UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

REPORT:
CREW STATUS

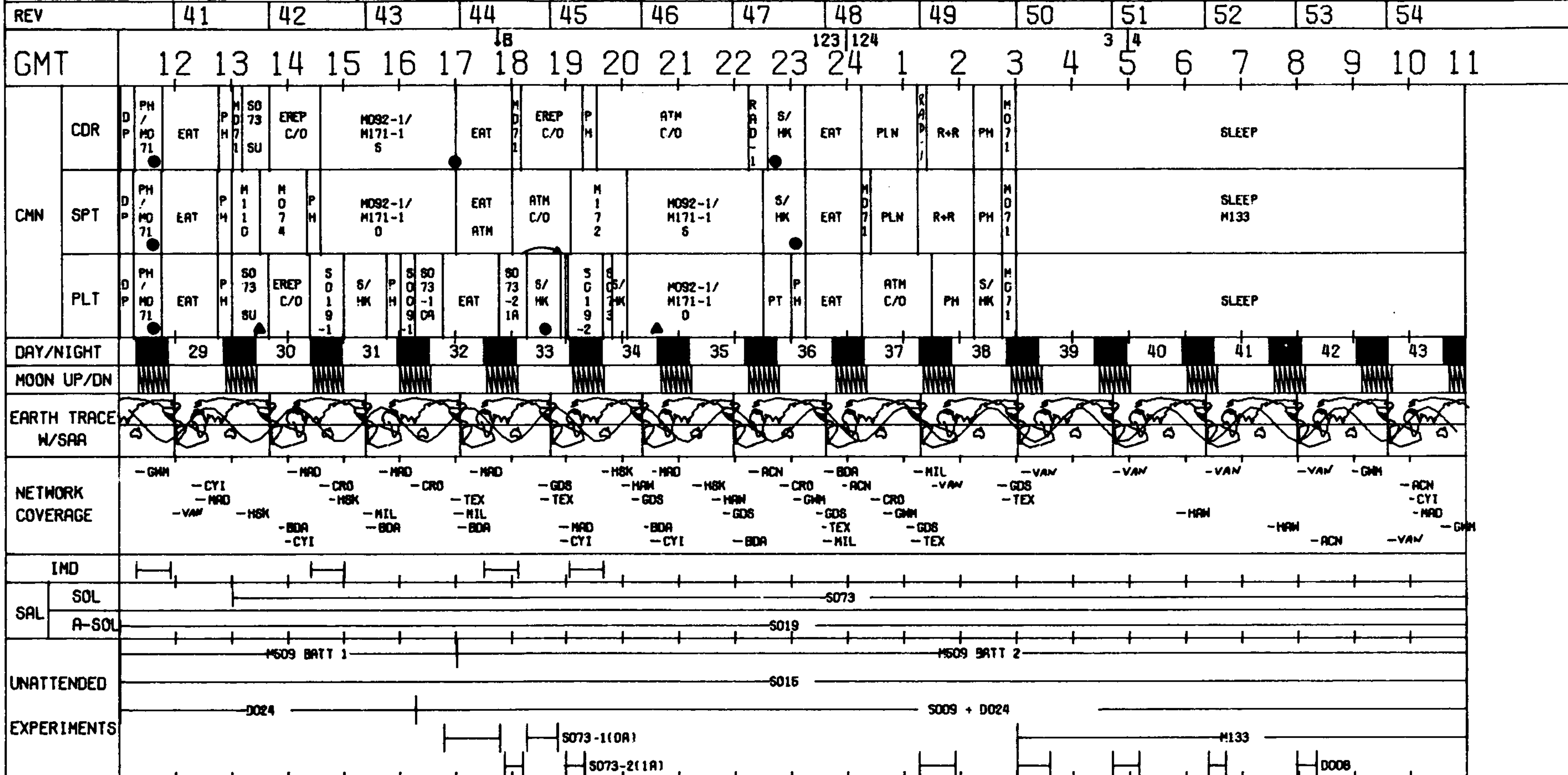
UPLINK:
T025

UPLINK:
SUMMARY FLIGHT PLAN/BLOCK DATA

REPORT:
DAILY STATUS/
ACCOMPISHMENTS

UPLINK:
CONSUMABLES
DETAIL FLIGHT PLAN
PHOTO

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE			MISSION	EDITION	PUBLICATION DATE
1 ᵈ17 ʰ59/2 ᵈ17 ʰ59	3 /123	THU. MAY 3 ,1973	-18.8				SL-2	REFERENCE	MAY 1,1972



NOTES

▲ M151-2 H TV-S009 ▲ M151-1

H VENT H VENT H VENT H VENT

H VENT H VENT H VENT

● M110 BLOOD SAMPLE DURING PH

● STOWAGE TRANSFER

● S/HK-THIRD DAY ACTIVITIES

● M509 BATTERY 1 CHARGE COMPLETE, INITIATE BATTERY 2 PRESSURIZE PSS BOTTLE

● M509 PRESSURIZE PSS BOTTLE

▽ REPORT: CREW STATUS

△ UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE

△ UPLINK: S019

△ UPLINK: T027/S073 S009

△ UPLINK: S019

△ UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

S015 LAMP CHECK @ 1820 & 1220
T003 @ APPROX 1100, 1800, 0300

▽ REPORT: DAILY STATUS/ ACCOMPLISHMENTS

△ UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
2 17 59/3 17 59	4 /124	FRI. MAY 4, 1973	-21.9		SL-2	REFERENCE	MAY 1, 1972

REV: 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69

GMT: 12 13 14 15 16 17 18 (B) 19 20 21 22 23 24 (124 / 125) 1 2 3 4 5 (4 / 5) 6 7 8 9 10 11

CMN	Activities
CDR	D/P, PH/MO71, EAT, PH, M071, S073 ST, EREP C/O, PH, M509-1 D, EAT, EREP PASS 1, S015, ATM, S015, PT, PH, S015, S/HK, EAT, PLN, PH, R+R, RAD-1, MO71, SLEEP
SPT	D/P, PH/MO71, EAT, PH, M110, S/HK, ATM, PH, ATM, EAT ATM, MO71, S/HK, EREP, S/HK, M131-1 D, M131-1 S, PT, PH, EAT, S/HK, PH, ATM, S/HK, MO71, SLEEP M133
PLT	D/P, PH/MO71, EAT, PH, S073 ST, S019 ST, EREP C/O, PH, M509-1 S, EAT, EREP PASS 1, S/HK, M131-1 S, M131-1 D, PH, S019 SU, EAT, MO71, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CYI -MAD -VAN, -HSK, -CYI -MAD -CRO, -HSK -MIL -BDA -MAD -CRO, -HSK -TEX -MIL -BDA -MAD, -GDS -TEX -BDA -MAD -CYI, -HSK -HAW -GDS -CYI -MAD, -HSK -HAW -GDS -BDA -CYI, -RCN -CRO -GWM -GDS -BDA -MIL, -RCN -CRO -GWM -GDS -TEX -MIL, -BDA, -GDS -TEX, -VAN, -GDS, -VAN, -HAW, -VAN, -HAW, -RCN -VAN, -VAN -RCN, -GWM, -VAN, -CYI -MAD

IMD

SAL: SOL — S073; A-SOL — S019, S019

UNATTENDED EXPERIMENTS: S009 + D024; S015; M509 BATT 2; M509 BATT 1; M133; D008

NOTES

TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM
TV-M509, TV-M509
TV-M133
VENT, VENT, VENT, VENT
▲ M151-2 ▲ M151-5
EREP DATA-19:28-19:41
● M110 BLOOD SAMPLE DURING PH
● INITIATE M509 BATTERY 1 CHARGE
PRESSURIZE PSS BOTTLE
● STOWAGE TRANSFER

UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE
S009

REPORT:
CREW STATUS

UPLINK:
EREP UPDATE/MANEUVER
GMT CLOCK/ATMDC UPDATE

S009 RESET @ 13:38
S015 LAMP CHECK @ 1820 & 1220
T003 @ APPROX 1100, 1800, 0300

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
3 :17:59/4 :17:59	5 /125	SAT. MAY 5 ,1973	-24.7			SL-2	REFERENCE	MAY 1,1972

REV: 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83 (↓B at 18)

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (125 | 126) 1 2 3 4 5 (5 | 6) 6 7 8 9 10 11

CMN

- CDR: D P | PH / MO 71 | EAT | P H | S/ HK | A T M | M1 31 -2 S | ATM | EREP PASS 2 | EAT ATM | A T M | M D 7 1 | P H | ATM | S/ HK | ATM | PT | P H | EAT | R A D - 1 | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | M O 7 1 | S/HK | M1 31 -2 O | M1 31 -2 O | P H | EREP | EAT | TO 27 -1 SU | M092-1/ M171-1 O | PT | P H | M1 31 -2 S | EAT | M O 7 1 | ATM | PH | S/ HK | M O 7 1 | SLEEP M133
- PLT: D P | PH / MO 71 | EAT | P H | S O 1 9 -3 | S/HK | P H | S O 1 9 -4 | M1 31 -2 S | EREP PASS 2 | EAT | TO 27 -1 SU | M092-1/ M171-1 S | S/HK | M1 31 -2 O | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GWM -HSK -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -TEX -MIL -BDA -MAD -GDS&CYI -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -GWM -ACN -CYI -MAD -VAN -GWM HSK

IMD

SAL
- SOL: T027-1
- A-SOL: S019

UNATTENDED EXPERIMENTS: S009 + DC24; S015; M509 BATT; T027-1; M133; D008

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-EREP TV-M092

VENT VENT TV-M171

EREP DATA-17:07-17:20

VENT VENT VENT VENT

▲ M151-3 ▲ M151-1

UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

REPORT:
CREW STATUS

● M509 BATTERY 1 CHARGE COMPLETE
PRESSURIZE PSS BOTTLE

UPLINK:
EREP UPDATE
GMT CLOCK/MANEUVER
ATMDC UPDATE/S009

UPLINK:
T027

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

S009 RESET @ 16:02
S015 LAMP CHECK @ 1820
T003 @ APPROX 1100, 1800, 0300

UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
4 :17:59/5 :17:59	6 /126	SUN. MAY 6 ,1973	-27.1		SL-2	REFERENCE	MAY 1,1972

REV	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (day 126 | 127; ↓B at 18; 6 | 7 at 5)

CMN

- CDR: D/P, PH/MO71, EAT, PH, MO71, M092-1/M171-1 S, EAT, EREP PASS 3, S/HK ●, PH, S019-6, ATM, S019 ST, ATM, EAT, PLN, R+R, PH, M071, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, S/HK, M092-1/M171-1 O, EAT, M071, PH, EREP, STU, ATM, M092-1/M171-1 S, EAT, M071, PLN, R+R, PH, M071, SLEEP
- PLT: D/P, PH/MO71, EAT, PH, ATM, PH, ATM, EAT ATM, EREP PASS 3, S019-5, S/HK, PT, PH, M092-1/M171-1 O ▲, EAT ▲, ATM, PH, ATM, S/HK, M071, SLEEP

DAY/NIGHT: 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CYI -MAD -CRO -HSK -BDA -MAD -CRO -HSK -MAD -TEX -MIL -BDA -CRO -BDA -TEX -GDS -MIL -MAD -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -TEX -VAN -GDS -HAW -VAN -HAW -VAN -VAN -ACN -GWM -CYI -MAD -VAN -GWM -HSK -ACN -VAN

IMD

SAL: SOL — T027-1; A-SOL — S019

UNATTENDED EXPERIMENTS: S009 + D024; S015; T027-1; D008

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-M092 TV-STU TV-M092

TV-M171 TV-M171

VENT VENT VENT VENT VENT VENT

VENT

REPORT: CREW STATUS

EREP DATA-18:00-18:14

▲ M151-1 ▲ M151-6

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE

UPLINK: EREP UPDATE MANEUVER GMT CLOCK ATMDC UPDATE

UPLINK: S019

UPLINK: S019 S009

● S/HK-THIRD DAY ACTIVITIES

S009 RESET @ 19:59
S015 LAMP CHECK @ 1820
T003 @ APPROX 1100, 1800, 0300

UPLINK: SUMMARY FLIGHT PLAN BLOCK DATA

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
5 :17:59/6 :17:59	7 /127	MON. MAY 7, 1973	-29.1			SL-2	REFERENCE	MAY 1, 1972

REV: 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

(B at 18; 127 | 128 at 24; 7 | 8 at 5)

CMN

CDR: D P | PH / MO 71 | EAT | P H | S/HK | OFF DUTY | P H | EAT | M O 7 1 | OFF DUTY | PT | P H | OFF DUTY | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

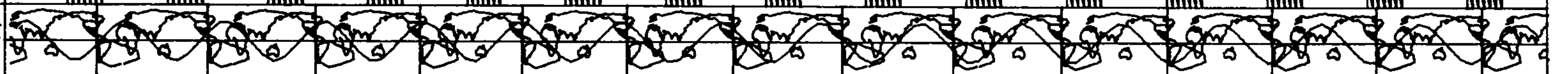
SPT: D P | PH / MO 71 | EAT | P H | M O 7 1 | OFF DUTY | P H | EAT | S/HK ● | OFF DUTY | PT | P H | OFF DUTY | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP M133

PLT: D P | PH / MO 71 | EAT | P H | M O 7 1 | OFF DUTY | P H | EAT | ⊠ | OFF DUTY | S/HK | PT | P H | EAT | PLN | R+R | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CYI -MAD -HSK -BDA -MAD -CRO -HSK -MIL -TEX -BDA -MAD -CRO -MAD -TEX -MIL -BDA -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -MIL -BDA -GDS -TEX -CRO -GWM -GDS -TEX -MIL -VAN -VAN -GDS -TEX -HAW -VAN -HAW -VAN -HAW -ACN -VAN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD

IMD

SAL: SOL —T027-1—; A-SOL

UNATTENDED EXPERIMENTS: S009 + DC24; S015; T027-1; M133; DC08

NOTES

H VENT H VENT H VENT H VENT H VENT

⊠ M516-3 CONFIGURE WHOLE BODY SHOWER

● S/HK-SEVENTH DAY ACTIVITIES

△ UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

▽ REPORT:
CREW STATUS

S009 RESET @ 22:23
S015 LAMP CHECK @ 1820
T003 @ APPROX 1100, 1800, 0300

△ UPLINK
S009

▽ REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

△ UPLINK:
SUMMARY FLIGHT PLAN
BLOCK DATA

△ UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
6 $17 $59/7 $17 $59	8 /128	TUE. MAY 8 ,1973			SL-2	REFERENCE	MAY 1,1972

REV: 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (128|129) 1 2 3 4 5 (8|9) 6 7 8 9 10 11

CMN

- CDR: D/P, PH/MO71, EAT, PH, M487-1, EREP PASS 4, PH, ATM, EAT ATM, ATM, S/HK, ATM, EREP PASS 5, S/HK, PT, PH, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, ATM, S190B, PH, M131-10, EAT, MO71, S/HK, M131-16, PT, PH, S190B, ATM, EAT, ATM, PH, ATM, S/HK, MO71, SLEEP
- PLT: D/P, PH/MO71, EAT, PH, MO71, S/HK, EREP PASS 4, PH, M131-10, EAT, S/HK, M551, ED TV, M131-16, EREP PASS 5, PT, PH, SO19 SU, EAT, MO71, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HSK -BDA -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -MIL -BDA -MAD -TEX -MAD -CYI -GDS -TEX -HSK -HAW -GDS -BDA -CYI -MAD -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -GDS -TEX -MIL -CRO -GWM -VAN -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -MAD -GWM -ACN -CYI -VAN -CYI -MAD -HSK

IMD

SAL
- SOL: T027-1
- A-SOL: S190B, S019

UNATTENDED: S009 + D024; S015; T027-1

EXPERIMENTS: M551 COOLING; D008

NOTES

TV-ATM; TV-M487; TV-ATM; TV-M131; TV-ATM; TV-ED; TV-ATM; TV-M131; TV-EREP ETC; TV-ATM; TV-S019; TV-ATM

ATM CALIBRATION ROCKET LAUNCH THIS DAY

VENT VENT; VENT; VENT; VENT

● M551 REMOVAL

UPLINK:
EREP UPDATE
GMT CLOCK
ATMDC UPDATE
BLOCK DATA / MANEUVER
ENTRY UPDATE / S190 B/S009

REPORT:
CREW STATUS

EREP DATA-14:50-15:10

UPLINK:
EREP UPDATE
MANEUVER
GMT CLOCK
ATMDC UPDATE/S190 B

EREP DATA-21:27-21:42

S009 RESET @ 13:54
S015 LAMP CHECK @ 1820
T003 @ APPROX 1100, 1800, 0300

UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
7 :17:59/8 :17:59	9 /129	WED. MAY 9, 1973	-31.4			SL-2	REFERENCE	MAY 1, 1972

REV: 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141 (rev boundaries 8; 129|130; 9|10)

GMT: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

CMN

- CDR: D/P, PH/MC 71, EAT, TRIM, PH, S/HK, ATM, M092-1/M093-1 S ●, EAT, MD7B, S/HK, S019 ST, M551, EREP PASS 6, STU, ATM ●, PH, EAT, PLN, R+R, PH, M071, SLEEP
- SPT: D/P, PH/MO 71, EAT, TRIM, PH, MD7B, S/HK ●, PH, M092-1/M093-1 O, EAT ATM, ATM, S/HK, S190B, M092-1/M093-1 S ●, EAT, MD7B, PLN, R+R, PH, M071, SLEEP M133
- PLT: D/P, PH/MC 71, EAT, TRIM, S019-7, ED TV, PH, SC19-8, ATM, EAT, SC19-9, S/HK, PT, PH, EREP PASS 6, M092-1/M093-1 O, EAT, PH, ATM, S/HK, M071, SLEEP

DAY/NIGHT: 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CYI -MAD -CRO -HSK -MAD -MIL -BDA -CRO -HSK -BDA -MAD -TEX -MIL -BDA -MAD -GDSCYI -TEX -MIL -GDS -HSK -CYI -MAD -HAW -GDS -HSK -BDA -CYI -HAW -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -TEX -VAN -GDS -GDS -VAN -HAW -VAN -HAW -VAN -ACN -VAN -GWM -ACN -CYI -MAD -VAN -GWM -HSK -MAD -CYI

IMD

SAL
- SOL: T027-1
- A-SOL: S019; S190B

UNATTENDED EXPERIMENTS: S009 + DC24; S015; T027-1; M133; M551 COOLING; D008

NOTES

TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM

TV-S019, TV-M093, TV-M551, TV-M093

VENT, TV-ED, TV-STU, REPORT: DAILY STATUS/ ACCOMPLISHMENTS, VENT

VENT, VENT, VENT, VENT

UPLINK: S009

● INCLUDES 15 MIN PT

● INCLUDES 15 MIN PT

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE/S019

EREP DATA-20:43-20:58

● M551 REMOVAL

● S/HK-THIRD DAY ACTIVITIES

S009 RESET @ 14:45

S015 LAMP CHECK @ 1820

T003 @ APPROX 1100, 1800, 0300

UPLINK: EREP UPDATE MANEUVER/S190 B ATMDC UPDATE/GMT CLOCK

REPORT CREW STATUS

UPLINK: S019

UPLINK: S019

UPLINK: BLOCK DATA/SUMMARY FLIGHT PLAN

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT V/TS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
8 :17:59/9 :17:59	10/130	THU. MAY 10,1973	-32.0			SL-2	REFERENCE	MAY 1,1972

REV: 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (130|131) 1 2 3 4 5 (10|11) 6 7 8 9 10 11

CMN

CDR: D P | PH / MO 71 | EAT | P H | ATM | S O 1 5 | S/HK ● | S O 1 5 | PT | P H | S O 1 5 | EAT | M O 7 1 | S1 83 ST | EREP PASS 7 | ATM | P H | S T U | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP

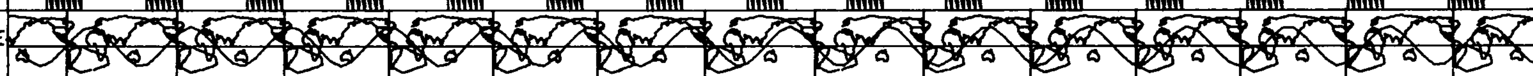
SPT: D P | PH / MO 71 | EAT | P H | S/HK | S1 83 SU | S T U | P H | ATM | EAT ATM | ATM | S190B | M092-1/ M093-1 0 | PT | P H | EAT | ATM | PH | A T M | S/ HK | M O 7 1 | SLEEP

PLT: D P | PH / MO 71 | EAT | P H | M O 7 1 | S/ HK | S1 83 SU | S 1 8 3 -1 | S/HK | P H | S 1 8 3 -2 | EAT | S 1 8 3 -3 | R A D -6 | S1 83 ST | EREP PASS 7 | M092-1/ M093-1 8 ● | ATM | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -HSK -MIL -BDA -MAD; -CRO -HSK -TEX -MIL -BDA; -MAD; -MAD -GDSCYI -TEX -MIL -BDA; -HSK; -CYI -MAD -GDS -TEX; -BDA -HSK -CYI -HAW -ACN -GDS; -CRO -HSK -HAW; -GDS -BDA -MIL -NFD -ACN; -GWM -GDS -TEX -MIL -BDA; -CRO; -CRO; -GWM -VAN -GDS -TEX -MIL; -GDS; -VAN; -VAN -HAW; -HAW -VAN; -VAN -ACN -GWM; -VAN -HSK -CYI -MAD -GWM; -CYI -MAD; -CRO -HSK

IMD

SAL: SOL — T027-1; A-SOL — S183; S190B

UNATTENDED EXPERIMENTS: S009 + D024; S015; T027-1; D008

NOTES

TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM

TV-M071/M172, TV-STU

TV-M071/M074

TV-M093

TV-STU

VENT, VENT, VENT, VENT

UPLINK: S183

● S/HK-TENTH DAY ACTIVITIES

● INCLUDES 15 MIN PT

UPLINK: ATMDC UPDATE, BLOCK DATA, ENTRY UPDATE

UPLINK: S183, S009

REPORT: CREW STATUS

UPLINK: S183

UPLINK: EREP UPDATE, GMT CLOCK, MANEUVER, ATMDC UPDATE, S190 B

EREP DATA-20:00-20:15

S009 RESET @ 15:35
T003 @ APPROX 1100, 1800, 0300

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

UPLINK: DETAIL FLIGHT PLAN, PHOTO, CONSUMABLES, ATM SCHED, SOLAR ACT, V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
9 :17 :59/10 :17 :59	11/131	FRI. MAY 11,1973	-32.1		SL-2	REFERENCE	MAY 1,1972

REV: 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (131|132) 1 2 3 4 5 (11|12) 6 7 8 9 10 11

CMN

CDR: D/P, PH/MO71, EAT, P/H, MO71, TO27-1ST, M509-2 O, P/H, EAT, EREP PASS 8, ATM, S/HK, PT, P/H, EAT, PLN, R+R, PH, MO71, SLEEP

SPT: D/P, PH/MO71, EAT, P/H, M110, ATM, EAT ATM, MO71, P/H, S190B, ED TV, SO73 SU, S/HK, PT, P/H, S/HK, EAT, MO71, PH, ATM, S/HK, MO71, SLEEP M133

PLT: D/P, PH/MO71, EAT, P/H, TO27-1ST, M509-2 S, P/H, EAT, EREP PASS 8, P/H, SO73 SU, SO73-558, S/HK, ATM, EAT, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -BDA -NFD -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -GDS -MIL -BDA -MAD -TEX -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -MIL -BDA -GDS -TEX -CRO -GWM -MIL -VAN -GDS -TEX -VAN -GDS -TEX -HAW -VAN -HAW -VAN -ACN -VAN -GWM -ACN -CYI -MAD -VAN -GWM -HSK -CYI -MAD -VAN -HSK -BDA -NFD -MAD

IMD

SAL
SOL: T027-1, S073
A-SOL: S190B

UNATTENDED EXPERIMENTS: S009 + D024; S073-5(5B); M133; M509 BATT 1; D008

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-ED

VENT VENT VENT VENT VENT

▲ M151-3 ▲ M151-5

● M110 BLOOD SAMPLE DURING PH

Δ UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

∇ REPORT:
CREW STATUS

Δ UPLINK:
EREP UPDATE
MANEUVER/S190 B
GMT CLOCK
ATMDC UPDATE

EREP DATA-19:18-19:30

● INITIATE M509 BATTERY 1 CHARGE
PRESSURIZE PSS BOTTLE

Δ UPLINK:
T027/S073
S009

● M509-PRESSURIZE PSS BOTTLE
S009 RESET @ 21:06
T003 @ APPROX 1100, 1800, 0300

Δ UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

∇ REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

Δ UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR AGT
V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
10 ᴴ17 ᴹ59/11 ᴴ17 ᴹ59	12/132	SAT. MAY 12, 1973	-31.6		SL-2	REFERENCE	MAY 1, 1972

REV: 171 172 173 174 175 176 177 178 179 180 181 182 183 184

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (132|133 at 24; 12|13 at 5; B at 12)

CMN

CDR: D P | PH / MO 71 | EAT | P H | M 0 7 1 | M 1 3 1 | M 1 3 -2 | S/ HK ● | EREP PASS 9 | M092-1/ M171-1 5 | EAT | EREP PASS 10 | M B I 0 -1 | ATM | S/ HK ● | A T M | EAT T003-3 | PLN | R+R | PH | M 0 7 1 | SLEEP

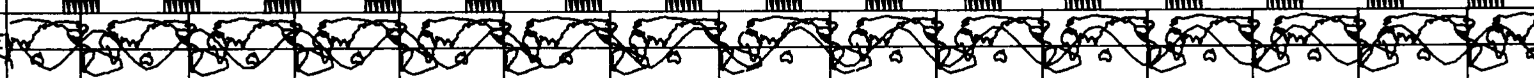
SPT: D P | PH / MO 71 ● | EAT | P H | S/ HK | ATM | S190B | M092-1/ M171-1 0 | EAT | M 0 7 1 | P H | S190B | M092-1/ M171-1 5 | EAT | M 0 7 1 | PLN | R+R | PH | M 0 7 1 | SLEEP

PLT: D P | PH / MO 71 | EAT | P H | S 0 7 3 | S/ HK | EREP PASS 9 | PT | P H | ATM | EAT ATM | EREP PASS 10 | M092-1/ M171-1 0 ▲ | EAT | ATM | PH | S/ HK | M 0 7 1 | SLEEP

DAY/NIGHT: 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -HSK -MAD -MIL -TEX -BDA -CRO -MAD -TEX -MIL -BDA -GDS -TEX -MAD -CYI -HSK -HAW -GDS -ACN -BDA -CYI -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -MIL -BDA -GDS -TEX -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -HAW -ACN -VAN -GWM -VAN -ACN -CYI -MAD -GWM -CYI -MAD -VAN -HSK -BDA -CYI -MAD -CRO -HSK

IMD

SAL: SOL — S073; A-SOL — S190B

UNATTENDED EXPERIMENTS: S009 + D024; M509 BATT 1; S073-3(2B); M509 BATT 2; D008

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

REPORT: CREW STATUS

TV-T003

VENT VENT

VENT VENT

● MICRO-2 WITH DP

EREP DATA-20:11-20:26

▲ M151-1

VENT VENT

EREP DATA-15:17-15:30

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

VENT

● S/HK-THIRD DAY ACTIVITIES

UPLINK: GMT CLOCK MANEUVER ATMDC UPDATE BLOCK DATA/ EREP UPDATE ENTRY UPDATE/S190 B/S009 T027/S073

● M509 BATTERY 1 CHARGE COMPLETE, INITIATE BATTERY 2 PRESSURIZE PSS BOTTLE

UPLINK: EREP UPDATE/GMT CLOCK ATMDC UPDATE/MANEUVER/S190 B

S009 RESET @ 14:10 T003 @ APPROX 1100, 1800, 0300

UPLINK: SUMMARY FLIGHT PLAN BLOCK DATA

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
11 ᴰ17 ᴴ59/12 ᴰ17 ᴴ59	13/133	SUN. MAY 13,1973	-30.6			SL-2	REFERENCE	MAY 1,1972

REV: 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (133|134) 1 2 3 4 5 (13|14) 6 7 8 9 10 11

CMN

CDR: D P | PH / MO 71 | EAT | P H | M O 7 1 | M 5 5 1 | S/HK | P H | ATM | EAT | M 5 5 3 | ATM | S/ HK | ATM | S/ HK | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

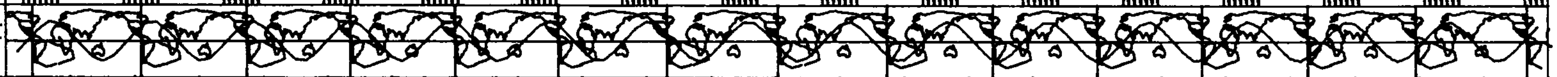
SPT: D P | PH / MO 71 | EAT | P H | ATM | P H | ATM | M1 31 -1 0 | M1 31 -1 S | EAT ATM | ATM | M092-1/ M171-1 O | SO 73 ST SU | PT | P H | S/ HK | EAT | A T M | PH | ATM | S/ HK | M O 7 1 | SLEEP M133

PLT: D P | PH / MO 71 | EAT | P H | S T U | SO 73 -4 20 | P H | M1 31 -1 S | M1 31 -1 O | EAT | M O 7 1 | S/ HK | ED TV | M092-1/ M171-1 S | SO 73 ST SU | ATM | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -MIL -BDA -MAD -CRO -MIL -BDA -MAD -TEX -MAD -CYI -GDS -TEX -HSK -BDA -CYI -MAD -HAW -GDS -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -VAN -HAW -VAN -VAN -HAW -ACN -GWM -MAD -VAN -GWM -ACN -CYI -VAN -CYI -MAD -HSK -MAD -CRO -HSK -CYI -MAD -MIL -BDA

IMD

SAL SOL: S073

SAL A-SOL: S073

UNATTENDED EXPERIMENTS: S009 + D024; M509 BATT 2; M551 COOLING; M133; D008

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-STU TV-M553

VENT VENT VENT VENT VENT

● M509 BATTERY 2 CHARGE COMPLETE

▲ M151-1 ▲ M151-2 ▲ M151-6

● M551 REMOVAL

REPORT:
CREW STATUS

UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE
T027/S073

UPLINK:
S009

UPLINK:
SUMMARY FLIGHT PLAN
BLOCK DATA

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

S009 RESET @ 22:47
T003 @ APPROX 1100, 1800, 0300

UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
12:17:59/13:17:59	14/134	MON. MAY 14, 1973	-29.1		SL-2	REFERENCE	MAY 1, 1972

REV: 200 201 202 203 204 205 206 207 208 209 210 211 212 213

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (134/135) 1 2 3 4 5 (14/15) 6 7 8 9 10 11

CMN

CDR: DP, PH/MO71, EAT, PH, MO71, S/HK, PT, PH, S/HK, ATM, EAT ATM, TO25 BU, T025, TD26 ST, PH, SO73 ST, EREP PASS 11, M131-26, EAT, PLN, R+R, PH, MO71, SLEEP, DP, PH/MO71

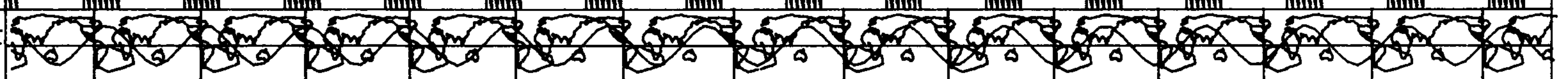
SPT: DP, PH/MO71, EAT, PH, ATM, PT, PH, M131-20, M131-26, PH, EAT, MO71, ATM, S063-1, M131-20, EAT, MO71, PLN, R+R, PH, MO71, SLEEP, DP

PLT: DP, PH/MO71, EAT, PH, SO73-2 1A/OA, S/HK, S/HK, S/HK, M131-28, M131-20, PH, EAT, SO73, S/HK, SO73-4 2C, SO73 ST, EREP PASS 11, PT, PH, EAT, PH, ATM, S/HK, ATM, MO71, SLEEP, DP, PH/MO71

DAY/NIGHT: 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: CRO, HSK, MAD, TEX, MIL, BDA, MAD, GDS, CYI, TEX, MIL, BDA, HSK, CYI, MAD, HAW, GDS, BDA, CYI, HSK, ACN, HAW, GDS, CRO, BDA, GWM, MIL, GDS, ACN, CRO, TEX, GWM, MIL, GDS, BDA, GDS, TEX, VAN, GDS, VAN, HAW, VAN, HAW, VAN, ACN, VAN, ACN, GWM, MAD, VAN, GWM, HSK, CYI, HSK, CYI, MAD, CRO, MIL, BDA, MAD, HSK, CRO

IMD

SAL: SOL — T025; A-SOL — S073; S063-1

S009 + D024

UNATTENDED EXPERIMENTS: S073-2(1A), S073-1(0A), S073-3(2A), D008

NOTES

TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM, TV-ATM

TV-M131, TV-M131, TV-S063, TV-M131

VENT, VENT, VENT, VENT, VENT, VENT

UPLINK: EREP UPDATE, GMT CLOCK/MANEUVER, ATMDC UPDATE, S063

REPORT: CREW STATUS

● S/HK-SEVENTH DAY ACTIVITIES

■ PARALLEL CSM WITH ATM/AM EPS

● S/HK-FOURTEENTH DAY ACTIVITIES

● STOWAGE TRANSFER

▲ M151-2

UPLINK: ATMDC UPDATE, BLOCK DATA, ENTRY UPDATE, T027/S073

UPLINK: T027/S073, T025

UPLINK: S009, T027/S073

EREP DATA-21:37-22:07

S009 RESET @ 18:58

T003 @ APPROX 1100, 1800, 0300

UPL. : BLOCK DATA / SUMMARY FLIGHT PLAN

: DAILY STATUS/ ACCOMPLISHMENTS

ATM CALIBRATION ROCKET LAUNCH THIS DAY

UPLINK: DETAIL FLIGHT PLAN, PHOTO, CONSUMABLES, ATM SCHED, SOLAR ACT, V/TS

UPLINK: EREP UPDATE, MANEUVER, GMT CLOCK, ATMDC UPDATE

S190 B

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
13:17:59/14:17:59	15/135	TUE. MAY 15, 1973	-27.1	○	SL-2	REFERENCE	MAY 1, 1972

REV: 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228

GMT: 12 (↓B) 13 14 15 16 17 18 19 20 21 22 23 24 (135 | 136) 1 2 3 4 5 (15 | 16) 6 7 8 9 10 11

CMN

CDR: EREP PASS 12 | EAT | PH | REST | S149-1 SU | M552 | M092-1/M093-1 S | EAT | M487-1 | ATM | S/HK | ATM | PH | ATM | EAT | PLN | R+R | PH | M071 | SLEEP

SPT: PH/MO71 | S190B | EAT | PH | MO71 | MO74 | S/HK | PH | M092-1/M093-1 O | EAT | M172 | M092-1/M093-1 O | M092-1/M093-1 S | EAT | MO71 | PLN | R+R | PH | MO71 | SLEEP M133

PLT: EREP PASS 12 | EAT | PH | REST | S149-1 SU | S/HK | PH | ATM | EAT ATM | ATM | S/HK | M092-1/M093-1 S | M092-1/M093-1 O | EAT | ATM | PH | ATM | S/HK | MO71 | SLEEP

DAY/NIGHT: 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -TEX -MIL -BDA -MAD | -TEX -MIL -BDA -MAD -GDSCYI | -HSK -GDS -TEX -CYI -MAD | -HSK -HAW -GDS -BDA -CYI | -ACN -CRO -HSK -HAW -GDS -BDA | -MIL -ACN -CRO -GWM -GDS | -TEX -MIL -BDA -CRO -GWM -GDS | -TEX -MIL -VAN -GDS | -VAN -HAW | -VAN -HAW | -VAN -ACN | -VAN -GWM | -CYI -MAD -VAN -GWM -HSK | -MAD -CRO -HSK -CYI | -BDA -MAD | -CRO -HSK | -TEX -MIL -BDA

IMD

SAL: SOL | A-SOL: S190B; S149-1

UNATTENDED EXPERIMENTS: S009 + DC24 | S149-1 | M552 COOLING | M552 COOLING | M552 COOLING | M133 | DC08

NOTES

TV-ATM | TV-ATM | TV-ATM | TV-ATM | TV-ATM | TV-ATM | TV-ATM

TV-S149

VENT | VENT | VENT | VENT | VENT

VENT | VENT | VENT | VENT

UPLINK: S149

● M552 SECOND SPECIMEN ● M552 THIRD SPECIMEN ● M552 REMOVAL

● INCLUDES 15 MIN PT ● INCLUDES 15 MIN PT ● M552 FOURTH SPECIMEN

UPLINK: BLOCK DATA ENTRY UPDATE

UPLINK: S009

REPORT CREW STATUS

● S/HK-THIRD DAY ACTIVITIES

● INCLUDES 15 MIN PT

S009 RESET @ 15:09
T003 @ APPROX 1100, 1800, 0300

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
14 ^{h}17 ^{m}59/15 ^{h}17 ^{m}59	16/136	WED. MAY 16,1973	-24.6		SL-2	REFERENCE	MAY 1,1972

REV: 229 230 231 232 233 234 235 236 237 238 239 240 241 242

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (136|137) 1 2 3 4 5 (16|17) 6 7 8 9 10 11

↓B

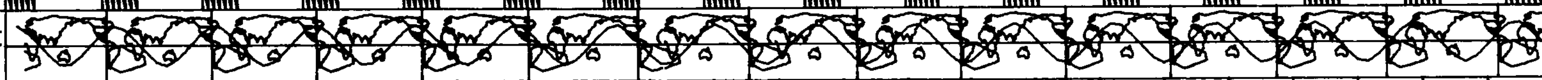
CMN

- CDR: D/P, PH/MO 71, EAT, PH, S/HK, OFF DUTY, PH, EAT, MO71, OFF DUTY, PT, PH, OFF DUTY, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO 71, EAT, PH, OFF DUTY, PH, EAT, S/HK, OFF DUTY, PT, PH, OFF DUTY, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
- PLT: D/P, PH/MO 71, EAT, PH, MO71, OFF DUTY, PH, EAT, OFF DUTY, S/HK, PT, PH, EAT, PLN, R+R, PH, S149, S/HK, MO71, SLEEP

DAY/NIGHT: 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -MAD -CRO -MAD -TEX -GDS -MIL -BDA -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -VAN -GDS -TEX -MIL -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -MAD -VAN -ACN -CYI -GWM -HSK -VAN -CYI -MAD -HSK -BDA -MAD -CRO -HSK -TEX -BDA -MAD -MIL -CRO

IMD

SAL: SOL, A-SOL — S149-1 —

UNATTENDED EXPERIMENTS: — S009 + D024 —; — S149-1 —; D008

NOTES

- VENT, VENT, VENT, VENT, VENT
- ● S149 RETRACT

S009 RESET @ 19:06
T003 @ APPROX 1100, 1800, 0300

- △ UPLINK: ATMDC UPDATE, BLOCK DATA, ENTRY UPDATE
- ▽ REPORT: CREW STATUS
- △ UPLINK: S009
- △ UPLINK: BLOCK DATA, SUMMARY FLIGHT PLAN
- ▽ REPORT: DAILY STATUS/ ACCOMPLISHMENTS
- △ UPLINK: DETAIL FLIGHT PLAN, PHOTO, CONSUMABLES, ATM SCHED, SOLAR ACT, V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
15 17 59/16 17 59	17/137	THU. MAY 17,1973	-21.8		SL-2	REFERENCE	MAY 1,1972

REV: 243 244 245 246 247 248 249 250 251 252 253 254 255 256

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (137|138) 1 2 3 4 5 (17|18) 6 7 8 9 10 11

CMN

CDR: D/P, PH/MC 71, EAT, PH, M D 5 7, M509-3 D, S/HK, PH, EAT, S/HK, TO25 SU, T025, TO25 ST, ATM, PT, PH, S/OS/HK 3, EAT, PLN, R+R, PH, M071, SLEEP

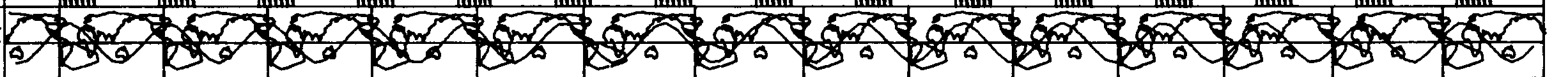
SPT: D/P, PH/MO 71, EAT, PH, S1 49 -1 ST, ATM, PH, ATM, EAT, SO73 SU, ATM, M131-1 D, M131-1 S, PT, PH, EAT, ATM, PH, ATM, S/HK, M071, SLEEP M133

PLT: D/P, PH/MO 71, EAT, PH, S1 49 -1 ST, M509-3 S, PH, EAT, MO71, SO73 SU, SO73-8 3A, S/HK, SO73 3, M131-1 S, M131-1 D, ATM, EAT, MC71, PLN, R+R, PH, MC71, SLEEP

DAY/NIGHT: 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -TEX -MIL -BDA -MAD; -TEX -CYI -MAD -GDS; -GDS -BDA -CYI -HBK -HAW; -BDA -ACN -HAW -GDS -BDA -HBK -MIL -ACN; -CRO -GWM -GDS -TEX -MIL -BDA; -CRO -GWM -GDS -TEX -MIL; -VAN -TEX -VAN -GDS; -HAW -VAN; -HAW -VAN; -HAW -VAN -ACN -GWM; -ACN -CYI -MAD -VAN -GWM; -VAN -CYI -MAD; -HBK -BDA -CYI -MAD -CRO -HBK; -MIL -BDA -MAD -CRO; TEX

IMD

SAL: SOL — T025; A-SOL — S149-1, S073

UNATTENDED EXPERIMENTS: S009 + D024; M509 BATT 1; S149-1; S073-8(3A); S073-7(1B); M133

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-M554 TV-S073

TV-S073 VENT

VENT VENT VENT ● M509 PRESSURIZE PSS BOTTLE VENT

VENT M151-5 ● M554 INITIATE COOLING CYCLE

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE

● M554 INITIATE

● M554 TERMINATE COOLING CYCLE

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT V/TS

● INITIATE M509 BATTERY 1 CHARGE PRESSURIZE PSS BOTTLE

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT: CREW STATUS

UPLINK: T027/S073

UPLINK: T027/S073 T205/S009

S009 RESET @ 19:57
T003 @ APPROX 1100, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
16 :17 :59/17 :17 :59	18/138	FRI. MAY 18,1973	-18.7			SL-2	REFERENCE	MAY 1,1972

REV	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271

GMT: 12 (B) 13 14 15 16 17 18 19 20 21 22 23 24 (138 | 139) 1 2 3 4 5 (18 | 19) 6 7 8 9 10 11

CMN

- CDR: D/P, PH/MO71, EAT, PH, SO73-7 3C, SO73 ST, M092-1/M171-1 S, EAT, EREP PASS 13, M555, PH, ATM, S/HK, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, MD71, S/HK, PH, SO73 ST, M092-1/M171-1 O, EAT, MD71, SO73-1 OA, S190B, S/HK, SO73, M092-1/M171-1 S, EAT, PLN, R+R, PH, MO71, SLEEP
- PLT: D/P, PH/MO71, EAT, PH, ATM, S/HK, ATM, EAT ATM, EREP PASS 13, PH, PT, PH, M092-1/M171-1 O, EAT, MO71, PH, ATM, S/HK, MO71, SLEEP

DAY/NIGHT: 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -MIL -BDA -MAD -MIL -CYI -MAD -GDS -TEX -HSK -GDS -BDA -CYI -MAD -HAW -HSK -HAW -GDS -BDA -ACN -GWM -GDS -TEX -MIL -BDA -CRO -ACN -CRO -GWM -GDS -TEX -MIL -VAN -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -GWM -CYI -MAD -VAN -GWM -ACN -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -MAD -MIL -BDA -CRO -HSK -BDA -MAD -TEX -MIL

IMO

SAL: SOL — S073; A-SOL — S073, S190B

UNATTENDED EXPERIMENTS: S009 + DO24; M509 BATT 1; M509 BATT 2; S073-1(OA); M555

NOTES

TV-ATM, TV-ATM, TV-ATM, TV-M555, TV-ATM

VENT, VENT, VENT, VENT, VENT, VENT, VENT, VENT, VENT

UPLINK:
S009
T027/S073
BLOCK DATA
ATMDC UPDATE
ENTRY UPDATE

REPORT:
CREW STATUS

● M554 REMOVAL
M509 BATTERY 1 CHARGE COMPLETE,
INITIATE BATTERY 2
PRESSURIZE PSS BOTTLE

UPLINK:
EREP UPDATE
GMT CLOCK/MANEUVER
ATMDC UPDATE/S190 B/T027/S073

EREP DATA-19:06-19:19

S009 RESET @ 13:02
T003 @ APPROX 1100, 1800, 0300

● M555-MONITOR EVERY 30 MIN FOR THREE HOURS THEN EVERY 12 HOURS FOR 112 HOURS

● S/HK-THIRD DAY ACTIVITIES

UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

UPLINK:
DETAIL FLIGHT PLAN
CONSUMABLES PHOTO
ATM SCHED
SOLAR ACT
V/TS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
17 :17 :59/18 :17 :59	19/139	SAT . MAY 19,1973	-15.3	○		SL-2	REFERENCE	MAY 1,1972

REV: 272 273 274 275 276 277 278 279 280 281 282 283 284 285

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (↓B at 12; 139|140 at 24; 19|20 at 5)

CMN

CDR: D P | PH / MO 71 | EAT | P H | ATM | S/HK | S T U | P H | EAT | EREP PASS 14 | ATM | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

SPT: D P | PH / MO 71 | EAT | P H | S/ HK | S T U | ED TV | ATM | EAT ATM | M O 7 1 | P H | S C 6 3 -1 | M092-1/ M171-1 O | S/ HK | PT | P H | S/ HK | EAT | ATM | PH | A T M | S/ HK | M O 7 1 | SLEEP M133

PLT: D P | PH / MO 71 | EAT | P H | M O 7 1 | S/ HK | S0 73 -4 20 | O P E N | P H | EAT | EREP PASS 14 | M092-1/ M171-1 S | S0 73 -9 48 | S/ HK | A T M | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS&CYI -TEX -MIL -BDA -MAD | -HSK -HAW -GDS -CYI | -MAD | -HSK -HAW -GDS -BDA | -CYI -ACN -CRO -GWM -GDS -BDA | -MIL -ACN -CRO -GWM -GDS -TEX | -MIL -BDA | -VAN -GDS -TEX | -VAN -GDS | -VAN -HAW | -HAW | -ACN -VAN | -VAN -ACN -GWM | -VAN -CYI -MAD | -GWM -HSK | -CYI -MAD -CRO -HSK | -MIL -BDA -MAD -CRO -HSK | -TEX -MIL -BDA -MAD

IMD

SAL: SOL — S073; A-SOL

UNATTENDED EXPERIMENTS: S009 + DC24; M555; M509 BATT; S073-9(48); M133

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-STU TV-STU

TV-ED

VENT VENT VENT VENT VENT VENT

UPLINK : T027/S073 BLOCK DATA ENTRY UPDATE ATMDC UPDATE

● M509-BATTERY 2 CHARGE COMPLETE

UPLINK : S009

REPORT : CREW STATUS

UPLINK : EREP UPDATE GMT CLOCK MANEUVER ATMDC UPDATE S063

EREP DATA-18:22-18:48

UPLINK : T027/S073

VENT

M555 RECORD TEMP EVERY 12 HOURS
S009 RESET @ 15:25
T003 @ APPROX 1100, 1800, 0300

UPLINK : SUMMARY FLIGHT PLAN BLOCK DATA

REPORT : DAILY STATUS/ ACCOMPLISHMENTS

UPLINK : DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
18:17:59/19:17:59	20/140	SUN. MAY 20,1973	-11.6		SL-2	REFERENCE	MAY 1,1972

REV: 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (140|141) 1 2 3 4 5 (20|21) 6 7 8 9 10 11

CMN

CDR: D/P, PH/MO71, EAT, P/H, M/D/7/1, S183SU, S183-4, P/H, S/O/7/3, S/HK, S183-5, SO73 ST, M131-2 S, EAT, S/HK, S183 ST-6, D008-1, D008-2, PT, P/H, ATM, EAT, PLN, R+R, PH, MO71, SLEEP

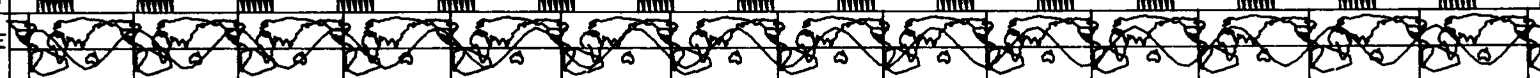
SPT: D/P, PH/MO71, EAT, P/H, ATM, P/H, SO73 ST, M131-2 O, EAT ATM, ATM, PT, P/H, M131-2 O, M131-2 S, S/HK, EAT, M/D/7/1, PLN, R+R, PH, MO71, SLEEP

PLT: D/P, PH/MO71, EAT, P/H, S183 SU, S/O/7/3, S/HK, ATM, EAT, M/D/7/1, S183-6, S183 ST, SO19 SU, SO19-10, S/HK, M131-2 S, M131-2 O, PT, P/H, EAT, ATM, PH, ATM, S/HK, MC71, SLEEP

DAY/NIGHT: 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -GDS CYI -TEX -MIL -BDA -MAD; -HSK; -MAD -GDS -TEX -CYI; -HSK -HAW -GDS -BDA; -CYI -ACN; -CRO -HSK -HAW -GDS; -MIL -BDA; -ACN; -CRO -GWM; -GDS -TEX -MIL -BDA; -CRO -GWM; -GDS -TEX -MIL; -VAN; -GDS; -VAN; -HAW; -VAN; -VAN; -HAW; -ACN -VAN; -GWM; -VAN; -CYI -MAD; -GWM -HSK; -CYI -MAD; -CRO -HSK; -MAD; -CRO -HSK; -BDA; -MAD; -TEX -MIL -BDA; -CRO; -BDA; -GDS -TEX -MIL; -MAD

IMD

SAL SOL: S073

SAL A-SOL: S183; S019

UNATTENDED EXPERIMENTS: S009 + D024; M555; S073-9(4B); S073-3(2B)

NOTES

TV-ATM; TV-ATM; TV-ATM; TV-ATM; TV-ATM; TV-ATM

VENT; VENT; VENT; VENT; VENT

UPLINK: S009 S183 T027/S073

● S/HK-TENTH DAY ACTIVITIES

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE

UPLINK: S183

REPORT: CREW STATUS

UPLINK: D008

UPLINK: S183

UPLINK: S019

UPLINK: SUMMARY FLIGHT PLAN BLOCK DATA

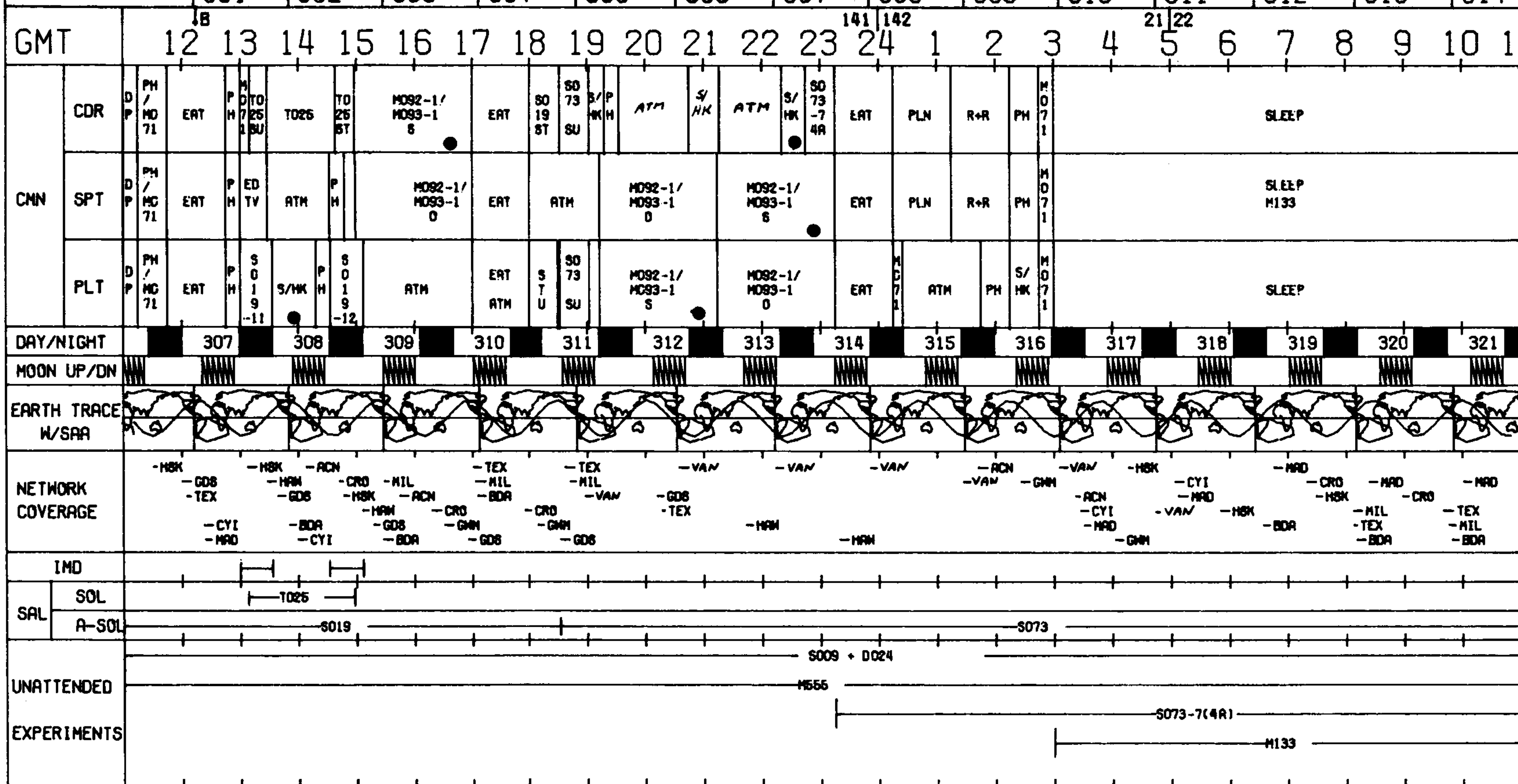
M555 RECORD TEMP EVERY 12 HOURS
S009 RESET @ 14:43
T003 @ APPROX 1100, 1800, 0300

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
19 *17 *59/20 *17 *59	21/141	MON. MAY 21,1973	-7.7			SL-2	REFERENCE	MAY 1,1972

REV	301	302	303	304	305	306	307	308	309	310	311	312	313	314



NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-ED TV-STU

VENT VENT VENT VENT VENT VENT VENT VENT VENT

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE T025 S019

UPLINK: S009

UPLINK: S019

REPORT: CREW STATUS

● S/HK-SEVENTH DAY ACTIVITIES

● INCLUDES 15 MIN PT

● INCLUDES 15 MIN PT

● INCLUDES 15 MIN PT

UPLINK: T027/S073

● S/HK-THIRD DAY ACTIVITIES

M555 RECORD TEMP EVERY 12 HOURS
S009 RESET @ 14:00
T003 @ APPROX 1100, 1800, 0300

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
20 "17 "59/21 "17 "59	22/142	TUE. MAY 22,1973	-3.7			SL-2	REFERENCE	MAY 1,1972

REV	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329

GMT: ↓B 12 13 14 15 16 17 18 19 20 21 22 23 24 (142|143) 1 2 3 4 5 (22|23) 6 7 8 9 10 11

CMN
- CDR: D P, PH / MO 71, EAT, P H, M D 7 1 3, T D 0 3 -4, S/ HK, TO 25 SU, T025, TO 25 ST, SO 73 ST, SO 73 -1 CA, P H, EAT, S1 83 SU, S 1 8 3 -7, PT, P H, S 1 8 3 -8, ATM, EAT T003-3, PLN, R+R, PH, M 0 7 1, SLEEP
- SPT: D P, PH / MO 71, EAT, P H, ATM, P H, ATM, EAT, M D 7 1, S1 83 SU, SO 73 -2 A, S/ HK, S 0 7 3, PT, P H, ED TV, M1 31 -1 O, M1 31 -1 S, EAT, A T M, PH, ATM, S/ HK, M 0 7 1, SLEEP
- PLT: D P, PH / MO 71, EAT, P H, S T U, S/HK, S 0 7 3, S/ HK, S 0 7 3, SO 73 SU, P H, EAT ATM, ATM, PT, P H, M1 31 -1 S, M1 31 -1 O, EAT, PLN, R+R, PH, M C 7 1, SLEEP

DAY/NIGHT: 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -ACN -CYI -MAD -VAN -GWM -VAN -CYI -MAD -HSK -BDA -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -MIL -BDA -MAD -TEX -MIL -MAD -CYI -GDS -TEX

IMD

SAL
- SOL: S073
- A-SOL: S073; S183

UNATTENDED: S009 + D024; M555

EXPERIMENTS: S073-7(4A); S073-3(2A); S073-10(1D); S073-1(0A); S073-2(1A)

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

TV-STU TV-ED

VENT VENT VENT VENT VENT

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE T025

UPLINK: T027/S073

REPORT: CREW STATUS

UPLINK: T027/S073

REPORT: S009

UPLINK: T027/S073

UPLINK: T027/S073

UPLINK: S183

UPLINK: S183

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

M555 RECORD TEMP EVERY 12 HOURS
S009 RESET @ 14:51
T003 @ APPROX 1100, 1800, 0300

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES ATM SCHED SOLAR ACT

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON			MISSION	EDITION	PUBLICATION DATE
21 ᐧ17 ᐧ59/22 ᐧ17 ᐧ59	23/143	WED. MAY 23,1973	0.5	PHASE			SL-2	REFERENCE	MAY 1,1972

REV: 330 331 332 333 334 335 336 337 338 339 340 341 342 343

GMT: 12 (IB) 13 14 15 16 17 18 19 20 21 22 23 24 (143 | 144) 1 2 3 4 5 (23 | 24) 6 7 8 9 10 11

CMN

CDR: D/P, PH/MO 71, EAT, P/H, S 183-9, S/HK, ●, P, S 183-10, SO 73 ST, EAT, ATM, S/HK, ATM, PT, P/H, EAT, R+R, M O 71, SLEEP, PH/MO 71, EAT, REENTRY SIMS

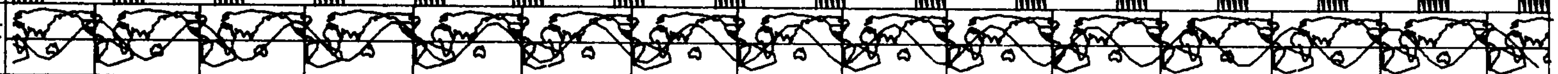
SPT: D/P, PH/MO 71, EAT, P/H, S/HK, P/H, ATM, PSI, PSI, PSI, ATM, EAT ATM, M S10 B37 STM, S/HK, M092-1/M171-1 O, ▲, M092-1/M171-1 S, EAT, R+R, M O 71, SLEEP M133, PH/MO 71, EAT, REENTRY SIMS

PLT: D/P, PH/MO 71, EAT, P/H, M D 7, SO 73-2 IC, ED TV, P/H, SO 73 ST, EAT, S1 83 ST, M092-1/M171-1 S, ▲, M092-1/M171-1 O, ▲, EAT, PH/MO 71, S/HK, SLEEP, PH/MO 71, EAT, REENTRY SIMS

DAY/NIGHT: 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -MSK -HAW -GDS -BDA -CYI -MAD -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -VAN -VAN -HAW -VAN -HAW -ACN -GWM -ACN -CYI -MAD -VAN -GWM -VAN -MAD -HSK -CYI -CYI -MAD -CRO -HSK -MIL -BDA -MAD -TEX -MIL -BDA -CRO -HSK -MAD -TEX -MIL -BDA -MAD -GDSCYI HSK

IMD

SAL: SOL — S073; A-SOL — S183

UNATTENDED EXPERIMENTS: S009 + DC24; M555; M133

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM
TV-ED
H TV-PT

H VENT H VENT
UPLINK: S183 S009
UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE S183
REPORT: CREW STATUS

H VENT VENT VENT VENT VENT
● STOWAGE TRANSFER ▲ M151-1 ▲ M151-1 ▲ M151-6
M555-TERMINATE POWER, MONITOR TEMP EVERY 30 MIN FOR 3 HOURS
STOW M555

UPLINK SUMMARY FLIGHT PLAN/BLOCK DATA
S009 RESET @ 14:09
T003 @ APPROX 1300, 2100, 0500

H VENT
REPORT: DAILY STATUS/ ACCOMPLISHMENTS

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE
H VENT
REPORT: CREW STATUS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
22 ¹17 ¹59/23 ¹17 ¹59	24/144	THU. MAY 24,1973	4.9		SL-2	REFERENCE	MAY 1,1972

REV: 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358

GMT: 12 (JB) 13 14 15 16 17 18 19 20 21 22 23 24 (144 | 145) 1 2 3 4 5 (24 | 25) 6 7 8 9 10 11

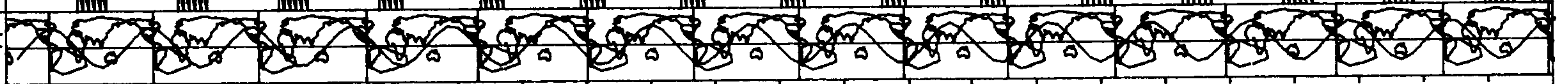
CMN

GMT	CDR	SPT	PLT
12–15	REENTRY SIMULATION ●	REENTRY SIMULATION	REENTRY SIMULATION
15	PH	PH	PH
15–16	EAT	EAT	EAT
16–18	S/HK	OFF DUTY	OFF DUTY
18–19	OFF DUTY, PT, PH	PT	S/HK ●
19–20	OFF DUTY	PH, OFF DUTY	PT, PH
20–21	EAT	EAT	EAT
21–22	PLN	PLN	PLN
22–23	R+R	R+R, PH	R+R
23–24	PH, MO71	S/HK, MO71	PH, MO71
24–8	SLEEP	SLEEP M133	SLEEP
8–9	DP, PH/MO71	DP, PH/MO71	DP, PH/MO71
9–10	EAT	EAT	EAT
10–11	PH, ATM	PH, MO71, S/HK, M131	PH, S/HK, M131

DAY/NIGHT: 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -HAW -GDS -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -ACN -VAN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -MAD -MIL -BDA -CRO -HSK -BDA -MAD -TEX -MIL -BDA -MAD -GDSCYI -TEX -MIL -HSK -TEX -GDS

IMD

SAL: SOL / A-SOL

UNATTENDED EXPERIMENTS: S009 + D024; M133

NOTES

● SIMULATED SPLASHDOWN

H VENT

● S/HK-THIRD DAY ACTIVITIES
STOWAGE TRANSFER

H VENT

S009 RESET @ 18:05
T003 @ APPROX 1500, 2300, 0800

Δ UPLINK:
S009

Δ UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

∇ REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

Δ UPLINK:
DETAIL FLIGHT PLAN
PHOTO
CONSUMABLES
ATM SCHED
SOLAR ACT
V/TS

Δ UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

H VENT H VENT

H TV-ATM

∇ REPORT:
CREW STATUS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
23:17:59/24:17:59	25/145	FRI. MAY 25,1973	9.4			SL-2	REFERENCE	MAY 1,1972

REV: 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372

GMT: 12 (B) 13 14 15 16 17 18 19 20 21 22 23 24 (145|146) 1 2 3 4 5 (25|26) 6 7 8 9 10 11

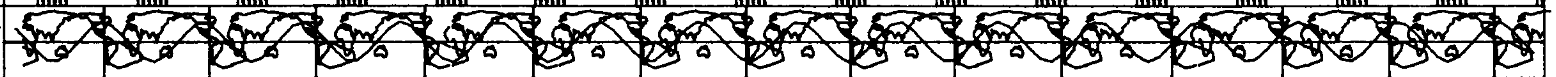
CMN

- CDR: ATM, TRIM, EAT ATM, ATM, M509-4 O, EREP PASS 15, M092-1/M171-1 S, EAT, PH, MO71, SLEEP, PH/MO71, EAT, EVA PREPS, EVA
- SPT: M131-1 O, TRIM, M131-1 S, EAT ATM, ATM, S/HK, S190B, M092-1/M171-1 O, EAT, PH, MO71, SLEEP M133, PH/MO71, EAT, EVA PREPS, EVA
- PLT: M131-1 S, TRIM, M131-1 O, EAT, M509-4 S, EREP PASS 15, S/HK, ATM, S/HK, EAT, S/HK, ATM, MO71, SLEEP, PH/MO71, EAT, EVA PREPS, EVA

DAY/NIGHT: 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -CRO -GDS -VAN -VAN -HAW -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -MAD -BDA -BDA -CRO -HSK -TEX -MIL -MAD -CRO -MIL -BDA -MAD -TEX -GDS -HSK -TEX -CYI -MAD -GDS

IMD

SAL: SOL — TV; A-SOL — S190B

UNATTENDED EXPERIMENTS: S009 + D024; M133

NOTES

- TV-ATM; VENT
- TV-ATM
- TV-ATM
- ● STOWAGE TRANSFER
- EREP DATA-17:17-17:44
- TV-ATM; VENT; VENT
- TV-ATM; VENT
- ● INSTALL TV IN SOLAR SAL
- S009 RESET @ 14:17
- T003 @ APPROX 1400, 2200, 0700
- VENT
- ▲ M151-4
- TV-EVA
- UPLINK: S009
- UPLINK: EREP UPDATE, MANEUVER, GMT CLOCK, ATMDC UPDATE, S190 B
- UPLINK: BLOCK DATA, SUMMARY FLIGHT PLAN
- REPORT: DAILY STATUS/ ACCOMPLISHMENTS
- UPLINK: DETAIL FLIGHT PLAN, PHOTO, CONSUMABLES
- REPORT: CREW STATUS
- UPLINK: BLOCK DATA, ATMDC UPDATE, ENTRY UPDATE

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
24 ¹17 ¹59/25 ¹17 ¹59	26/146	SAT. MAY 26,1973	14.0		SL-2	REFERENCE	MAY 1,1972

REV: 373 374 375 376 377 378 379 380 381 382 383 384 385 386

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (146|147) 1 2 3 4 5 (26|27) 6 7 8 9 10 11

CMN

CDR: ATM FILM REPLACE D024 | POST EVA | EAT | S183 SU | D008-1 | D008-2 | S/HK | M487-1 | EAT | PLN | R+R | PH | M071 | SLEEP | DP | PH/MO71 | EAT | PH | M071 | S/HK | M092

SPT: ATM FILM REPLACE D024 | POST EVA | EAT | M8I0-1 | M5I0-3 | S/HK | M092-1/M171-1 D | EAT | PLN | PH | S/HK | M071 | SLEEP M133 | DP | PH/MO71 | EAT | PH | M110 | M074 | M092

PLT: MONITOR EVA | POST EVA | EAT | S183 SU | S/HK | STU | M092-1/M171-1 S | EAT | PLN | R+R | PH | M071 | SLEEP | DP | PH/MO71 | EAT | S183-11 | PH | S/HK | S183-12

DAY/NIGHT: 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -TEX -MIL -VAN -GDS -GDS -TEX -VAN -HAW -VAN -VAN -HAW -ACN -VAN -GWM -VAN -ACN -CYI -MAD -GWM -HSK -CYI -MAD -VAN -HSK -MAD -BDA -CRO -HSK -MAD -MIL -TEX -BDA -CRO -MAD -TEX -MIL -BDA -HSK -MAD -CYI -GDS -TEX -HSK -HAW -GDS

IMO

SAL: SOL — TV; A-SOL — S183

UNATTENDED EXPERIMENTS: S009 + D024; M133

NOTES

TV-EVA

TV-STU

VENT

VENT

VENT

VENT

VENT

VENT

▲ M151-4

■ M516-5 REMOVE FILM CASSETTE FROM S054 MAGAZINE
REMOVE S056 SHOE FROM M143 STOWAGE LOCKER

● STOWAGE TRANSFER

UPLINK: D008 S009

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT DAILY STATUS/ ACCOMPLISHMENTS

S009 RESET @ 16:40
T003 @ APPROX 1500, 2300, 0700

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE S183

● M110 BLOOD SAMPLES DURING PH

UPLINK: S183

REPORT: CREW STATUS

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
25 ª17 ª59/26 ª17 ª59	27/147	SUN. MAY 27,1973	18.6		SL-2	REFERENCE	MAY 1,1972

REV: 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (147|148 at 24; 27|28 at 5)

CMN

CDR: M092-1/ M171-1 S — EAT — S1 93 ST — EXP DEACT — EAT — PLN — R+R — PH — MO 71 — SLEEP — PH / MO 71 — EAT — OA DEACT

SPT: M092-1/ M171-1 O — EAT — M 172 — EXP DEACT — RAD-6 — S1 49 -2 SU — EAT — PLN — R+R — PH — MO 71 — SLEEP — PH / MO 71 — EAT — OA DEACT

PLT: OPEN — STU — S O C S — EAT — S1 93 ST — OA DEACT — S1 49 -2 SU — EAT — PLN — PH — S/ MK — MO 71 — SLEEP — PH / MO 71 — EAT — OA DEACT

DAY/NIGHT: 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -ACN -VAN -GWM -MAD -VAN -GWM -ACN -CYI -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -BDA -MAD -MIL -BDA -CRO -MAD -TEX -MIL -BDA -CYI -GDS -TEX -MAD -HSK -HAW -GDS -CYI -MAD -BDA

IMD

SAL: SOL; A-SOL — S149-2

UNATTENDED EXPERIMENTS: S009 — S149-2 — D024

NOTES

TV-STU

VENT

VENT

● STOWAGE TRANSFER

UPLINK: S149

UPLINK: BLOCK DATA SUMMARY FLIGHT PLAN

REPORT: DAILY STATUS/ ACCOMPLISHMENTS

VENT

T003 @ APPROX 1400

UPLINK: DETAIL FLIGHT PLAN PHOTO CONSUMABLES

VENT

UPLINK: ATMDC UPDATE BLOCK DATA ENTRY UPDATE

REPORT: CREW STATUS

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
26:17:59/27:17:59	28/148	MON. MAY 28, 1973	23.3			SL-2	REFERENCE	MAY 1, 1972

REV	402	403	404	405	406	407	408	409	410	411	412	413	414	415

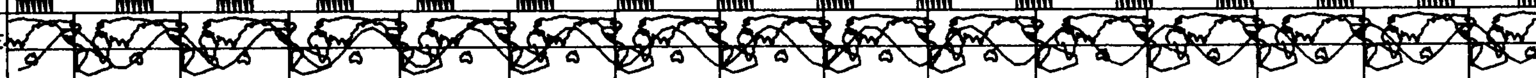
GMT: 12 (JB) 13 14 15 16 17 18 19 20 21 22 23 24 (148 | 149) 1 2 3 4 5 (28 | 29) 6 7 8 9 10 11

CMN	12	13–18	18–19	19	19–21	21–3	3	3–4	4–8	8	9
CDR	EAT	OA DEACT	EAT	MO71	OA DEACT	SLEEP	MO71	EAT	OA DEACT		
SPT	EAT	OA DEACT	EAT		OA DEACT	SLEEP	MO71	EAT	OA DEACT	UNDOCKING	SEPARATION SPS-1
PLT	EAT	OA DEACT	EAT		OA DEACT	SLEEP	DEACT	EAT	OA DEACT		

DAY/NIGHT: 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: HSK, HAW, GDS, NFD, BDA, ACN; CRO, GWM, GDS, TEX, MIL, BDA; ACN, CRO, GWM, GDS, TEX, MIL; VAN; GDS, TEX, VAN; VAN; HAW; VAN; HAW; VAN; ACN; ACN, CYI, MAD, VAN, GWM; GWM; VAN; CYI, MAD; HSK; CYI, MAD; CRO, HSK; BDA, NFD, MAD; MIL; CRO, HSK; MIL, BDA, NFD, MAD; TEX; MIL, NFD, BDA, MAD, GDSCYI, TEX; HSK; HAW, GDS, NFD, CYI, MAD; HSK; HAW

IMD

SAL: SOL; A-SOL — S149-2

UNATTENDED EXPERIMENTS: S149-2; D024

NOTES

△ P51 IMU ORIENT
△ P52 IMU REALIGN, OPT 1
△ P50 IMU ORIENT, OPT 2

UPLINK:
BLOCK DATA
SUMMARY FLIGHT PLAN

REPORT:
DAILY STATUS/
ACCOMPLISHMENTS

UPLINK:
CONSUMABLES
DETAIL FLIGHT PLAN
PHOTO

UPLINK:
ATMDC UPDATE
BLOCK DATA
ENTRY UPDATE

△ P51 IMU ORIENT
△ P52 REALIGN, OPT 1

REPORT:
CREW STATUS

△ IMU REALIGN, OPT 3

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
27:17:59/28:17:59	29/149	TUE. MAY 29,1973	28.0			SL-2	REFERENCE	MAY 1,1972

REV 416 417

GMT 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

149 | 150

29 | 30

B

CMN: CDR / SPT / PLT

DEORBIT BURN

SPLASHDOWN

DAY/NIGHT

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE

IMD

SAL: SOL / A-SOL

S149-2

S149-2

D024

UNATTENDED EXPERIMENTS

NOTES

CET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
0 ‡-1744/0 ‡6 ‡16	1 /210	SUN. JULY 29,1973	38.2			SL-3	REFERENCE	MAY 1,1972

REV: 1305 | 1306 | 1307 | 1308 | 1309 | 1310

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (210 | 211) 1 2 3 4 5 6 7 8 9 10 11

CMN — CDR / SPT / PLT

SPT: SL-3 LAUNCH; NC1 MANEUVER; NPC MANEUVER; NC2 MANEUVER; NCC MANEUVER; NSR MANEUVER

DAY/NIGHT: 1 2 3 4

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -GDS -MIL -BDA -MAD -TEX -HSK -TEX -CYI -MAD -GDS -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW GDS

IMD

SAL — SOL / A-SOL: S149-2

UNATTENDED EXPERIMENTS: S149-2; D024; S071

NOTES

SL-3 LAUNCH-0443

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
0 $^\#$6 $^\#$16/1 $^\#$6 $^\#$16	2 /211	MON. JULY 30,1973	42.7			SL-3	REFERENCE	MAY 1,1972

REV: 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (211 | 212) 1 2 3 4 5 (2 | 3) 6 7 8 9 10 11

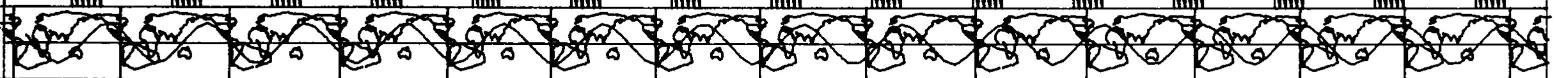
CMN:

- CDR: EAT | PH/MO71 | ACT | SLEEP | D/P | PH/MO71 | EAT | MO71 | ACT | M092-1/M171-1 S | EAT | SLEEP
- SPT: TPI MANEUVER | DOCKING | EAT | PH/MO71 | ACT | SLEEP | D/P | PH/MO71 | EAT | ACT | M092-1/M171-1 O | EAT | SLEEP
- PLT: EAT | PH/MO71 | ACT | SLEEP | D/P | PH/MO71 | EAT | ACT | S149 | EAT | MO71 | SLEEP

DAY/NIGHT: 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE:
-BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -HSK -VAN -CYI -MAD -GWM -HSK -BDA -MAD -CRO -HSK -MAD -CRO -MIL -TEX -BDA -TEX -MIL -BDA -MAD -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN

IMD

SAL: SOL | A-SOL: S149-2

UNATTENDED EXPERIMENTS: S149-2 | D024 | S071 | S072

NOTES:

- ● URINE TRANSFER TO CHILLER
- H VENT
- VENT
- VENT
- ● S149 RETRACT

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
1 *6 *16/2 *6 *16	3 /212	TUE. JULY 31,1973	47.0			SL-3	REFERENCE	MAY 1,1972

REV: 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (212/213) 1 2 3 4 5 (3/4) 6 7 8 9 10 11

CMN

CDR: SLEEP | D P | PH / NO 71 ● | EAT | M O 7 1 | R O D 1 | O P E N | S1 49 -2 ST | M092-1/ M171-1 0 | S/ HK | R O D 1 | P H | ATM C/O | R O D 1 | EAT | SO 19 SU | O P E N | T025 ● | PT | P H | EAT | M O 7 1 | PLN | PH | M O 7 1 | SLEEP

SPT: SLEEP | D P | PH / NO 71 ● | EAT | M 1 1 0 | M 1 7 2 | S/ HK | ATM C/O | M 0 7 4 | M092-1/ M171-1 S ▲ | P H | EAT | M 0 7 4 | O P E N | ATM C/O | EAT | ATM C/O | PLN | PH | M O 7 1 | SLEEP M133

PLT: SLEEP | D P | PH / NO 71 ● | EAT | T 0 0 3 -1 | S1 49 -2 ST | M092-1/ M171-1 S ▲ | M092-1/ M171-1 0 | P H | EAT | M O 7 1 | TO 25 SU | T025 ● | TO 25 ST | SO 20 -1 SU ▲ | EAT | PLN | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE:
- CRO - GWM - GDS - TEX - MIL - BDA
- CRO - GWM - GDS - TEX - MIL - VAN
- GDS - TEX - VAN
- HAW - VAN
- HAW
- VAN
- HAW - VAN - ACN
- GWM - VAN
- ACN - CYI - MAD
- GWM - VAN
- MAD - HSK
- CYI
- BDA - CYI - MAD
- CRD
- HSK - MIL - BDA - MAD
- CRO
- MIL - BDA - MAD
- TEX
- CYI
- GDS - TEX - MAD
- HSK - HAW - GDS - BDA - CYI
- MAD
- HSK - HAW - GDS - BDA - ACN
- CRO - GWM

IMD

SAL: SOL: T025 | 6020-1
A-SOL: 6149-2 | 6019

UNATTENDED EXPERIMENTS:
D024+S071/72
M509 BATT 1
M133

NOTES:

H VENT H VENT ⊢⊣ VENT ⊢⊣ VENT H VENT

⊢⊣ VENT ⊢⊣ VENT

● T025 ALIGN

● M110 BLOOD SAMPLE DURING PH

▲ M151-1 ▲ M151-1

▲ M151-3

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
2 ⁸6 ⁸16/3 ⁸6 ⁸16	4 /213	WED. AUGUST 1 ,1973	51.2		SL-3	REFERENCE	MAY 1,1972

REV: 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354

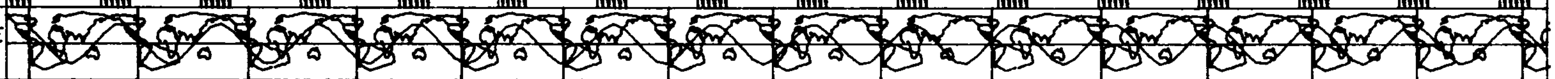
GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (213 | 214; 4 | 5)

CMN	Activities
CDR	SLEEP; D P; PH / MO 71; EAT; P H; S/ HK; R A D -1; S/HK; P H; EAT; M O 7 1; EVA PREPS ▲; MONITOR EVA; POST EVA ▲; EAT; PLN; R + R; PH; M O 7 1; SLEEP
SPT	SLEEP M133; D P; PH / MO 71; EAT; P H; M O 7 1; S/HK; P H; EAT; EVA PREPS; ATM FILM REPLACE; POST EVA; EAT; PLN; R+R; PH; M O 7 1; SLEEP M133
PLT	SLEEP; D P; PH / MO 71; EAT; S/ HK; S 0 1 9 -1; S0 20 -1; S0 20 -1 ST; P H; EAT; EVA PREPS; ATM FILM REPLACE; POST EVA; EAT; M O 7 1; PLN; R+R; PH; M O 7 1; SLEEP

DAY/NIGHT: 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -GDS -TEX -MIL -BDA -ACN -CRO; -GWM -GDS -TEX -MIL -VAN; -TEX -VAN -GDS; -VAN; -HAW -VAN; -HAW; -VAN -ACN -GWM; -VAN -ACN -CYI; -MAD -GWM; -VAN -CYI -MAD; -MSK; -CYI -MAD -CRO -MSK; -MIL -BDA; -MAD -CRO -MSK; -TEX -MIL -BDA; -MAD; -GDS -TEX -BDA -MAD -CYI; -MSK -HAW -GDS -CYI -MAD; -MSK; -HAW -GDS -BDA -CYI -ACN; -CRO; -GWM -GDS -MIL -BDA -ACN

IMD

SAL — SOL: S020-1; TV

SAL — A-SOL: S019

UNATTENDED EXPERIMENTS: M133; M509 BATT 1; M509 BATT 2; M133

NOTES

H VENT H VENT H VENT H VENT H VENT

M509 BATTERY 1 CHARGE COMPLETE,
INITIATE BATTERY 2

▲ M151-3 ▲ M151-4 ▲ M151-4

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
3 ⁸6 ¹16/4 ⁸6 ¹16	5 /214	THU. AUGUST 2 ,1973	55.2			SL-3	REFERENCE	MAY 1,1972

REV: 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (214|215) 1 2 3 4 5 (5|6) 6 7 8 9 10 11

CMN

CDR: SLEEP | D P | PH / NO 71 ● | EAT | P H | SO 73 SU ▲ | SO 73 SU | S/ HK | R A D - 1 | P H | SO 73 -2 1A | SO 19 ST | SO 73 -2 1A | SO 73 ST ▲ | EAT | M509-1 S ▲ | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

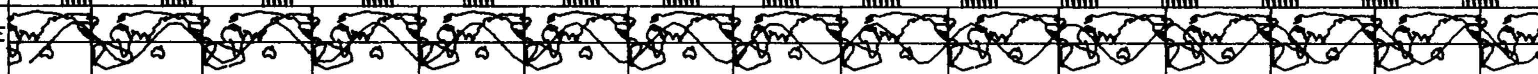
SPT: SLEEP M133 | D P | PH / NO 71 ● | EAT | P H | M 1 1 0 | M O 7 1 | M1 31 -1 0 | M1 31 -1 S | S/ H K | P H | SO 73 ST | EAT ATM | P H | S/ HK | ATM | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP M133

PLT: SLEEP | D P | PH / NO 71 ● | EAT | P H | SO 73 SU | P H | M1 31 -1 S | M1 31 -1 0 | EAT | PT | P H | M509-1 S | EAT | M O 7 1 | ATM | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -GWM -GDS -TEX -MIL -BDA | -GDS -TEX -VAN | -GDS -VAN | -HAW | -VAN | -HAW | -VAN -ACN | -VAN -ACN | -GWM | -VAN -CYI -MAD | -GWM -HSK | -CYI -MAD | -CRO -HSK | -MAD | -CRO -HSK | -MIL -BDA | -MAD | -TEX -MIL -BDA | -CYI -GDS -TEX -MIL -BDA -MAD | -HSK | -GDS -TEX -CYI -MAD | -HSK -HAW -GDS -BDA -CYI -ACN | -CRO -HSK -HAW -GDS -BDA -MIL | -ACN | -CRO -GWM

IMD

SAL — SOL: S073

SAL — A-SOL: S019

UNATTENDED EXPERIMENTS:
D024+S071/72
-1,0A | -1,0A S073
M133 | M133
M509 BATT 2 | M509 BATT 1

NOTES

H VENT H VENT H TV-ATM H VENT H TV-ATM H VENT

● M110 BLOOD SAMPLE DURING PH

▲ M151-2 ▲ M151-2 ▲ M151-5

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
4 ⁑6 ⁑16/5 ⁑6 ⁑16	6 /215	FRI. AUGUST 3 ,1973	58.7			SL-3	REFERENCE	MAY 1,1972

REV: 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (215|216) 1 2 3 4 5 (6|7) 6 7 8 9 10 11

CMN

CDR: D/P, PH/MO71, EAT, PH, S019 SU, RAD-1, S019-2, S/HK, M092-1/M093-1 S, EAT, M071, RAD-1, S019-3, S/HK, PH, ATM, S/HK, ATM, EAT, PLN, S019-4, R+R, PH, M071, SLEEP

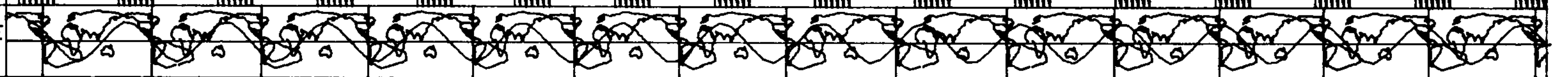
SPT: D/P, PH/MO71, EAT, PH, M071, S/HK, S063-2 SU, S063-2 UV, M487-1, M092-1/M093-1 O, EAT, S/HK, S063-2 VIS, M092-1/M093-1 O, M092-1/M093-1 S, EAT, M509 D063 T-2 16T, PLN, S/HK, PH, M071, SLEEP

PLT: D/P, PH/MO71, EAT, PH, ATM, S/HK, ATM, PH, ATM, EAT ATM, ATM, S/HK, M092-1/M093-1 S, M092-1/M093-1 O, EAT, ATM, PH, ATM, S/HK, M071, SLEEP

DAY/NIGHT: 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -GDS -TEX -MIL -BDA, -CRO -GWM, -GDS -TEX -MIL -VAN, -GDS -VAN, -HAW -VAN, -HAW -VAN, -VAN -ACN, -GWM, -VAN -CYI -MAD, -GWM -MSK, -CYI -MAD, -CRO -MSK, -BDA -MAD, -CRO -MSK, -TEX -MIL -BDA -MAD, -CRO, -TEX -GDS -MIL -BDA -MAD, -MSK, -GDS -TEX -CYI -MAD, -MSK, -HAW -GDS -BDA -CYI -ACN, -CRO, -MSK -HAW -GDS -BDA -MIL -ACN, -CRO -GWM, -GDS -TEX -MIL -BDA

IMD

SAL SOL: S063-2

SAL A-SOL: S019

UNATTENDED EXPERIMENTS: D024+S071/72; M509 BATT 1; M509 BATT 2

NOTES

H VENT H TV-ATM H VENT H TV-ATM H TV-ATM |—| VENT H TV-ATM H TV-ATM H TV-ATM |—| VENT H TV-ATM |—| VENT H TV-ATM H TV-ATM H TV-ATM H VENT

M509 BATTERY 1 CHARGE COMPLETE,
INITIATE BATTERY 2

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
5 "6 "16/6 "6 "16	7 /216	SAT. AUGUST 4 ,1973	61.9			SL-3	REFERENCE	MAY 1,1972

REV	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (216 | 217) 1 2 3 4 5 (7 | 8) 6 7 8 9 10 11

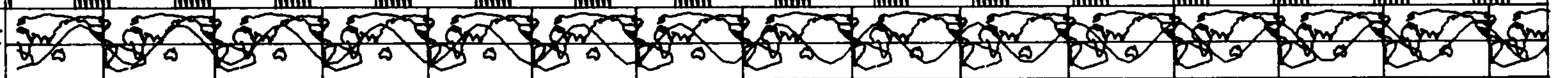
CMN

- CDR: D P | PH / MO 71 | EAT | P H | M O 7 1 | S/HK | OFF DUTY | PH | EAT | OFF DUTY | PT | P H | OFF DUTY | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | OFF DUTY | P H | EAT | M O 7 1 | S/HK | OFF DUTY | PT | P | OFF DUTY | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- PLT: D P | PH / MO 71 | EAT | P H | OFF DUTY | P H | EAT | OFF DUTY | S/ HK | PT | P H | EAT | M O 7 1 | PLN | R+R | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -GWM -GDS -TEX -MIL -VAN | -GDS -TEX -VAN | -HAW -VAN | -HAW | -VAN | -VAN -ACN | -GWM | -VAN -ACN | -CYI -MAD | -GWM -HSK | -VAN -CYI | -MAD | -HSK | -BDA -MAD | -CRO -HSK | -MIL -TEX -BDA -MAD | -CRO | -MIL -BDA -MAD | -TEX | -GDS -TEX -MAD | -CYI | -HSK -HAW -GDS -BDA -CYI | -ACN | -HSK -HAW -GDS -BDA -MIL | -ACN | -CRO -GWM -GDS -TEX -MIL | -BDA | -CRO

IMD

SAL: SOL | A-SOL — S019 —

D024+8071/72

UNATTENDED EXPERIMENTS: M509 BATT 2

NOTES

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
6 %6 %16/7 %6 %16	8 /217	SUN. AUGUST 5 ,1973	64.3		SL-3	REFERENCE	MAY 1,1972

REV	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411

217 | 218 8 | 9

GMT	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8	9	10	11

CMN	Activities
CDR	OP, PH/MO71, EAT, PH, S020-1SU, S/HK, S020-1, STU, ED TV, S020-1, PH, EAT, MO71, S020-1, S020-1ST, OPEN, M131-2S, M131-2S, PT, PH, S073SU, S073SU, S0735, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
SPT	OP, PH/MO71, EAT, PH, ATM, PH, ATM, EAT ATM, ATM, STU, M131-2S, M131-2S, M131-2S, PT, PH, S/HK, EAT, PLN, R+R, PH, MO71, SLEEP M133
PLT	OP, PH/MO71, EAT, PH, MO71, STU, S/HK, SO19-5, S/HK, SO19-5, S/HK, PH, EAT, S/HK, ATM, M131-2S, S073SU, PT, PH, EAT, ATM, PH, ATM, S/HK, MO71, SLEEP

DAY/NIGHT: 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GWM -GDS -TEX -MIL -VAN; -TEX -VAN -GDS; -HAW -VAN; -HAW -VAN; -HAW -VAN -RCN; -GWM -VAN -RCN; -CYI -MAD -GWM; -VAN -CYI -MAD; -MSK -BDA -CYI -MAD; -CRO -MSK; -MIL -BDA -MAD -CRO; -BDA -MAD -TEX -MIL; -GDS -TEX -MAD -CYI; -MSK -HAW -GDS -BDA -CYI -MAD; -MSK -HAW -GDS -BDA -RCN -CRO; -GWM -GDS -TEX -MIL -BDA -RCN; -CRO -GWM -GDS -TEX -MIL

IMD

SAL SOL: S020-1; S073

SAL A-SOL: S019

UNATTENDED EXPERIMENTS: D024+S071/72; S073-5(58); M133

NOTES:

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
7 *6 *16/8 *6 *16	9 /218	MON. AUGUST 6 ,1973	65.8			SL-3	REFERENCE	MAY 1,1972

REV: 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (218 | 219) 1 2 3 4 5 (9 | 10) 6 7 8 9 10 11

CMN

CDR: D P | PH / MO 71 | EAT | P H | S/ HK | S 0 1 9 -7 | ED TV | M092-1/ M171-1 S | EAT | M 0 7 1 | S/ HK | ATM | P H | ATM | EAT | PLN | R+R | PH | M 0 7 1 | SLEEP

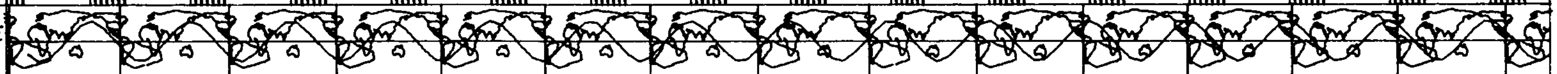
SPT: D P | PH / MO 71 | EAT | P H | M 0 7 1 | S/HK | M092-1/ M171-1 O | EAT | P H | S 0 7 3 5 | M092-1/ M171-1 O | M092-1/ M171-1 S | EAT | ATM | P H | S/ HK | M 0 7 1 | SLEEP

PLT: D P | PH / MO 71 | EAT | P H | T 0 1 3 | ATM | P H | ATM | EAT ATM | ATM | M092-1/ M171-1 S | M092-1/ M171-1 O | EAT | M 0 7 1 | PLN | R+R | PH | M 0 7 1 | SLEEP

DAY/NIGHT: 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -VAN -GDS -TEX -VAN -VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -MAD -HSK -VAN -CYI -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -MIL -BDA -MAD -TEX -MAD -CYI -GDS -TEX -BDA -HSK -HAW -GDS -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA

IMD

SAL: SOL — S073; A-SOL — S019

D024+S071/72

UNATTENDED EXPERIMENTS: S073-5(5B)

NOTES:

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H TV-ATM H TV-ATM

HVENT H VENT VENT VENT VENT H VENT

VENT VENT VENT'

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
8 ^{h}6 ^{m}16/9 ^{h}6 ^{m}16	10/219	TUE. AUGUST 7, 1973	66.2			SL-3	REFERENCE	MAY 1, 1972

REV	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (219 | 220) 1 2 3 4 5 (10 | 11) 6 7 8 9 10 11

CMN	Activities (in time order)
CDR	DP, PH/MO71, EAT, PH, MO71, OPEN, S/HK, PH, TO13-1, EAT, S/HK, ATM, PT, PH, EAT, PLN, R+R, PH, MO71, SLEEP
SPT	DP, PH/MO71, EAT, PH, ATM, PH, ATM, EAT ATM, ATM, S/HK, PT, PH, SO73 ST, OPEN, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
PLT	DP, PH/MO71, EAT, PH, SO19 ST, OPEN, SO73-2 38, PH, TO13-1, EAT, MO71, OPEN, SO73-4 20, SO73-3 28, SO73 ST, PT, PH, ATM, EAT, ATM, PH, S/HK, MO71, SLEEP

DAY/NIGHT	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -TEX -VAN; -GDS -VAN; -HAW; -VAN; -HAW; -VAN -ACN; -VAN -ACN; -GWM; -VAN -CYI -MAD; -GWM -HSK; -CYI -MAD; -CRO -HSK; -MAD; -MIL -BDA; -CRO -HSK; -MAD; -TEX -MIL -BDA; -CYI -GDS -TEX -MIL -BDA -MAD; -HSK; -GDS -TEX; -CYI -MAD; -HSK -HAW -GDS -BDA -CYI -ACN; -CRO -HSK -HAW -GDS -BDA -MIL; -ACN; -CRO -GWM -GDS -TEX -MIL; -BDA; -CRO -GWM GDS

IMD: H (12), H (19), H (20–21)

SAL SOL: S073 (12 to 22)

SAL A-SOL: S019 (12 to 14)

UNATTENDED EXPERIMENTS: D024+S071/72

NOTES:

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H TV-ATM

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
9 °6 °16/10 °6 °16	11/220	WED. AUGUST 8 ,1973	65.5			SL-3	REFERENCE	MAY 1,1972

REV: 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455

220 | 221 ; 11 | 12

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

CMN

CDR: D/P, PH/MO71, EAT, PH, M509-1 S, SO73 SU, SO73 SU, PH, EAT, MO71, S/HK, SO73-2 1a, SO73 ST SU, SO73 SU, PT, PH, ATM, EAT, PLN, R+R, PH, MO71, SLEEP

SPT: D/P, PH/MO71, EAT, PH, MO71, ATM, PH, ATM, EAT ATM, S/HK, PT, PH, OPEN, SO73 ST SU, S/HK, EAT, PH, ATM, S/HK, MO71, SLEEP M133

PLT: D/P, PH/MO71, EAT, PH, M509-1 S, SO73 SU, PH, EAT, ATM, PT, PH, EAT, MO71, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -MAD -CRO -HSK -CYI -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -TEX -GDS -MIL -BDA -MAD -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN

IMD

SAL — SOL: S073 — A-SOL: S073

UNATTENDED EXPERIMENTS: D024+S071/72 — M133 — M509 BATT 1

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

VENT VENT VENT VENT

▲M151-5 ▲M151-2 ▲M151-2

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
10 °6 °16/11 °6 °16	12/221	THU. AUGUST 9, 1973	63.7		SL-3	REFERENCE	MAY 1, 1972

REV	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469

GMT	12	13	14	15	16	17	18	19	20	21	22	23	24 (221/222)	1	2	3	4	5 (12/13)	6	7	8	9	10	11

CMN	Activities
CDR	D/P, PH/MO71 ●, EAT, P/H, SO73-2-1A, S/HK, SO73-2-1A, MO92-1/MO93-1 S, EAT, S/HK, SO73-3-2A, ATM, MO92-1/MO93-1 O, P/H, EAT, PLN, R+R, PH, MO71, SLEEP
SPT	D/P, PH/MO71 ●, EAT, P/H, M110, MO71, S/HK, MO92-1/MO93-1 O, EAT, MO71, ATM, MO92-1/MO93-1 O, MO92-1/MO93-1 S, P/H, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
PLT	D/P, PH/MO71 ●, EAT, P/H, ATM, P/H, ATM, EAT ATM, SO73-1-OA, MO92-1/MO93-1 S, ATM, P/H, EAT, ATM, PH, S/HK, MO71, SLEEP

DAY/NIGHT	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -CYI -MAD -VAN -ACN -GWM -MSK -VAN -CYI -MAD -MSK -BDA -MAD -CRO -MSK -MIL -TEX -BDA -MAD -CRO -MIL -BDA -MAD -TEX -GDS -TEX -MAD -CYI -MSK -HAW -GDS -BDA -CYI -ACN -MSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN

IMD

SAL: SOL; A-SOL — S073

UNATTENDED EXPERIMENTS: D024+S071/72; S073-1(OA); M509 BATT 1; M509 BATT 2

NOTES:

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

VENT VENT VENT VENT VENT VENT VENT

VENT

● M110 BLOOD SAMPLE DURING PH

M509 BATTERY 1 CHARGE COMPLETE
INITIATE BATTERY 2

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
11 :6 :16/12 :6 :16	13/222	FRI. AUGUST 10, 1973	61.1		SL-3	REFERENCE	MAY 1, 1972

REV: 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (222|223) 1 2 3 4 5 (13|14) 6 7 8 9 10 11

CMN

- CDR: D/P – PH/MO71 – EAT – PH – RAD-B – ATM – S/HK – PH – EAT – ATM – PT – PH – EAT – PLN – R+R – PH – M071 – SLEEP
- SPT: D/P – PH/MO71 – EAT – PH – T003-2 – S/HK – S063-2 SU – S063-2 UV – S/HK – PH – S063-2 VIS – ATM – EAT ATM – OPEN – S063-2 UV – OPEN – PT – PH – M131-1 D – M131-1 S – OPEN – EAT – PLN – S063-2 VIS – R+R – PH – M071 – SLEEP
- PLT: D/P – PH/MO71 – EAT – PH – M071 – OPEN – S073-6 1E – OPEN – PH – S073-6 1E – S/HK – S073 -10 – EAT – M071 – S073 -10 – PT – PH – OPEN – M131-1 S – M131-1 D – ATM – EAT T003-3 – ATM – PH – ATM – S/HK – M071 – SLEEP

DAY/NIGHT: 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -TEX -VAN -HAW -VAN -HAW -VAN -HAW -VAN -ACN -GWM -ACN -CYI -MAD -VAN -GWM -MAD -VAN -CYI -HSK -BDA -CYI -MAD -HSK -MIL -BDA -MAD -CRO -CRO -MIL -BDA -MAD -TEX -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -MAD -CYI -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN

IMD

SAL
- SOL: S063-2
- A-SOL: S073
- D024+S071/72

UNATTENDED EXPERIMENTS: M509 BATT 2

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

VENT VENT VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
12 ₶6 ₶16/13 ₶6 ₶16	14/223	SAT. AUGUST 11, 1973	57.8	○		SL-3	REFERENCE	MAY 1, 1972

REV: 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (223 | 224) 1 2 3 4 5 (14 | 15) 6 7 8 9 10 11

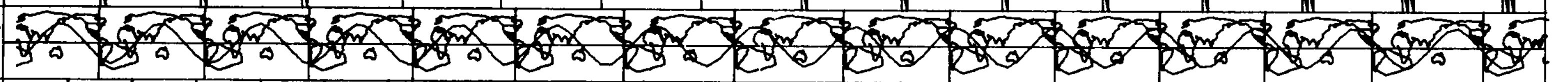
CMN

- **CDR**: D/P — PH/MO71 — EAT — PH — MO71 — S/HK — OFF DUTY — PH — EAT — OFF DUTY — PT — PH — EAT — PLN — R+R — PH — MO71 — SLEEP
- **SPT**: D/P — PH/MO71 — EAT — PH — OFF DUTY — PH — EAT — MO71 — S/HK — OFF DUTY — PT — PH — OFF DUTY — EAT — PLN — R+R — PH — MO71 — SLEEP M133
- **PLT**: D/P — PH/MO71 — EAT — PH — OFF DUTY — PH — EAT — OFF DUTY — PT — PH — S/HK — EAT — MO71 — PLN — R+R — PH — S/HK — MO71 — SLEEP

DAY/NIGHT: 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE

-VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -MSK -CYI -MAD -CRO -MSK -MIL -BDA -MAD -CRO -MSK -TEX -MIL -BDA -MAD -TEX -MIL -BDA -MAD -CYI -GDS -HAW -GDS -CYI -MAD -MSK -MSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -VAN -GDS -TEX

IMD

SAL
- **SOL**: S063-2
- **A-SOL**: S073

UNATTENDED EXPERIMENTS

D024+S071/72

M133

NOTES

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
13 *6 *16/14 *6 *16	15/224	SUN. AUGUST 12,1973	54.0			SL-3	REFERENCE	MAY 1,1972

REV: 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 224|225 24 1 2 3 4 15|16 5 6 7 8 9 10 11

CMN

CDR: D/P PH/MO71 EAT PH S/HK M092-1/ M171-1 S S/HK PH EAT MO71 ATM PH M092-1/ M171-1 O EAT PLN R+R PH MO71 SLEEP

SPT: D/P PH/MO71 EAT PH MO71 S/HK M092-1/ M171-1 O PH EAT S063-2UV PH M092-1/ M171-1 O M092-1/ M171-1 S ▲ EAT ATM PH ATM S/HK MO71 SLEEP

PLT: D/P PH/MO71 EAT PH ATM S/HK ATM S/HK PH EAT ATM ATM PH M092-1/ M171-1 S ▲ ATM EAT PLN R+R PH MO71 SLEEP

DAY/NIGHT: 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -VAN -HAW -VAN -HAW -VAN -ACN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -MIL -BDA -MAD -CYI -GDS -TEX -HSK -TEX -CYI -MAD -GDS -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS

IMD

SAL: SOL — S063-2; A-SOL — S073; D024+S071/72

UNATTENDED EXPERIMENTS

NOTES

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

VENT VENT VENT VENT VENT VENT

VENT VENT VENT VENT

▲M151-1 ▲M151-1

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
14 #6 #16/15 #6 #16	16/225	MON. AUGUST 13,1973	49.9	○		SL-3	REFERENCE	MAY 1,1972

REV: 1513 | 1514 | 1515 | 1516 | 1517 | 1518 | 1519 | 1520 | 1521 | 1522 | 1523 | 1524 | 1525 | 1526 | 1527

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (225 | 226) 1 2 3 4 5 (16 | 17) 6 7 8 9 10 11

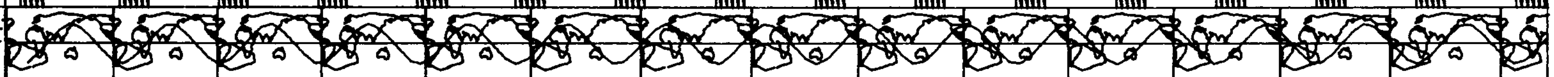
CMN

- CDR: D P | PH / MO 71 | EAT | P H | SO 73 ST | M509-3 S ▲ | EAT | M D 7 1 | SO 73 SU | ATM | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | M D 7 1 | S O 6 3 ST | ATM | PH | ATM | EAT ATM | SO 63 -2 SU | SO 63 -2 VIS | PT | P H | SO 63 -2 UV | S T U | S/ HK | SO 63 -2 VIS | ED TV | ATM | EAT | M D 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP
- PLT: D P | PH / MO 71 | EAT | P H | SO 73 ST ▲ | M509-3 O | EAT | SO 73 SU | SO 73 SU | S T U | SO 73 -7 1B | PT | P H | SO 73 -7 3C | SO 73 -7 4A | S/ HK | EAT | ATM | P H | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -MSK -CYI -MAD -CRO -MSK -BDA -MAD -CRO -MSK -TEX -MIL -BDA -MAD -CRO -TEX -GDS -MIL -BDA -MAD -MSK -GDS -TEX -CYI -MAD -MSK -HAW -GDS -BDA -CYI -ACN -CRO -MSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN

IMD

SAL

- SOL: S063-2 | S063-2
- A-SOL: S073 | S073

UNATTENDED EXPERIMENTS: D024+S071/72 | S073-7(4A)

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT

▲ M151-2 ▲ M151-5

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
15 *6 *16/16 *6 *16	17/226	TUE. AUGUST 14,1973	45.5			SL-3	REFERENCE	MAY 1,1972

REV: 1528 | 1529 | 1530 | 1531 | 1532 | 1533 | 1534 | 1535 | 1536 | 1537 | 1538 | 1539 | 1540 | 1541

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (226/227) 1 2 3 4 5 (17/18) 6 7 8 9 10 11

CMN

- CDR: D P | PH / MO 71 | EAT | P H | EREP C/O | ATM | EAT ATM | M O 7 1 | EREP C/O | PT | P H | S O 7 3 -5 | EREP C/O | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | ATM | S0 63 -2 UV | S T U | S P H K | S0 63 -2 VIS | EAT | S0 63 -2 UV | O P E N | S0 63 -2 VIS | S/HK | S0 63 -2 UV | S/ HK | PT | P H | S/ HK | EAT | ATM | P H | ATM | S/ HK | M O 7 1 | SLEEP M133
- PLT: D P | PH / MO 71 | EAT | P H | M O 7 1 | S O 7 3 | ED TV | EREP C/O | S0 73 -8 3A | P H | S0 73 -4 2C | EAT | ATM | PT | P H | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -MSK -VAN -CYI -MAD -GWM -MSK -BDA -MAD -CRO -MSK -MAD -CRO -MIL -TEX -BDA -TEX -MIL -BDA -MAD -GDS -TEX -CYI -MAD -MSK -HAW -GDS -BDA -CYI -ACN -MSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW

IMD

SAL: SOL — S063-2; A-SOL — S073

D024+S071/72

UNATTENDED EXPERIMENTS: S073-7(4A); S073-5(5A); M133

NOTES:

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
16 #6 #16/17 #6 #16	18/227	WED. AUGUST 15,1973	41.0			SL-3	REFERENCE	MAY 1,1972

REV: 1542 | 1543 | 1544 | 1545 | 1546 | 1547 | 1548 | 1549 | 1550 | 1551 | 1552 | 1553 | 1554 | 1555 | 1556

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (227|228) 1 2 3 4 5 (18|19) 6 7 8 9 10 11

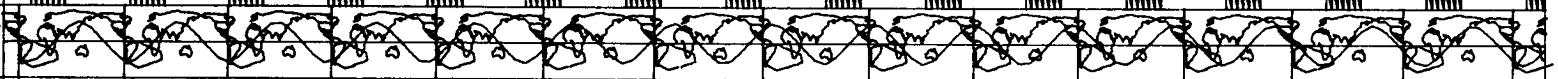
CMN

- CDR: D P | PH / MO 71 | EAT | P H | S/ HK | M092-1/ M093-1 S | P H | EAT | EREP PASS 1 ● | ATM | P H | ATM | M092-1/ M093-1 O | EAT | PLN | R+R | PH | M 0 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | M 0 7 1 | SO 73 ST | M092-1/ M093-1 O | P H | EAT | M 0 7 1 | SO 63 -2 VIS | EREP | P H | S/ HK | M092-1/ M093-1 O | M092-1/ M093-1 S | EAT | M 0 7 1 | PLN | R+R | PH | M 0 7 1 | SLEEP
- PLT: D P | PH / MO 71 | EAT | P H | S 0 7 3 | SO 73 ST | P H | ATM | EAT ATM | ATM | EREP PASS 1 ● | P H | S/ HK | M092-1/ M093-1 S | ATM | EAT | A T M | P H | ATM | S/ HK | M 0 7 1 | SLEEP

DAY/NIGHT: 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -VAN -HAW -VAN -HAW -VAN -RCN -GWM -VAN -RCN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -MAD -BDA -CYI -CRO -HSK -MIL -BDA -MAD -CRO -TEX -MIL -BDA -MAD -TEX -MIL -MAD -CYI -GDS -GDS -BDA -CYI -MAD -HSK -HAW -GDS -BDA -RCN -HSK -HAW -TEX -MIL -BDA -RCN -CRO -GWM -GDS -GDS -TEX -MIL -VAN -CRO -GWM -VAN -GDS -TEX -VAN

IMD

SAL
- SOL: S063-2
- A-SOL: S073

UNATTENDED EXPERIMENTS: D024+S071/72; S073-5(5A)

NOTES

H TV-ATM ● EREP DATA TAKE 1746-1804 H TV-ATM H TV-ATM H TV-ATM

H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
17 ^{h}6 ^{h}16/18 ^{h}6 ^{h}16	19/228	THU. AUGUST 16,1973			SL-3	REFERENCE	MAY 1,1972

REV: 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (228|229) 1 2 3 4 5 (19|20) 6 7 8 9 10 11

CMN

- CDR: D/P, PH/MO71, EAT, PH, S/HK, STU, DPSM, PH, EREP PASS -2 ●, EAT ATM, ATM, PH, ATM, PT, PH, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, S063-2 UV, S/HK, S063-2 VIS, STU, PH, S063-2 UV, EREP, EAT, S/HK, S063-2 VIS, S/HK, S063-2 UV, PT, PH, S063-2 VIS, S063-2 ST, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
- PLT: D/P, PH/MO71, EAT, PH, MO71, ATM, PH, ATM, EREP PASS -2 ●, EAT, MO71, T002-1, STU, PT, PH, ATM, S/HK, EAT, ATM, PH, S/HK, MO71, SLEEP

DAY/NIGHT: 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -CYI -MAD -HSK -CRO -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -MIL -BDA -MAD -CYI -GDS -TEX -HSK -GDS -CYI -MAD -HAW -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -HAW

IMD

SAL: SOL — S063-2; A-SOL

UNATTENDED EXPERIMENTS: D024+S071/72

NOTES:

H TV-ATM
H TV-ATM
● EREP DATA TAKE 1703-1720
H TV-ATM
H TV-ATM
H TV-ATM
H TV-ATM

H VENT H VENT
H VENT
H VENT
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
18 :6 :16/19 :6 :16	20/229	FRI. AUGUST 17,1973	33.9			SL-3	REFERENCE	MAY 1,1972

REV	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580	1581	1582	1583	1584	1585

GMT 12 JB 13 14 15 16 17 18 19 20 21 22 23 229|230 24 1 2 3 4 20|21 5 6 7 8 9 10 11

CMN

CDR: PH/MO71 ● | EAT | TRIM ● | PH | DP | M509-4 S ▲ | S149-3SU | S/HK | PH | EAT | ATM | PT | PH | OPEN | EAT | PLN | R+R | PH | MO71 | SLEEP

SPT: PH/MO71 ● | EAT | TRIM ● | PH | DP | M110 | MO71 | ATM | PH | SO63-2SU | SO63-2UV | EAT | M0071 | SO63-2VIS | S/HK | SO63-2UV | ED TV | S/HK | SO63-2VIS | S/HK | PT | PH | EAT | ATM | PH | ATM | S/HK | MO71 | SLEEP M133

PLT: PH/MO71 ● | EAT | TRIM ● | PH | DP | M509-4 O | S149-3SU | ATM | PH | EAT ATM | PH | S/HK | T002-2 | S/HK | PT | PH | S/HK | ED TV | ATM | EAT | PLN | R+R | PH | MO71 | SLEEP

DAY/NIGHT: 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -VAN -HAW -VAN -ACN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -MAD -MIL -BDA -CRO -HSK -MAD -TEX -MIL -BDA -GDS -TEX -MIL -BDA -CYI -MAD -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN

IMD

SAL SOL: S063-2

SAL A-SOL: S149-3

D024+S071/72

UNATTENDED EXPERIMENTS: M133; M509 BATT 1

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT

● TRIM BURN-1225

|—| VENT

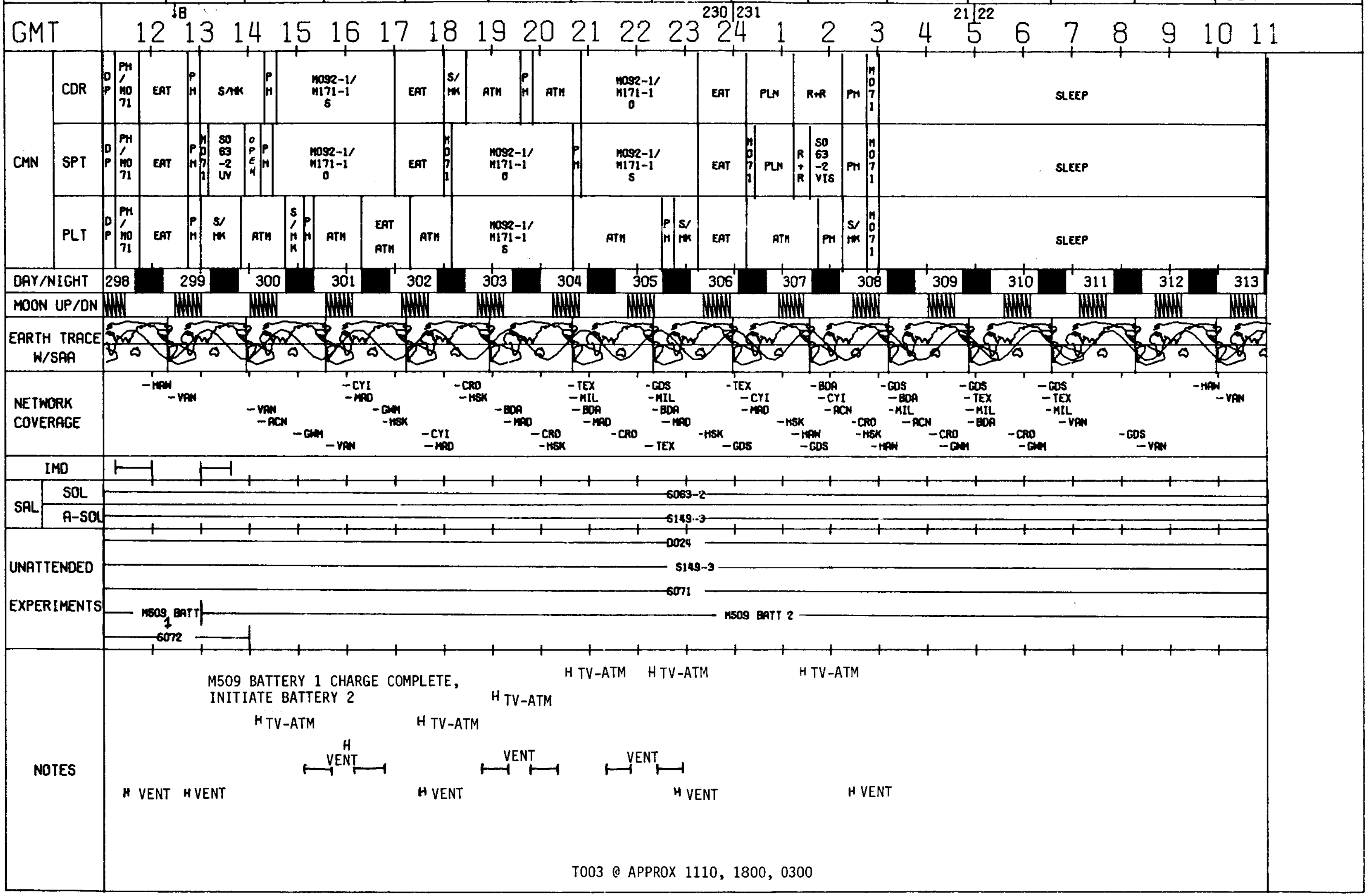
● M110 BLOOD SAMPLE DURING PH

▲ M151-5

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
19:6 :16/20:6 :16	21/230	SAT. AUGUST 18,1973	29.2			SL-3	REFERENCE	MAY 1,1972

REV	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599



GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
20 •6 •16/21 •6 •16	22/231	SUN. AUGUST 19,1973	24.4			SL-3	REFERENCE	MAY 1,1972

REV	1600	1601	1602	1603	1604	1605	1606	1607	1608	1609	1610	1611	1612	1613	1614

GMT: 12 (B) 13 14 15 16 17 18 19 20 21 22 23 24 (231|232) 1 2 3 4 5 (22|23) 6 7 8 9 10 11

CMN

- CDR: D/P – PH/MO71 – EAT – PH – S/HK – OFF DUTY – PH – EAT – OFF DUTY – PT – PH – EAT – PLN – R+R – PH – M071 – SLEEP
- SPT: D/P – PH/MO71 – EAT – PH – M071 – OFF DUTY – PH – EAT – M071 – S/HK – OFF DUTY – PT – PH – OFF DUTY – EAT – M071 – PLN – R+R – PH – S/HK – M071 – SLEEP
- PLT: D/P – PH/MO71 – EAT – PH – OFF DUTY – PH – EAT – OFF DUTY – PT – PH – S/HK – EAT – PLN – R+R – PH – M071 – SLEEP

DAY/NIGHT: 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: –HAW –VAN –VAN –ACN –GWM –VAN –ACN –CYI –MAD –GWM –HSK –VAN –CYI –MAD –HSK –BDA –MAD –CRO –HSK –MIL –TEX –BDA –MAD –CRO –TEX –MIL –BDA –MAD –HSK –TEX –MAD –CYI –GDS –BDA –CYI –ACN –HSK –HAW –GDS –BDA –MIL –ACN –HSK –HAW –GDS –TEX –MIL –BDA –CRO –GWM –GDS –TEX –MIL –VAN –CRO –GWM –GDS –GDS –TEX –VAN –HAW –VAN –HAW –VAN

IMD

SAL: SOL — S063-2; A-SOL — S149-3

UNATTENDED EXPERIMENTS: D024; S149-3; S071; M509 BATT 2

NOTES

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
21 :6 :16/22 :6 :16	23/232	MON. AUGUST 20,1973	19.6			SL-3	REFERENCE	MAY 1,1972

REV: 1615 | 1616 | 1617 | 1618 | 1619 | 1620 | 1621 | 1622 | 1623 | 1624 | 1625 | 1626 | 1627 | 1628

GMT: 12 B 13 14 15 16 17 18 19 20 21 22 23 24 (232|233) 1 2 3 4 5 (23|24) 6 7 8 9 10 11

CMN

CDR: D P | PH / MO 71 | EAT | P H | A O 7 1 | ATM | P H | ATM | EAT ATM | M O 7 1 | R R D 1 B | S/ HK | EREP PASS 3 ● | O P E N | PT | P H | S/ HK | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

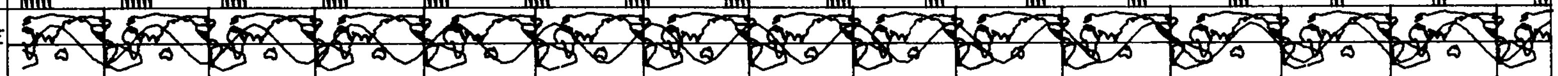
SPT: D P | PH / MO 71 | EAT | P H | S063 H-20 S13 | S O 2 0 -2 | S/ HK | O P E N | M1 31 -1 0 | M1 31 -1 8 | P H | EAT | ATM | EREP | ATM | PT | P H | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP M133

PLT: D P | PH / MO 71 | EAT | P H | S O 2 0 SU | T O O 2 -3 | O P E N | M1 31 -1 8 | M1 31 -1 0 | P H | EAT | S/ HK | M 4 8 7 -1 | EREP PASS 3 ● | PT | P H | S 1 4 9 | S/ HK | EAT T003-3 | S O 2 0 -2 | ATM | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -BDA -CYI -MAD -CRO -HSK -BDA -MAD -MIL -CRO -MAD -TEX -MIL -BDA -GDS -TEX -MAD -CYI -HAW -GDS -BDA -CYI -MAD -HSK -HAW -GDS -BDA -ACN -HSK -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GWM -GDS -TEX -MIL -VAN -CRO -TEX -VAN -GDS -VAN -HAW -VAN

IMD

SAL SOL: S063-2 | S020-2

SAL A-SOL: S149-3

UNATTENDED EXPERIMENTS: D024; S071; S020-2; S149-3; M133

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM ● EREP DATA TAKE 2042-2058 H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
22 16 16/23 16 16	24/233	TUE. AUGUST 21,1973	14.8			SL-3	REFERENCE	MAY 1,1972

REV: 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642

GMT: 12 (B) 13 14 15 16 17 18 19 20 21 22 23 24 (233 | 234) 1 2 3 4 5 (24 | 25) 6 7 8 9 10 11

CMN

CDR: D/P | PH/MO71 | EAT | PH | S149-3ST | ATM | S019-8 | M092-1/M093-1 S | EAT | S/HK | S019-9 | ATM | PH | S019ST | M092-1/M093-1 O | EAT | PLN | R+R | PH | MO71 | SLEEP

SPT: D/P | PH/MO71 | EAT | PH | S149-ST | MO71 | S/HK | M092-1/M093-1 O | EAT | MO71 | S/HK | M092-1/M093-1 O | M092-1/M093-1 S | EAT | ATM | PH | ATM | S/HK | MO71 | SLEEP

PLT: D/P | PH/MO71 | EAT | PH | S020-2 | S019SU | ATM | EAT ATM | ATM | M092-1/M093-1 S | ATM | EAT | PLN | R+R | S020-2 | PH | MO71 | SLEEP

DAY/NIGHT: 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -BDA -MAD -MIL -CRO -HSK -BDA -MAD -TEX -MIL -MAD -CYI -GDS -TEX -MIL -BDA -HSK -HAW -GDS -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -HAW -VAN -HAW

IMD

SAL: SOL — S020-2; A-SOL — S149-3, S019

UNATTENDED EXPERIMENTS: D024; S071; S020-2

NOTES:

TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM TV-ATM

VENT VENT VENT VENT VENT VENT VENT VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
23 :6 :16/24 :6 :16	25/234	WED. AUGUST 22, 1973	10.0			SL-3	REFERENCE	MAY 1, 1972

REV: 1643 | 1644 | 1645 | 1646 | 1647 | 1648 | 1649 | 1650 | 1651 | 1652 | 1653 | 1654 | 1655 | 1656 | 1657

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

↓B (at 13); 234 | 235 (at 24); 25 | 26 (at 5)

CMN

CDR: D P | PH / MO 71 | EAT | P H | M O 7 1 | EREP PASS 4 ● | P H | ATM | EAT ATM | ATM | S/ HK | S T U | PT | P H | S/HK | ED TV | S/ HK | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

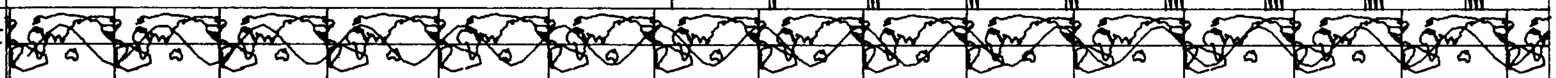
SPT: D P | PH / MO 71 | EAT | P H | S/ HK | S190B | S T U | S/ HK | ED TV | P H | EAT | M O 7 1 | ATM | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

PLT: D P | PH / MO 71 | EAT | P H | S 0 2 0 -2 | EREP PASS 4 ● | SO 19 SU | S/ HK | P H | S 0 1 9 -10 | EAT | S 0 1 9 -11 | PT | P H | O P E N | S 0 1 9 -12 | S T U | O P E N | S 0 1 9 -13 | S/ HK | SO 19 ST | SO 20 -2 ST | EAT | P H | ATM | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE:
-VAN -ACN
-VAN -ACN -GWM -VAN
-CYI -MAD -GWM -HSK
-CYI -MAD -CRO -HSK
-MIL -BDA -MAD -CRO -HSK
-TEX -MIL -BDA -MAD
-TEX -MIL -BDA -MAD -CYI -GDS -HSK
-GDS -TEX -CYI -MAD -HSK -HAW
-GDS -BDA -CYI -ACN -CRO -HSK
-HAW -GDS -BDA -MIL -ACN -CRO
-GWM -GDS -TEX -MIL -BDA -CRO
-GWM -GDS -TEX -MIL -VAN -GDS
-VAN -HAW -VAN -HAW -VAN

IMD

SAL — SOL: S020-2

SAL — A-SOL: S190B | S019

UNATTENDED EXPERIMENTS: D024 | S071 | S020-2

NOTES

● EREP DATA TAKE 1422-1454

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
24 ⁸6 ⁸16/25 ⁸6 ⁸16	26/235	THU. AUGUST 23,1973	5.2			SL-3	REFERENCE	MAY 1,1972

REV: 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671

GMT: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 (235|236), 1, 2, 3, 4, 5 (26|27), 6, 7, 8, 9, 10, 11

JB

CMN

- CDR: D/P, PH/MO71, EAT, PH, MO71, T020-1 S MODE 1 ▲, PH, EAT, MO71, ATM, S/HK, ATM, S/HK, ATM, EREP PASS 1 SI ●, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, ATM, S/HK, EAT ATM, PH, ATM, M092-1/M171-1 S ▲, PH, M092-1/M171-1 O, S/HK, S190B SI, EAT, PLN, R+R, PH, MO71, SLEEP M133
- PLT: D/P, PH/MO71, EAT, PH, S/HK, T020-1 O MODE 1, PH, EAT, M092-1/M171-1 O, PH, M092-1/M171-1 S ▲, EREP PASS 1 SI ●, EAT, ATM, PH, ATM, S/HK, MO71, SLEEP

DAY/NIGHT: 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -VAN -ACN, -GWM, -VAN -CYI -MAD, -GWM -MSK, -CYI -MAD, -CRO -MSK, -BDA -MAD, -CRO -MSK, -BDA -MAD, -TEX -MIL, -CRO, -BDA -MAD, -TEX -GDS -MIL, -MSK, -GDS -TEX -CYI, -MAD, -MSK -HAW -GDS -BDA -CYI, -ACN, -CRO -MSK -HAW -GDS -BDA, -MIL -ACN, -CRO -GWM -GDS -TEX, -MIL -BDA, -CRO -GWM -GDS -TEX, -MIL -VAN, -GDS -VAN, -HAW -VAN, -HAW -VAN

IMD

SAL — SOL: S190B; A-SOL

UNATTENDED EXPERIMENTS: D024, S071, M133

NOTES

H VENT

H VENT

H TV-ATM

▲ M151-5

H TV-ATM

H VENT

H TV-ATM

VENT

H TV-ATM

▲ M151-1

H TV-ATM

VENT

H TV-ATM

▲ M151-1

●EREP DATA TAKE 2314-2324 (SI)

H VENT

H TV-ATM

H TV-ATM

H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
25 *6 *16/26 *6 *16	27/236	FRI. AUGUST 24,1973	0.5			SL-3	REFERENCE	MAY 1,1972

REV: 1672 | 1673 | 1674 | 1675 | 1676 | 1677 | 1678 | 1679 | 1680 | 1681 | 1682 | 1683 | 1684 | 1685 | 1686

GMT: 12 (↓B) 13 14 15 16 17 18 19 20 21 22 23 24 (236|237) 1 2 3 4 5 (27|28) 6 7 8 9 10 11

CMN

CDR: DP | PH/M071 ● | EAT | PH | S020-27 BU | M071 | S/HK | M092-1/M171-1 S | PH | EAT | M071 | S/HK | PH | EREP PASS 5 ● | ATM | EREP PASS 2 SI ● | EAT | PLN | PH | M071 | SLEEP | DP | PH

SPT: DP | PH/M071 ● | EAT | PH | M110 | S/HK | M092-1/M171-1 O | PH | EAT ATM | ATM | PH | S190B | PT | PH | OPEN | S190B SI | EAT | M071 | PLN | PH | M071 | SLEEP | DP | PH

PLT: DP | PH/M071 ● | EAT | PH | ATM | PH | EAT | T002-4 | OPEN | PH | EREP PASS 5 ● | OPEN | PT | PH | EREP PASS 2 SI ● | EAT | PH | S020-2 ST | S/HK | M071 | SLEEP | DP | PH

DAY/NIGHT: 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: VAN, ACN, GWM, VAN, ACN, CYI, MAD, GWM, MSK, VAN, CYI, MAD, MSK, BDA, MAD, CRO, MSK, TEX, BDA, MAD, MIL, CRO, BDA, MAD, TEX, MIL, MSK, GDS, TEX, CYI, MAD, MSK, HAW, GDS, BDA, CYI, ACN, MSK, HAW, GDS, BDA, MIL, ACN, CRO, GWM, GDS, TEX, MIL, BDA, CRO, GWM, GDS, TEX, MIL, VAN, GDS, TEX, VAN, HAW, VAN, HAW, VAN, VAN, ACN

IMD

SAL: SOL — S020-2; A-SOL — S190B

UNATTENDED EXPERIMENTS: D024; S071; S020-2

NOTES

H TV-ATM   H TV-ATM   H TV-ATM   ● EREP DATA TAKE 2106-2120

HVENT   H TV-ATM   H TV-ATM   ● EREP DATA TAKE 2408-2418 (SI)

● M110 BLOOD SAMPLE DURING PH   H TV-ATM

HVENT   H VENT

VENT   H VENT   H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
26 16 16/27 16 16	28/237	SAT. AUGUST 25, 1973	-4.2		SL-3	REFERENCE	MAY 1, 1972

REV: 1687 | 1688 | 1689 | 1690 | 1691 | 1692 | 1693 | 1694 | 1695 | 1696 | 1697 | 1698 | 1699 | 1700

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (237|238) 1 2 3 4 5 (28|29) 6 7 8 9 10 11

JB

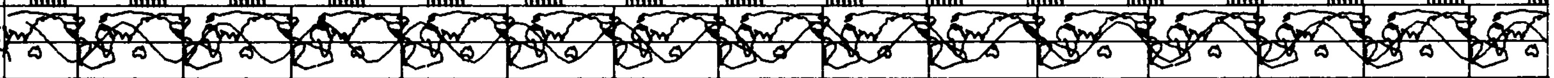
CMN

- CDR: MO71 — EAT — EVA PREPS — ATM FILM REPLACE — POST EVA — EAT — S/HK — TO25 SU — T025 — PH — PLN — EAT — PH/MO71 — SLEEP — DP — PH/MO71 — EAT — PH
- SPT: MO71 — EAT — EVA PREPS — ATM FILM REPLACE — POST EVA — EAT — MO71 — PH — ATM — EAT — PH/MO71 — SLEEP — DP — PH/MO71 — EAT — PH
- PLT: MO71 — EAT — MO71 — EVA PREPS — MONITOR EVA — POST EVA — EAT — S/HK — PLN — EAT — PH/MO71 — SLEEP — DP — PH/MO71 — EAT — PH

DAY/NIGHT: 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE

-GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -MSK -MAD -BDA -CYI -CRO -MSK -MIL -BDA -MAD -CRO -TEX -MIL -BDA -MAD -TEX -MAD -CYI -GDS -MSK -BDA -CYI -MAD -HAW -GDS -MSK -BDA -ACN -HAW -GDS -CRO -GWM -MIL -BDA -GDS -ACN -TEX -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -VAN -HAW -VAN -HAW -VAN -ACN -GWM

IMD

SAL

- SOL.: TV — T025
- A-SOL: S190B

UNATTENDED EXPERIMENTS

- D024
- S071

NOTES

H VENT

H VENT

H VENT

H TV-ATM

H TV-ATM

H VENT

H VENT

H VENT

▲ M151-4

▲ M151-4

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
27 #6 #16/28 #6 #16	29/238	SUN. AUGUST 26,1973	-8.7			SL-3	REFERENCE	MAY 1,1972

REV: 1701 | 1702 | 1703 | 1704 | 1705 | 1706 | 1707 | 1708 | 1709 | 1710 | 1711 | 1712 | 1713 | 1714 | 1715

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (238|239) 1 2 3 4 5 (29|30) 6 7 8 9 10 11

JB

CMN

CDR: EREP PASS 6 ● | S183 SU | ATM | S183-1 | S/HK | S183-2 | OPEN | PH | EAT | T025 | ATM | S183-4 | PT | PH | S183 ST | S/HK | EREP PASS 3 SI ● | EAT | PLN | PH | M071 | SLEEP

SPT: M071 | S190B | M074 | M172 | ATM | PH | ATM | EAT ATM | ATM | OPEN | T025 | S/HK | S183 ST | ATM | PT | PH | S190B | EAT | M071 | PLN | PH | M071 | SLEEP M133

PLT: EREP PASS 6 ● | S183 SU | T025 | S/HK | T025 | PH | T025 | EAT | M071 | S183-3 | S/HK | ATM | PT | PH | OPEN | EREP PASS 3 SI ● | EAT | PH | S/HK | M071 | SLEEP

DAY/NIGHT: 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -MSK -CYI -MAD -CRO -MSK -MIL -BDA -MAD -CRO -MSK -TEX -MIL -BDA -MAD -MIL -BDA -MAD -CYI -GDS -TEX -MSK -HAW -GDS -CYI -MAD -MSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -VAN -ACN

IMD

SAL: SOL — T025; A-SOL — S190B; S183; S190B

D024

UNATTENDED EXPERIMENTS: S071; M133

NOTES

● EREP DATA TAKE 1144-1202 | H TV-ATM | H TV-ATM | H TV-ATM | H TV-ATM | H TV-ATM | ● EREP DATA TAKE 2420-2430 (SI)

H TV-ATM | H TV-ATM

H TV-ATM | H VENT | H VENT

H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
28 *6 *16/29 *6 *16	30/239	MON. AUGUST 27,1973	-13.2			SL-3	REFERENCE	MAY 1,1972

REV: 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (239|240) 1 2 3 4 5 (30|31) 6 7 8 9 10 11

JB

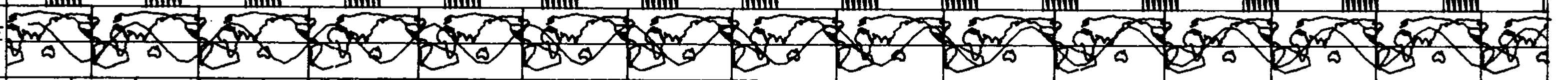
CMN

- CDR: D/P, PH/MO71, EAT, P/H, S/HK, M092-1/M093-1 S, EAT, EREP PASS 7 ●, P/H, ATM, M092-1/M093-1 O, EAT, S183SU, PLN, R+R, PH, M071, SLEEP
- SPT: D/P, PH/MO71, EAT, P/H, M071, S/HK, P/H, M092-1/M093-1 O, EAT, M071, S/HK, S190B, M092-1/M093-1 O, M092-1/M093-1 S, EAT, S183SU, PLN, R+R, PH, M071, SLEEP
- PLT: D/P, PH/MO71, EAT, P/H, T002 -5, ATM, P/H, EAT ATM, EREP PASS 7 ●, M092-1/M093-1 S, ATM, EAT, M071, ATM, PH, S/HK, M071, SLEEP

DAY/NIGHT: 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -GWM -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -GDS -TEX -MIL -BDA -MAD -CYI -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -MIL -BDA -ACN -CRO -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM

IMD

SAL
- SOL: T026
- A-SOL: S190B, S183

D024

UNATTENDED EXPERIMENTS

NOTES

- VENT
- TV-ATM
- VENT
- TV-ATM
- VENT
- TV-ATM
- VENT
- ● EREP DATA TAKE1854-1910
- TV-ATM
- TV-ATM
- VENT
- TV-ATM
- VENT
- VENT
- TV-ATM
- VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
29 #6 #16/30 #6 #16	31/240	TUE. AUGUST 28,1973	-17.5			SL-3	REFERENCE	MAY 1,1972

REV: 1730 | 1731 | 1732 | 1733 | 1734 | 1735 | 1736 | 1737 | 1738 | 1739 | 1740 | 1741 | 1742 | 1743 | 1744

GMT: 12 ↓B 13 14 15 16 17 18 19 20 21 22 23 24 (240|241) 1 2 3 4 5 (31|32) 6 7 8 9 10 11

CMN:
- CDR: D P | PH / MO 71 | EAT | P H | S/ HK | OFF DUTY | P H | EAT | OFF DUTY | PT | P H | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | M O 7 1 | OFF DUTY | PH | EAT | M O 7 1 | S/ HK | OFF DUTY | PT | P H | OFF DUTY | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP
- PLT: D P | PH / MO 71 | EAT | P H | OFF DUTY | P H | EAT | OFF DUTY | PT | P H | S/ HK | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE:
-VAN -CYI -MAD -GWM -HSK -MAD -CYI -CRO -HSK -BDA -MAD -HSK -CRO -TEX -MIL -BDA -MAD -CRO -TEX -GDS -MIL -BDA -MAD -HSK -GDS -TEX -CYI -MAD -HSK -GDS -BDA -CYI -ACN -HAW -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN

IMD

SAL: SOL — T026; A-SOL — S183

UNATTENDED EXPERIMENTS: D024

NOTES:

H VENT
H VENT
H VENT
H VENT
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
30 $^{\#}$6 $^{\#}$16/31 $^{\#}$6 $^{\#}$16	32/241	WED. AUGUST 29,1973	-21.7		SL-3	REFERENCE	MAY 1,1972

REV: 1745 | 1746 | 1747 | 1748 | 1749 | 1750 | 1751 | 1752 | 1753 | 1754 | 1755 | 1756 | 1757 | 1758

GMT: B 12 13 14 15 16 17 18 19 20 21 22 23 241|242 24 1 2 3 4 32|33 5 6 7 8 9 10 11

CMN

CDR: D P | PH/MO 71 | EAT | P H | M O 7 1 | S T U | T025 | S1 93 ST | OPEN | P H | EREP PASS 8 ● | EAT | M O 7 1 | OPEN | PT | P H | M1 31 -2 S | ATM | EAT | PLN | R+R | PH | M O 7 1 | SLEEP

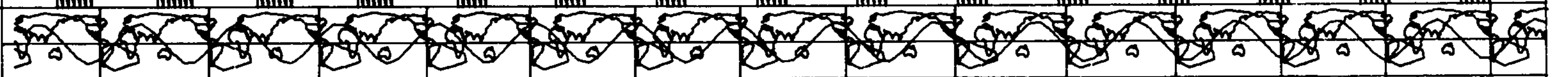
SPT: D P | PH/MO 71 | EAT | P H | ATM | S/ HK | ATM | P H | OPEN | S190B | EAT ATM | A T M | S/ HK | M1 31 -2 O | M1 31 -2 O | M1 31 -2 S | S/ HK | PT | P H | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP M133

PLT: D P | PH/MO 71 | EAT | P H | S 1 8 3 -5 | S T U | OPEN | S1 93 ST | OPEN | P H | EREP PASS 8 ● | EAT | ATM | M1 31 -2 S | M1 31 -2 O | PT | P H | S/ HK | EAT | ATM | PH | S/ HK | M O 7 1 | SLEEP

DAY/NIGHT: 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -ACN -CYI -MAD -GWM -HSK -VAN | -CYI -MAD -HSK | -BDA -MAD -CRO | -HSK -MIL -TEX -BDA -MAD -CRO | -TEX -MIL -BDA -MAD | -HSK -TEX -MAD -CYI -GDS | -HSK -BDA -CYI -ACN -HAW -GDS | -BDA -MIL -ACN -HSK -HAW -GDS | -CRO -GWM -GDS -TEX -MIL -BDA | -CRO -GWM -GDS -TEX -MIL -VAN | -GDS -TEX -VAN | -HAW -VAN | -HAW -VAN | -VAN -ACN | -GWM -VAN -ACN -CYI -MAD

IMD

SAL: SOL — T025; A-SOL — 6183, S190B; D024

UNATTENDED EXPERIMENTS: M133

NOTES:

H VENT H TV-ATM H VENT H TV-ATM H TV-ATM ● EREP DATA TAKE 1724-1740 H TV-ATM H VENT H TV-ATM H TV-ATM H TV-ATM H TV-ATM H VENT H TV-ATM H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
31 ‘6 ‘16/32 ‘6 ‘16	33/242	THU. AUGUST 30,1973	-25.6			SL-3	REFERENCE	MAY 1,1972

REV	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772

GMT: 12 ↓B 13 14 15 16 17 18 19 20 21 22 23 24 (242|243) 1 2 3 4 5 (33|34) 6 7 8 9 10 11

CMN	Activities
CDR	D/P · PH/MO71 · EAT · P/H · MD71 · T025 · T025 ST · M092-1/M171-1 S · EAT · ATM · RM AD D7 -1 6 · ATM · P/H · M092-1/M171-1 O · EAT · PLN · EREP PASS 9 ● · PH · MO71 · SLEEP
SPT	D/P · PH/MO71 · EAT · P/H · TMO 3-2 · S/HK · PH · M092-1/M171-1 O · EAT · P/H · S/HK · M092-1/M171-1 O · M092-1/M171-1 S · EAT · MO71 · ATM · PH · S190B · S/HK · MO71 · SLEEP
PLT	D/P · PH/MO71 · EAT · P/H · ATM · S/HK · ATM · P/H · EAT ATM · ATM · S/HK · M092-1/M171-1 S · P/H · ATM · S/HK · ATM · EAT T003-3 · PLN · EREP PASS 9 ● · PH · MO71 · SLEEP

DAY/NIGHT: 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE:
-GWM -VAN -CYI -MAD -HSK -BDA · -CYI -MAD -CRO -HSK · -MAD -CRO -MIL -BDA · -TEX -MIL -BDA -MAD · -GDS -TEX -MAD -CYI · -HSK -HAW · -GDS -BDA -CYI · -HSK -HAW -GDS · -BDA -ACN -CRO -GWM -GDS -TEX · -MIL -BDA -ACN -CRO -GWM -GDS · -TEX -MIL -VAN · -GDS -TEX -VAN · -VAN · -HAW -VAN · -HAW -VAN -ACN · -GWM -VAN -ACN -CYI -MAD -GWM

IMD

SAL: SOL — T025 —; A-SOL — S190B —

UNATTENDED EXPERIMENTS: D024

NOTES:

H VENT · H TV-ATM · H VENT · H TV-ATM · H TV-ATM · H VENT · H TV-ATM · H TV-ATM · H TV-ATM · H TV-ATM · H VENT · H TV-ATM · ● EREP DATA TAKE 0158-0215 · H VENT

VENT · VENT · VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
32 #6 #16/33 #6 #16	34/243	FRI. AUGUST 31,1973	-29.4			SL-3	REFERENCE	MAY 1,1972

REV: 1773 | 1774 | 1775 | 1776 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 | 1783 | 1784 | 1785 | 1786 | 1787

GMT: 12 ↓B 13 14 15 16 17 18 19 20 21 22 23 243|244 24 1 2 3 4 34|35 5 6 7 8 9 10 11

CMN

CDR: D/P | PH/MO71 | EAT | PH | SO73 SU | MO71 | OPEN | ED TV | S/HK | ATM | PH | ATM | EAT ATM | EREP PASS 10 ● | S/HK | PT | PH | SO73 ST | S/HK | EAT | PLN | R+R | PH | MO71 | SLEEP

SPT: D/P | PH/MO71 | EAT | PH | ATM | STU | S/HK | ED TV | PH | EAT | MO71 | OPEN | S190B | ATM | SO73 ST | PT | PH | EAT | PLN | R+R | PH | MO71 | SLEEP

PLT: D/P | PH/MO71 | EAT | PH | SO73 SU | SO73 SU | SO73 -1 DA | OPEN | PH | SO73 -4 2D | EAT | EREP PASS 10 ● | PT | PH | SO73 -3 2B | OPEN | SO73 -3 2B | ATM | EAT | MO71 | PH | ATM | S/HK | MO71 | SLEEP

DAY/NIGHT: 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -TEX -MIL -BDA -MAD -CYI -GDS -HAW -GDS -CYI -MAD -HSK -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -VAN -ACN -GWM -VAN -CYI -MAD

IMD

SAL: SOL —S073— ; A-SOL |S190B|

—D024—

UNATTENDED EXPERIMENTS

NOTES

H VENT
H TV-ATM
H VENT
H TV-ATM
H TV-ATM
H TV-ATM
H VENT
● EREP DATA TAKE 1919-1932
H TV-ATM
H TV-ATM
H VENT
H TV-ATM
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
33 *6 *16/34 *6 *16	35/244	SAT. SEPTEMBER 1 ,1973	-32.8			SL-3	REFERENCE	MAY 1,1972

REV: 1788 | 1789 | 1790 | 1791 | 1792 | 1793 | 1794 | 1795 | 1796 | 1797 | 1798 | 1799 | 1800 | 1801

GMT: 12 16 13 14 15 16 17 18 19 20 21 22 23 24 244|245 1 2 3 4 5 35|36 6 7 8 9 10 11

CMN
- CDR: D/P, PH/MO71, EAT, PH, MO71, T020-2 S MODE 2, S/HK, S183 SU, PH, EAT, T025, T025 ST, S073 SU, S073 SU, S073-9 4B, ATM, PT, PH, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, ATM, PH, S183 SU, OPEN, EAT, MO71, S/HK, ATM, S/HK, PT, PH, S/HK, EAT, MO71, PLN, R+R, PH, MO71, SLEEP M133
- PLT: D/P, PH/MO71, EAT, PH, S/HK, T020-2 D MODE 2, T025 SU, PH, ATM, EAT ATM, ATM, S183-6, S073 SU, S/HK, S183-7, PT, PH, S183-8, OPEN, EAT, ATM, PH, ATM, S/HK, MO71, SLEEP

DAY/NIGHT: 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HSK -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -BDA -MAD -TEX -MIL -MAD -CYI -GDS -TEX -MIL -BDA -HSK -GDS -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK

IMD

SAL
- SOL: T025, S073
- A-SOL: S183

UNATTENDED EXPERIMENTS: D024, M133, S073-9(4B)

NOTES

H VENT
H TV-ATM
H VENT
H TV-ATM
HTV-ATM
H VENT
HTV-ATM
HTV-ATM
HTV-ATM
H VENT
HTV-ATM
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
34 *6 *16/35 *6 *16	36/245	SUN. SEPTEMBER 2 ,1973	-35.9			SL-3	REFERENCE	MAY 1,1972

REV	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816

GMT: 12 ↓B 13 14 15 16 17 18 19 20 21 22 23 245|246 24 1 2 3 4 36|37 5 6 7 8 9 10 11

CMN

CDR: D/P | PH/MO 71 | EAT | P/H | MO71 | S/HK | S073 | S/HK | M092-1/M093-1 S | EREP PASS 11 ● | EAT | ATM | S/HK | P/H | ATM | M092-1/M093-1 O | EAT | S0 73 ST | PLN | R+R | PH | M071 | SLEEP

SPT: D/P | PH/MO 71 | EAT | P/H | ATM | S1 83 ST | M092-1/M093-1 O | S/HK | P/H | S190B | EAT | M071 | M092-1/M093-1 O | M092-1/M093-1 S | EAT | ATM | PH | ATM | S/HK | M071 | SLEEP

PLT: D/P | PH/MO 71 | EAT | P/H | S/HK | S183-9 | S1 83 ST | P/H | EAT ATM | ATM | EREP PASS 11 ● | S/HK | M092-1/M093-1 S | ATM | S/HK | ATM | P/H | EAT | S0 73 ST | PLN | R+R | PH | M071 | SLEEP

DAY/NIGHT: 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CYI -MAD -CRO -HSK -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -TEX -GDS -MIL -BDA -MAD -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -CRO -GWM -GDS TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -HSK -VAN -CYI -MAD

IMD

SAL SOL: S073

SAL A-SOL: S183 | S190B

UNATTENDED EXPERIMENTS: D024 | S073-9(4B)

NOTES

H VENT　H TV-ATM　H VENT　H VENT　H TV-ATM

● EREP DATA TAKE 1752-1805

H TV-ATM　H TV-ATM　H VENT　H VENT　H TV-ATM　H TV-ATM　H VENT　H TV-ATM　H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
35 °6 °16/36 °6 °16	37/246	MON. SEPTEMBER 3 ,1973	-38.6			SL-3	REFERENCE	MAY 1,1972

REV: 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (246|247) 1 2 3 4 5 (37|38) 6 7 8 9 10 11

↓B

CMN

- CDR: D/P, PH/MO71 ●, EAT, PH, SO73 SU, SO73 SU, SO73-3 2A, SO73-7 1B, OPEN, PH, SO73-7 3C, OPEN, EAT, S/HK, ATM, PT, PH, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71 ●, EAT, PH, SO73 SU, MI10, S/HK, STU, ED TV, PH, EAT ATM, MO71, ATM, PT, PH, OPEN, MI31-1 S, MI31-1 O, EAT, PLN, R+R, PH, MO71, SLEEP
- PLT: D/P, PH/MO71 ●, EAT, PH, MO71, ATM, PH, ATM, EAT, SO73-8 3A, S/HK, SO73-4 2C, SO73, PT, PH, MI31-1 O, MI31-1 S, EAT, ATM, PH, S/HK, MO71, SLEEP

DAY/NIGHT: 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HSK -BDA -MAD -CRO -HSK -TEX -BDA -MAD -MIL -CRO -BDA -MAD -TEX -MIL -HSK -CYI -GDS -TEX -MAD -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -ACN -CYI -MAD -VAN -GWM -MAD -VAN -CYI -HSK

IMD

SAL: SOL; A-SOL — S073

D024

UNATTENDED EXPERIMENTS: S073-7(4A)

NOTES

H VENT

H TV-ATM

H TV ATM

H TV-ATM

H TV-ATM

H TV-ATM

H TV-ATM

H TV-ATM

● M110 BLOOD SAMPLE DURING PH

H VENT

H VENT

H VENT

H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
36 :6 :16/37 :6 :16	38/247	TUE. SEPTEMBER 4, 1973	-40.8		SL-3	REFERENCE	MAY 1, 1972

REV: 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845

GMT: 12 (↓B) 13 14 15 16 17 18 19 20 21 22 23 24 (247|248) 1 2 3 4 5 (38|39) 6 7 8 9 10 11

CMN

- CDR: D/P, PH/MO71, EAT, PH, MO71, S/HK, OFF DUTY, PH, EAT, REENTRY SIMULATION, PT, PH, EAT, OFF DUTY, PLN, R+R, PH, MO71, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, OFF DUTY, S/HK, PH, EAT, MO71, REENTRY SIMULATION, OFF DUTY, PT, PH, EAT, OFF DUTY, PLN, R+R, PH, S/HK, MO71, SLEEP M133
- PLT: D/P, SPH/MO71, EAT, PH, OFF DUTY, PH, EAT, REENTRY SIMULATION, S/HK, PT, PH, EAT, OFF DUTY, MO71, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -BDA -CYI -MAD -CRO -HSK -BDA -MAD -MIL -CRO -MAD -TEX -MIL -BDA -GDS -TEX -MAD -CYI -HSK -HAW -GDS -BDA -CYI -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK

IMD

SAL: SOL; A-SOL: S073

D024

UNATTENDED EXPERIMENTS: S073-7(4A); M133

NOTES

H VENT
H VENT
H VENT
H VENT
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
37 ¹6 ¹16/38 ¹6 ¹16	39/248	WED. SEPTEMBER 5 ,1973	-42.5		SL-3	REFERENCE	MAY 1,1972

REV: 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (248|249) 1 2 3 4 5 (39|40) 6 7 8 9 10 11 (↓B at 13)

CMN

CDR: D/P, PH/MO71, EAT, P/H, MO71, ATM, M092-1/M171-1 S, EAT, P/H, ATM, EREP PASS 12 ●, M092-1/M171-1 O, EAT, PLN, R+R, PH, MO71, SLEEP

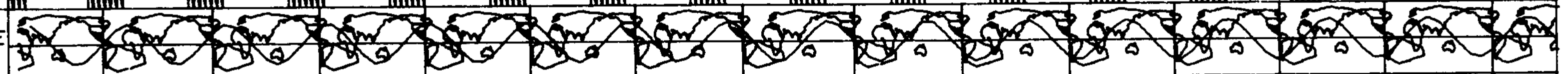
SPT: D/P, PH/MO71, EAT, P/H, S/HK, P/H, M092-1/M171-1 O, EAT, MO71, P/H, S/HK, SO73 ST, S/HK, SO63-1, M092-1/M171-1 S ▲, EAT, ATM, PH, S/HK, MO71, SLEEP

PLT: D/P, PH/MO71, EAT, P/H, OTCH, SO73-6 1E, S/HK, ATM, P/H, EAT ATM, S/HK, SO73-6 1E, SO73 ST, S/HK, EREP PASS 12 ●, ATM, PT, P/H, EAT, MO71, R+R, PLN, PH, MO71, SLEEP

DAY/NIGHT: 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CYI -MAD -CRO -HSK -MIL -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CYI -GDS -TEX -MIL -BDA -MAD -HSK -HAW -GDS -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -VAN -HAW -HAW -VAN -ACN -GWM -VAN -ACN -VAN -CYI -MAD -HSK -MAD -CYI

IMD

SAL: SOL; A-SOL: 6073, 6063-1

D024

UNATTENDED EXPERIMENTS

NOTES

H VENT
H VENT
HTV-ATM
VENT
H TV-ATM
HTV-ATM
HTV-ATM
● EREP DATA TAKE 2036-2051
H TV-ATM
VENT
▲ M151-1
HTV-ATM
H VENT
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
38:6 :16/39:6 :16	40/249	THU. SEPTEMBER 6 ,1973	-43.5			SL-3	REFERENCE	MAY 1,1972

REV: 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 | 1871 | 1872 | 1873 | 1874

GMT: 12 13 (JB) 14 15 16 17 18 19 20 21 22 23 24 (249 | 250) 1 2 3 4 5 (40 | 41) 6 7 8 9 10 11

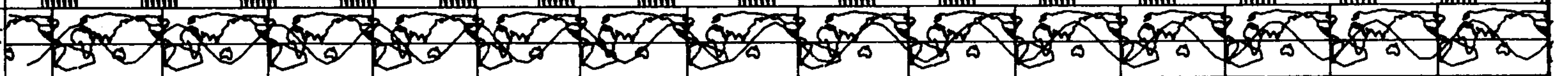
CMN

- CDR: D P | PH / NO 71 | EAT | TRIM ● | P H | ATM | P H | ATM | EAT ATM | ATM | EREP PASS 13 ● | S T U | S / H K | PT | P H | S / H K | EREP PASS 14 ● | EAT | PLN | R+R | PH | M O 7 1 | SLEEP
- SPT: D P | PH / NO 71 | EAT | TRIM ● | P H | M O 7 1 | S/ HK | M092-1/ M171-1 O | P H | EAT | S/ HK | S190B | ED TV | S/ HK | PT | P H | O P C N | S190B | EAT | ATM | PH | ATM | S/ HK | M O 7 1 | SLEEP
- PLT: D P | PH / NO 71 | EAT | TRIM ● | P H | S/ HK | M092-1/ M171-1 S ▲ | P H | EAT | M O 7 1 | S T U | O P C N | EREP PASS 13 ● | ATM | EREP PASS 14 ● | EAT | M O 7 1 | PLN | R+R | PH | M O 7 1 | SLEEP

DAY/NIGHT: 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -HSK -MIL -BDA -MAD -CRO -HSK -HSK -TEX -MIL -BDA -MAD -GDS -TEX -MIL -BDA -MAD -CYI -HSK -GDS -CYI -MAD -HSK -MAW -GDS -BDA -CYI -ACN -CRO -HSK -MAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -MAW -VAN -MAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK

IMD

SAL: SOL | A-SOL (S190B)

UNATTENDED EXPERIMENTS: D024

NOTES

H VENT

HTV-ATM

● TRIM BURN - 1250

H VENT

VENT

HTV-ATM

▲ M151-1

HTV-ATM

HTV-ATM

H VENT

● EREP DATA TAKE 1953-2007

HTV-ATM

● EREP DATA TAKE 2308-2316

HTV-ATM

H VENT

H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
39 *6 *16/40 *6 *16	41/250	FRI. SEPTEMBER 7, 1973	-43.9		SL-3	REFERENCE	MAY 1, 1972

REV: 1875 | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888

GMT: 12 13 (↓B) 14 15 16 17 18 19 20 21 22 23 24 (250|251) 1 2 3 4 5 (41|42) 6 7 8 9 10 11

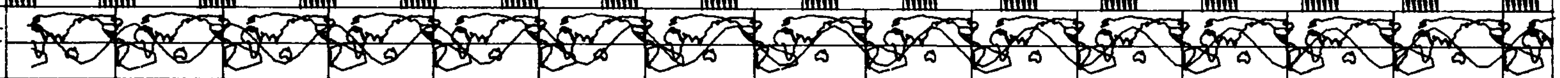
CMN

- CDR: D P | PH / MO 71 | EAT | P H | ATM | P H | EAT | S/ HK | PT | P H | OPEN | EREP PASS 15 ● | OPEN | EAT | PLN | R+R | PH | M 0 7 1 | SLEEP
- SPT: D P | PH / MO 71 | EAT | P H | OPEN | S/ HK | P H | EAT ATM | ATM | PT | P B | S 0 6 3 -1 | OPEN | EAT | M 0 7 1 | PLN | R+R | PH | M 0 7 1 | SLEEP M133
- PLT: D P | PH / MO 71 | EAT | P H | M 0 7 1 | OPEN | S0 20 -1 SU | S0 20 -1 | S/ HK | S0 20 -1 | OPEN | P H | EAT | M 0 7 1 | OPEN | S0 20 -1 | OPEN | S/ HK | PT | P H | EREP PASS 15 ● | OPEN | EAT | PH | ATM | S/ HK | M 0 7 1 | SLEEP

DAY/NIGHT: 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE

- BDA - MAD - CRO - HSK
- BDA - MAD - TEX - MIL - CRO
- BDA - MAD - TEX - GDS - MIL - HSK
- MAD - GDS - TEX - CYI - HSK
- ACN - HAW - GDS - BDA - CYI - CRO - HSK
- MIL - ACN - HAW - GDS - BDA - CRO - GWM
- MIL - BDA - GDS - TEX - CRO - GWM
- MIL - VAN - GDS - TEX
- GDS - VAN
- HAW - VAN
- HAW - VAN
- VAN - ACN - GWM - VAN
- ACN - CYI - MAD - GWM - HSK - VAN
- CYI - MAD - HSK
- BDA - MAD

IMD

SAL — SOL: S020-1

SAL — A-SOL: S063-1

UNATTENDED EXPERIMENTS

D024

M133

NOTES

HTV-ATM HTV-ATM HTV-ATM HTV-ATM HTV-ATM

● EREP DATA TAKE 2225-2238

H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
40 #6 #16/41 #6 #16	42/251	SAT. SEPTEMBER 8, 1973	-43.7		SL-3	REFERENCE	MAY 1, 1972

REV: 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902

GMT: 12, 13 (B), 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 (251 | 252), 1, 2, 3, 4, 5 (42 | 43), 6, 7, 8, 9, 10, 11

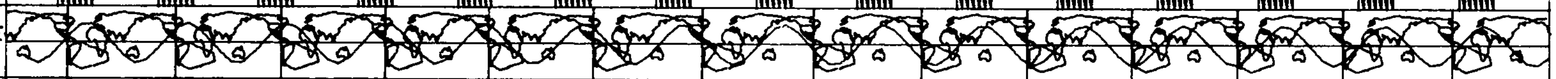
CMN

- CDR: D P; PH / MO 71; EAT; P H; M M / BD / 17 / 01 / -2; SO 20 -1; SO 20 -1 ST; S/ HK; M092-1/ M093-1 S; EAT; S/ HK; EREP PASS 16 ●; M092-1/ M093-1 O; S/ HK; P H; EAT; M O 7 1; PLN; R+R; PH; M O 7 1; SLEEP
- SPT: D P; PH / MO 71; EAT; P H; M B I O -2; M B I O -1; S/ HK; P H; M092-1/ M093-1 O; EAT ATM; ATM; S 0 6 3 -1; M092-1/ M093-1 S; ATM; EAT; ATM; PH; A T M; S/ HK; M O 7 1; SLEEP
- PLT: D P; PH / MO 71; EAT; P H; M B I O -2; ATM; P H; ATM; EAT; M O 7 1; O P E N; EREP PASS 16 ●; ATM; PT; P H; EAT; PLN; R+R; PH; M O 7 1; SLEEP

DAY/NIGHT: 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -CRO -HSK -TEX -MIL -BDA -MAD; -CRO -TEX -MIL -BDA -MAD -HSK; -GDS -TEX -MAD -CYI -HSK -HAW; -GDS -BDA -CYI -ACN -HSK -HAW; -GDS -BDA -MIL -ACN -CRO -GWM; -GDS -TEX -MIL -BDA -CRO -GWM; -GDS -TEX -MIL -VAN -GDS -TEX; -VAN -HAW -VAN -HAW -VAN; -VAN -ACN -GWM -VAN -ACN -CYI -MAD; -GWM -VAN -CYI -MAD -HSK; -CYI -MAD -BDA -CRO -HSK

IMD

SAL
- SOL: S020-1
- A-SOL: S063-1

D024

UNATTENDED EXPERIMENTS

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM ● EREP DATA TAKE 2004-2018 H TV-ATM H TV-ATM

H VENT H VENT H VENT H VENT H VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
41 *6 *16/42 *6 *16	43/252	SUN. SEPTEMBER 9 ,1973	-42.8			SL-3	REFERENCE	MAY 1,1972

REV: 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917

GMT: 12 13 (B) 14 15 16 17 18 19 20 21 22 23 24 (252|253) 1 2 3 4 5 (43|44) 6 7 8 9 10 11

CMN

- CDR: D/P, PH/MO 71, EAT, P/H, M/O/71, S0 73 SU, S0 73 SU, S0 73 -1 OA, S0 73 -2 1A, P/H, R/A/D/-/B, S0 73 -2 1A, EAT, EREP PASS 17, ATM, PT, P/H, EAT, PLN, R+R, PH, M/O/7/1, SLEEP
- SPT: D/P, PH/MO 71, EAT, P/H, T/0/0/3/-2, S0 73 SU, S/ MK, P/H, ATM, EAT ATM, ATM, M/O/7/1, S 0 6 3 -1, M092-1/ M093-1 O, PT, P/H, S/M/K, EAT, PH, ATM, S/ MK, M/O/7/1, SLEEP
- PLT: D/P, PH/MO 71, EAT, P/H, ATM, S/ MK, P/H, EAT, EREP PASS 17, M092-1/ M093-1 S, ATM, EAT T003-3, PLN, R+R, PH, M/O/7/1, SLEEP

DAY/NIGHT: 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -MIL -BDA -MAD -CRO -BDA -MAD -TEX -MIL -GDS -TEX -MAD -CYI -MSK -MAW -GDS -BDA -CYI -MSK -MAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -CRO -TEX -VAN -GDS -VAN -MAW -VAN -MAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -MSK -CYI -MAD -CRO -MSK -MAD -MIL -BDA

IMD

SAL: SOL — S073; A-SOL — S063-1; D024

UNATTENDED EXPERIMENTS

NOTES

TV-ATM TV-ATM TV-ATM ● EREP DATA TAKE 1921-1935 TV-ATM

TV-ATM TV-ATM

TV-ATM

VENT VENT VENT VENT VENT VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
42 ^{h}6 ^{m}16/43 ^{h}6 ^{m}16	44/253	MON. SEPTEMBER 10, 1973	-41.2	○	SL-3	REFERENCE	MAY 1, 1972

REV	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931

GMT: 12 13 (JB) 14 15 16 17 18 19 20 21 22 23 24 (253|254) 1 2 3 4 5 (44|45) 6 7 8 9 10 11

CMN

CDR	SPT	PLT
D P, PH/MO71, EAT, P H, S/HK, OFF DUTY, P H, EAT, OFF DUTY, PT, P H, EAT, PLN, R+R, PH, MO71, SLEEP	D P, PH/MO71, EAT, P H, OFF DUTY, P H, EAT, S/HK, OFF DUTY, PT, P H, OFF DUTY, EAT, MO71, PLN, R+R, PH, MO71, SLEEP M133	D P, PH/MO71, EAT, P H, MO71, OFF DUTY, P H, EAT, MO71, OFF DUTY, PT, P H, S/HK, EAT, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -CRO -MSK -TEX -MIL -BDA -MAD -GDS -TEX -MIL -BDA -MAD -CYI -MSK -MAW -GDS -CYI -MAD -MSK -MAW -GDS -BDA -CYI -ACN -CRO -GWM -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -GDS -TEX -VAN -GDS -VAN -MAW -VAN -MAW -VAN -ACN -VAN -ACN -GWM -VAN -CYI -MAD -MSK -CYI -MAD -CRO -MSK -MIL -BDA -MAD -MSK -CRO

IMD

SAL: SOL — S073; A-SOL — S063-1; D024

UNATTENDED EXPERIMENTS: M133

NOTES: H VENT, H VENT, H VENT, H VENT, H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
43 ¹6 ¹16/44 ¹6 ¹16	45/254	TUE. SEPTEMBER 11,1973	-39.2		SL-3	REFERENCE	MAY 1,1972

REV: 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

↓B (at 13); 254|255 (at 24); 45|46 (at 5)

CMN

- CDR: D/P, PH/MO71, EAT, PH, MO71, SO73-3 28, M092-1/M171-1 S, EAT, ATM, S/HK, ATM, S/HK, PH, M092-1/M171-1 O, EAT, PLN, R+R, PH, M071, SLEEP
- SPT: D/P, PH/MO71, EAT, PH, ATM, PH, M092-1/M171-1 O, EAT, M071, M092-1/M171-1 O, PH, M092-1/M171-1 S, EAT, ATM, PH, ATM, S/HK, M071, SLEEP
- PLT: D/P, PH/MO71, EAT, PH, S/HK, ATM, PH, ATM, EAT ATM, ATM, M092-1/M171-1 S, ATM, PH, ATM, EAT, M071, PLN, R+R, PH, M071, SLEEP

DAY/NIGHT: 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE

-TEX -MIL -BDA -MAD; -MIL -BDA -MAD -CYI -GDS -TEX; -HSK -HAW; -GDS -CYI -MAD; -HSK -HAW -GDS; -BDA -CYI -ACN; -CRO -HSK -HAW; -GDS -BDA -MIL -ACN; -CRO -GWM; -GDS -TEX -MIL -BDA; -CRO -GWM; -GDS -TEX -MIL -VAN; -GDS -VAN; -HAW -VAN; -HAW -VAN; -VAN -ACN; -GWM -VAN -CYI -MAD; -GWM -HSK; -CYI -MAD; -CRO -HSK; -BDA -MAD; -CRO -HSK; -TEX -MIL -BDA -MAD

IMD

SAL: SOL — S073; A-SOL — S063-1; D024

UNATTENDED EXPERIMENTS

NOTES

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT H VENT VENT H VENT H VENT

VENT VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
44 16 16/45 16 16	46/255	WED. SEPTEMBER 12,1973	-36.6	○	SL-3	REFERENCE	MAY 1,1972.

REV	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960

GMT 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

B (at 13); 255 | 256 (at 24); 46 | 47 (at 5)

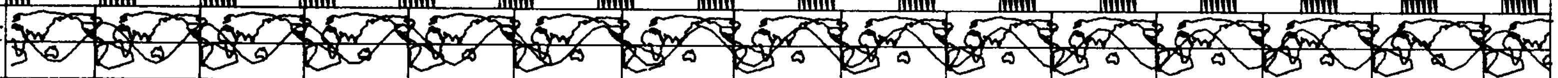
CMN

- CDR: DP, PH/MO71, EAT, PH, MO71, S/HK, M487-1, S073 ST, EREP PASS 18 ●, EAT, S073 SU, PT, PH, ATM, S/HK, ATM, S/HK, S073-83A, EAT, MO71, PLN, R+R, PH, MO71, SLEEP
- SPT: DP, PH/MO71, EAT, PH, ATM, S063-1, EAT, S073 SU, S/HK, S073 SU, S073-32A, M131-1S, M131-1D, PT, PH, EAT, PLN, R+R, PH, MO71, SLEEP
- PLT: DP, PH/MO71, EAT, PH, S/HK, S073-23B, S073 ST, EREP PASS 18 ●, PH, EAT ATM, ATM, MO71, PT, PH, M131-1D, M131-1S, S/HK, EAT, PH, ATM, S/HK, MO71, SLEEP

DAY/NIGHT: 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE

-CRO -TEX -GDS -MIL -BDA -MAD -HSK -GDS -TEX -CYI -MAD -HSK -MAW -GDS -BDA -CYI -ACN -CRO -HSK -MAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -MAW -VAN -MAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -HSK -VAN -CYI -MAD -HSK -BDA -MAD -CRO -HSK -MIL -BDA -MAD -CRO -TEX

IMD

SAL
- SOL: S073
- A-SOL: S063-1; S073

D024

UNATTENDED EXPERIMENTS

NOTES

H TV-ATM   ● EREP DATA TAKE 1710-1723   H TV-ATM   H TV-ATM

H TV-ATM   H TV-ATM   H TV-ATM

H VENT   H VENT   H VENT   H VENT   H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
45 ʰ6 ʰ16/46 ʰ6 ʰ16	47/256	THU. SEPTEMBER 13,1973	-33.7			SL-3	REFERENCE	MAY 1,1972

REV: 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975

GMT: 12 | 13 (↓B) | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 (256/257) | 1 | 2 | 3 | 4 | 5 (47/48) | 6 | 7 | 8 | 9 | 10 | 11

CMN

CDR: D/P | PH/MO71 ● | EAT | PH | ATM | PH | SO73 ST | EAT | EREP PASS 19 ● | STU | S/HK | ED TV | S/HK | PT | PH | EAT | MO71 | PLN | R+R | PH | MO71 | SLEEP

SPT: D/P | PH/MO71 ● | EAT | PH | M110 | S/HK | STU | ED TV | OPEN | PH | ATM | EAT ATM | ATM | MO71 | OPEN | SO63-1 | PT | PH | S/HK | ATM | EAT | ATM | PH | ATM | S/HK | MO71 | SLEEP M133

PLT: D/P | PH/MO71 ● | EAT | PH | MO71 | STU | S/HK | SO73-21A | S/HK | SO73-21A | OPEN | PH | SO73 ST | EAT | EREP PASS 19 ● | ATM | PT | PH | S/HK | EAT | PLN | R+R | PH | MO71 | SLEEP

DAY/NIGHT: 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -TEX -MIL -BDA -MAD -HSK -TEX -CYI -MAD -GDS -HSK -BDA -CYI -ACN -HAW -GDS -HSK -BDA -MIL -ACN -HAW -GDS -CRO -GWM -TEX -MIL -BDA -GDS -CRO -GWM -TEX -MIL -VAN -GDS -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -MAD -BDA -CYI -CRO -HSK -MIL -BDA -MAD -CRO -TEX -MIL -BDA

IMD

SAL: SOL; A-SOL — S073; S063-1

UNATTENDED EXPERIMENTS: D024; M133

NOTES

H TV-ATM H H TV-ATM ● EREP DATA TAKE 1942-2002

● M110 BLOOD SAMPLE DURING PH H TV-ATM H TV ATM H TV-ATM H TV-ATM

H TV-ATM H TV-ATM

H VENT H VENT H VENT

H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
46 *6 *16/47 *6 *16	48/257	FRI. SEPTEMBER 14,1973	-30.4			SL-3	REFERENCE	MAY 1,1972

REV: 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989

GMT: 12 13 (JB) 14 15 16 17 18 19 20 21 22 23 24 (257|258) 1 2 3 4 5 (48|49) 6 7 8 9 10 11

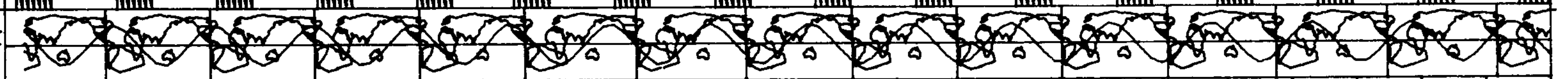
CMN

- CDR: D/P | PH/MO71 | EAT | PH | MO71 | S/HK | M092-1/M093-1 S | PH | EAT | EREP PASS 20 ● | ATM | S/HK | M092-1/M093-1 O | EAT | PLN | R+R | PH | MO71 | SLEEP
- SPT: D/P | PH/MO71 | EAT | PH | S/HK | ATM | S/HK | PH | ATM | EAT ATM | ATM | MO71 | PH | S063-1 | M092-1/M093-1 O | M092-1/M093-1 S | EAT | MO71 | PLN | R+R | PH | MO71 | SLEEP
- PLT: D/P | PH/MO71 | EAT | PH | ATM | S/HK | ATM | M092-1/M093-1 O | PH | EAT | EREP PASS 20 ● | M092-1/M093-1 S | ATM | EAT | PH | ATM | S/HK | MO71 | SLEEP

DAY/NIGHT: 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -MAD -GDS -TEX -CYI -MAD -HAW -GDS -BDA -CYI -MSK -GDS -BDA -ACN -MSK -HAW -TEX -MIL -BDA -ACN -CRO -GWM -GDS -GDS -TEX -MIL -VAN -CRO -GWM -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -MSK -MAD -CRO -MSK -CYI -CRO -MSK -MIL -BDA -MAD -TEX -MIL -BDA -MAD

IMD

SAL: SOL / A-SOL — S063-1

UNATTENDED EXPERIMENTS — D024

NOTES

H TV-ATM ● EREP DATA TAKE 1858-1922

H TV-ATM H TV-ATM H TV-ATM H TV-ATM H TV-ATM

H VENT H VENT |—| VENT |—| VENT |—| VENT H VENT H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
47:6 :16/48:6 :16	49/258	SAT. SEPTEMBER 15,1973	-26.8		SL-3	REFERENCE	MAY 1,1972

REV: 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 (258|259) 1 2 3 4 5 (49|50) 6 7 8 9 10 11

JB (at 13)

CMN

CDR: DP | PH/MO71 | EAT | PH | S/HK | OPEN | PH | EAT | EREP PASS 21 ● | M131-2S | ATM | PT | PH | EAT | MO71 | PLN | R+R | PH | MO71 | SLEEP | EREP PASS 22 ● | SLEEP

SPT: DP | PH/MO71 | EAT | PH | MO71 | S/HK | PH | ATM | EAT ATM | S063-1 | M131-2D | PT | PH | M131-2S | M131-2D | EAT | ATM | PH | ATM | S/HK | MO71 | SLEEP | DP | S063-1 | SLEEP

PLT: DP | PH/MO71 | EAT | PH | ATM | S/HK | PH | EAT | EREP PASS 21 ● | MO71 | PT | PH | S/HK | M131-2D | M131-2S | EAT | PLN | R+R | PH | MO71 | SLEEP | EREP PASS 22 ● | SLEEP

DAY/NIGHT: 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -GDS -TEX -MIL -BDA -MAD -CYI -MSK -HAW -GDS -CYI -MAD -MSK -HAW -GDS -BDA -CYI -ACN -GWM -CRO -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GDS -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -VAN -ACN -GWM -VAN -CYI -MAD -MSK -CYI -MAD -CRO -MSK -MIL -BDA -MAD -CRO -MSK -TEX -MIL -BDA -MAD TEX GDS

IMD

SAL: SOL; A-SOL

S063-1

D024

UNATTENDED EXPERIMENTS

NOTES

H TV-ATM ● EREP DATA TAKE 1816-1838 H TV-ATM ● EREP DATA TAKE 0946-1006

H H TV-ATM H TV-ATM H TV-ATM H TV-ATM H H

H H H

T003 @ APPROX 1110, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
48 *6 *16/49 *6 *16	50/259	SUN. SEPTEMBER 16,1973	-23.0			SL-3	REFERENCE	MAY 1,1972

REV: 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

JB; 259|260; 50|51

CMN

- CDR: SLEEP, PH/MO71, EAT, PH, MO71, S/HK, OPEN, PH, EREP PASS 23 ●, EAT, MO71, SO73 SU, OPEN, PT, PH, ATM, EAT, PLN, R+R, PH, MO71, SLEEP
- SPT: SLEEP, PH/MO71, EAT, PH, ATM, H, SO63-1, EAT, SO73 SU, SO73 SU, OPEN, SO73-718, OPEN, PT, PH, EAT, PH, ATM, S/HK, MO71, SLEEP M133
- PLT: SLEEP, PH/MO71, EAT, PH, S/HK, OPEN, PH, EREP PASS 23 ●, EAT ATM, ATM, PT, PH, S/HK, EAT, MO71, PLN, R+R, PH, MO71, SLEEP

DAY/NIGHT: 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE

-MIL -BDA -MAD -CYI -HSK -HAW -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -GDS -TEX -MIL -BDA -MAD

IMD

SAL: SOL; A-SOL: S063-1, S073

UNATTENDED EXPERIMENTS

D024

M133

NOTES

H VENT
H VENT
H TV-ATM
H TV-ATM
H VENT
● EREP DATA TAKE 1732-1747
H TV-ATM
H TV-ATM
H TV-ATM
H VENT
H VENT

T003 @ APPROX 1110, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
49 :6 :16/50 :6 :16	51/260	MON. SEPTEMBER 17,1973	-19.1		SL-3	REFERENCE	MAY 1,1972

REV	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032

GMT: 12 13 (B) 14 15 16 17 18 19 20 21 22 23 24 (260 | 261) 1 2 3 4 5 (51 | 52) 6 7 8 9 10 11

CMN

CDR: D P | PH / MO 71 | EAT | P H | M O 7 1 | ATM | M092-1/ M171-1 S | S / H K | P H | EAT | M O 7 1 | ATM | S/ HK | ATM | M092-1/ M171-1 O | EAT | PLN | PH | M O 7 1 | SLEEP | EREP PASS 24 ● | SLEEP

SPT: D P | PH / MO 71 | EAT | P H | S / H K | M092-1/ M171-1 O | ATM | EAT ATM | S0 73 ST | M092-1/ M171-1 O | M092-1/ M171-1 S ▲ | EAT | M O 7 1 | PH | S/ HK | M O 7 1 | SLEEP | D P | S190B | SLEEP

PLT: D P | PH / MO 71 | EAT | P H | O P E N | S0 73 -2 1C | A T M | S/ HK | ATM | S/ HK | P H | EAT | S0 73 ST | M092-1/ M171-1 S ▲ | S / H K | ATM | S / H K | A T M | EAT | PLN | PH | M O 7 1 | SLEEP | EREP PASS 24 ● | SLEEP

DAY/NIGHT: 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HSK -GDS -TEX -CYI -MAD -HSK -HAW -GDS -BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -CRO -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -MAD -VAN -ACN -CYI -GWM -HSK -VAN -CYI -MAD -HSK -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -BDA -MAD -TEX -MIL -HSK

IMD

SAL: SOL

A-SOL: S073 | S190B

UNATTENDED EXPERIMENTS: D024

NOTES:

H VENT

H VENT

H TV-ATM

H TV-ATM

|——| VENT

H TV-ATM

H VENT

H TV-ATM

H TV-ATM

H TV-ATM

|——| VENT

H TV-ATM

|——| VENT

▲ M151-1

▲ M151-1

H VENT

H VENT

.003 @ APPROX 1110, 1800, 0300

● EREP DATA TAKE 0656-0720

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
50 #6 #16/51 #6 #16	52/261	TUE. SEPTEMBER 18,1973	-15.0		SL-3	REFERENCE	MAY 1,1972

REV: 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (B at 13; 261|262 at 24; 52|53 at 5)

CMN

CDR: SLEEP, D/P, PH/NO 71, EAT, PH, TR/CR/D024/S-20, ATM, ATM, PH, S/HK, STU, EAT/ATM, ATM, PT, PH, EAT, PLN, PH, MO71, SLEEP, D/P, PH/NO 71, EAT, RE-ENTRY SIMS

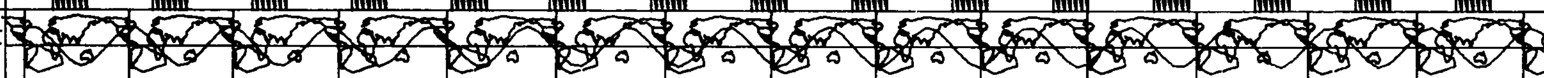
SPT: SLEEP, D/P, PH/NO 71, EAT, PH, S073 SU, MO71, S/HK, S/HK, STU, ATM, ST, PH, EAT, MO71, PT, PH, S/HK, M131-1 D, M131-1 S, EAT, MO71, PH, S/HK, MO71, SLEEP M133, D/P, PH/NO 71, EAT, MO71, RE-ENTRY SIMS

PLT: SLEEP, D/P, PH/NO 71, EAT, PH, S073 SU, S073 SU, S073-2 SD, PH, S/HK, EAT, PT, PH, S/HK, S073-2 1A, M131-1 S, M131-1 D, EAT T003-3, PLN, PH, MO71, SLEEP, D/P, PH/NO 71, EAT, RE-ENTRY SIMS

DAY/NIGHT: 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -GDS -TEX -MAD -CYI -MSK -HAW; -GDS -BDA -CYI -ACN -MSK -HAW; -GDS -BDA -MIL -ACN -CRO -GWM; -GDS -TEX -MIL -BDA -CRO -GWM; -GDS -TEX -MIL -VAN; -VAN -GDS -TEX; -HAW -VAN; -HAW -VAN; -VAN; -ACN -GWM -VAN -ACN -CYI -MAD; -GWM -VAN -CYI -MAD -MSK; -CYI -MAD -CRO -MSK -BDA; -MAD -CRO -MIL -BDA; -TEX -MIL -BDA -MAD; -GDS -TEX -MAD -CYI

IMD

SAL: SOL, A-SOL — S073

UNATTENDED EXPERIMENTS: D024; M133

NOTES

H VENT, H VENT, H TV-ATM, H TV-ATM, H VENT, H TV-ATM, H VENT, H TV-ATM, HTV-ATM, H VENT, H VENT, H VENT, H VENT

T003 @ APPROX 1100, 1800, 0300

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
51 16 16/52 16 16	53/262	WED. SEPTEMBER 19,1973	-10.8			SL-3	REFERENCE	MAY 1,1972

REV	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061

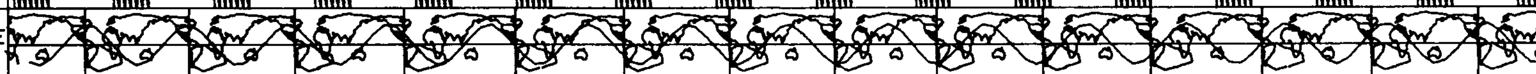
GMT: 12 13 (↓B) 14 15 16 17 18 19 20 21 22 23 24 (262 | 263) 1 2 3 4 5 (53 | 54) 6 7 8 9 10 11

CMN
- CDR: REENTRY SIMULATION — EAT — MO71 — S/HK — OFF DUTY — PT — PH — EAT — PLN — R+R — PH — MO71 — SLEEP — D/P — PH/MO71 — EAT — PH — ATM
- SPT: REENTRY SIMULATION — EAT — OFF DUTY — S/HK — PT — PH — S/HK — EAT — MO71 — PLN — R+R — PH — MO71 — SLEEP M133 — D/P — PH/MO71 — EAT — PH — MO74
- PLT: REENTRY SIMULATION — EAT — OFF DUTY — PT — PH — S/HK — EAT — PLN — R+R — PH — S/HK — MO71 — SLEEP — D/P — PH/MO71 — EAT — PH — MO71 — S/HK — SO73-61E

DAY/NIGHT: 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -HSK -HAW -GDS -BDA -CYI -HSK -HAW -GDS -BDA -ACN -CRO -GWM -GDS -TEX -MIL -BDA -ACN -CRO -GWM -GDS -TEX -MIL -VAN -TEX -VAN -GDS -VAN -HAW -VAN -HAW -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -CYI -MAD -CRO -HSK -MAD -CRO -HSK -MIL -BDA -MAD -TEX -MIL -BDA -CYI -GDS -TEX -MIL -BDA -MAD -HSK

IMD

SAL: SOL; A-SOL — S073

UNATTENDED EXPERIMENTS: D024; M133

NOTES
- H VENT (17)
- H VENT (20)
- H VENT (24)
- H VENT (9)
- H VENT (10)
- H TV-ATM (10)

T003 @ APPROX 1100, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
52 ‡6 ‡16/53 ‡6 ‡16	54/263	THU. SEPTEMBER 20, 1973	-6.5		SL-3	REFERENCE	MAY 1, 1972

REV: 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076

GMT: 12 (↓B) 13 14 15 16 17 18 19 20 21 22 23 (263|264) 24 1 2 3 4 (54|55) 5 6 7 8 9 10 11

CMN – CDR: ATM | S/HK | PH | TRIM ● | S/HK | STU | EAT | M092-1/M093-1 S | EREP PASS 25 ● | ATM | EAT | PLN | PH/MO71 | SLEEP | DP | PH/MO71 ● | EAT | PH | MO71 | EVA PREPS

CMN – SPT: M172 | S/HK | PH | TRIM ● | S/HK | ED TV | S/HK | SO73 ST | EAT | MO71 | ATM | PT | PH | S190B | M092-1/M093-1 O | EAT | PLN | PH/MO71 | SLEEP M133 | DP | PH/MO71 ● | EAT | PH | M110 | EVA PREPS ▲

CMN – PLT: SO73-6 1E | ATM | TRIM ● | EAT ATM | SO73-6 1E | SO73 ST | M092-1/M093-1 O | EREP PASS 25 ● | M092-1/M093-1 S | EAT | MO71 | PH/MO71 | S/HK | SLEEP | DP | PH/MO71 ● | EAT | PH | S/HK | EVA PREPS

DAY/NIGHT: 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE: -HAW -GDS -CYI -MAD -HSK -HAW | -GDS -BDA -CYI -ACN -CRO -GWM | -GDS -BDA -MIL -ACN -CRO -GWM | -GDS -TEX -MIL -BDA | -GDS -TEX | -VAN | -GDS -VAN | -HAW -VAN | -HAW | -VAN -ACN | -VAN -ACN | -GWM | -VAN | -CYI -MAD | -HSK | -CYI -MAD | -CRO | -HSK | -MIL -BDA -MAD | -CRO -HSK | -TEX -MIL -BDA -MAD | -MIL -BDA -MAD -CYI | -GDS -TEX | -HSK -HAW | -GDS -TEX -CYI

IMD

SAL – SOL

SAL – A-SOL: 6073 | S190B

UNATTENDED EXPERIMENTS: D024 | M133

NOTES:

TV-ATM, TV-ATM

VENT

TRIM BURN-1240

VENT

VENT

TV-ATM

EREP DATA TAKE 1750-1800

VENT

TV-ATM

VENT

VENT

T003 @ APPROX 1100, 1800, 0300

VENT

VENT

VENT

M110 BLOOD SAMPLE DURING PH

▲ M151-4

GET	MD/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
53 ‡6 ‡16/54 ‡6 ‡16	55/264	FRI. SEPTEMBER 21,1973	-2.2		SL-3	REFERENCE	MAY 1,1972

REV: 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11 (264/265 at 24; 55/56 at 5; ↓B at 13)

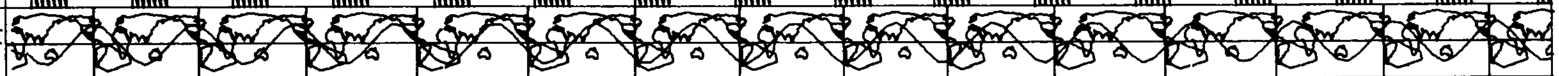
CMN

- CDR: ATM FILM REPLACE D024 | POST EVA | EAT | M 0 1 | ED TV | PT | PH | S/HK | EAT | M071 | PLN | R+R | PH | M071 | SLEEP | DP | PH/M071 | EAT | PH | M071 | RD-B | S/HK
- SPT: MONITOR EVA | POST EVA ▲ | EAT | S183 SU | M092-1/M093-1 S | MBIOD-1 | S/HK | PH | EAT | PLN | R+R | PH | S/HK | M071 | SLEEP | DP | PH/M071 | EAT | PH | MBIOD-2 | S/HK
- PLT: ATM FILM REPLACE D024 | POST EVA | EAT | S183 SU | M092-1/M093-1 O | S/HK | PT | PH | EAT | PLN | R+R | PH | M071 | SLEEP | DP | PH/M071 | EAT | PH | OPEN | S183-10 | OPEN

DAY/NIGHT: 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838

MOON UP/DN

EARTH TRACE W/SAA



NETWORK COVERAGE: -MAD -HSK -HAW -GDS -BDA -CYI -ACN -CRO -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -CYI -MAD -GWM -HSK -CYI -MAD -CRO -HSK -BDA -MAD -CRO -HSK -TEX -MIL -BDA -MAD -CRO -GDS -MIL -BDA -MAD -TEX -HSK -TEX -CYI -MAD -GDS HSK

IMD

SAL
- SOL: TV
- A-SOL: S183

UNATTENDED EXPERIMENTS

NOTES

H VENT
⊢⊣ VENT
H VENT
H VENT
H VENT
H VENT

▲ M151-4

T003 @ APPROX 1100, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE	MISSION	EDITION	PUBLICATION DATE
54 #6 #16/55 #6 #16	56/265	SAT. SEPTEMBER 22,1973	2.2		SL-3	REFERENCE	MAY 1,1972

REV: 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

↓B (at 13); 265 | 266 (at 24); 56 | 57 (at 5)

CMN

CDR: OPEN — S/ HK — PH — EAT — EXP DEACT — INVTRY — EAT — PLN — R+R — PH — MO71 — SLEEP — DP — PH/MO71 — EAT — PH

SPT: S/ HK — OPEN — S183 ST — S149-4 SU — OPEN — PH — EAT — MO71 — EXP DEACT — INVTRY — EAT — MO71 — PLN — R+R — PH — MO71 — SLEEP — DP — PH/MO71 — EAT — PH

PLT: S183-11 — S/ HK — S183-12 — S183 ST — S149-4 SU — OPEN — PH — EAT — EXP DEACT — INVTRY — EAT — PLN — R+R — PH — S/ HK — MO71 — SLEEP — DP — PH/MO71 — EAT — PH

DAY/NIGHT: 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE:
-HAW -GDS -BDA -CYI -ACN -CRO
-MSK -HAW -GDS -BDA -MIL -ACN
-CRO -GWM -GDS -TEX -MIL -BDA
-CRO -GWM -GDS -TEX -MIL -VAN
-GDS -VAN
-HAW -VAN
-HAW -VAN
-VAN -ACN
-GWM
-VAN -ACN -CYI
-MAD -GWM -MSK
-VAN -CYI -MAD
-MSK
-BDA -MAD
-CRO -MSK
-MIL -BDA -MAD
-TEX
-CRO
-BDA -MAD
-TEX -MIL
-MSK
-CYI
-GDS -TEX -MAD
-MSK -HAW -GDS

IMD

SAL: SOL; A-SOL: S183; S149-4

UNATTENDED EXPERIMENTS: S149-4

NOTES: H VENT (12); H VENT (15); H VENT (21.5); H VENT (1); H VENT (10); H VENT (11)

T003 @ APPROX 1100, 1800, 0300

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
55 ^{h}6 ^{m}16/56 ^{h}6 ^{m}16	57/266	SUN. SEPTEMBER 23,1973	6.5			SL-3	REFERENCE	MAY 1,1972

REV: 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119

GMT: 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

↓B (at 13); 266|267 (at 24); 57|58 (at 5)

CMN

- CDR: OA DEACT, EAT, PH/MO 71, DEACT, OA DEACT, DEACT, PH, EAT, PH/MO 71, DEACT, S/MK, SLEEP, PH/MO 71, EAT, OA DEACT, DON SUIT, DEACT
- SPT: MO71, OA DEACT, EAT, PH/MO 71, DEACT, OA DEACT, PS2, DEACT, PH, EAT, PH/MO 71, DEACT, S/MK, SLEEP, PH/MO 71, EAT, PS2, OA DEACT, DON SUIT, DEACT, UNDOCKING, SEPARATION SPS-1
- PLT: OA DEACT, EAT, PH/MO 71, DEACT, OA DEACT, DEACT, PH, EAT, PH/MO 71, DEACT, S/MK, SLEEP, PH/MO 71, EAT, OA DEACT, DON SUIT, DEACT

DAY/NIGHT: 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE

-BDA -CYI -ACN -HSK -HAW -GDS -BDA -MIL -ACN -CRO -GWM -GDS -TEX -MIL -BDA -CRO -GWM -GDS -TEX -MIL -VAN -GDS -TEX -VAN -HAW -VAN -HAW -VAN -VAN -ACN -GWM -VAN -ACN -CYI -MAD -GWM -VAN -CYI -MAD -HSK -MAD -BDA -CYI -CRO -HSK -MIL -BDA -MAD -CRO -TEX -MIL -BDA -MAD -TEX -MAD -CYI -GDS -HSK -HAW -GDS -BDA -CYI

IMD

SAL — SOL; A-SOL: S149-4

S149-4

UNATTENDED EXPERIMENTS

NOTES

H VENT H VENT H VENT H VENT

GET	MO/DOY	HOUSTON DATE	BETA ANGLE	MOON PHASE		MISSION	EDITION	PUBLICATION DATE
56:6 :16/57:6 :16	58/267	MON. SEPTEMBER 24,1973	10.8			SL-3	REFERENCE	MAY 1,1972

REV 2120

B

GMT 12 13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7 8 9 10 11

267 | 268

58 | 59

CMN: CDR, SPT, PLT

DEORBIT BURN

SPLASHDOWN

DAY/NIGHT

MOON UP/DN

EARTH TRACE W/SAA

NETWORK COVERAGE

IMD

SAL: SOL, A-SOL

S149

S149

UNATTENDED EXPERIMENTS

NOTES

SL-3 SPLASHDOWN-1336

SECTION 3

DETAILED TIMELINES

SECTION 3

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
SL-1 (0-1.30)		-1/120	APRIL 30, 1973				

SL-1 TIMELINE

MCC | GET (HR: MIN) | SAT ATN | SAV ATE | VENT | | RCDR: ATM 1 2 | AM 1 | EXPS 1 2 E | UN-ATT'D EXPS

00:00 — MIL, BDA, NFD, MAD

LIFTOFF 30 APRIL 1973 12:30 EST

:05

CLOSE MDA VENT VALVES (0:04:40)

:10

ACT AM DATA RCDRS (00:09:43)

GET FROM SL-1 LAUNCH

PAYLOAD SEP/TACS ACT (0:09:40)
ACT AM SEQ BUSES (0:09:43)
JETTISON RSS RADIATOR SHIELD (0:09:46)
ACT OWS RSS (0:09:58)
OPEN HABITATION AREA, WASTE TANK VENT VALVES (0:10:08)

INITIATE MANEUVER SI ATTITUDE (0:09:48)

:15

DEPLOY AM DISCONES (0:15:53)
DEACT. AM 2 WATT XMTR (0:16:35)
XFR TM TO DISCONES (0:16:36)
XFR TO AM 10-WATT XMTR (0:16:37)
ATM TM ON 10-WATT XMTR (0:16:38)

BEGIN JETTISON PAYLOAD SHROUD SEQUENCE (0:15:08)
ACT AM DEPLOY BUSES (0:15:23)
DEPLOY ATM (0:16:08)
AM COOLANT LOOPS TO NORMAL (0:16:53)

:20

ATM POWER SYS ON (0:20:03)
DEPLOY ATM SOLAR ARRAYS (0:24:38)

:25

CLOSE HABITATION AREA PNEUMATIC LATCHING VENT VALVES (0:24:38)

:30

:35

ACT ATM TM (0:36:38)

:40

CLOSE HABITATION AREA PNEUMATIC VENT VALVE (0:39:14)

DEPLOY OWS SOLAR ARRAYS (0:42:00) ΔT= 8 MIN

:45

:50

ATM
AM 1 (DATA REC)
AM 3 (EXP 2, SUBFRAME 4)
DUMP ONCE/REV

:55

ACT ATM TCS (0:53:18)
ACQUIRE SOLAR INERTIAL (0:54:38)

1:00

:05

ACT ATM APCS (1:01:38)

:10

:15

:20

:25

01:30

S A L	SOL	A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-1	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
01:30 - 19:00		-1/120	APRIL 30, 1973				

SL-1 TIMELINE

MCC | GET (HR:MIN) | SAV ATE ATN T | ATM 1 2 | AM 1 | RCDR EXP 1 2 | D S E | UN-ATT'D EXPS

01:30 — GDS TEX MIL BDA NFD MAD

ACT MDA WALL, TUNNEL HTRS (1:35:58)

ACT MDA PORT HTRS (1:35:59)

DEPLOY METEOROID SHIELD (1:35:48)

PRESSUIRZE OWS WITH O2 (1:36:38) ΔT= 9hr 22 min

DEACT. AM DEPLOY BUSES (1:39:38)

02:00

GET FROM SL-1 LAUNCH

DUMP OWS PNEUMATIC SYS BOTTLES (3:09:38) ΔT= 3hr 45 min

03:00

04:00

HAW

PARALLEL AM/ATM EPS (4:39:38)

TRANSFER TACS TO APCS (4:40:0)

05:00

OPEN OWS SOLENOID VENT VALVES (5:9:38) (SECOND VENT)

06:00

GDS

TERMINATE OWS PNEUMATIC SYS BOTTLES DUMP (6:54:38)

07:00 — ACN

(END OF GUARANTEED IU LIFE) (7:24:00)

08:00

ATM
AM 1 (DATA REC)
AM 3 (EXP 2, SUBFRAME 4)

09:00

CLOSE OWS SOLENOID VENT VALVES (9:49:38)

PRESS OWS WITH O2 (9:49:38)

DUMP ONCE/REV

10:00

11:00

GDS

12:00

XFER ATT CNTL TO CMG's (12:03:00)

PRESS OWS WITH O2 (9:49:38) ΔT=8HRS

13:00

14:00

15:00

16:00

17:00

MONITOR OWS PRESS (17:50:00)

PRESS MDA/AM WITH O2 (17:56:38) ΔT=1.3HRS

18:00

MONITOR MDA/AM PRESS (19:00:00)

19:00

S A L	SOL	A-SOL

MISSION	EDITION	PUBLICATION DATE
SL - 1	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA	MOON PHASE
00:00 - 03:00	17:00 - 20:00	1/121	MAY 1, 1973			

SL-2 LIFTOFF RENDEZVOUS

MCC	GET	STATIONS	SAV ATE ATN T	ACTIVITIES	SWS TRAJ
	00:00			LIFTOFF 16:59:34 GMT MAY 1, 1973	NFD
	:10	BDA / NFD		INSERTION (00:09:52) INSERTION CHECKS SEPARATION PREP	MAD
GO/NO GO PYRO ARM/ SEPARATION				P47-SEPARATION (TIG:00:16:00 BT: 7 SEC ΔV: 3FPS) DOFF HELMETS & GLOVES SYSTEM CKS	
T ALIGN PAD Z TORQUING ANGLE	:20	MAD		RECORD T ALIGN/Z TORQUING ANGLE P20-OPTION 5 (TRACK EARTH)	
	:30			P52 IMU REALIGN-OPTION 3 (PAD ORIENT)	
	:40				CRO
TIME SCALE IN GET					
	:50			P52 IMU REALIGN-OPTION 2 (RENDEZ ORIENT)	HSK
	01:00			P52-COAS ALIGN GDC ALIGN SCS DRIFT CHECK EMS ΔV TEST & NULL BIAS CHECK ORDEAL CHECK	
	:10				
	:20				GDS TEX MIL
NC1 PREL PAD	:30	TEX		REPORT:GYRO TORQUING ANGLES RECORD NC1 PRELIMINARY PAD	BDA NFD
	:40	NFD			MAD
P27-CSM/SWS S.V. PIPA BIAS CK NC1 FINAL PAD NPC ADVISORY	:50	MAD		RECORD FINAL NC1 PAD P31-NC1 TARGETING-FINAL COMP	
	02:00				
	:10			P40-SPS THRUST	
	:20			NC1 (TIG:02:20:21 BT: 9.7 SEC ΔV: 218.9 FPS)	
	:30			P52 IMU REALIGN-OPTION 3 (IF NPC REQ'D) (RENDEZ ORIENT)	HSK
	:40			GDC ALIGN H_2 PURGE LINE HTR ON DOFF PGA'S (AS TIME PERMITS)	
	:50			O_2 & H_2 FUEL CELL PURGE	
	03:00				GDS

RCDR: ATM 1 2 | A M 1 | EXP 1 2 | DSE | UN-ATT'D EXPS

DUMP ONCE/REV

SAL | SOL | A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA	MOON PHASE
03:00 - 06:00		1/121	MAY 1, 1973			

SL-2 RENDEZVOUS

MCC | GMT | SAV ATT / VENT | SWS TRAJ | ATM 1 2 | RCDR AM 1 | EXP 1 2 | DSE | UN-ATT'D EXPS

03:00

MCC:
- ATM DC UPLINK FOR ZLV
- DUMP ATM, AM 1 REC'D
- P27-CSM/SWS S.V., PIPA BIAS CK
- NPC PAD (IF REQ'D)
- NC2 PREL PAD
- OWS RADIANT HTRS AM WALL HTRS, MDA WALL, TUNNEL, PORT HTRS, OFF

Stations: GDS, TEX, NFD, CYI, MAD

SWS TRAJ: GDS, TEX, NFD, MAD, CYI

- NC1 BURN STATUS REPORT
- RECORD NPC BURN PAD, (IF REQ'D)
  NC2 PRELIMINARY PAD
- P38-NPC TARGETING (IF REQ'D)
- NOTE: NPC MANEUVER PERFORMED IF MGA >60° AT NCC OR NSR
- NPC (IF REQUIRED) — TIG: 03:28:00 BT: 0.0 SEC ΔV: 0.0 FPS
- P52-IMU REALIGN-OPTION 3 (RENDEZ ORIENT)
- GDC ALIGN
- VHF POWER UP
- SXT MARKS

04:00

MCC:
- SWS TRK LTS ON
- SWS VHF RNG ON
- NC2 FINAL PAD
- NCC PREL PAD
- NSR PREL PAD
- P27-GYRO COMP & PIPA BIAS UPDATE (IF REQ'D)

Stations: HSK, HAW, GDS, BDA, NFD

SWS TRAJ: HSK, HAW, GDS, BDA, NFD

- REPORT GYRO TORQUING ANGLES
- RECORD NC2 FINAL PAD,
  NCC PRELIMINARY PAD,
  NSR PRELIMINARY PAD
- P32-NC2 TARGETING - FINAL COMP
- P40-SPS THRUST
- NC2 — TIG: 04:36:14 BT: 7.0 SEC ΔV: 160.8 FPS
- NC2 BURN STATUS REPORT
- SXT MARKS: BACKUP CHART MEASUREMENTS ARE TAKEN AT NCC-36,-32,-28,-20,-16, AND -12 MIN USING EMS OR N77

ZLV

DUMP ONCE/REV

05:00

MCC:
- NCC FINAL PAD
- NSR FINAL PAD

Stations: CYI, ACN, CRO, HSK

SWS TRAJ: CYI, ACN, CRO, HSK

- RECORD NCC, NSR FINAL PAD
- P33-NCC TARGETING - FINAL COMP
- P40-SPS THRUST
- NCC — TIG: 05:22:21 BT: 1.2 SEC ΔV: 30.4 FPS
- SXT MARKS: BACKUP CHART MEASUREMENTS ARE TAKEN AT NSR-28,-24,-20, AND -12 MIN USING EMS OR N77
- NCC BURN STATUS REPORT
- P34-NSR TARGETING
- P40-SPS THRUST
- NSR — TIG: 05:59:21 BT: 0.7 SEC ΔV: 19.3 FPS

06:00

SAL | SOL | A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
06:00 - 09:00		1/121	MAY 1, 1973			

SL-2 RENDEZVOUS DOCKING

MCC | GET | SAV ATE ATN T | | SWS TRAJ | ATM 1 | ATM 2 | RCDR EXP 1 | EXP 1 | EXP 2 | DSE | UN-ATT'D EXPS

06:00
HAW — NSR BURN STATUS REPORT
:10
SXT MARKS
TPI PREL PAD — GDS — RECORD TPI PRELIMINARY PAD
:20
ZLV
BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI-32,-28,-24,-16, AND -12 MIN USING EMS OR N77
SWS DOCK LTS ON — BDA MIL NFD
:30
TPI FINAL PAD — RECORD TPI FINAL PAD
P35-TPI TARGETING - FINAL COMP
:40
P40-SPS THRUST
ACN
TPI — TIG: 06:49:10 BT: 0.7 SEC ΔV: 20.6 FPS
:50
SV XH TF — BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI +4:30, AND +8:30 MIN
TPM 1
07:00
SV XH TF — BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI +16:30 AND +20:30 MIN
:10
MDA WALL, TUNNEL HTRS-ON
SWS DOCK LTS ON
OWS RADIANT HTRS ON
MDA WALL HTRS TO 70° THERMO
TURN ON MDA PORT HTRS, AM WALL HTRS
UPLINK TIME OF SWS TRK LTS OFF
TPM 2
P48 - BRAKING
:20 — CRO — DUMP ONCE/REV
DEACTIVATE PRI & SEC EVAPORATORS
:30
VERIFY SWS LTS OFF — GWM — SWS TRACK - LTS OFF
SWS VHF XPNDR OFF — STATION KEEP
INHIBIT JETS A1,D2,A3,&C4
:40
TIME SCALE IN GET
:50
GO/NO GO FOR PYRO ARM — GDS — PREDOCK CHECKLIST — OWS PHOTOS
08:00 / 01:00
SWS DOCK LTS OFF — TEX — TV — DOCK - INHIBIT JETS B3,D4/SELECT DOCK DAP
CSM/TUNNEL PRESSURIZATION
UPDATE P50 START TIME — MIL BDA — HATCH REMOVAL, VERIFY 12 LATCHES SECURE
REMOVE PROBE, DROGUE
TIME SCALE IN GMT
:10
RECORD DOCKING ALIGNMENT
P52 IMU REALIGN - OPTION 3 (RENDEZ REFSMMAT)
:20
GDC ALIGN — DEACTIVATE RADIATOR NO. 2
BATTERY A CHARGE
:30
DINNER
:40
P50 ATM ORIENTATION DETERMINATION - OPTION 1
:50
CONSUMABLE PAD — CRO — REPORT: DOCKING ALIGNMENT, GYRO TORQUING ANGLES, P50 N23 DATA
BLOCK DATA PAD — RECORD CONSUMABLES, BLOCK DATA PADS
02:00

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

SAL	SOL	A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	02:00 - 08:00	1/122	MAY 1, 1973				

SL-2 DOCKED

SAV ATE ATN VENT

MCC | GMT | RCDR: ATM 1, 2; AM 1; EXP 1, 2; DSE; UN-ATT'D EXPS

SCALE CHANGE
6 HOURS THIS PAGE

02:00 — GWM
DINNER

REINSTALL TUNNEL HATCH

:20
HATCH CABIN LEAK CHECK
LIOH CANNISTER CHANGE

GDS— TEX MIL
M071

:40
REPORT: RADIATION ACCUMULATION
PERSONAL HYGIENE
CHLORINATE POTABLE WATER
PRESLEEP CHECKLIST

VAN

03:00

8 HOUR REST PERIOD

:20

:40

04:00

GDS
TEX

:20

VAN

:40

DUMP ONCE/REV

05:00

:20

:40

HAW

06:00

VAN

:20

:40

07:00

:20 HAW

:40

VAN

08:00

S A L	SOL	A-SOL

MISSION	EDITION	PUBLICATION DATE
SL2	REFERENCE	MAY 1,1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	08:00 - 13:00	2/122	MAY 2, 1973			

MCC | GMT | SAT ATT | VAN VENT | | ATM 1 | ATM 2 | RCDR EXP AM 1 | EXP 1 | DSE 2 | UN-ATT'D EXPS

08:00

8 HOUR SLEEP PERIOD

:20

:40

09:00

:20

VAN

:40

ACN

10:00

:20

GWM

:40

11:00

DUMP ONCE/REV

VAN

POST SLEEP CHECKLIST
PERSONAL HYGIENE

M071

:20

ACN

CYI

MAD

REPORT CREW STATUS

BREAKFAST

:40

SCALE CHANGE
5 HOURS THIS PAGE

12:00

GWM

:10

HSK

:20

S015-2
LAMP CHECK 40 X CAMERA

:30

M071-1 FOOD RESIDUE COLLECTION

:40

VAN

:50

PRESSURIZE TUNNEL

13:00

REMOVE TUNNEL HATCH

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

SAL	SOL	A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	13:00 - 16:00	2/122	MAY 2, 1973				

SL-2 ACTIVATION

MCC | GMT | SAVATE ATENT | CDR | SPT | PLT | RCDR: ATM 1 2, AMEX 1 1 2 DPS E, UN-ATT'D EXPS

CDT = 0800 — 13:00

SAV ATE: CYI, MAD, HSK, BDA, NFD, MAD, CRO, HSK

ORBITAL MIDNIGHT

CDR:
- MONITOR CSM
- DEACT SUIT CIRCUIT (CSM)
- SEC. GLY EVAP DRYOUT
- FLUSH WMS URA
- WASTE DUMP HTRS OFF
- CONFIG CABIN TEMP VLVS
- CONFIG H_2O SYS. (CSM)
- CM PREP FOR UMBILICAL CONNECTION
- CONFIGURE CSM COMM SYSTEM
- END SEC GLY EVAP
- START PRI GLY EVAP

SPT / PLT:
- MDA/CSM PRESSURE EQUALIZATION
- MDA HATCH - OPEN, SECURE
- MDA LIGHTS ON, VISUAL INSPECTION

SPT:
- INSTALL S-190 WINDOW PROTECTOR (M)
- CONFIGURE SOP, SOMA (M)
- CONNECT COMM, EPS UMBILICALS (M)
- CONFIGURE/VERIFY ATM C&D PANEL

PLT:
- SEAL MDA VENT
- REMOVE FIRE EXTING. RESTRAINTS (M)
- STS LIGHTS - ON
- VERIFY PPO_2
- MOL SV FANS - ON
- VERIFY EPS STATUS (A)
- CONFIGURE STS cb AND sw PANELS
- RELOCATE MDA ICOM BOX, ACTIVATE COMM SYSTEM (M,A)

14:00

CDR / SPT:
- RESTOW PROBE, DROUGE IN MDA
- INSTALL AIR INTERCHANGE DUCT (CSM, M)

PLT:
- ACTIVATE TELEPRINTER
- ACTIVATE AM DUCT FAN (A)
- ACTIVATE AM C/W RAPID ΔP AND FIRE TEST
- ACTIVATE CM CIRC FAN
- FIRE SENSOR TEST
- WARNING AND CAUTION SYSTEMS TEST

CDR:
- END PRI GLY EVAP D/O
- C/W CHECK (CSM)
- CONFIG. O2 SYS (CSM)
- P52 OPTION 3
- RCS TRIM BURN 1A

SPT:
- ACTIVATE AM C&D STAR TRACKER, ATM C&D COOLANT LOOP
- AM LOCK ENTRY AND CONFIGURATION
- AM AFT ENTRY AND CONFIGURATION
- MONITOR ATM C&D PANEL

CDT = 1000 — 15:00

PLT:
- O2/N2 SYSTEM ACTIVATION (A)
- OWS ENTRY
- SEAL VENT
- INSTALL GAS INTER-CHANGE DUCT (D)
- REMOVE FIRE EXTINGUISHER LAUNCH RESTRAINT
- OWS VISUAL INSPECTION
- ACTIVATE OWS CIRC FANS (RETURN TO AM) (E)
- CONFIGURE/VERIFY OWS SYSTEMS -

CDR / SPT:
- P50 OPTION 2 (SUN SENSOR & STAR TRACKER)
- P52 OPTION 3 (SUN SENSOR & STAR TRACKER)

RCDR: DUMP ONCE/REV

16:00

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	16:00 - 19:00	2/122	MAY 2, 1973				

SL-2 ACTIVATION

MCC	GMT	SAV ATE ATNT	CDR	SPT	PLT
GET = 2300	16:00 TEX MIL BDA NFD MAD	ORBITAL NOON	REPORT N23 AND GYRO TORQUING ANGLES	OBTAIN URINE SAMPLES STOWED IN CSM	(EPS, TCS, HSS) (E)
			RCS TRIM BURN 1B	MONITOR ATM C&D	
			POWER DOWN CM G&N	CONFIGURE URINE CHILLER PROCESS STOWED URINE SAMPLES	
			C&W MONITOR (A)	C&W MONITOR (F)	C&W CHECKOUT (E)
			OWS H2O VLV - OPEN (A)	DEPLOY CENTRAL HANDRAIL INSTALL SAL WINDOW COVERS (F)	
			CONFIGURE WARDROOM - H2O, FOOD TABLE	CONFIGURE WMC - H2O, PROCESSORS	ACTIVATE FWD COMPT - H2O
	CRO 17:00 HSK		LUNCH (CSM OR DRY FOOD)		COMPLETE H2O SYS ACT
	TEX MIL BDA NFD 18:00 MAD		M071-1 FOOD RESIDUE COLLECTION M071-1 FOOD SMMD PERFORMANCE		
			CONFIGURE SLEEP COMPARTMENT - LIGHT BAFFLES, EXIT COVER, SLEEP RESTRAINTS		
	HSK 19:00		CONFIGURE/ACTIVATE SUIT DRYING STATION, XFR SUITS, GEAR		H2O PURIFICATION EQUIP. READY SAMPLE WARDROOM H2O

ATM 1 2 | ATM 1 | RCDR EXP 1 2 | EXP S E | UN-ATT'D EXPS

SAL | SOL | A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	19:00 - 22:00	2/122	MAY 2, 1973				

SL-2 ACTIVATION

MCC | GMT | SAV ATE ATNT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

CDT = 1400

19:00

PLT: ACTIVATE TRASHLOCK

GDS, TEX

CDR: VERIFY SWS/CSM POWER TIE CAPABILITY (C)

SPT: TRANSFER SOP/SOMAS

PLT: VERIFY SWS/CSM POWER TIE CAPABILITY (A)

BDA

MAD, CYI

CDR: RELOCATE M168 STOWAGE CONTAINER (AID PLT)

SPT: REMOVE, STOW ITEMS FROM EXP. COMPT. FLOOR GRID.

PLT: RELOCATE M168 STOWAGE CONTAINER

SPT: REMOVE VCS DUCT LAUNCH RESTRAINT

20:00

CDR: TRANSFER, STOW SPARE CONDENSATE MODULE (A TO F)

SPT/PLT: RECONFIGURE FOOD STOWAGE CONTAINERS

HSK

DUMP ONCE/REV

CDR: INSTALL CONDENSATION BLANKET (CSM)

TRANSFER FOOD FROM CSM

SPT: CONFIGURE WARDROOM FOOD PREP AREA, WINDOW CONFIG.

FOOD PREP FOR DINNER

OWS LAUNCH RESTRAINT REMOVAL

CSM STOWAGE TRANSFERS

PLT: ACTIVATE S190 WINDOW HEATER

REPLACE SOLIDS TRAP ASS'Y

VENT STS WINDOWS

MDA/AM LAUNCH RESTRAINTS REMOVAL

HAW

GDS

21:00

PLT: FILM VAULT PREP.- COVER DESSICANT PADS

BDA

(COMPLETION OF OWS SYSTEMS ACTIVATION)

CYI

ACN

HSK

22:00

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	05:00 - 08:00	28/148	MAY 28, 1973				

SL-2 DEACTIVATION

MCC	GMT	SAT	AVAT	VENT	CDR	SPT	PLT	ATM 1	ATM 2	AM 1	RCDR EXP 1	RCDR EXP 2	DSE	UN-ATT'D EXPS
	5:00				8 HOUR SLEEP PERIOD									
MIL, BDA, NFD	:30													
MAD	:40–:50													
	6:00				POST SLEEP CHECKLIST									
	:10				M071									
CRO	:20													
HSK	:25							DUMP ONCE/REV						
	:30				BREAKFAST CS-W									
TEX, MIL, BDA	7:00–:10													
MAD	:20													
	:30				PERSONAL HYGIENE									
	8:00													

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	08:00 - 11:00	28/148	MAY 28, 1973				

SL-2 DEACTIVATION

MCC | GMT | SAV ATT ATN | CDR | SPT | PLT | ATM 1 2 | ATM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

GMT	MCC	CDR	SPT	PLT
8:00	HSK	CSM STORAGE XFER XFER A7 CONTAINER TO F517 UNLOAD FECAL BUNDLE RETURN BAGS FROM A7 FLIGHT DATA FILE TO R1,R2,R3	DEACTIVATE SHOWER	DISASSEMBLE FOOD FREEZER BUNDLES
:30	GDS, TEX, MIL, RDA		SECURE BMMD	DEACTIVATE URINE FLUSH WATER SYSTEM
:50			REPLACE COLLECTION MODULE ODOR CONTROL FILTER	
9:00	MAD, CYI	GENERAL HOUSEKEEPING TASKS CLEANING AND DISINFECTING		REPLACE WMC CHARCOAL FILTER
:40	HSK			
10:00		DUMP TRASH AIRLOCK		
10:00	HAW, GDS, BDA, MAD, CYI	REVIEW ENTRY PROCEDURES		

DUMP ONCE/REV

GMT scale: 8:00, :10, :20, :30, :40, :50, 9:00, :10, :20, :30, :40, :50, 10:00, :10, :20, :30, :40, :50, 11:00

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	11:00 - 14:00	28/148	MAY 28, 1973			

SL-2 DEACTIVATION

MCC | GMT | SAV ATE ATNT | CDR | SPT | PLT | ATM 1 2 | AM 1 1 | RCDR EXP 2 | DSE | UN-ATT'D EXPS

11:00 LUNCH

:20 HSK

:40 HAW

:50 GDS

12:00 M071-1 FOOD RESIDUE COLLECTION CS-W
M071-1 FOOD SMMD PERFORMANCE CS-W

BDA

:20 ACN

DUMP ONCE/REV

12:30 STOWAGE INVENTORY

:50 CRO

13:00 REPLACE MOLE SIEVES
A AND B SOLIDS TRAP

:10 GWM

13:20 TRANSFER RETURN ITEMS TO CM

DUMP CONDENSATE
SYSTEM

:30 GDS

TEX

MIL

BDA

CONFIGURE CONDENSATE
SYSTEM FOR STORAGE

START SWS OVERPRESS
(IF REQUIRED)

14:00

SAL | SOL | A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	14:00 - 17:00	28/148	MAY 28, 1973				

SL-2 DEACTIVATION

MCC	GMT	SAT ATT / VENT	CDR	SPT	PLT	ATM 1 2 / AM 1	RCDR EXP 1 2 / DSE	UN-ATT'D EXPS
	14:00	ACN	STOWAGE TRANSFER (CON'T)					
	:30	CRO	M071-1 FOOD RESIDUE COLLECTION SW-W M071-1 FOOD SMMD PERFORMANCE CS-W M071-4 SMMD PERFORMANCE CS-H SPECIMEN PROCESSING CS-H (INITIATE FINAL FECAL DRYING: REMAING FECES WILL BE RETURNED WET)					
	:40	GDS						
	15:00		G&N POWER UP	DEACTIVATE WMC SMMD	CONFIGURE RSS FOR STORAGE			
P-27 REFSMMAT, CLOCK SYC STATE VECTOR SPS 1 DEORBIT & ENTRY PADS	:10	GDS TEX MIL	E MEMORY DUMP SPS 1, DEORBIT, ENTRY, PADS	PLAN FINAL MEALS DISPOSE OF ALL UNUSED FOODS IN PANTRY DISPOSE OF ALL OVERCANS AND EMPTIED FOOD CANS	SELECT RSS PRIMARY LOOP PUMP 2 REPLACE MOLE SIEVES A AND B ODOR CONTROL FILTERS			
	:30				FND SWS OVERPRESS START MOLE SIEVE A BED 1 BAKEOUT	DUMP ONCE/REV		
	:35	VAN SA						
	:40		P51 IMU ORIENT (USE ATM SUN SENSOR AND STAR TRACKER DATA)		FILL H_2O RETURN CONTAINER FOR ANALYSIS			
	:55		P52 IMU REALIGN OPT. 1 GDC ALIGN					
	:30		P50 ATM ORIENT OPT 2 REPORT N23					
	:45	GDS TEX	INSTALL LIOH CANISTERS ACTIVATE CM SUIT CIRCUIT	TRANSFER FECAL BUNDLES TO CM INCLUDING ANY CONTINGNECY FECAL/VOMITUS BAGS				
	17:00							

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	17:00 - 20:00	28/148	MAY 28, 1973			

SL-2 DEACTIVATION

MCC | GMT | SAT ATT | SAV VENT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

- 17:00 — TRANSFER FECAL BUNDLES (CONT'D)
- :10 — VAN SA
- :13 — PERSONAL HYGIENE
- :28 — CDR: P52 IMU REALIGN OPTION 3 (ENTRY ORIENT)
- :40 — CDR: GDC ALIGN
- :43 — DINNER
- 18:20 — HAW
- CDR: REPORT: GYRO TORQUING ANGLES
- CDR: G&N POWER DOWN
- ATM/AM/RCDR: DUMP ONCE/REV
- :43 — M071 (LAST URINE COLLECTION TO BE FROZEN)
- :50 — VAN SA
- 19:29 — PLT: ALL WATER DUMP HEATERS - ON
- :30 — CDR: REMOVE URINE SEPARATORS
- SPT: DEACTIVATE WATER PRESSURE SYSTEM
- PLT: DEACTIVATE DEIONIZATION SYSTEM
- SPT/PLT: PREPARE WATER SYSTEM FOR DUMP
- SPT/PLT: INITIATE WATER SYSTEMS DUMP
- :45 — CDR: DISINFECT URINE DRAWERS, COLD PLATES AND STORAGE COMPARTMENT
- 20:00 — HAW

S A L	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	20:00 - 23:00	28/148	MAY 28, 1973				

SL-2 DEACTIVATION

MCC	GMT	SAV ATE ATNT	CDR	SPT	PLT	ATM 1 2	AM 1	RCDR EXP 1 2	DSE	UN-ATT'D EXPS
	20:00									
	:10									
	:13		DEACTIVATE FOOD COMPART-MENT SMMD							
	:20			TERMINATE WATER SYSTEMS DUMP CONFIGURE WATER SYSTEMS FOR VACUUM DRYING						
	:25–:33 VAN-SA									
	:30		PRESLEEP CHECKLIST		MOLE SIEVE A BED 1 HEATER - OFF					
	:50				TERMINATE BED 1 BAKEOUT START BED 2 BAKEOUT					
	21:00		6 HOUR SLEEP PERIOD							
	:30					DUMP ONCE/REV				
	:32–:39 HAW									
	22:03–:11 VAN SA									
	:19–:24 ACN									
	23:00									

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	23:00 - 02:00	28/148	MAY 28, 1973				

SL-2 DEACTIVATION

MCC | GMT | SAV ATE ATN (SAA, TAT, VENT) | CDR | SPT | PLT | RCDR: ATM 1, 2; AM 1; EXP 1, 2; DSE | UN-ATT'D EXPS

6 HOUR SLEEP PERIOD

GMT 23:00 to 2:00

- 23:00–:06 GWM
- :40–:50 VAN SA
- :54–24:03 ACN
- 24:03–:08 CYI
- :08–:12 MAD
- :40–:49 GWM
- 1:20–:28 VAN SA
- :40–:47 CYI
- :43–:52 MAD

DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	02:00 - 05:00	28/149	MAY 28, 1973				

SL-2 DEACTIVATION

MCC | GMT | SAV ATE ATN T | CDR | SPT | PLT | ATM 1 | 2 | RCDR AM 1 | EXP 1 | 2 | DSE | UN-ATT'D EXPS

2:00 — 6 HOUR SLEEP PERIOD

:10

:20

:30 HSK

:40

:50 — SPT: FINAL M071 (CONTINGENCY BAGS) — PLT: MOLE SIEVE A BED 2 HEATER - OFF

3:00 — PLT: TERMINATE BED 2 BAKE-OUT, CLOSE OUT MOLE SIEVE

:10 — PLT: TERMINATE WATER SYSTEMS VACUUM DRYING

CDR: G&N POWER UP
E MEMORY DUMP

MCC: P27 REFSMMAT, CLOCK SYNC, STATE VECTOR

:20 CYI — MAD — BREAKFAST

MCC: E MEMORY DUMP

:30 — DUMP ONCE/REV

:40

:50 — CDR: SPS 1 DEORBIT ENTRY PADS — SPT: DEACTIVATE SLEEP COMPARTMENT — PLT: TRANSFER URINE SAMPLES FROM F577 TO A7; TRANSFER FINAL FECAL BUNDLE; TRANSFER LWHS FROM U2 TO W720

MCC: SPS1, DEORBIT, ENTRY PADS

4:00 CRO

HSK — CDR: VHF CHECK — SPT: FINAL TRASH LOCK USE; CLOSE OUT TRASH LOCK — PLT: CLOSE OUT WASTE PROCESSOR

:10 — CDR/SPT: P51 IMU ORIENT (USE ATM SUN SENSOR AND STAR TRACKER DATA) — PLT: VERIFY EPS STATUS; CONFIGURE OWS PANELS

:20 — CDR: P52 IMU REALIGN OPT 1 PREF (ENTRY ORIENT) — SPT: TRANSFER IMSS CONTAINER

:30 — SPT: DEACTIVATE SIA'S; UNPLUG OWS SELENOID VENT — PLT: CONFIGURE OWS LIGHTING; DEACTIVATE AFT & LOCK COMPARTMENT

:40

MIL — BDA — CDR: TERMINATE AM/ATM - CSM POWER TRANSFER — PLT: TERMINATE AM/ATM - CSM POWER TRANSFER

:50 NFD

MAD

5:00

SAL | SOL | A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	05:00 - 08:00	29/149	MAY 29, 1973			

SL - 2 DEACTIVATION

GMT	MCC	SAV ATE ATN T	CDR	SPT	PLT
5:00		MAD	TERMINATE AM/ATM - CSM POWER TRANSFER (CONT'D)	CONFIGURE S190A	TERMINATE AM/ATM - CSM POWER TRANSFER (CONT'D)
:10			CHANGE LIOH CANISTERS		VERIFY LOAD SHARING AM/ATM BUSES
:20			AID IN REMOVAL OF AIR INTERCHANGE DUCT	DEACTIVATE CM CIRCULATION FAN REMOVE AIR INTERCHANGE DUCT	
:30		CRO	PREHEAT CM RCS (IF REQUIRED) EPS,ECS,SPS QUIESCENT MODE TERMINATION		INSTALL SOP DOCKING LOAD STRAPS
:40		HSK		TRANSFER AND STOW THERMAL BLANKET	DEACTIVATE COMM. SYS DEACTIVATE CLOCK
:50				REMOVE POWER AND COMM UMBILICAL, AND STOW	DEACTIVATE TELEPRINTER
6:00			TRANSFER PROBE FROM M107 TO CM DON SUIT		DEACTIVATE O_2/N_2 CONTROL SYSTEM
:10					DON SUIT
:20	P27 S.V., SPS 1 TARGET LOAD	TEX, MIL, BDA, NFD			
:30				DON SUIT	
:40		MAD			
:50			EMS DEORBIT ENTRY TEST		CONFIGURE STS CONTROL PANELS
7:00					
:10			EMS DEORBIT/ENTRY TEST		CONFIGURE STS CIRCUIT BREAKER PANELS
			TRANSFER DROGUE FROM M105 TO CM		
:20		HSK		CONFIGURE STS/MDA LIGHTING	CLOSE MDA HATCH AND VERIFY EQUILIZATION VALVE - CLOSED INSTALL PROBE AND DROGUE INSTALL CM HATCH
:30				DEPRESS TUNNEL VERIFY CM MDA HATCH INTEGRITY	
:40			IMU REALIGN OPT 3 (ENTRY ORIENT)		
:50		GDS, TEX			
8:00					

RCDR: ATM 1 2, AM 1 1, EXP 1 2, DSE — UN-ATT'D EXPS

DUMP ONCE/REV

SAL	SOL	A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	08:00 - 11:00	29/149	MAY 29, 1973				

SL-2 ENTRY

MCC | GMT | SAV ATE ATN T | | SWS TRAJ | RCDR: ATM 1 2, AM 1, EXP 1 2, DSE, UN-ATT'D EXPS

MCC	GMT	Stations	Activity		SWS TRAJ
	08:00	MIL	SELECT UNDOCK DAP UNDOCK ———— 08:01:06 GMT		
ATM GAIN CHANGE		BDA			BDA
	:10	NFD			
		MAD, CYI			CYI, MAD
	:20		FLY AROUND OWS PHOTOS		
	:30				
	:40				
			P41-RCS THRUST		
	:50				
ACTIVATE OWS RADIANT HTRS (AS REQ'D)	09:00	HSK	SEPARATION — TIG: 09:00:06 BT: 11.5 SEC ΔV: 5.0 FPS P30 - EXTERNAL ΔV V49 - MNVR TO PAD BURN ATT	OWS RADIANT HTRS (AS REQ'D)	HSK
	:10		P40 - SPS THRUST TVC CHECK & PREP HORIZON CHECK		
	:20	HAW	SHAPING — TIG: 09:19:02 BT: 10.7 SEC ΔV: 257.8 FPS		HAW
	:30	GDS			GDS
	:40				BDA
	:50	CYI	DOFF PGA'S, HELMET & GLOVES		CYI, MAD
	10:00				
	:10				
	:20				
	:30	HSK			
START SWS DEPRESS			P52 - IMU ORIENT - OPTION 3 (DEORBIT ORIENT)	SWS DEPRESS	HSK
	:40				
			GDC ALIGN		
	:50	HAW	LOGIC SEQUENCE CHECK PRIMARY WATER EVAP. ACT SECONDARY WATER EVAP. ACT		HAW
	11:00				

DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-2	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	11:00 - 16:00	29/149	MAY 29, 1972			

SL-2 ENTRY

MCC | GMT | SAT ATT | VAT EN T | | SWS TRAJ | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

GMT scale 11:00 – 14:00

Stations: GDS, BDA, AUX, CRD, HSK, GWM, HAW

11:00 CM RCS PREHEAT (IF REQ'D)

TERMINATE CM RCS PREHEAT

FINAL STOWAGE

P27 - DEORBIT TARGET LOAD DEORBIT AND ENTRY PADS

PYRO BATTERY CHECK
CM RCS PRESSURIZATION
RECORD DEORBIT & ENTRY PADS

ACTIVATE OWS RADIANT HTRS (AS REQ'D)

SWS DEPRESS

12:00

P30 - EXTERNAL ΔV
SEPARATION CKLT.
V49 - MNVR TO PAD BURN ATT

TVC CHECK & PREP

DEORBIT
CM RCS HOT FIRE

TIG: 12:20:40
BT: 7.8 SEC
ΔV: 194.1 SEC

CM/SM SEP/DOCKING RING JETT

MNVR TO ENTRY ATT.

EI - 12:45:56
.05G - P64 - 12:48:18
BEGIN BLACKOUT - 12:48:40
END BLACKOUT - 12:52:00
DROGUE DEPLOY - 12:56:14

MAIN CHUTE DEPLOY - 12:56:56
SPLASH - 13:01:43

SWS TRAJ stations: HAW, GDS, BDA, CYI, ACN, CRO, GWM, GDS, MIL, BDA, ACN, CRO

DUMP ONCE/REV

14:00

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	

SL-3 UNMANNED

SAV ATE ATNT | RCDR: ATM 1 2, AM 1, EXPS 1 2E, UN-ATT'D EXPS | SWS TRAJ

MCC	GMT	Activity	SWS TRAJ
SCALE CHANGE 6 HRS THIS PAGE	14:00	ACT. OWS RADIANT HTRS. (AS REQ'D)	GWM
	:20		GDS, TEX, BDA, MIL
	:40		
	15:00		
	:20		
	:40		
END SWS DEPRESS MDA PORT HTRS OFF AM & MDA WALL HTRS THERMOSTATS - FROM HI TO LO	16:00	END SWS DEPRESS	GDS, TEX
	:20		VAN
	:40		
	17:00		
	:20		
ADJUST SWS PRESS	:40	ADJUST SWS PRESS	GDS
END SWS PRESS ADJUST	18:00	END SWS PRESS ADJUST	VAN
	:20		
	:40		
	19:00		
	:20		
	:40		
	20:00	CONTINUED TO SL3 ACTIVATION	

SAL

SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
0:00 - 03:00		1/211	JULY 29, 1973				

SL-3 LIFTOFF RENDEZVOUS

MCC | GET | SAV ATE ATNT | | SWS TRAJ | ATM 1 2 | AM 1 1 | RCDR EXP 2 | DSE | UN-ATT'D EXPS

LIFTOFF 04:43:57.9 GMT JULY 30, 1973

MCC	GET	STATIONS	ACTIVITIES	SWS TRAJ
	00:00		LIFTOFF 04:43:57.9 GMT JULY 30, 1973	NFD
	:10	BDA, NFD	INSERTION (00:10:10) INSERTION CHECKS SEPARATION PREP P47-SEPARATION — TIG: 00:16:00 BT: 7.5 SEC ΔV: 3.0 FPS DOFF HELMET & GLOVES	MAD
T ALIGN PAD Z TORQUING ANGLE	:20	MAD	RECORD T ALIGN/Z TORQUING ANGLE P20-OPTION 5 (TRACK EARTH) SYSTEMS CKS	
	:30			
	:40		DOFF PGAS	CRO
TIME SCALE IN GET	:50			HSK
	01:00			
	:10		P52 IMU REALIGN-OPTION 3 (PAD ORIENT)	
	:20		P52 IMU REALIGN-OPTION 2 (RENDEZ ORIENT)	TEX, GDS, MIL
NC1 PREL PAD	:30	TEX	REPORT GYRO TORQUING ANGLES RECORD NC1 PRELIMINARY PAD	BDA, NFD
	:40	NFD	P52-COAS ALIGN GDC ALIGN	MAD
P27-CSM/SWS S.V. PIPA BIAS CK NC1 FINAL PAD NPC ADVISORY	:50	MAD	RECORD NC1 FINAL PAD	
	02:00		SCS DRIFT CHECK EMS ΔV TEST & NULL BIAS CHECK ORDEAL CHECK P31-NC1 TARGETING-FINAL COMP	
	:10		P40-SPS THRUST	
	:20		NC1 — TIG: 02:21:18 BT: 9.9 SEC ΔV: 219 FPS	
	:30			HSK
	:40		H_2 PURGE LINE HTR ON P52 IMU REALIGN-OPTION 3 (IF NPC REQ'D) (RENDEZVOUS ORIENT)	
	:50		GDC ALIGN O_2 & H_2 FUEL CELL PURGE	
	03:00			GDS

DUMP ONCE/REV

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
03:00 - 06:00		2/211	JULY 30, 1973				

SL-3 RENDEZVOUS

MCC | GET | SAV ATE ATN T | | SWS TRAJ | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

03:00
ATMDC UPLINK FOR ZLV
DUMP ATM, AM 1 REC'D
P27-CSM/SWS S.V. PIPA BIAS CK
NPC PAD (IF REQ'D)
NC2 PREL PAD

GDS, TEX

NC1 BURN STATUS REPORT
RECORD NPC BURN PAD, (IF REQUIRED), NC2 PRELIMINARY PAD

:10

P38-NPC TARGETING (IF REQ'D)

:20 NFD

NOTE: NPC MANEUVER PERFORMED IF MGA >60° AT NCC OR NSR

OWS RADIANT HTRS OFF

CYI, MAD

:30

NPC (IF REQUIRED) — TIG: 03:28:00 BT: 0.0 SEC ΔV: 0.0 FPS

:40

:50

SXT MARKS

04:00

VHF POWER UP

NC2 FINAL PAD
NCC PRELIM PAD
NSR PREL PAD
P27-GYRO COMP & PIPA BIAS UPDATE (IF REQ'D)

:10 HSK

P52-IMU REALIGN - OPTION 3 (RENDEZVOUS ORIENT)

RECORD NC2 FINAL PAD
NCC PRELIMINARY PAD
NSR PRELIMINARY PAD

:20

GDC ALIGN

P32-NC2 TARGETING - FINAL COMP

SWS TRK LTS - ON
SWS VHF RNG - ON

:30 HAW

P40-SPS THRUST

NC2 — TIG: 4:37:10 BT: 7.1 SEC ΔV: 161.0 FPS

:40 GDS

DUMP ONCE/REV

BACKUP CHART MEASUREMENTS ARE TAKEN AT NCC-36,-32,-28,-20,-16, AND -12 MIN USING EMS OR N77

:50 NFD, BDA

SXT MARKS

05:00 CYI

ZLV

NCC FINAL PAD
NSR FINAL PAD

:10 ACN

RECORD NCC, NSR FINAL PAD

P33-NCC TARGETING - FINAL COMP

:20

P40-SPS THRUST

NCC — TIG: 5:23:19 BT: 1.2 SEC ΔV: 30.0 FPS

:30

BACKUP CHART MEASUREMENTS ARE TAKEN AT NSR-28,-24,-20, AND -12 MIN USING EMS OR N77

SXT MARKS

:40 CRO

NCC BURN STATUS REPORT

HSK

:50

P34-NSR TARGETING - FINAL COMP

P40-SPS THRUST

06:00

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
06:00 - 09:00		2/211	JULY 30, 1973				

SL-3 RENDEZVOUS DOCKING

MCC | GET | SAV ATE ATN T | SWS TRAJ | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

06:00 NSR — TIG: G:00:19 BT: 0.7 SEC ΔV: 19.4 FPS

HAW

NSR BURN STATUS REPORT

:10

TPI PREL PAD — RECORD TPI PRELIMINARY PAD

ZLV

GDS

:20

BDA MIL NFD

:30

SXT MARKS

:40

ACN

TPI FINAL PAD — RECORD TPI FINAL PAD

:50

BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI-32,-28,-24,-16,AND -12 MIN USING EMS OR N77

07:00

TIME SCALE IN GET

:10

CRO

:20 P35-TPI TARGETING-FINAL COMP

MDA WALL, TUNNEL HTRS, ON

P40-SPS THRUST

SWS DOCK LTS - ON
OWS RADIANT HTRS-ON
MDA WALL HTRS TO 70° THERMOSTAT
MDA PORT HTRS
AM WALL HTRS-ON
UPLINK TIME OF
SWS TRK LTS - OFF

:30 TPI — TIG: 7:29:57 BT: 0.8 SEC ΔV: 21.4 FPS

GWM

DUMP ONCE/REV

SVXHTF — BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI +4:30, AND +8:30 MIN

:40

TPM1

SVXHTF — BACKUP CHART MEASUREMENTS ARE TAKEN AT TPI +16:30, AND +20:30 MIN

:50

GDS

TPM2

P48-BRAKING

08:00 Q

TEX MIL BDA

SWS TRACK LTS OFF

:10

STATION KEEP

13:00 GMT — SEE NEXT PAGE FOR DETAILS

:20

:30

:40 DOCK

:50

CRO

09:00

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA	MOON PHASE	
	13:00 - 16:00	2/211	JULY 30, 1973				

SL-3 ACTIVATION

MCC	GMT	SAV ATE ATNT	CDR	SPT	PLT	ATM 1 2	AM 1 1	RCDR EXP 1 2	DSE	UN-ATT'D EXPS
	13:00		DEACIVATE PRI & SEC EVAPORATORS							
			INHIBIT JETS A1,D2,A3, & C4							
	:10		STATION KEEP							
	:20		PREDOCK CHECKLIST	OWS PHOTOS						
			DOCK - INHIBIT JETS B3,D4/SELECT DOCK DAP CSM/TUNNEL PRESSURIZATION HATCH REMOVAL, VERIFY 12 LATCHES SECURE REMOVE PROBE, DROGUE RECORD DOCKING ALIGNMENT							
	:30		P52 IMU REALIGN - OPTION 3 (RENDEZ ORIENT)							
SWS DOCK LTS - OFF	:40	CRO	GDC ALIGN							
	:50	GWM	BATTERY A CHARGE	LUNCH						
	14:00									
	:10									
	:20	GDS, TEX, MIL								
	:30		M071			DUMP	ONCE/REV			
	:40	VAN								
	:50									
	15:00		DEACTIVATE CSM SUIT CIRCUIT (REMOVE BOTH LiOH CAN)	MDA/CSM PRESSURE EQUALIZATION MDA HATCH OPEN, SECURE						
	:10		SEC GLY EVAP DRYOUT	MDA VISUAL INSPECTION INSTALL S190 WINDOW COVER	AM VISUAL INSPECTION VERIFY PPO_2, REPLACE PPO_2 SENSORS MOLE SIEVE FANS - ON					
			FLUSH WMS URA WASTE DUMP HTRS OFF							
	:20		CONFIG CABIN TEMP VLVS	CONFIGURE, STOW SOP - SOMA	CONFIGURE STS CB, SWITCH PANELS					
			CONFIG CSM H_2O SYS		VERIFY EPS STATUS					
	:30		CM PREP FOR UMBILICAL CONNECTION	CONNECT COMM, EPS UMBILICALS	RELOCATE MDA ICOM ACTIVATE TELEPRINTER AM DUCT FAN ACTIVATE COMM SYSTEM					
	:40			CONFIGURE AND ACTIVATE ATM C&D PANEL, COOLANT LOOP						
	:50	GDS, TEX	STOW PROBE, DROGUE IN MDA		ACTIVATE O_2/N_2 CONTROL SYSTEM					
	16:00									

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	16:00 - 19:00	2/211	JULY 30, 1973				

SL-3 ACTIVATION

MCC	GMT	SAV ATE ATN T	CDR	SPT	PLT	ATM 1 2	AM 1 1	RCDR EXP 2	D S E	UN-ATT'D EXPS
	16:00 TEX		INSTALL AIR INTERCHANGE DUCT (M-CSM)	INSTALL AIR INTERCHANGE DUCT (M-CSM)						
	:10		END SEC GLY EVAP DRYOUT INITIATE PRI GLY EVAP DRYOUT		OWS ENTRY SEAL VENT ACT. C&D (E)					
RCS TRIM BURN UPDATE PAD			C&W CHECK	C&W (MONITOR) SAMPLE H2O TANK	C&W ACT					
	:20 VAN SA									
	:30		CONFIG. CSM O2 SYS	ACT WMC H2O SYS	ACT URINE DRAWER					
			P50 OPTION 1							
	:40			INITIATE SUIT DRYING						
			P52 OPTION 3							
	:50			CSM FOOD, FILM TRANSFER	CSM FOOD, FILM TRANSFER					
			RCS TRIM BURN 1A	MONITOR ATM C&D						
	17:00			ACT SLEEP COMPT	ACT SLEEP COMPT					
	:10									
	:20		P50 OPTION 2 (SUN SENSOR & STAR TRACKER) END PRI GLY EVAP DRYOUT P52 OPTION 3 (SUN SENSOR & STAR TRACKER) REPORT N23, GYRO TORQUING ANGLES		PRE-SLEEP CHECKLIST					
CONSUMABLE PAD AND BLOCK DATA UPDATE	:30 HAW					DUMP	ONCE/REV			
	:40		RCS TRIM BURN 1B	MONITOR ATM C&D						
			PWR DOWN CSM G&N							
	:50 VAN SA									
	18:00			7 HOUR SLEEP PERIOD						
	:10									
	:20									
	:30									
	:40									
	:50									
	19:00									

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	19:00 - 22:00	2/211	JULY 30, 1973				

SL-3 ACTIVATION

MCC | GMT | SAV ATE ATNT | CDR | SPT | PLT | RCDR ATM 1 2 | AM 1 | EXP 1 2 | DSE | UN-ATT'D EXPS

19:00 HAW :10 :20 :30 VAN SA :40 :50 20:00 :10 :20 :30 :40 :50 21:00 :10 VAN SA :20 ACN :30 :40 :50 22:00

7 HOUR SLEEP PERIOD

DUMP ONCE/REV

SAL | SOL | A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	22:00 - 01:00	2/211	JULY 30, 1973				

SL-3 ACTIVATION

MCC | GMT | SAT ATT | VAN ATT | VENT | CDR | SPT | PLT | ATM 1 | ATM 2 | AM 1 | RCDR EXP 1 | RCDR EXP 2 | DSE | UN-ATT'D EXPS

22:00
:10 GWM
:20
:30
:40
:50 VAN SA
23:00
ACN
:10 CYI
MAD
:20

7 HOUR SLEEP PERIOD

:30

DUMP ONCE/REV

:40
:50 GWM
24:00 HSK
:10
:20
:30 VAN SA
:40
:50 CYI
01:00 MAD

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

SAL | SOL | A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	01:00 - 04:00	2/212	JULY 30, 1973				

SL-3 ACTIVATION

MCC | GMT | SAV ATE ATN T | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

GMT	MCC	CDR	SPT	PLT
01:00 – :30		BATTERY B CHARGE POST SLEEP CHECKLIST M071		
:30 – 02:20	HSK (:34–:41)	BREAKFAST		
02:20 – 03:00	BDA, NFD, CY, MAD	PH		
03:00	CRO	TCS, RSS CHECKS (E)	WARDROOM ACT	INITIATE WARDROOM H2O SYS ACT.
03:10	HSK	FINAL SUIT DRYING INITIATION	URINE SAMPLING, BAG REPLACEMENT	
03:30			TRASHLOCK ACT	INITIATE CNDST SYS ACT
03:40				REPLACE EVA/IVA CLNT GAS SEP
03:50	TEX, MIL, BDA, NFD			COMPLETE CNDST SYS ACT ACT MOL SV A

GMT :10 :20 :30 :40 :50 02:00 :10 :20 :30 :40 :50 03:00 :10 :20 :30 :40 :50 04:00

ATM / AM: DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	04:00 - 07:00	2/212	JULY 30, 1973				

SL-3 ACTIVATION

MCC | GMT | SAV ATT | VENT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXPS 1 2 | E D S E | UN-ATT'D EXPS

GMT: 04:00, :10, :20, :30, :40, :50, 05:00, :10, :20, :30, :40, :50, 06:00, :10, :20, :30, :40, :50, 07:00

Stations: BDA, NFD, MAD, CRO, HSK, TEX, MIL, BDA, NFD, MAD, HSK, GDS

PLT:

- ACT MOL SV A (CONT'D)
- ACT S190 HTR
  INSTALL CSM CONDENSATION BLANKET
- CONTINUE WARDROOM H2O SYS ACT
- COMPLETE WARDROOM H2O SYS ACT
- H2O CHILLER SAMPLE

  FILL DEORBIT H2O BAGS

DUMP ONCE/REV

SAL

SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	05:00 - 08:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC	GMT	SAA ATT V ENT	CDR	SPT	PLT	ATM 1	ATM 2	EXP 1	EXP 2	RCDR	UN-ATT'D EXPS

5:00

:10 CRO

:20 HSK

:30

:40

:50

6:00 TEX MIL BDA

:10 NFD

:20 MAD

:30

:40

:50 CRO

7:00 HSK

:10

:20

:30

:40 TEX MIL BDA

:50 NFB

8:00 MAD

HOUR SLEEP PERIOD CS-S

POST SLEEP CHECKLIST

BREAKFAST CS-W

PERSONAL HYGIENE

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	08:00 - 11:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC | GMT | SAV ATE ATNT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXPS 1 2 E | UN-ATT'D EXPS

GMT: 8:00, :10, :20, :30, :40, :50, 9:00, :10, :20, :30, :40, :50, 10:00, :10, :20, :30, :40, :50, 11:00

MCC: MAD, HSK, GDS, TEX, NFD, CYI, MAD, HSK, HAW, GDS

CDR (8:00–9:00):
CSM STORAGE XFER
XFER A7 CONTAINER TO F517
UNLOAD FECAL BUNDLE RETURN BAGS FROM A7
XFER FLIGHT DATA FILE TO R1, R2, R3

SPT (8:00–8:30): DEACTIVATE SHOWER

SPT (8:30–8:50): SECURE BMMD

SPT (8:50–9:00): REPLACE COLLECTION MODULE ODOR CONTROL FILTER

PLT (8:00–8:30): DISASSEMBLE FOOD FREEZER BUNDLES

PLT (8:30–9:00): DEACTIVATE URINE FLUSH WATER SYSTEM

CDR/SPT (9:00–10:00): GENERAL HOUSEKEEPING TASKS CLEANING AND DISINFECTING

PLT (9:00–9:14): REPLACE WMC CHARCOAL FILTER

DUMP TRASH AIRLOCK

REVIEW ENTRY PROCEDURES

DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
	11:00 - 14:00	56/266	SEPT. 23, 1973			

SL-3 DEACTIVATION

MCC | GMT | SAV ATE ATNT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

11:00 BDA
NFD
:10
CYI
:20 ACN
:30
:40
:50 HSK
12:00 HSK
:10
:20 HAW
:30 GDS
:40 NFD MIL BDA
:50
13:00 ACN
:10
:20
:30 CRO
:40 GWM
:50
14:00

LUNCH CS-W

M071-1 FOOD RESIDUE COLLECTION CS-W
M071-1 FOOD SMMD PERFORMANCE CS-W

AM/MDA HOUSEKEEPING

REPLACE MOLE SIEVES A AND B SOLIDS TRAP

DUMP CONDENSATE SYSTEM

CONFIGURE CONDENSATE SYSTEM FOR STOWAGE

START SWS OVERPRESS (IF REQUIRED)

DUMP ONCE/REV

DUMP ONCE/REV

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	14:00 - 17:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC	GMT	SAV ATE ATN T	CDR	SPT	PLT	ATM 1 2	AMP 1 1	RCDR EXP 2	DSE	UN-ATT'D EXPS
	14:00		G&N POWER UP	TRANSFER FECAL BUNDLES TO CM INCLUDING ANY CONTINGENCY FECAL/VOMITUS BAGS						
P-27 REFSMMAT, CLOCK SYNC STATE VECTOR	:10	GDS, TEX, MIL				DUMP	ONCE/REV			
SPS 1 DEORBIT & ENTRY PADS			SPS 1, DEORBIT, ENTRY PADS							
E MEMORY DUMP	:20	BDA								
	:30									
	:40		P51 IMU ORIENT (USE ATM SUN SENSOR AND STAR TRACKER DATA)		FILL WATER RETURN CONTAINER (FOR ANALYSIS)					
	:50									
	15:00		P52 IMU REALIGN OPT. 1		CONFIGURE RSS FOR STORAGE					
	:10	CRO	GDC ALIGN		REPLACE MOLE SIEVES A AND B ODOR CONTROL FILTERS					
	:20	GWM								
	:30				END SWS OVERPRESS START MOLE SIEVE A BED 1 BAKEOUT					
	:40	GDS	M071-4 FECAL COLLECTION CS-H M071-4 SMMD PERFORMANCE CS-H (INITIATE FINAL FECAL DRYING: REMAINING FECES WILL BE RETURNED WET							
	:50	TEX, MIL				DUMP	ONCE/REV			
	16:00									
	:10	VAN SA	P50 ATM ORIENT OPT 2							
	:20		REPORT N23							
	:30		INSTALL LIOH CANISTERS ACTIVATE CM SUIT CIRCUIT	DEACTIVATE WMC SMMD PLAN FINAL MEALS DISPOSE OF ALL UNUSED FOODS IN PANTRY DISPOSE OF ALL OVERCANS AND EMPTIED FOOD CANS						
	:40		P52 IMU REALIGN OPTION 3 (ENTRY ORIENT)							
	:50		GDC ALIGN							
	17:00									

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	17:00 - 20:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC | GMT | SAT ATT | AV ATN | VENT | CDR | SPT | PLT | ATM 1 2 | RCDR AM 1 | EXP 1 2 | DSE | UN-ATT'D EXPS

GMT	MCC	CDR	SPT	PLT
17:00		PERSONAL HYGIENE		
:20	GDS	REPORT:GYRO TORQUING ANGLES G & N POWERDOWN		
:25	TEX			
:30		DINNER CS-W		
:45	VAN SA			
18:30		M071-2 URINE COLLECTION CS-H M071-3 URINE COLLECTION CS-H (LAST URINE COLLECTION TO BE FROZEN)		
:55	HAW			
19:00		REMOVE URINE SEPARATORS	DEACTIVATE WATER PRESSURE SYSTEM	DEACTIVATE DEIONIZATION SYSTEM
:10			PREPARE WATER SYSTEM FOR DUMP	
:20	VAN SA	DISINFECT URINE DRAWERS, COLD PLATES AND STORAGE COMPARTMENT	INITIATE WATER SYSTEMS DUMP	
20:00				

RCDR: DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	20:00 - 23:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC	GMT	SAV ATE ATN T	CDR	SPT	PLT	ATM 1 2	AM 1	RCDR EXPS 1 2 E	UN-ATT'D EXPS
	20:00								
	:10								
	:20		DEACTIVATE FOOD COMPARTMENT SMMD	TERMINATE WATER SYSTEMS DUMP CONFIGURE WATER SYSTEMS FOR VACUUM DRYING					
HAW	:30		PRESLEEP CHECKLIST						
	:40								
	:50								
VAN SA	21:00		6 HOUR SLEEP PERIOD CS-S						
	:10								
	:20								
	:30					DUMP	ONCE/REV		
	:40								
	:50								
	22:00								
	:10								
	:20								
	:30								
VAN SA	:40								
	:50								
ACN	23:00								

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
	23:00 - 02:00	56/266	SEPT. 23, 1973				

SL-3 DEACTIVATION

MCC	GMT	SAT ATT	VAN	VENT	CDR	SPT	PLT	ATM 1	ATM 2	AM 1	RCDR EXP 1	RCDR EXP 2	DSE	UN-ATT'D EXPS
	23:00					6 HOUR SLEEP PERIOD CS-S								
	:10													
	:20													
	:30													
	:40	GWM												
	:50													
	24:00													
	:10													
	:20	VAN SA												
	:30	ACN						DUMP ONCE/REV						
	:40	CYI, MAD												
	:50													
	1:00													
	:10													
	:20													
	:30													
	:40													
	:50													
	2:00	VAN SA												

SAL	SOL	A-SOL

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
02:00 - 05:00		56/266	SEPT. 23, 1973			

SL-3 DEACTIVATION

Columns: MCC | GMT | SAT ATT / VENT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

GMT 2:00 – HSK (2:00–2:10)

6 HOUR SLEEP PERIOD CS-S

GMT 2:45 – BDA; 2:50 – NFD; 2:55 – CYI; 3:00 – MAD

PLT (2:50): MOLE SIEVE A BED 2 HEATER - OFF

CDR/SPT (3:00): FINAL M071 (CONTINGENCY BAGS)

PLT (3:05): TERMINATE BED 2 BAKEOUT, CLOSE OUT MOLE SIEVE

TERMINATE WATER SYSTEM VACUUM DRYING

GMT 3:30 – CRO; 3:40 – HSK

MCC (3:30): P27 REFSMMAT, CLOCK SYNC, STATE VECTOR E MEMORY DUMP

CDR (3:30): G&N POWER UP

BREAKFAST CS-W

CDR: VHF CHECK

DSE: DUMP ONCE/REV

GMT 4:30 – CRO; 4:40 – HSK

MCC (4:30): SPS1, DEORBIT, & ENTRY PADS

CDR (4:30): SPS1, DEORBIT, ENTRY PADS

SPT (4:30): DEACTIVATE SLEEP COMPARTMENT

PLT (4:30): TRANSFER URINE SAMPLES FROM F518 to A7
TRANSFER FINAL FECAL BUNDLES
TRANSFER LWHS FROM U2 TO W720
CLOSE OUT WASTE PROCESSOR

CDR/SPT (4:50): P51 IMU ORIENT (USE ATM SUN SENSOR OPT 1 AND STAR TRACKER DATA)

PLT (4:50): VERIFY EPS STATUS
CONFIGURE OWS PANELS

GMT 5:00

SAL	SOL	A-SOL

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
05:00 - 08:00		57/266	SEPT. 24, 1973				

SL-3 DEACTIVATION

MCC | GMT | SAV ATT | VENT | CDR | SPT | PLT | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

GMT 5:00 :10 :20 :30 :40 :50 6:00 :10 :20 :30 :40 :50 7:00 :10 :20 :30 :40 :50 8:00

MIL BDA NFD MAD CRO HSK TEX MIL BDA NFD MAD HSK

GMT	CDR	SPT	PLT
5:00	P52 IMU REALIGN OPT 1 REF (ENTRY ORIENT)	TRANSFER IMSS CONTAINER	VERIFY EPS STATUS CONFIGURE OWS LIGHTING (CONT'D)
5:10		DEACTIVATE SIA's UNPLUG OWS SOLENOID VENT	CONFIGURE OWS LIGHTING
5:20	TERMINATE AM/ATM-CSM POWER TRANSFER	CONFIGURE S190A	TERMINATE AM ATM-CSM POWER TRANSFER
5:50	CHANGE LIOH CANISTERS		INSTALL SOP DOCKING LOAD STRAPS
6:00	PREHEAT CM RCS (IF REQUIRED) EPS, ECS, SPS QUIESCENT MODE TERMINATION	DEACTIVATE CM CIRCULATION FAN REMOVE AIR INTERCHANGE DUCT	VERIFY LOAD SHARING AM/ATM BUSES
6:20		TRANSFER AND STOW THERMAL BLANKET	DEACTIVATE COMM. SYS.
6:30		REMOVE POWER AND COMM UMBILICAL AND STOW	DEACTIVATE CLOCK AND TELEPRINTER
6:40	TRANSFER PROBE FROM M107 TO CM	TRANSFER PROBE FROM M107 TO CM	DEACTIVATE O2/N2 CONTROL SYSTEM
6:45	DON SUITS		
6:50			DON SUITS
7:10		DON SUITS	
7:30	EMS DEORBIT ENTRY TEST		
7:35			CONFIGURE STS CONTROL PANELS
7:55	TRANSFER DROGUE FROM M105 TO CM CONFIGURE STS/MDA LIGHTING	TRANSFER DROGUE FROM M105 TO CM CONFIGURE STS/MDA LIGHTING	

DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

SAL	SOL	A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE
08:00 - 11:00		57/266	SEPT. 24, 1973			

SL-3 ENTRY

MCC | GMT | SAV ATE ATNT | | SWS TRAJ | ATM 1 | ATM 2 | RCDR: AM 1 | RCDR: EXP 1 | RCDR: EXP 2 | RCDR: DSE | UN-ATT'D EXPS

GMT	Station passes (GMT column)	Activity	SWS TRAJ passes
08:00		CLOSE MDA HATCH AND VERIFY EQUAL VLV CLOSED INSTALL PROBE & DROGUE INSTALL CM HATCH	
:10		DEPRESS TUNNEL VERIFY CM TUNNEL HATCH INTEGRITY	
:20	GDS		GDS
:30	TEX, MIL	P52 - IMU REALIGN OPTION 3 ENTRY ORIENT	TEX, MIL
:40	BDA	SELECT UNDOCK DAP UNDOCK 08:39:00 GMT	BDA
:50	CYI, MAD		CYI, MAD
09:00		FLY AROUND OWS PHOTOS	
:10			
:20			
:30		P41 - RCS THRUST	
:40		SEPARATION (TIG: 09:39:00, BT: 11.5 SEC, ΔV: 5.0 FPS) P30 - EXTERNAL ΔV V49 - MNVR TO PAD BURN ATT	
:50	HAW	P40 - JPJ THRUST TVC CHECK AND PREP HORIZON CHECK	HAW
10:00	GDS	SHAPING (TIG: 09:58:00, BT: 10.7 SEC, ΔV: 257.8 FPS) OWS RADIANT HTRS (AS REQ'D)	GDS
:10		DOFF PGA'S, HELMET, GLOVES	
:20	CYI		BDA, NFD
:30	ACN		CYI
:40			
:50			
11:00			

MCC: OWS RADIANT HTRS (AS REQ'D)

DUMP ONCE/REV

MISSION	EDITION	PUBLICATION DATE
SL3	REFERENCE	MAY 1, 1972

SAL | SOL | A-SOL

FLIGHT PLANNING BRANCH

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
11:00 - 14:00		57/266	SEPT. 24, 1973				

SL-3 ENTRY

MCC | GMT | SAV ATE ATN T | SWS TRAJ | ATM 1 2 | AM 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

MCC:

START SWS DEPRESS (11:12)

P27 - DEORBIT TGT. LOAD DEORBIT & ENTRY PADS (11:38)

GMT: 11:00, :10, :20, :30, :40, :50, 12:00, :10, :20, :30, :40, :50, 13:00, :10, :20, :30, :40, :50, 14:00

SAV/ATE/ATN: HSK, HAW, GDS, BDA, CRO, HSK, GWM

Activities:

- P52 - IMU ORIENT - OPTION 3 (DEORBIT ORIENT)
- GDC ALIGN
- REPORT GYRO TORQUING ANGLES
- LOGIC SEQUENCE CHECK
- PRIMARY WATER EVAP. ACTIVATION
- SECONDARY WATER EVAP. ACTIVATION
- CM RCS PREHEAT (IF REQ'D)
- RECORD DEORBIT AND ENTRY PADS
- TERM RCS PREHEAT
- FINAL STOWAGE
- DEORBIT
- CM RCS HOT FIRE
- CM/SM SEP/DOCKING RING JETT
- MNVR TO ENTRY ATTITUDE
- SPLASHDOWN - 13:35:57

TIG:	12:54:13
BT:	
ΔV:	

OWS RADIANT HTRS (AS REQ'D)

SWS DEPRESS

SWS TRAJ: HSK, HAW, GDS, NFD, BDA, ACN, CRO, GWM, GDS, TEX, MIL, BDA

DUMP ONCE/REV

FLIGHT PLAN

GET	GMT	MD/DOY	HOUSTON DATE	REV	BETA ∢	MOON PHASE	
14:00 - 20:00		57/266	SEPT. 24, 1973				

SL-4 UNMANNED

MCC | GMT | SAV ATE ATNT | SWS TRAJ | ATM 1 2 | AMP 1 | RCDR EXP 1 2 | DSE | UN-ATT'D EXPS

SCALE CHANGE
6 HOURS THIS PAGE

14:00 — OWS RADIANT HTRS (AS REQ'D)

:20 — CRO

:40 — GWM

15:00 — GDS, TRX, MIL

:20 — VAN

:40

16:00

:20

:40 — MCC: END SWS DEPRESS
MDA PORT HTRS OFF
AM & MDA WALL
HTR'S THERMOSTATS
FROM HI TO LO

END SWS DEPRESS — GDS, TEX

17:00 — VAN

:20

:40

18:00

:20

:40 — MCC: ADJUST SWS PRESS

ADJUST SWS PRESS — VAN

19:00

:20

:40 — MCC: END SWS PRESS ADJUST

END SWS PRESS ADJUST — HAW

20:00 — CONTINUE UNTIL SL3 ACTIVATION

MISSION	EDITION	PUBLICATION DATE
SL-3	REFERENCE	MAY 1, 1972

S A L | SOL | A-SOL

FLIGHT PLANNING BRANCH

SECTION 4

EXPERIMENT AND TEST OBJECTIVES

4 EXPERIMENTS

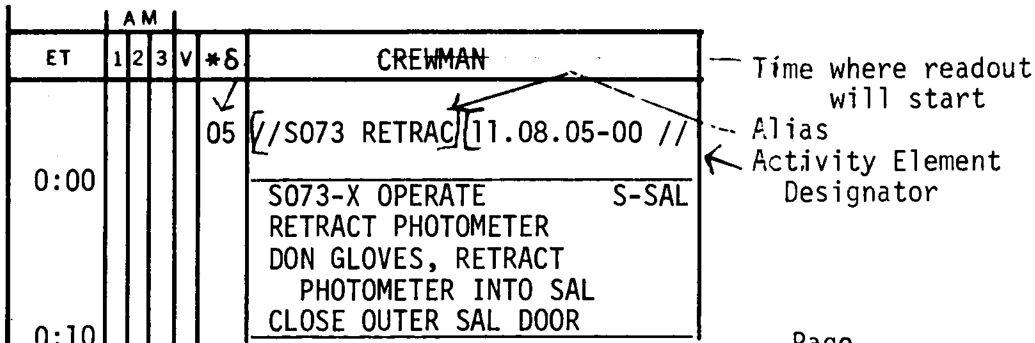
A. Foreword

The experiment planning sheets shown on the following pages summarize the experiment constraints and scheduling criteria extracted from the Mission Requirements document and information concerning changes to the Mission Requirements document which was available as of April 17, 1972. In addition, highlights of the required crew activity, as will be presented in the detailed timelines, are shown in a timeline fashion for each planned experiment.

The purpose of these sheets is to provide premission information for flight plan timelines and for real-time rescheduling of activities during the mission.

In general, the columns on the left present the timeline of crew activities and the notes on the right present information and constraints on how the experiment is to be scheduled. Experiments which require no crew activity are not listed.

Additional information has also been added to these sheets for the Skylab Flight Planning Data Base as shown in the sample below



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M071 MINERAL BALANCE

FO-1 MEASURE AND RECORD THE TOTAL DIET RESIDUE, MENU DEVIATIONS, AND FLUID INTAKE FOR EACH CREWMAN THROUGHOUT THE MISSION

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	2/1/71
ODB	10/2/70
AE	7/3/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					5	// M071 CALIB //		
0:00 – 0:10						M071-1 CALIBRATION CS-W RECORD DATA		
					4	// M071-1 OPER //		
0:00 – 0:08						M071-1 CS-W LOG FOOD RESIDUE AND WATER DISP READING		

SCHEDULE CRITERIA

- No SMMD operations will take place during momentum dumps.
- The experiment will be performed by each crewman throughout the mission. Logs of solid/liquid intake will include the ascent and recovery phase of the mission.
- The logging of each crewman's water dispenser counter will be accomplished once each day.
- The measurement of any food residue and logging of menu deviations will be accomplished where applicable.

CONSTRAINTS

- The SMMD will not be operated during spacecraft linear or angular maneuvers.
- The SMMD must be calibrated prior to use and calibration data recorded.

RETURN WEIGHT

- Astronauts log book TBD lbs.

NOTES

- For all M071 FO's a record of general crew activity, temp. relative humidity profile throughout the OA, crew radiation exposure data, and OA partial pressure will be logged.

M071 MINERAL BALANCE
FO-2 COLLECT, IDENTIFY, MEASURE, AND PROCESS ALL URINE ELIMINATIONS OF EACH CREWMAN

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	1/71
ODB	10/2/70
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					2	//M071-2 OP //		
0:00						M071-2 CS-H VOL MEAS URINE SAMPLE		
0:04								

SCHEDULE CRITERIA
- The experiment will be performed by each crewman throughout the mission. Logs of solid/liquid intake will include the ascent and recovery phase of the mission.
- Urine voids for each crewman are to be accumulated in 24 hour cycles with the closeout time period to be within ± 30 minutes of the same hour each day.

CONSTRAINTS
- The cross-mixing of crewman voids shall not exceed 0.1 percent maximum.
- Collected urine must be maintained 10° ± 5°C.
- $1\overline{20}$ + 10-0 ml homogeneous urine sample must be withdrawn and preserved.
- Samples must be properly identified.

RETURN WEIGHT
- See FO-3.

NOTES
- See FO-1.
- All urine passed in flight must be collected and sampled.

M071 MINERAL BALANCE
FO-3 COLLECT, IDENTIFY, MEASURE, PROCESS, STORE FOR RETURN A HOMOGENEOUS URINE SAMPLE OF AT LEAST 45 ML EVERY 24 HOURS FOR EACH CREWMAN, THROUGHOUT THE MISSION.

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	1/71
ODB	10/2/70
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					2	//M071-3 OP //			
0:00						M071-3/M073-1 CS-H TAG AND STORE 120 ML SAMPLE			
0:04									

SCHEDULE CRITERIA
- The experiment will be performed by each crewman throughout the mission. Logs of solid/liquid intake will include the ascent and recovery phase of the mission.
- The 120 ml. urine samples taken per crewman must be frozen within 3 hours of the last void collection in the 24 hour cycle.
- FO-2 must be completed prior to FO-3 performance.

CONSTRAINTS
- Volume measurements of the 24-hour urine pool shall be within 2% accuracy.

RETURN WEIGHT
- TBD lbs.

NOTES
- The 120 ml. homogeneous urine sample taken daily (per crewman) satisfies both the M071-3 requirement (for a 45 ml. sample) and the M073-1 requirement for a 75 ml. sample.
- See FO-1.

M071 MINERAL BALANCE

FO-4 COLLECT, IDENTIFY, MEASURE, PROCESS, STORE AND RETURN ALL FECAL AND VOMITUS ELIMINATIONS OF EACH CREWMAN THROUGHT THE MISSION

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	1/71
ODB	10/2/71
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					2	// TBS //		
0:00						M071-4 CS-H		
0:04						INGEST DYE MARKER PILL		
					3	// TBS //		
0:00						M071-4 CS-H		
0:06						TAG AND WEIGH SAMPLE BAG PLACE IN DRYER, SET TIMER		
					2	// TBS //		
0:00						M071-4 CS-H		
0:04						REMOVE PROCESSED FECES		

<u>SCHEDULE CRITERIA</u>

- No SMMD operations will take place during momentum dumps.
- Collection and identification of samples will be performed by each crewman throughout the mission including the ascent and recovery phase of the mission. Measuring, processing, and stowage will be accomplished in the OWS or on the recovery ship as required.
- Each crewman will be scheduled to take a dye marker pill every six days.
- Schedule all feces/vomitus to be weighed (wet) and processed no later than 24 hours after collection.
- The removal and stowage of the processed feces can only be accomplished after the automatic drying cycle has ended.

<u>CONSTRAINTS</u>

- The SMMD will not be operated during spacecraft linear or angular maneuvers.

<u>RETURN WEIGHT</u>

- Specimen bag and contents <u>TBD</u> lbs.

<u>NOTES</u>

- 2 types of dye marker pills will be taken at 6 day intervals alternately.
- It appears that a convenient time to remove and stow the processed sample would be for the next crewman who uses the waste processor to stow the processed specimens.
- See FO-1.

M071 MINERAL BALANCE

FO-5 MEASURE AND RECORD BODY MASS OF EACH CREWMAN ONCE EVERY 24 HOURS THROUGHOUT MISSION

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	1/71
ODB	10/2/70
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					3	//M071-5 OP //			**SCHEDULE CRITERIA** • No BMMD operations will take place during momentum dumps. • Each crewman will perform the experiment once every 24 hours, after the first urine voiding following the sleep period. • Do not schedule concurrently with M172. **CONSTRAINTS** • The BMMD will not be operated during spacecraft linear or angular maneuvers. **RETURN WEIGHT** • TBD lbs. **NOTES** • See FO-1.
0:00	■					M071-5 CS-F MEASURE AND LOG BODY MASS			
0:06									

M073 BIOASSAY OF BODY FLUIDS
FO-1 COLLECT, IDENTIFY, MEASURE AND PROCESS, STORE FOR RETURN A HOMOGENEOUS URINE SAMPLE OF AT LEAST 75 ML EVERY 24 HOURS FOR EACH CREWMAN THROUGHOUT THE MISSION

MRD	4/30/71
EOH VOL I	4/9/71
EOH VOL II	11/1/71
ODB	9/70
AE	7/31/71

ET	AM 1	2	3	V	*δ		*δ		
									SCHEDULE CRITERIA o M073 requirements are satisfied by the same experiment performance that fulfills M071-3 requirements (see page 4-4B).

M074 SPECIMEN MASS MEASUREMENT (CALIBRATION)
FO-1 CALIBRATION OF THE SPECIMEN MASS MEASUREMENT DEVICES (SMMD)

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	10/2/70
AE	7/31/71

ET	AM 1	2	3	V	*δ	CREWMAN	*δ		
0:00					8	/// SMMD CALIB //			**SCHEDULE CRITERIA** ● Calibrate each of the two SMMD 3 times (early, middle, late) in the mission. ● Do not schedule during momentum dumps. ● Do not schedule concurrently with M071-1, -4, -5.
						M074-1 PERF #___ OF 3 CS-W LOG AND RECORD TEMP/GMT RECORD TIME DISPLAY FOR 0, 50, 150, 400, 500, 750, 850, 900, 0 GM (5 TIMES FOR EACH WEIGHT) LOG AND RECORD TEMP/GMT			**CONSTRAINTS** ● Calibration will only be performed when the ambient temperature is between 65°F and 80°F. ● The SMMD will not be operated during spacecraft maneuvers.
0:15									
0:00					8	// SMMD CALIB //			**RETURN WEIGHT** ● Astronauts log book TBD lbs.
						M074-1 PERF #___ OF 3 CS-H LOG AND RECORD TEMP/GMT RECORD TIME DISPLAY FOR 0, 50, 150, 400, 500, 750, 850, 900, 0 GM(5 TIMES FOR EACH WEIGHT) LOG AND RECORD TEMP/GMT			
0:15									

M092 IN-FLIGHT LOWER BODY NEGATIVE PRESSURE (LBNP)
FO-1 PERFORM LBNP EXPERIMENT USING A LBNP DEVICE
M093 VECTORCARDIOGRAM
FO-1 OBTAIN VCG'S ON EACH ASTRONAUT EVERY THIRD DAY DURING THE MISSION

MRD 11/1/71
EOH VOL I 4/9/71
EOH VOL II 6/7/71
ODB 12/2/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					13	// MED.EXP.ACT. 04.05.01-00//		
						M092/M093-1 SUBJECT CS-E MED. EXP. ACTIVATION VERIFY EQUIPMENT CONTROLS		PHOTO PAD
0:25								
0:00					53	//M092/M093 OP 10.03.02-00//	53	//M093/M093 OP 10.03.02-00//
						M092/M093-1 SUBJECT CS-E PERF #___OF 3 M092 OPERATION DON VCG HARNESS AND BTMS EAR PROBE INSERT LEG AND HIPS INTO LBNPD PERFORM LBNP OPERATING SEQUENCE: ΔP = 0, 5 MIN; ΔP = TBS, 5 MIN; ΔP = TBS, 5 MIN; ΔP = TBS, 5 MIN; ΔP = 0, 5 MIN		M092/M093-1 OBSERVER CS-E AID SUBJECT IN EXPERIMENT PREPARATION INSTALL BPMS CUFF AND LVMS BANDS SECURE WAIST SEAL OPEN MAIN VACUUM VALVE AND SET EVENT TIMER CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES MONITOR HEART RATE, SYSTOLIC PRESSURE, AND VISUAL SYMPTOMS FOR POSSIBLE TERMINATION OF EXPERIMENT CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES

SCHEDULE CRITERIA (M092)
- Schedule first performance as soon as possible after OWS activation.
- Perform every third day at approximately the same time (each crewman 8 times min.)
- Wait at least 1 hour after eating (2 hours is desirable) before exp. performance.
- Experiment not to be preceded by activities requiring vigorous exercise.
- Schedule M092 to be followed immediately by M093 or M171 in order to reduce requirements for subject instrumentation.
- Initial activation will be performed on exp. M092/M171 which will always preclude this experiment.

CONSTRAINTS (M092)
- Any food eaten between 1 and 2 hours prior to the experiment should be low in carbohydrates.
- Air velocity in vicinity of the experiment should be between 15 to 100 ft/min (use M487 velometer).
- Ambient temperature to be kept within 67° to 78° at 5 PSIA.
- No spacecraft maneuvering to be performed which would cause accelerations.

RETURN WEIGHT (M092)
- None

SCHEDULE CRITERIA (M093)
- Schedule first performance as soon as possible after OWS activation.
- Obtain VCG's from each crewman every third day. Five performances of M171 (if acquired will be substituted for five performances of M093).

M092 IN-FLIGHT LOWER BODY NEGATIVE PRESSURE (LBNP)
FO-1 PERFORM LBNP EXPERIMENT USING A LBNP DEVICE
M093 VECTORCARDIOGRAM
FO-1 OBTAIN VCG'S ON EACH ASTRONAUT EVERY THIRD DAY DURING THE MISSION

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						EGRESS LBNPD		REMOVE AND STOW BPMS CUFF AND LVMS BANDS	
						M093 OPERATION		SECURE LBNPD	
						DON ERGOMETER RESTRAINTS		MOUNT SIB ON ERGOMETER PNL SET ESS & ERGOMETER CONTROLS FOR M093	
						PERFORM VCG EXP.: 5 MIN REST; 2 MIN ERGOMETER EXERCISE; 10 MIN REST		CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES MONITOR HEART RATE CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES	
						DISMOUNT ERGOMETER REMOVE AND CLEAN VCG ELECTRODES AND TEMPERATURE PROBE		DEACTIVATE ESS & ERGOMETER AND SECURE EQUIPMENT	
						STOW EQUIPMENT PERSONAL HYGIENE		ASSIST SUBJECT IF REQUIRED	
1:46									

SCHEDULE CRITERIA CONT. (M093)
- The experiment must not be performed less than one-half hour after vigorous exercise of M131.
- Schedule M093 to follow immediately after M092 in order to reduce requirements for subject instrumentation.
- Allow at least 2 hours between eating and performance of M093.

CONSTRAINTS
- Ambient temperature to be kept within 67° to 78° at 5 PSIA.

RETURN WEIGHT (M093)
- None

M092 IN-FLIGHT LOWER BODY NEGATIVE PRESSURE (LBNP)
FO-1 PERFORM LBNP EXPERIMENT USING A LBNP DEVICE
M171 METABOLIC ACTIVITY
FO-1 PERFORM CALIBRATED EXERCISE (BY ALL THREE CREWMEN) ON A BICYCLE ERGOMETER

MRD 11/1/71
EOH VOL I 11/19/71
EOH VOL II 6/7/71
ODB 12/2/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
00:00					23	//MED.EXP.ACT. 04.05.03-00//	23	//MED.EXP.ACT. 04.05.03-00//
						M092/M093/M171 ACTIVATION INSTALL ERGOMETER PANEL ESS POWER UP AND NUMERICS CHECKS VCG/BTMS DONNING AND CHECKOUT MA OFF TO STANDBY VERIFY EQUIPMENT CONTROLS		AID IN MEDICAL EXPERIMENT ACTIVATION SET UP CAMERAS FOR M151 PHOTOGRAPHY REQUIREMENT (07 MIN.) IF REQUIRED
0:45					73	//M092/M171 OP 10.03.03-00//	73	//M092/M171 OP 10.03.03-00//
0:00						M092/M171-1 SUBJECT CS-E PERF #____ OF 5 M092 OPERATION DON VCG HARNESS AND BRMS EAR PROBE INSERT LEGS AND HIPS INTO LBNPD		M092/M171-1 OBSERVER CS-E AID SUBJECT IN EXPERIMENT PREPARATION INSTALL BPMS CUFF AND LVMS BANDS SECURE WAIST SEAL OPEN MAIN VACUUM VALVE AND SET EVENT TIMER

SCHEDULE CRITERIA (M092)
- Experiments M092/M171 will be performed before any other medical experiment.
- Schedule first performance as soon as possible after OWS activation.
- Perform every third day at approximately the same time (each crewman 8 times min.).
- Wait at least 1 hour after eating (2 hours is desirable) before exp. performance.
- Experiment not to be preceded by activities requiring vigorous exercise.
- Schedule M092 to be followed immediately by M093 or M171 in order to reduce requirements for subject instrumentation.
- Camera set up for M151 photography required for 8 performances (2 crewmen, 4 times each). Activities to be photographed are VCG harness donning, LBNPD entering.

CONSTRAINTS (M092)
- Any food eaten between 1 and 2 hours prior to the experiment should be low in carbohydrates.
- Air velocity in vicinity of the experiment should be between 15 to 100 ft/min (use M487 velometer).
- Ambient temperature to be kept within 67° to 78° at 5 PSIA.
- No spacecraft maneuvering to be performed which would cause acceleration greater than 10^{-4} g's.

RETURN WEIGHT (M092)
- None

M092 IN-FLIGHT LOWER BODY NEGATIVE PRESSURE (LBNP)
FO-1 PERFORM LBNP EXPERIMENT USING A LBNP DEVICE
M171 METABOLIC ACTIVITY
FO-1 PERFORM CALIBRATED EXERCISE (BY ALL THREE CREWMEN) ON A BICYCLE ERGOMETER

MRD 11/1/71
EOH VOL I 11/19/71
EOH VOL II 6/7/71
ODB 12/2/71

ET	AM 1 2 3	V	*δ	CREWMAN	*δ	CREWMAN
				PERFORM LBNP OPERATING SEQUENCE: ΔP = 0, 5 MIN; ΔP = TBS, 5 MIN; ΔP = TBS, 5 MIN; ΔP = TBS, 5 MIN; ΔP = 0, 5 MIN		CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES OPERATE PRESSURE CONTROL KNOB MONITOR HEART RATE, SYSTOLIC PRESSURE, AND VISUAL SYMPTOMS FOR POSSIBLE TERMINATION OF EXPERIMENT
				EGRESS LBNPD		CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES
				M171 OPERATION		
				DON ERGOMETER RESTRAINTS		REMOVE AND STOW LVMS BANDS
				MOUNT ERGOMETER AND ADJUST RESTRAINTS		SECURE LBNPD
				DON NOSE CLIP AND MOUTH PIECE		ACTIVATE THE MA & PERFORM CALIBRATION MOUNT SIB ON ERGOMETER PNL SET ESS & ERGOMETER CONTROLS FOR M171 SET EVENT TIMER
				PERFORM CALIBRATED EXERCISE: REST 5 MIN.; 25% WORK RATE 5 MIN.; 50% WORK RATE 5 MIN.; 75% WORK RATE 5 MIN.; REST 5 MIN.		CALIBRATE ESS DISPLAYS AND TEST THE VCG ELECTRODES
				DISMOUNT ERGOMETER		DEACTIVATE MA, ESS, & ERGOMETER
				REMOVE AND CLEAN BREATHING APPARATUS, VCG ELECTRODES, TEMP PROBE, AND BPMS CUFF		AID IN EQUIPMENT SHUTDOWN

SCHEDULE CRITERIA (M171)

- Experiment will be performed 5 times by each crewman during the mission.
- Allow at least 2 hours between eating and performance of M171.
- The experiment must not be performed less than 2 hours after vigorous exercise.
- Experiment should be performed the same time each day for each crewman.
- Schedule M171 to follow immediately after M092 in order to reduce requirements for subject instrumentation.
- M151 photography required 8 performances (2 crewmen, 4 times each) activities to be photographed are metabolic apparatus donning, ergometer restraint donning, ergometer mounting, ergometer operation.
- When M171 has been performed for the last time in the mission, reconfigure stowage as the electrode kit, utility drawer, and ergometer restraint for follow-on mission.

CONSTRAINTS (M171)

- Air velocity in vicinity of the experiment should be between 15 to 100 ft/min (use M487 velometer).
- Ambinet temperature to be kept within 67° to 78° at 5 PSIA.
- Spacecraft pitch, yaw and roll rates will be limited to 6 degrees per minute during all experiment operations.

RETURN WEIGHT (M171)

- None.

M092 IN-FLIGHT LOWER BODY NEGATIVE PRESSURE (LBNP)
FO-1 PERFORM LBNP EXPERIMENT USING A LBNP DEVICE
M171 METABOLIC ACTIVITY
FO-1 PERFORM CALIBRATED EXERCISE (BY ALL THREE CREWMEN) ON A BICYCLE ERGOMETER

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						PERSONAL HYGIENE		ASSIST SUBJECT IF REQUIRED	
2:25					15	//RECONFIGURATION STOWAGE //	15	//RECONFIGURATION STOWAGE //	
0:00						M092/M171 STOW EQUIPMENT		M092/M171 AID IN STOWING EQUIPMENT	
0:30									

M110 HEMATOLOGY AND IMMUNOLOGY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	CREWMAN	
					90	// TBS //				
0:00						M110 CS-W PREPARE WORK AREA OBTAIN ASP'S FROM STOWAGE				
							15	/// TBS /// M110 CS-W	/// TBS /// M110 CS-W	
0:15						OBTAIN BLOOD SAMPLES		ASSIST IN OBTAINING BLOOD SAMPLES	ASSIST IN OBTAINING BLOOD SAMPLES	
						PREPARE FIXED CELL SAMPLES				
0:45						PERFORM SEPARATION PROCEDURE				

M110 HEMATOLOGY AND IMMUNOLOGY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	
						STOW BLOOD SAMPLES AND ASP'S		
						CLEAN UP WORK AREA		
1:35					5	/// TBS ///		
0:00						M110 CS STOW SAMPLES IN CSM FOR RETURN		
0:10								

<u>SCHEDULE CRITERIA</u>

- Schedule on days 2, 4, 12 ± 1, 19 ± 1, 27.
- Schedule over MSFN if possible.
- Schedule prior to breakfast after an all night fast and prior to physical activity.

M131 HUMAN VESTIBULAR FUNCTION
FO-1 DYNAMIC TESTS (OCULOGYRAL ILLUSION AND MOTION SENSITIVITY)

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	6/18/71
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
							2	// PREPAR 04.05.04-00//
								M131-1 OBSERVER CS-E PREPARE CAMERAS
					29	// M131A NO PH 10.04.01-03 //	29	// M131A NO PH 10.04.01-03 //
0:00						M131-1 SUBJECT CS-E PERF # OF 6		M131-1 OBSERVER CS-E
						M131-1 OPERATION		ADJUST LIGHTING
						ENTER CHAIR & DON OGI GOGGLES ADJUST BITEBOARD		ACTIVATE CONTROL CONSOLE CONDUCT & OBSERVE OGI TEST
						PERFORM OCULOGYRAL ILLUSION THRESHOLD (OGI) TEST		VOICE RECORD COMMENTS AND ENTER SUBJECT RESPONSES ON CONSOLE
						REMOVE GOGGLES AND BITE-BOARD		PREPARE CONTROL CONSOLE FOR MS TEST
						DON BLINDFOLD		CONDUCT & OBSERVE MS TEST VOICE RECORD COMMENTS AND ENTER SUBJECT RESPONSES ON CONSOLE
						PERFORM MOTION SENSITIVITY (MS) TEST		TERMINATE TEST AFTER MAXI-MUM OF 30 SETS OF HEAD MOVEMENTS OR UPON SUBJECT REACHING MALAISE II LEVEL
0:57								

SCHEDULE CRITERIA

- The dynamic tests will be performed by 2 crewman 6 times each.
- Both crewmen will perform as subjects within a 16-hour period.
- The tests will be performed by each subject no closer than every other day and if possible be equally spaced throughout the mission.
- No tests will be performed within an hour after eating a meal.
- Static tests (FO-2) will not be scheduled on the same day as dynamic tests (FO-1).
- Do not schedule during any OWS maneuver.
- Photograph experiment set up and performance of first OGI test. Photograph each subject accomplishing MS test for first, third, and sixth performances.
- The securing & stowing of equipment need only be performed once if crewmen's performances are scheduled consecutively
- Initial preparation & final stowage as a one time operation per mission.

CONSTRAINTS

- OWS ambient temperature to be within 67° to 78°F at 5 PSIA.
- Air velocity to be within 15 ft/min to 100 ft/min in vicinity of experiment (use M487 velometer).
- OWS lighting to be adequate enough to recognize color changes in subject's face.
- Experiment shall be interrupted during spacecraft accelerations greater than 0.0003 g's or 0.001 deg/sec^2 about the X-axis & 0.002 deg/sec^2 about the Y and Z-axis.

M131 HUMAN VESTIBULAR FUNCTION
FO-1 DYNAMIC TESTS (OCULOGYRAL ILLUSION AND MOTION SENSITIVITY)

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					5	// M131 STOWAGE 14.05.03-00//	5	// M131 STOWAGE 14.05.03-00//
0:00						M131 STOWAGE SECURE & STOW EQUIPMENT		M131 STOWAGE SECURE & STOW EQUIPMENT
0:10								
						M131 PHOTO PAD		

NOTES:
- The various symptoms experienced by the subject (such as nausea, saliva, dizziness, headaches) are entered in a response matrix keyboard where each symptom is assigned a point value. When point total reaches a predetermined level the test is terminated. This is called the "malaise II" level.

RETURN WEIGHT
- OGI goggles 1.0 pounds
- Film TBD pounds.

M131 HUMAN VESTIBULAR FUNCTION
FO-2 SPATIAL LOCALIZATION STATIC TESTS

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	6/18/71
AE	7/31/71

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
							2	// PREPAR 04.004.05.04-00//
								M131-2 OBSERVER CS-E PREPARE CAMERAS
					23	// M131 B NO PH 10.04.02-02//	23	//M131 B NO PH 10.04.02-02 //
0:00						M131-2 SUBJECT CS-E PERF #___ OF 6 ENTER CHAIR & DON OGI GOGGLES PERFORM VISUAL SPATIAL LOCALIZATION STATIC TESTS ● CHAIR MODE/OTG PITCH & ROLL 20 TRIALS ● CHAIR MODE/ROD & SPHERE 20 TRIALS REMOVE OTG, DON BLINDFOLD PERFORM NON-VISUAL SPATIAL LOCALIZATION STATIC TESTS ● LITTER MODE/ROD & SPHERE 20 TRIALS		M131-2 OBSERVER CS-E CONDUCT & OBSERVE TESTS VOICE RECORD TEST COMMENTS
0:45					5	// M131 STOWAGE 14.05.03-00//	5	// M131 STOWAGE 14.05.03-00//
0:00						M131 STOWAGE SECURE & STOW EQUIPMENT		SECURE AND STOW EQUIPMENT
0:10								

SCHEDULE CRITERIA
- The static tests will be performed by 3 crewmen 3 times each.
- All three crewmen will perform as subjects within a 16-hour period.
- The tests will be performed on all crewmen once early in the mission, once at mid-mission, and once late in the mission.
- No tests will be performed within an hour after eating a meal.
- Static tests (FO-2) will not be scheduled on the same day as dynamic tests (FO-1).
- Do not schedule during any OWS maneuver.
- Photograph only one subject accomplishing his static tests, preferably his second performance.
- The securing and stowing of equipment need only be performed once if crewmen's performances are scheduled consecutively.

CONSTRAINTS
- OWS ambient temperature to be within 67° to 78°F at 5 PSIA.
- Air velocity to be within 15 ft/min to 100 ft/min in vicinity of experiment (use M487) velometer.

RETURN WEIGHT
- See FO-1.
- OTG TBS pounds.

M131 PHOTO PAD

M133 SLEEP MONITORING
FO-1 OBTAIN EEG, EOG, AND HEAD MOVEMENT DATA DURING SLEEP

MRD	11/1/71
EOH VOL. I	11/19/71
EOH VOL. II	6/7/71
ODB	12/8/71
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					12	//M133 PREP 04.05.05-00 //		
0:00						M133 CS-E EQUIPMENT PREPARATION REMOVE PANEL ASSY FROM STOWAGE, INSTALL IN SLEEP STATION 1 CONNECT CABLES VERIFY CONTROLS EXP PWR-UP		
0:24					6	//SLEEP PREPAR 10.09.01-00//		
0:00						M133 PERF #___OF IS CS-S ENTER SLEEP RESTRAINT, DON & C/O EQUIPMENT		
0:12						8 HR SLEEP PERIOD		
					8	//POST SLEEP ACTIVITIES //		
0:00						M133 CS-S LOG COMMENTS DOFF CAP DISCONNECT AND STOW EQUIPMENT REMOVE ELECTROLYTE FROM HAIR		
0:15								

SCHEDULE CRITERIA

- The initial 24 minute preparation need only be scheduled prior to the first sleep period only.
- Schedule during the regular 8 hour sleep period.
- Schedule for same crewman on the following days: 3, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 24, 25, 26 (15 total) SL-2 only.
- Schedule the 1 hour equipment stowage after the final equipment performance.
- Schedule for same crewman on the following days 3, 4, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44, 47, 50, 52, 53, 54, (21 total) SL-3 only.

RETURN WEIGHT

- Tape and canister 2.5 lbs.
- Log book TBD lbs.

NOTES

If any of the 6 indicators are not lighted, gently rock corresponding electrode to establish scalp contact.

M133 SLEEP MONITORING
FO-1 OBTAIN EEG, EOG, AND HEAD MOVEMENT DATA DURING SLEEP

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					30	// M133 POST OP //			NOTES
0:00						M133 CS-E, S POST OPER ACTIVITIES AT END OF MISSION EXT PWR-DOWN DISC PWR & TLM CABLES REMOVE PANEL ASSY REPLACE TAPE RECORDER REELS STOW SIA AND HIGH POWER CABLES REPLACE M133 PANEL ASSY IN LAUNCH STOWAGE BRACKET STOW TAPE RETURN CANISTER			• On SL2 remove both reels on outer recorder only and stow in tape return canister. Reinstall new supply & takeup reels in recorder. • On SL3 cut tape at supply reel end place takeup reel in tape return canister for both recorders.
1:00									

M151 TIME & MOTION STUDY

FO-1 DURING M092/M171
FO-2 DURING T027/S073
FO-3 DURING T027
FO-4 DURING PGA DONN/DOFF
FO-5 DURING M509
FO-6 DURING MEAL PREP/MEASUREMENT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
						SEE PHOTOGRAPHY, PAGE 4-42			

M172 BODY MASS MEASUREMENT

FO-1 CALIBRATION OF BODY MASS MEASUREMENT DEVICE (BMMD)

MRD	2/1/72
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	10/2/70
AE	7/31/71

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
					10	/// BMMD CALIB ///			
0:00						M172-1 CS-F PERF #___ OF 3 LOG & VOICE RECORD TEMP/GMT RECORD TIME DISPLAY FOR ZERO MASS & CALIBRATE USING MASSES (FOOD TRAYS) BETWEEN 59 & 95.5 KILOGRAMS (TOTAL OF 5 MEASUREMENTS EACH) LOG & VOICE RECORD TEMP/GMT			
0:20									

SCHEDULE CRITERIA

- Calibrate the BMMD 3 times (early, middle, and late) in the mission.
- Do not schedule concurrently with M071-5.
- Do not schedule during momentum dumps.

CONSTRAINTS

- Calibration will only be performed when the ambient temperature is between 65°F and 80°F.
- The BMMD will not be operated during spacecraft maneuvers.

RETURN WEIGHT

- Astronauts log book TBD lbs.

ATM DATA TO BE SUPPLIED

EREP:

FO-1	AGRICULTURE/FORESTRY	FO-4	GEOLOGY	FO-7	METEOROLOGY
FO-2	ENVIRONMENTAL	FO-5	HYDROLOGY	FO-8	OCEANOGRAPHY
FO-3	GEOGRAPHY	FO-6	INTERPRETATION TECHNIQUES	FO-9	SENSOR TECHNOLOGY

MRD 1/17/72
EOH 1/3/72
ERD
ØDB

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					07	// EREP ACTIVA 04.02.01-00 // EREP ACTIVATION ST,M TRANSFER MAG. TAPE ACTIVATE STS PANEL CB'S		
0:15								
0:00					15	//EREP REACTI 04.02.02-00 // EREP REACTIVATION, SL-3 & SL-4 ST, M TRANSFER MAG. TAPE TRANSFER FILM CASSETTES ACTIVATE STS PANEL CB'S		
0:30								
0:00					90	//EREP CHECKO 07.01.01-00 // EREP CHECKOUT M OPEN EREP C&D PANEL COVER & VERIFY SWITCH POSITIONS PER C/L	90	// EREP CHECKO 07.01.01-00 // EREP CHECKOUT M VERIFY VTS C&D PANEL SWITCH POSITIONS PER C/L

SCHEDULE CRITERIA

- Update pads as follows:
  EREP MNVR PAD - within 2 hrs. of data take.
  SETUP PAD - within 2 hrs. of data take.
  OPERATE PAD - within 2 hrs. of data take.
  V/TS PAD - night before, 12 hrs. min.
  PRE-ADVISORY - 1 to 3 hrs. before data take.
- Aperture Doors and optics covers must be closed except during taka take.
- Free Liquid Discharges into the OWS waste tank & controllable OA venting must be completed 15 min. prior to exp. operation & avoided during exp. performance of S190, S191 & S192.
- 70 to 80% of test sites to be in U.S.A.
- Test sites to be scheduled on basis of priority, weather & proximity of ground tracks of pre-selected EREP passes.
- For each data pass, voice record site ID, meteorology notations, unusual items, & GMT at start and finish.
- ATM recorder required.

CONSTRAINTS

- EREP passes are constrained to the following:
  a) 60° max. orbital arc in Z-LV(E) centered about any orbital location. A max. of 4 single orbits in any 24 hr. period. Two consecutive orbits in Z-LV(E) to be followed by 5 orbits in SI. $\beta \pm 50°$.

EREP:

FO-1	AGRICULTURE/FORESTRY	FO-4	GEOLOGY	FO-7	METEOROLOGY
FO-2	ENVIRONMENTAL	FO-5	HYDROLOGY	FO-8	OCEANOGRAPHY
FO-3	GEOGRAPHY	FO-6	INTERPRETATION TECHNIQUES	FO-9	SENSOR TECHNOLOGY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
						CHECK FOR BROKEN OR DAMAGED CONTROLS, CABLES AND CONNECTORS		CHECK VTS FOR BROKEN OR DAMAGED CONTROLS, CABLES AND CONNECTORS
						REMOVE S192 COVER & VERIFY SW POSITIONS		
						CHECK FOR DAMAGED HARDWARE		OPEN TAPE RECORDER COVERS CHECK FOR BROKEN OR DAMAGED HARDWARE
						INSPECT PRIMARY & SECONDARY COOLER/DEWAR ASSY		
						CHECK EREP COOLANT VALVE FOR DAMAGE		
						ROTATE S190 TO MID POSITION, REMOVE SHIELDS & INSPECT FOR DAMAGE		LOAD MAGNETIC TAPE IN RECORDERS
						VERIFY SW POSITIONS		CHECK OUT RECORDER OPERATION

SCHEDULE CRITERIA(CONTD.)

b) 60° max orbital arc in Z-LV(E) contained within a 120° arc centered about orbital noon. A max. of <u>4</u> single Z-LV(E) orbits in any 24 hr. period. Two consecutive orbits in Z-LV(E) to be followed by 4 orbits in SI. β+ 50°.

c) 120° max. orbital arc in Z-LV(E) centered about any orbital location, to be followed by 4 orbits in SI β< between -50° & +30°

- A total of 60 EREP passes in Z-LV(E) & 5 passes in SI are required during Skylab.
- OA drift rates not to exceed 0.05°/sec in any axis.
- Film is to be stowed in the OWS film vault after each days' photography, when time between data passes exceeds 12 hours or when the next pass requires a new reel.

<u>RETURN WEIGHT (SL-2)</u>

- S190A film <u>34.2</u> pounds.
- S191 film <u>1.0</u> pounds.
- EREP magnetic tape <u>TBD</u> pounds.

<u>NOTES</u>

- At the end of the SL-4 mission, the S190A camera filters are to be returned to Earth.
- The first of two consecutive Z-LV(E) orbits will require minimum post-pass securing time while the second consecutive Z-LV orbit will require less pre-pass preparation.
- Missions SL-3 & SL-4 will require 45 to 60 minutes each of additional crew time

EREP:

FO-1	AGRICULTURE/FORESTRY	FO-4	GEOLOGY	FO-7	METEOROLOGY
FO-2	ENVIRONMENTAL	FO-5	HYDROLOGY	FO-8	OCEANOGRAPHY
FO-3	GEOGRAPHY	FO-6	INTERPRETATION TECHNIQUES	FO-9	SENSOR TECHNOLOGY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
						POWER UP C&D PANEL		VERIFY S191 SHORTING PLUG INSTALLED
						CHECK S192 DOOR LATCH RELEASE		CHECKOUT S191 PREPARE VTS
						ALIGN S192 DETECTOR		ALIGN VTS
						INITIATE S190 CAMERA CHECKOUT		CHECKOUT S191 DOOR OPERATION OPEN (140 SECONDS) CLOSE (108 SECONDS)
								VTS PANEL POWER OFF
								ASSIST WITH S190 FILM LOADING & CHANGE-OUT OF FILM
						MONITOR C&D PANEL		
								STOW S190 FILM
3:00						POWER DOWN C&D PANEL		

NOTES (CONTD)

to load the film magazines onboard the OWS with new film cassettes delivered by CM.

- The Crew will monitor MRD constraints on OA attitude and drift rate limits for TBD number of passes.
- OWS maneuvers to Z-LV & back to SI can be pre-programmed to occur at the desired time by ground uplink, however, the crew is considered prime in initiating all Z-LV/SI maneuvers.
- At least 30 minutes cooldown for the spectrometer detector is required prior to S192 data take.
- At least 20 minutes cooldown/warmup for the scanner is required prior to S192 data take.
- At least 15 minutes warmup of each S193 sensor is required prior to each S193 data take.
- At least 30 minutes warmup time is required for the radiometer prior to each S194 data take.
- Present planning call for 15/25/20 Z-LV(E) passes on SL-2/3/4 respectively.
- Three data passes are planned on SL-3 & two data passes are planned on SL-4 while in SI attitude.
- Film 18/30/24 cassettes for SL 2/3/4 respectively.
- There are 9 EREP disciplines having a total of 291 FO's.
- 383 test sites are under consideration.
- Refer to the MRD for FO requirements.

EREP:
FO-1. AGRICULTURE/FORESTRY
FO-2. ENVIRONMENTAL
FO-3. GEOGRAPHY
FO-4. GEOLOGY
FO-5. HYDROLOGY
FO-6. INTERPRETATION TECHNIQUES
FO-7. METEOROLOGY
FO-8. OCEANOGRAPHY
FO-9. SENSOR TECHNOLOGY

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					30	//EREP PREP 07.01.02-00 //	30	//EREP PREP 07.01.02-00 //
						EREP PREP M		EREP PREP M
						INSTALL M512 FOOT RESTRAINT PLATFORM		REMOVE S190 & S191 FILM FROM STOWAGE
						REVIEW UPDATE PAD POWER UP C&D VERIFY ATM READY FOR EREP EREP COOLANT FLOW (42M) EQUIPMENT WARMUP: ● S191 COOLER ON (30M) ● S194 POWER ON (30M) ● S192 POWER STBY (20M) ● S193 POWER ON (15M) S190A PREPS ● LOAD CAMERA & FILTERS ● S190 POWER ON ● CHECK SHUTTER OPERATION ● POSITION CAMERAS ● ADVANCE FILM 2 FRAMES VERIFY C&D PANEL SWITCH POSITIONS PERFORM C&D MONITOR Z-LV MNVR AT_____		INSTALL S191 DAC FILM COVER WINDOWS & SUBDUE LIGHTING PREPARE VTS ● S191 POWER ON ● ADVANCE FILM ● LAMP TEST ● ALIGN COLLIMATOR UNSTOW CCU'S & SETUP REVIEW SITE MAPS & PAD PERFORM Z-LV MNVR IF ATM PANEL IS UNMANNED POSITION VTS FOR FIRST TARGET
						FINAL PANEL SETUP PER UPDATE PAD		
1:00 0:00					15	// EREP OPERAT 07.04.01-00 //	15	// EREP OPERAT 07.04.01-00 //
						EREP M		EREP M
						PERF #___OF___		PERF #___OF___

EREP:

FO-1	AGRICULTURE/FORESTRY	FO-4	GEOLOGY	FO-7	METEOROLOGY
FO-2	ENVIRONMENTAL	FO-5	HYDROLOGY	FO-8	OCEANOGRAPHY
FO-3	GEOGRAPHY	FO-6	INTERPRETATION TECHNIQUES	FO-9	SENSOR TECHNOLOGY

ET	AM 1	2	3	V	*δ		*δ		
0:02 to 0:30						DATA TAKE AT________ TO________		DATA TAKE AT________ TO________	
					10	// EREP POST 0 07.01.05-00 //	10	//EREP POST 0 07.01.05-00 //	
0:00						EREP POST OPS M POWER DOWN EREP C&D PANEL RECORD FILM & TAPE USAGE REMOVE S190A FILM MAGS & STOW IN FILM VAULT COOLING VALVE-BY PASS SECURE S190A CAMERAS		EREP POST OPS M CLOSE S191 DOOR (108 SEC) CAMERA ON (10 SEC) VTS POWER OFF PERFORM SI MNVR IF ATM PANEL IS UNMANNED ADVANCE S191 FILM S191 COOLER OFF REMOVE FILM & STOW	
0:20						IF NECESSARY, RELOAD S190A MAGAZINES			
1:00					45	// EREP DEACTI 14.02.01-00 //			
0:00						EREP DEACTIVATION M SECURE EREP C&D PANEL UNLOAD FILM MAGAZINES UNLOAD TAPE RECORDERS POWER DOWN STS CB'S		EREP UPDATE PADS	
1:30					07	//EREP TRANS 14.02.02-00 //			
0:00									

EREP:

FO-1 AGRICULTURE/FORESTRY	FO-4 GEOLOGY	FO-7 METEOROLOGY
FO-2 ENVIRONMENTAL	FO-5 HYDROLOGY	FO-8 OCEANOGRAPHY
FO-3 GEOGRAPHY	FO-6 INTERPRETATION TECHNIQUES	FO-9 SENSOR TECHNOLOGY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
						EREP TRANSFER CM, M TRANSFER FILM, TAPE & FILTERS TO CSM			
0:15									

D008 RADIATION IN SPACECRAFT

FO-1 PERFORM TWO ACTIVE DOSIMETER SURVEYS IN THE CM WHILE IN THE SAA

MRD	4/30/71
EOH VOL. I	11/19/71
EOH VOL. II	6/7/71
ODB	1/25/72
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ		*δ	
					8	//D008 ONE MIN 11.01.01-00//	5	//D008 PAD UP 11.01.03-00 //
0:00						D008-1 CS-CM UNSTOW DOSIMETER SENSOR AT T1 ____ PERFORM 9 BODY & 5 CM. POSITION RADIATION SURVEY (14 PLACES, 1 MIN EACH) STOW DOSIMETER SENSOR		PAD UPDATE
0:15								

SCHEDULE CRITERIA FO-1

- Center test around SAA.
- Schedule crew performances during two orbits with max. penetration thru the SAA.
- Perform twice during the mission.
- Log GET time for each position change of sensor within 5 sec.
- Update times to crew one rev prior to scheduled experiment.
- Ground control will manage DSE during dosimeter calibration.
- The SAA is defined as the area between 60°W lon/15°E lon and 18°S lat/33°S lat between 200-500 KM alt.
- Ground to control stowed active dosimeter sensor output on DSE for 5 consecutive SAA passes/day for 14 days. Data can be taken over entire mission span or during 14 consecutive days.

CONSTRAINTS FO-1

- Do not unstow active dosimeter sensor until 15 min. TLM have been recorded for calibration.
- The 15 minute active survey to be time centered on the SAA zone.

RETURN WEIGHT

- Dosimeters 7 pounds (part of CM).

NOTES FO-1 & FO-2

- Experiment includes one active dosimeter & five passive dosimeters. The active dosimeter has a power/TLM connector. The passive dosimeters have no CM connections and require no crew activity.
- If S015 radiation level exceeds 0.01 millirad/hr., a radiation survey will be required. (Premission requirement)

D008 RADIATION IN SPACECRAFT

FO-2 PERFORM TWO ACTIVE DOSIMETER SURVEYS IN THE CM IN THE MOST NORTHERN LATITUDES OF THE ORBIT

ET	AM 1	2	3	V	*δ		*δ		
0:00					15	//D008 TWO MI 11.01.02-00 // D008-2 CS-CM PERF # ___ OF 2 UNSTOW DOSIMETER SENSOR AT T1 ________ PERFORM 9 BODY AND 4 CM POSITION RADIATION SURVEY, (13 PLACES, 2 MIN EACH)		// D008 PAD UP 11.01.03-00// PAD UPDATE	NOTES CONT. FO-1 & FO-2 (see below)
0:30						STOW DOSIMETER SENSOR			

NOTES CONT. FO-1 & FO-2

- The ambient radiation within the CM from all sources before, during, & after the mission must not exceed 0.1 millirad/hr. for the active & .01 millirad/hr for the passive.

SCHEDULE CRITERIA FO-2

- Center test in the northernmost latitude at the closest approach to the geomagnetic N. Pole.
- Perform twice during the mission.
- Log GET times for each position change of sensor within ±5 sec.
- Update times to crew one rev prior to scheduled experiment.
- Repeat for confirmed solar flare at northern-most lat. of orbit
- Ground control will manage DSE during dosimeter calibration.
- Ground to control stowed active dosimeter sensor output on DSE one pass each day for 14 days while in the northernmost latitude. Data can be taken over entire mission or during 14 consecutive days.

CONSTRAINTS FO-2

- Do not unstow active dosimeter sensor until 7.5 min TLM have been recorded for calibration.
- The 30 minute active survey is to be time centered on the northernmost lat.

D021/D024 EXPANDABLE AIRLOCK TECHNOLOGY/THERMAL CONTROL COATINGS
FO-1 EVA TO RETRIEVE D021 SAMPLE & D024 SAMPLE

MRD
EOH
ERD
ODB
AE

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						TBS		TBS	SCHEDULE CRITERIA TBS CONSTRAINTS TBS RETURN WEIGHT TBS

M479 ZERO GRAVITY FLAMMABILITY
FO-1 UNDISTURBED BURNING THROUGH BURNOUT OF SPECIMENS
1 THRU 12 (SIX MATERIAL TYPES)

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ
					10	// M479 EXP PR 11.03.01-00 //	
0:00						M479-1 PREP CS-M PERFORM EXPERIMENT FACILITY INTEGRITY CHECK	
0:19							
					4	//M479 OP 1 11.03.02-00 //	
0:00						M479-1 CS-M PERF # ___ OF 12 FILM AND COMMENT ON BURNING OF SPECIMEN	
0:08							
					2	// M479 FILM S 11.03.09-00 //	
0:00						M479-1 FILM STOWAGE CS-M	
0:03							

PHOTO PAD

SCHEDULE CRITERIA
- All phases of M512 to be completed prior to M479 performance.
- If M479 is scheduled on a different mission to M512 then the Experiment Integrity check must be accomplished once prior to the first performance of M479.
- If the experiment is terminated before the completion of the tests, then the film must be removed and stored. Upon resumption of the tests the exp. facility must first be verified. If FO-2 directly follows FO-1 then the stowage of the film need not be performed.
- All performances of M479 to be completed prior to the end of SL-3 because of film degradation.

CONSTRAINTS
- S/C maneuvers to be restricted to attitude hold during experiment performance.
- Each test will be performed using nominal workshop atmosphere.

RETURN WEIGHT
- Film 10.5 pounds for all FO's

M479 ZERO GRAVITY FLAMMABILITY
FO-2 UNDISTURBED BURNING WITH A VACUUM QUENCH OF SPECIMENS 13 THRU 18 (SIX MATERIAL TYPES)

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	2	3	V	*δ	CREWMAN	*δ		
					4	// M479 OP 13 11.03.03-00 //			
0:00						M479-2 CS-M PERF # __ OF 6 FILM AND COMMENT ON BURNING AND QUENCHING			
0:08									
					2	// M479 FILM S 11.03.09-00//			
0:00						M479-2 FILM STOWAGE CS-M			
0:03								PHOTO PAD	

SCHEDULE CRITERIA
- All phases of M512 to be completed prior to M479 performance.
- If M479 is scheduled on a different mission to M512 then the Experiment Integrity check must be accomplished once prior to the first performance of M479.
- If the experiment is terminated before the completion of the tests, then the film must be removed and stored. Upon resumption of the tests the exp. facility must first be verified. If FO-2 directly follows FO-1 then the stowage of the film need not be performed.
- All performances of M479 to be completed prior to the end of SL-3 because of film degradation.

CONSTRAINTS
- S/C maneuvers to be restricted to attitude hold during experiment performance.
- Each test will be performed using nominal workshop atmosphere.

RETURN WEIGHT
- Film 10.5 pounds for all FO's.

M479 ZERO GRAVITY FLAMMABILITY
FO-3 UNDISTURBED BURNING WITH A WATER SPRAY QUENCH OF SPECIMENS 19 THRU 24 (SIX MATERIAL TYPES)

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	
					7	// M479 OP 19 11.03.04-00 //		
0:00						M479-3 CS-M PERF #___ OF 6 PREPARE WATER QUENCH FILM AND COMMENT ON BURNING AND QUENCH OF SPECIMEN		
0:14								
					2	// M479 TERM W 11.03.08-00 //		
0:00						M479-3 CS-M TERMINATE WATER QUENCH		
0:04								
					2	//M479 FILM S 11.03.09-00 //		
0:00						M479-3 FILM STOWAGE CS-M		
0:03								

PHOTO PAD

SCHEDULE CRITERIA
- All phases of M512 to be completed prior to M479 performance.
- If M479 is scheduled on a different mission to M512 then the Experiment Integrity check must be accomplished once prior to the first performance of M479.
- If the experiment is terminated before the completion of the tests, then the film must be removed and stored. Upon resumption of the tests the exp. facility must first be verified. If FO-2 directly follows FO-1 then the stowage of the film need not be performed.
- All performances of M479 to be completed prior to the end of SL-3 because of film degradation.

CONSTRAINTS
- S/C maneuvers to be restricted to attitude hold during experiment performance.
- Each test will be performed using nominal workshop atmosphere.

RETURN WEIGHT
- Film 10.5 pounds for all FO's.

M479 ZERO GRAVITY FLAMMABILITY
FO-4 UNDISTURBED BURNING OF PARTIALLY SUPPORTED SPECIMENS
25 THRU 30 (SIX MATERIAL TYPES)

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	
					4	// M479 OP 25 11.03.05-00//		
0:00						M479-4 CS-M PERF # ___ OF 6 FILM AND COMMENT ON BURNING OF SPECIMEN		
0:08								
					2	// M479 FILM S 11.03.09-00 //		
0:00						M479 -4 FILM STOWAGE CS-M		
0:03								
								PHOTO PAD

SCHEDULE CRITERIA
- All phases of M512 to be completed prior to M479 performance.
- If M479 is scheduled on a different mission to M512 then the Experiment Integrity check must be accomplished once prior to the first performance of M479.
- If the experiment is terminated before the completion of the tests, then the film must be removed and stored. Upon resumption of the tests the exp. facility must first be verified. If FO-2 directly follows FO-1 then the stowage of the film need not be performed.
- All performances of M479 to be completed prior to the end of SL-3 because of film degradation.

CONSTRAINTS
- S/C maneuvers to be restricted to attitude hold during experiment performance.
- Each test will be performed using nominal workshop atmosphere.

RETURN WEIGHT
- Film 10.5 pounds for all FO's.

M479 ZERO GRAVITY FLAMMABILITY
FO-5 BURNING OF TWO IDENTICAL TEST SPECIMENS SEPARATED BY DIFFERENT GAP DISTANCES SPECIMENS 31 THRU 37

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1 2 3 V	*δ	CREWMAN	*δ
		4	// M479 OP 31 11.03.06-00 //	
0:00 0:08			M479-5 CS-M PERF #__ OF 7 FILM AND COMMENT ON BURNING OF SPECIMEN	
		2	// M479 FILM S 11.03.09-00 //	
0:00 0:03			M479-5 FILM STOWAGE CS-M	
		3	// M479 STOW E 14.06.01-00 //	
0:00 0:06			M479-5 CS-M STOW EXPERIMENT HARDWARE	
		5	// M479 STOW F //	
0:00 0:10			M479-5 STOW CS-M STOW FILM IN CM FOR RETURN	

PHOTO PAD

SCHEDULE CRITERIA
- All phases of M512 to be completed prior to M479 performance.
- If M479 is scheduled on a different mission to M512 then the Experiment Integrity check must be accomplished once prior to the first performance of M479.
- If the experiment is terminated before the completion of the tests, then the film must be removed and stored. Upon resumption of the tests the exp. facility must first be verified. If FO-2 directly follows FO-1 then the stowage of the film need not be performed.
- All performances of M479 to be completed prior to the end of SL-3 because of film degradation.

CONSTRAINTS
- S/C maneuvers to be restricted to attitude hold during experiment performance.
- Each test will be performed using nominal workshop atmosphere.

RETURN WEIGHT
- Film 10.5 pounds for all FO's.

M487 HABITABILITY/CREW QUARTERS

FO-1	OWS ENVIRONMENT	FO-4	FOOD & WATER	FO-7	HOUSEKEEPING
FO-2	INTERNAL ARCHITECTURE	FO-5	PERSONAL ACCOUTREMENTS	FO-8	COMMUNICATIONS
FO-3	MOBILITY AIDS	FO-6	PERSONAL HYGIENE	FO-9	OFF DUTY ACTIVITIES

MRD 11/1/71
EOH
ERD 9/70
ODB
AE

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00						M487-1 CS-W, H, S, E & F PERF #___OF 3 UNSTOW & CALIBRATE EQUIP. RECORD TEMP., AIR VELOCITY, HUMIDITY, SOUND LEVEL & FREQUENCY RELATE ENVIRONMENTAL MEASUREMENTS TO CREW COMFORT STOW EQUIPMENT			SCHEDULE CRITERIA ● Perform FO1 three times during the mission preferably early, mid and late in the mission ● FO's 2 through 9 will not require crew dedicated time for accomplishment and therefore will not be formally scheduled in the timeline. ● It is estimated that each of FO's 3 through 7 will require approximately 20 minutes of crew time for photography and each of FO's 2 through 9 will require approximately 10 minutes of crew time for recording subjective comments. ● FO-2, internal architecture - voice record comments pertaining to compartment ingress/egress, movement about, and operation of doors, hatches, curtains and lockers. ● FO-3, mobility aids - photograph and voice record comments on the use of mobility aids and restraints during sleep, equipment manipulation, while eating and during movement abort. ● FO-4 food and water - photograph and voice record comments pertaining to food preparation, open tray eating, cleanup, water dispensing, use of utensils and meal appearance and taste. ● FO-5, personal accoutrements - photograph and voice record comments pertaining to crew garment donning and doffing, storage, disposal and comfort/mobility under various conditions.
0:30						/// TBS ///			
0:00						M487 E TRANSFER FILM TO CM			
0:05						 FOR FO'S 3 THRU 7, SEE PHOTOGRAPHY, PAGE 4-42			

M487 HABITABILITY/CREW QUARTERS

FO-1 OWS ENVIRONMENT	FO-4 FOOD & WATER	FO-7 HOUSEKEEPING
FO-2 INTERNAL ARCHITECTURE	FO-5 PERSONAL ACCOUTREMENTS	FO-8 COMMUNICATIONS
FO-3 MOBILITY AIDS	FO-6 PERSONAL HYGIENE	FO-9 OFF DUTY ACTIVITIES

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
									SCHEDULE CRITERIA CONT. • FO-6, personal hygiene - photograph and voice record comments pertaining to bathing hand and face washing, drying, brushing teeth, shaving and cutting hair. • FO-7, housekeeping - photograph and voice comment on normal housekeeping activities such as refuse disposal, stowage, vacuum cleaning, servicing waste management devices, disinfecting, etc. • FO-8, communications - voice comment on the use and set-up of onboard communications devices. • FO-9, off duty activities - voice comment on all aspects of physical exercises and recreational games. CONSTRAINTS • None. RETURN WEIGHT • Film 5.25 pounds.

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-1 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) TO EVALUATE ALL FOUR OPERATIVE AMRU MODES

MRD	4/1/72
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	11/2/71
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					25	// M509 AME UN 09.01.05-00//		
0:00						M509-1 SUBJECT CS-F REMOVE AND STOW HHMU		
						REMOVE AND STOW ARM RESTRAINTS		
						REMOVE AND STOW BATTERY RESTRAINTS		
						DEPLOY HANDRAILS		
						REMOVE AND STOW LAUNCH SHOCK MOUNTS		
							3	// M509 ASSIST //
						SECURE ASMU		M509-1 OBSERVER CS-F ASSIST IN SECURING AMU
						RECONFIGURE PSS RACK		
1:00								

SCHEDULE CRITERIA

- Schedule all performances of M509 and T020 5 days apart.
- All FO's are to be scheduled in numerical order.
- Do not schedule concurrently with S073, S149, T013, M092, M093, M131, M171, T027 since they all use the same telemetry channels.
- All equipment that might obstruct the experiment performance must be cleared from the area. This requirement prohibits any experiment hardware being in place at either SAL during performance.
- Schedule the performance such that the first part is conducted over a ground station for real-time analysis of the ASMU performance.
- All FO's are to be performed by the same crewman.
- Activities to be photographed per M151 requirements are preparation/donning of ASMU and recharging of PSS and batteries.
- All crewmen must don ear protectors for experiment performance.
- Batteries and PSS tanks must be charged prior to first performance.

CONSTRAINTS

- Cluster acceleration will not exceed 10^{-3} degrees per sec^2 or 3×10^{-4} with respect to any axis during performance.
- Vehicle rate will not exceed 6 degrees per min. about any axis.

RETURN WEIGHT

- Film TBD lbs.

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-1 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) TO EVALUATE ALL FOUR OPERATIVE AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
					1	//M509 INITIA 09.01.01-00 //			NOTES ● Although the battery requires 20 hours to charge, it may be left on the charger for a longer period without being damaged. ● There are two batteries and three PSS tanks to charge prior to first experiment performance.
0:00 0:02						M509-1 INITIATE BATTERY CHG			
						WAIT 20 HOURS FOR BATTERY TO CHARGE			
					1	//M509 TERMIN 09.01.02-00 //			
0:00 0:02						M509-1 TERMINATE CHARGE			
					5	//M509 BOTTLE 09.01.03-00 //			
0:00						M509-1 CS-A UNSTOW RECHARGE STATION OBTAIN PSS BOTTLE FROM PSS RACK AND INSTALL AT RECHARGE STATION			
0:10						ALLOW 20 MIN FOR PSS BOTTLE TO PRESSURIZE			
						ALLOW TBD MIN FOR BOTTLE TO COOL			
					5	//M509 TOPOFF 09.01.04-00 //			
0:00						M509-1 CS-A TOP OFF PSS BOTTLE RETURN BOTTLE TO RACK STOW RECHARGE STATION			
0:10									

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-1 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS
(SHIRTSLEEVES) TO EVALUATE ALL FOUR OPERATIVE AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					73	//M509 PERF 1 //	73	//M509 OBSV 1 CS-F
						M509-1 SUBJECT CS-F		M509-1 OBSERVER CS-F
						PERF # 1 OF 1		
						SET UP CAMERAS AND LIGHTS		PHOTO PAD
						PREPARE ASMU: • INSTALL PSS BOTTLE • INSTALL BATTERY • SPIN UP CMG'S (APPROX. 20 MIN TO ATTAIN FULL SPEED)		
						CLEAR EXPERIMENT AREA OF OBSTACLES		ASSIST SUBJECT TO PREPARE AND DON ASMU
						DON ASMU		
						DON HARD HAT AND EAR PROTECTORS		DON EAR PROTECTORS
						CONFIGURE EQUIPMENT FOR OPERATION		CUE SUBJECT ON TEST PROCEDURES
						RELEASE DOCKING LATCH		START CAMERAS AND TAPE RECORDERS

M509 ASTRONAUT MANEUVERING EQUIPMENT

FO-1 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) TO EVALUATE ALL FOUR OPERATIVE AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						PERFORM MANEUVERS IN CMG RATE GYRO, DIRECT AND HHMU CONTROL MODES			
						SWITCH CMG POWER OFF AFTER CMG MODE MANEUVER		CHANGE PSS TANK AFTER 30 MIN OPERATION	
						ON COMPLETION OF MANEUVERS RETURN TO DONNING STATION AND DOCK		ASSIST SUBJECT TO DOCK	
						SECURE ASMU: • ASMU POWER OFF • DOFF ASMU • PSS VALVE CLOSED • BLEED LINES BY FIRING THRUSTERS • CONNECT ASMU BATTERY TO CHARGER • INSTALL PSS BOTTLE IN AM RECHARGE STATION		RECONFIGURE OWS DOFF EAR PROTECTORS STOW CAMERAS, FILM, FLOOD LIGHTS	
2:25									

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-1 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS
(SHIRTSLEEVES) TO EVALUATE ALL FOUR OPERATIVE AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						ALLOW 20 MIN FOR PSS BOTTLE TO PRESSURIZE			
						ALLOW <u>TBD</u> MIN FOR BOTTLE TO COOL			
					5	//M509 TOPOFF 09.01.04-00 //			
0:00						M509-1 CS-A TOPOFF PSS BOTTLE RETURN BOTTLE TO RACK			
0:10					5	//M509 BOTTLE 09.01.03-00 //			
0:00						M509-1 CS-A OBTAIN PSS BOTTLE FROM RACK AND INSTALL AT RECHARGE STATION			
0:10						ALLOW 20 HOURS FOR BATTERY TO RECHARGE			
					1	//M509 TERMIN 09.01.02-00 //			
0:00 0:02						M509-1 TERMINATE CHARGE			

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-2 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) AND COMPLETE SOME EXPLORATORY MANEUVERS TO EVALUATE ALL FOUR OPERATING AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					93	//M509 PERF 2 //	93	//M509 OBSV 2 //	
0:00						M509-2 SUBJECT CS-F PERF # 1 OF 1		M509-2 OBSERVER CS-F	
						SET UP CAMERAS & LIGHTS		PHOTO PAD	
						PREPARE ASMU: ● INSTALL PSS TANK ● SPIN UP CMG'S (APPROX. 20 MIN TO ATTAIN FULL SPEED)		START ONE CAMERA TO PHOTOGRAPH SUBJECT DONNING ASMU (M151 REQUIREMENT)	
						CLEAR EXPERIMENT AREA OF OBSTACLES			
								ASSIST SUBJECT TO PREPARE AND DON ASMU	
						DON ASMU, HARDHAT & EAR PROTECTORS			
								DON EAR PROTECTORS	
						CONFIGURE EQUIPMENT FOR OPERATION		CUE SUBJECT ON TEST PROCEDURES	

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-2 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) AND COMPLETE SOME EXPLORATORY MANEUVERS TO EVALUATE ALL FOUR OPERATING AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						RELEASE DOCKING LATCH		START CAMERAS AND TAPE RECORDERS	
						PERFORM MANEUVERS IN CMG RATE GYRO, DIRECT AND HHMU CONTROL MODES		TAKE STILL PHOTOGRAPHY OF EXPERIMENT MANEUVERS	
						SWITCH CMG POWER OFF AFTER CMG MODE		CHANGE PSS TANK AFTER 30 MIN OF OPERATION	
						ON COMPLETION OF MANEUVERS RETURN TO DONNING STATION AND DOCK		CHANGE BATTERY AFTER 50 MIN OF OPERATION CHANGE SECOND PSS TANK AFTER 30 MIN OF OPERATION ASSIST SUBJECT TO DOCK	

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-2 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) AND COMPLETE SOME EXPLORATORY MANEUVERS TO EVALUATE ALL FOUR OPERATING AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						SECURE ASMU: o ASMU POWER OFF o DOFF ASMU o PSS VALVE CLOSED o BLEED LINES BY FIRING THRUSTERS o CONNECT ASMU BATTERY TO CHARGER o INSTALL PSS TANK IN AM RECHARGE STATION		RECONFIGURE OWS DOFF EAR PROTECTORS REMOVE & STOW CAMERAS, FILM, FLOOD LIGHTS	
2:45						ALLOW 20 MIN FOR PSS BOTTLE TO PRESSURIZE			
						ALLOW TBD MIN FOR PSS BOTTLE TO COOL			
					5	//M509 TOPOFF 09.01.04-00 //			
0:00						M509-2 CS-A TOPOFF PSS BOTTLE RETURN BOTTLE TO RACK			
0:10									

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-2 PERFORM FAMILIARIZATION AND MISSION MANEUVER TESTS (SHIRTSLEEVES) AND COMPLETE SOME EXPLORATORY MANEUVERS TO EVALUATE ALL FOUR OPERATING AMRV MODES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
					5	//M509 BOTTLE 09.01.03-00 //			
0:00						M509-2 CS-A OBTAIN PSS BOTTLE FROM RACK AND INSTALL AT RECHARGE STATION			
0:10						ALLOW 20 HRS FOR BATTERY TO RECHARGE			
					1	//M509 TERMIN 09.01.02-00 //			
0:00 0:02						M509-2 TERMINATE CHARGE			
					1	//M509 INITIA 09.01.01-00 //			
0:00 0:02						M509-2 INITIATE CHARGE			

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-3 PERFORM MANEUVERING TESTS TO EVALUATE ALL FOUR OPERATING AMRV MODES WEARING A PRESSURIZED SUIT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					107	//M509 PERF 3 //	107	//M509 OBSV 3 //	
						M509-3 SUBJECT CS-F		M509-3 OBSERVER CS-F	
						PERF #1 OF 1 PREPARE ASMU: ● INSTALL PSS TANK ● SPIN UP CMG'S (APPROX. 20 MIN TO ATTAIN FULL SPEED)		SET UP CAMERAS & LIGHTS	
						CLEAR EXPERIMENT AREA OF OBSTACLES		START ONE CAMERA TO PHOTOGRAPH SUBJECT DONNING ASMU (M151 REQUIREMENT)	
						UNSTOW ALSA & LSU			
						DON PGA AND CONNECT LSU			
						DON ASMU & EAR PROTECTORS		ASSIST SUBJECT TO PREPARE AND DON ASMU	
						PRESSURIZE SUIT			

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-3 PERFORM MANEUVERING TESTS TO EVALUATE ALL FOUR OPERATING AMRV MODES WEARING A PRESSURIZED SUIT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						CONFIGURE EQUIPMENT FOR OPERATION		DON EAR PROTECTORS	
						RELEASE DOCKING LATCH		START CAMERAS AND TAPE RECORDERS	
						PERFORM MANEUVERS IN CMG RATE GYRO, DIRECT AND HHMU CONTROL MODES		TAKE STILL PHOTOGRAPHY OF EXPERIMENT MANEUVERS CUE SUBJECT ON TEST PROCEDURES	
						SWITCH CMG POWER OFF AFTER CMG MODE		CHANGE PSS TANK AFTER 30 MIN OF OPERATION	
						ON COMPLETION OF MANEUVERS RETURN TO DONNING STATION AND DOCK		CHANGE BATTERY AFTER 50 MIN OF OPERATION CHANGE SECOND PSS TANK AFTER 30 MIN OF OPERATION ASSIST SUBJECT TO DOCK	

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-3 PERFORM MANEUVERING TESTS TO EVALUATE ALL FOUR OPERATING AMRV MODES WEARING A PRESSURIZED SUIT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						SECURE ASMU: • ASMU POWER OFF • DOFF ASMU • DOFF ALSA & DISCONNECT LSU		RECONFIGURE OWS	
						• PSS VALVE CLOSED • BLEED LINES BY FIRING THRUSTERS		DOFF EAR PROTECTORS	
						• CONNECT ASMU BATTERY TO CHARGER • INSTALL PSS TANK IN AM RECHARGE STATION			
						• STOW ALSA & LSU • COMMENCE SUIT DRYING		REMOVE & STOW CAMERAS, FILM, FLOOD LIGHTS	
3:35						ALLOW 20 MIN FOR PSS BOTTLE TO PRESSURIZE			

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-3 PERFORM MANEUVERING TESTS TO EVALUATE ALL
FOUR OPERATING AMRV MODES WEARING A PRESSURIZED SUIT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						ALLOW TBD MIN FOR PSS BOTTLE TO COOL			
					5	//M509 TOPOFF 09.01.04-00 //			
0:00 0:10						M509-3 CS-A TOPOFF PSS BOTTLE RETURN BOTTLE TO RACK			
					5	//M509 BOTTLE 09.01.03-00 //			
0:00 0:10						M509-3 CS-A OBTAIN PSS BOTTLE FROM RACK AND INSTALL AT RECHARGE STATION			
						ALLOW 20 HRS FOR BATTERY TO RECHARGE			
					1	//M509 TERMIN 09.01.02-00 //			
0:00 0:02						M509-3 TERMINATE CHARGE			
					1	//M509 INITIA 09.01.01-00 //			
0:00 0:02						M509-3 INITIATE CHARGE			

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-4 REPEAT SOME OF THE MISSION MANEUVERS AND COMPLETE THE EXPLORATORY MANEUVERING TESTS (SHIRTSLEEVE)

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					78	//M509 PERF 4 //	78	//M509 OBSV 4 //	
						M509-4 SUBJECT CS-F		M509-4 OBSERVER CS-F	
						PERF # 1 OF 1 SET UP CAMERAS & LIGHTS		PHOTO PAD	
						PREPARE ASMU: ● INSTALL PSS TANK ● SPIN UP CMG'S (APPROX. 20 MIN TO ATTAIN FULL SPEED)		START ONE CAMERA TO PHOTOGRAPH SUBJECT DONNING ASMU (M151 REQUIREMENT)	
						CLEAR EXPERIMENT AREA OF OBSTACLES			
						DON ASMU, HARDHAT & EAR PROTECTORS		ASSIST SUBJECT TO PREPARE AND DON ASMU	
						CONFIGURE EQUIPMENT FOR OPERATION		DON EAR PROTECTORS	
								CUE SUBJECT ON TEST PROCEDURES	

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-4 REPEAT SOME OF THE MISSION MANEUVERS AND COMPLETE THE EXPLORATORY MANEUVERING TESTS (SHIRTSLEEVE)

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						RELEASE DOCKING LATCH		START CAMERAS AND TAPE RECORDERS	
						PERFORM MANEUVERS IN CMG RATE GYRO, DIRECT AND HHMU CONTROL MODES		TAKE STILL PHOTOGRAPHY OF EXPERIMENT MANEUVERS	
						SWITCH CMG POWER OFF AFTER CMG MODE			
								CHANGE PSS TANK AFTER 30 MIN OF OPERATION	
								CHANGE BATTERY AFTER 50 MIN OF OPERATION	
						ON COMPLETION OF MANEUVERS RETURN TO DONNING STATION AND DOCK		ASSIST SUBJECT TO DOCK	
						SECURE ASMU: • ASMU POWER OFF • DOFF ASMU • PSS VALVE CLOSED • BLEED LINES BY FIRING THRUSTERS • INSTALL PSS TANK IN AM RECHARGE STATION		RECONFIGURE OWS DOFF EAR PROTECTORS REMOVE & STOW CAMERAS, FILM, FLOOD LIGHTS	
2:35									

M509 ASTRONAUT MANEUVERING EQUIPMENT
FO-4 REPEAT SOME OF THE MISSION MANEUVERS AND COMPLETE THE EXPLORATORY MANEUVERING TESTS (SHIRTSLEEVE)

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						ALLOW 20 MIN FOR PSS BOTTLE TO PRESSURIZE			
						ALLOW TBD MIN FOR PSS BOTTLE TO COOL			
					5	//M509 TOPOFF 09.01.04-00 //			
0:00						M509-4 CS-A TOPOFF PSS BOTTLE RETURN BOTTLE TO RACK			
0:10					5	//M509 BOTTLE 09.01.03-00 //			
0:00						M509-4 CS-A OBTAIN PSS BOTTLE FROM RACK AND INSTALL AT RECHARGE STATION			
0:10									

M516 CREW ACTIVITIES/MAINTENANCE

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
						SEE PHOTOGRAPHY PAGE 4-42			

M551 METALS MELTING

FO-1 EXAMINE MOLTEN METAL FLOW CHARACTERISTICS IN ZERO GRAVITY

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN	
					12	// M551 OP 11.04.03-00 //			SCHEDULE CRITERIA ● Schedule prior to performance of M479. ● If the 3 performances of M551-1 are scheduled consecutively, the camera installation and equipment stowage need only to be performed once. CONSTRAINTS ● None. RETURN WEIGHT ● Sample TBD pounds. ● Film TBD pounds.
0:00						M551-1 CS-M PERF # ___ OF 3 EXPERIMENT FACILITY VERIFICATION INSTALL CAMERA AND FILM MOUNT SPECIMEN # ___ OF 3 TO DRIVE MOTOR AND INSTALL IN CHAMBER CONDUCT MELTING SEQUENCE			
0:25						WAIT A MINIMUM OF 2.5 HOURS FOR SPECIMEN TO COOL			
					2	// M551 REMOVA 11.09.04.00//			
0:00 0:04						M551-1 CS-M REMOVE SPECIMEN			
					2	//M551 TERMIN 11.04.05-00//			
0:00 0:04						M551-1 STOW CS-M CLEAN CHAMBER STOW SAMPLE			

M552 MATERIALS PROCESSING IN SPACE
FO-1 EXOTHERMIC HEATING TASK

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	2	3	V	*δ		*δ		
					7	//M552 OP 11.04.08-00 //			SCHEDULE CRITERIA ● Schedule prior to the performance of experiment M479. RETURN WEIGHT ● Samples TBD pounds.
0:00						M552-1 CS-M VERIFY FACILITY INSTALL BRAZING MODULE SELECT SPECIMEN SWITCH TRIGGER SPECIMEN			
0:14						WAIT MINIMUM OF 2 HOURS FOR SPECIMEN TO COOL			
					2	//M552 CONTIN //			
0:00 0:04						M552-1 CS-M SET AND TRIGGER SWITCH			
					3	//M552 TERMIN 11.04.09-00//			
0:00 0:06						M552-1 STOW CS-M REMOVE AND STOW BRAZING MODULE			

M553 MATERIALS PROCESSING IN SPACE
FO-1 SPHERE FORMING TASK

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	*δ		*δ	
0:00	23	// M553 PREP & 11.09.06-00//		
		M553-1 CS-M PERF #___ OF 2 EXP FACILITY VERIFICATION INSTALL CAMERA AND LOAD FILM INSERT SPHERE CATCHER MOUNT SPECIMEN #___ OF 2 TO DRIVE MOTOR AND INSTALL INITIATE VOICE RECORDING CONFIGURE CONTROL PANEL FOCUS ELECTRON BEAM ON TARGET THEN INDEX TO FIRST SAMPLE CONDUCT MELTING SEQUENCE TO FORM THE 14 SPHERES RECONFIGURE CONTROL PANEL		
0:45		WAIT A MINIMUM OF 15 MIN FOR SPHERES TO COOL		
	5	// M553 REMOVA //		
0:00		M553 -1 STOW CS-M REMOVE AND STOW SPHERE CATCHER AND CAMERA AND FILM		PHOTO PAD
0:10				

SCHEDULE CRITERIA
- Schedule prior to the performance of experiment M479.
- If the 2 performances of M553 are scheduled consecutively then the camera installation and equipment stowage need only be performed once.

CONSTRAINTS
- None.

RETURN WEIGHT
- Samples TBD pounds.
- Film TBD pounds.

M554 MATERIALS PROCESSING IN SPACE
FO-1 COMPOSITE CASTING TASK

MRD	7/1/71
EOH VOL I	4/9/71
EOH VOL II	6/7/71
ODB	12/3/71
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ
					4	// M554 PREP & 11.04.10-00 //	
0:00 0:08				▲		M554 -1 CS-M VERIFY FACILITY INSTALL CASTING MODULE INITIATE HEATING CYCLE	
						WAIT MIN. OF 3 HRS FOR TEMP TO REACH 950°C	
					1	//M554 INITIATE 11.04.11-00//	
0:00 0:02						M554 INITIATE COOLING CYCLE	
						WAIT MIN OF 3 HRS FOR TEMP TO DROP TO 500°C	
					1	//M554 TERMIN 11.04.12-00 //	
0:00 0:02						M554 TERMINATE COOL CYCLE	
					4	//M554 STOW 11.04.13-00 //	
0:00 0:08						M554-1 STOW CS-M REMOVE AND STOW CASTING	

SCHEDULE CRITERIA
- Schedule prior to the performance of experiment M479.
- During the 3 hr. heating cycle and the 3 hr. cooling cycle the temperature of the casting module should be checked intermittently.

CONSTRAINTS
- None.

RETURN WEIGHT
- Samples TBD pounds.

NOTES
- Spacecraft accelerations are to be avoided if possible. However, post-flight telemetry data of accelerations during attitude maneuvers will be required.

M555 MATERIALS PROCESSING IN SPACE

FO-1 SINGLE CRYSTAL GROWTH

ET	AM 1	2	3	V	*δ		*δ		
					11	//M555 PREP, I 11.04.14-00//			
0:00						M555-1 CS-M VERIFY FACILITY INSTALL CRYSTAL GROWTH PACKAGE INITIATE HEATING			
0:22						RECORD TEMP EVERY 30 MIN FOR 3 HOURS			
					5	RECORD TEMP EVERY 12 HOURS FOR 112 HOURS			
0:00						//M555 TERMIN 11.04.16-00//			
0:10						M555-1 CS-M TERMINATE HEATING CYCLE PRESSURIZE CHAMBER			
						RECORD TEMP EVERY 30 MIN FOR 3 HOURS			
						WAIT 9 HOURS (TOTAL) FOR COMPLETE COOLING			

SCHEDULE CRITERIA
- Schedule prior to the performance of experiment M479.

CONSTRAINTS
- None

RETURN WEIGHT
- Samples TBD pounds.

NOTES
- Spacecraft accelerations are to be avoided if possible. However, postflight telemetry data of accelerations during attitude maneuvers will be required.

M555 MATERIALS PROCESSING IN SPACE

FO-1 SINGLE CRYSTAL GROWTH

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
0:00					6	// STOW MATERI 14.06.02-00// M555-1 STOW CS-M STOW CRYSTAL GROWTH PACKAGE AND EQUIP			
0:12									
0:00					5	// M555 FILM S // M555 -1 FILM STOW CS-CM STOW SAMPLES AND FILM IN CM FOR RETURN			
0:10									

S009 NUCLEAR EMULSION
FO-1 INSTALL, EXPOSE AND STOW HTE NUCLEAR EMULSION PACKAGE

MRD	4/30/71
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	12/17/71
AE	1/3/72

ET	*δ	CREWMAN	*δ	
0:00	5	//S009 PREPAR 08.01.01-00//		
		S009-T PREP CS-M PREPARE EXP HOUSING OBTAIN DETECTOR PKG FROM VAULT AND INSTALL		
0:11				
	1	//S009 ACTIVA 08.01.02-00//	2	//S009 PAD UP 08.01.06-00//
0:00 0:02		S009-T ACTIVATE PKG CS-M		S009 PAD UP PAD UPDATE
	1	//S009 BETA A 08.01.02-00//	2	//S009 PAD UP 08.01.06-00//
0:00 0:02		S009-T BETA ANG & TIME SET		S009 PAD UP PAD UPDATE
	6	//S009 TERM & 08.01.04-00//		
0:00		S009 TERM & CS-CM TERMINATE EXPOSURE AND REMOVE DETECTOR PKG STOW FOR RETURN		
0:12				

SCHEDULE CRITERIA

- The detector package should be installed in the MDA within 5 days after launch.
- The detector package should be exposed a minimum of 250 hrs.
- Update pads will be required throughout the exposure period for changes in the angle adjustments are made in increments of 7.5° and the period timer adjustment can only be made while crossing 30°N latitude going south. It is desirable to make both adjustments at the same time. This will require the new pivot angle setting to be within 3.75° of the actual angle during a southbound crossing of 30°N latitude.

CONSTRAINTS

- The field-of-view of the detector package must not be directed toward the earth atmosphere.
- No radiation sources will be allowed in the vicinity of the detector packagc at any time.
- The detector package must be in closed cconfiguration whenever the spacecraft is north of 30°N latitude or south of 25.5°S latitude.

RETURN WEIGHT

- Detector package 28.5 lb.

S015 ZERO GRAVITY SINGLE HUMAN CELLS

FO-1 OPERATE THE CYTOCHEMICAL EXPERIMENT SUBSYSTEM (BIOPACK 1)

ET	*δ		*δ		
0:00	5	//S015 BIO 1A 11.09.02-01 //			
		S015-1 CS-CM VERIFY INITIAL SW. POSI- PARTIALLY LABEL BIOPACK 1 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 3			
0:11		WAIT 60 ±3 MIN. FROM WHEN THE BIOPACK 1 SWITCH WAS PLACED IN POSITION 3			
	5	//S015 BIO 1B 11.09.02-02 //			
0:00		S015-1 CS-CM RINSE AND COMPLETE LABELING OF BIOPACK 1 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 5			
0:11		WAIT 60 ±3 MIN. FROM WHEN THE BIOPACK 1 SWITCH WAS PLACED IN POSITION 5			
	7	//S015 BIO 1C 11.09.02-03//			
0:00		S015-1 CS-CM RINSE AND FIX SPECIMENS OF BIOPACK 1 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 8 SWITCH BIOPACK 1 OFF			
0:13					

SCHEDULE CRITERIA

- Schedule biopack 1 performance at any convenient time on the fourth day after launch.
- Schedule biopack 2 performance at any convenient time on the tenth day after launch.

CONSTRAINTS

- After each step has been initiated on the label, rinse, fix cycle the biopack lamp will come on for about 2-5 minutes. If the lamp does not come on, or if the lamp is on for less than 30 secs. or for more than 8 minutes the flight controllers should be notified so that contingency procedures can be adopted. When the lamp goes out, the biopack switch should be moved to the next position within 10 min. unless a 60 ±3 min. wait period has been scheduled.
- Temperatures beyond the 50°F to 95°F range must be reported to the PI within 24 hours of the occurrence in order to simulate the same temperature for the ground based "control experiment".

RETURN WEIGHT

- The flight hardware package weighs 23.5 pounds and is never removed from the CM

S015 ZERO GRAVITY SINGLE HUMAN CELL

FO-1 OPERATE THE CYTOCHEMICAL EXPERIMENT SUBSYSTEM (BIOPACK 2)

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
					5	//S015 BIO 2A 11.09.03-01 //			
0:00						S015-1 CS-CM VERIFY INITIAL SW.POSITIONS PARTIALLY LABEL BIOPACK 2 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 3			
0:11						WAIT 60 ± 3 MIN. FROM WHEN THE BIOPACK 2 SWITCH WAS PLACED IN POSITION 3			
					5	//S015 BIO 2B 11.09.03-02//			
0:00						S015-1 CS-CM RINSE AND COMPLETE LABELING OF BIOPACK 2 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 5			
0:11						WAIT 60 ± 3 MIN. FROM WHEN THE BIOPACK 2 SWITCH WAS PLACED IN POSITION 5			
					7	//S015 BIO 2C 11.09.03-03//			
0:00						S015-1 CS-CM RINSE AND FIX SPECIMENS OF BIOPACK 2 BY CONDUCTING SWITCHING SEQUENCE UP TO POSITION 8 SWITCH BIOPACK 2 OFF			
0:13									

S015 ZERO GRAVITY SINGLE HUMAN CELLS

FO-2 MONITOR OPERATION OF THE MICROSCOPIC CAMERA SUBSYSTEM

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00 0:02					1	// S015 CAMERA 11.09.01-00// S015-2 LAMP MONITOR CS-CM			SCHEDULE CRITERIA ● 40X camera indicator lamp should be checked out at least once each day at 0020 or 1220 GMT for the first four days. ● 20X camera indicator lamp should be checked at least once each day at 0620 or 1820 GMT for the first 10 days. ● The cameras will be operating 20 min. prior and 20 min. after GMT times listed above and indicator lamps should be checked during this period. CONSTRAINTS ● The 40X or 20X camera switch should not be left in the test position or the associated camera will run continuously depleting the film prematurely. ● Temperatures beyond the 50°F to 95°F range must be reported to the PI within 24 hours of the occurrence in order to simulate the same temperature for the ground based "control experiment". RETURN WEIGHT ● The S015 flight hardware package weighs 23.5 pounds and is never removed from the CM.

S019 ULTRAVIOLET STELLAR ASTRONOMY
FO-1 THROUGH 12 OBTAIN UV PHOTOGRAPHS OF DESIGNATED STARFIELDS DURING DARKSIDE PASSES

MRD	4/1/72
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	2/17/72
AE	1/3/72

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
0:00		5	//S019 AMS IN 08.03.01-00// S019-1 A-SOL-SAL INSTALL AMS IN SAL		
0:10					
0:00		8	//S019 INSTAL 09.03.02-00// S019-1 SETUP A-SOL-SAL ATTACH SPECTROGRAPH ASSEMBLY TO MIRROR SYSTEM VENT SAL TO SPACE		
0:15					
0:00		32	//S019 OPERAT 08.03.03-00// S019-1 A-SOL-SAL PERF #____ OF 12 OPEN SAL DOOR, EXTEND MIRROR SYSTEM STARFIELD ____ TILT ____ ROT ____ EXP __, __, ___ STARFIELD ____ TILT ____ ROT ____ EXP __, __, ___ STARFIELD ____ TILT ____ ROT ____ EXP __, __, ___	1	//S019 INHIBI // S019-1 INHIBIT CMG DUMP UPDATE PAD

SCHEDULE CRITERIA

- Anti-solar airlock required. Do not schedule concurrently with S063, S149, S183, and T027/S073-2, -3, -5, -7.
- Do not schedule concurrently with T013, T020, M509, or any activity requiring excessive crew motion.
- Two observing periods are desired, separated by at least a 5-day interval.
- Experiment must be performed during dark-side passes with durations exceeding 32 minutes, when the moon (if within 90 degrees of the selected starfields) is less than half illuminated.
- Spacecraft will be in solar inertial mode.
- All waste dumps must be inhibited at least 30 minutes prior to experiment operation.
- The canisters should be evacuated for stowage not more than 30 min. after experiment disassembly. The SOL SAL vent hose, if available, can be used for simultaneous canister evacuation.
- The film canister should be removed and slowed between observing periods separated by more than 12 hours. Total exposure duration of the film to ambient radiation during operation must not exceed 96 hours.
- Film canister to be transferred to CM no earlier than 12 hours prior to SL-2 reentry.

CONSTRAINTS

- All interior lights which could scatter light into the spectrograph will be extinguished during exposure periods.

S019 ULTRAVIOLET STELLAR ASTRONOMY
FO-1 THROUGH 12 OBTAIN UV PHOTOGRAPHS OF DESIGNATED STARFIELDS DURING DARKSIDE PASSES

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
0:45			RETRACT MIRROR SYSTEM AND CLOSE SAL DOOR BEFORE SUNRISE		
0:00		3	//S019 REMOVE 08.03.08-00//	1	//S019 ENABLE //
0:07			S019-1 A-SOL-SAL REMOVE SPECTROGRAPH FROM AMS		S019-1 ENABLE DMG DUMP
0:00		13	//S019 STOW E 08.03.10-00//		
0:25	▲		S019-1 A-SOL-SAL EVACUATE AND STOW MIRROR SYSTEM EVACUATE AND STOW OPTICAL CANISTER STOW FILM CANISTER SECURE SAL		
0:00		5	//S019 LOG AN 08.03.11-00//		
0:10			S019-1 STOW CS-CM STOW LOG AND FILM IN CM FOR RETURN		

CONSTRAINTS (CONTINUED)
- Spacecraft attitude must be known to within 2.5 degrees in the stellar inertial reference system.

NOTES:
- Spacecraft rate above 10 arc-sec/sec are not acceptable.
- If the experiment is removed from the airlock for more than 12 hours, all experiment hardware must be evacuated.
- Of the 150 frames available, a minimum of 115 UV photographs will satisfy the experiment objective. However, to use all the frames, it is expected that an average of 12 exposures can be made on each 12 darkside passes.
- 3 to 4 starfields will be photographed on each darkside pass using from 2 to 4 exposures per starfield.

RETURN WEIGHT
- Film canister 14.9 lb.

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950 h	m	DECLINATION-1950 °	GUIDE STAR	STARFIELD CRITERIA	NO.OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC) 30	90	270	MANUAL
1	00	16	+62.5	TBD	D	8	TBD	TBD	TBD	TBD	TBD
2	00	18	-70.5	TBD		3	TBD	TBD	TBD	TBD	TBD
3	00	25	+52.5	TBD	B	7	TBD	TBD	TBD	TBD	TBD
4	00	55	+60.0	TBD	B	11	TBD	TBD	TBD	TBD	TBD
5	01	36	-57.5	TBD		4	TBD	TBD	TBD	TBD	TBD
6	01	53	+55.0	TBD		5	TBD	TBD	TBD	TBD	TBD
7	01	55	+64.0	TBD		6	TBD	TBD	TBD	TBD	TBD
8	02	42	+27.0	TBD	C	6	TBD	TBD	TBD	TBD	TBD
9	02	48	+16.5	TBD		8	TBD	TBD	TBD	TBD	TBD
10	03	24	+48.0	TBD	A	16	TBD	TBD	TBD	TBD	TBD
11	03	27	+10.5	TBD		7	TBD	TBD	TBD	TBD	TBD
12	03	37	+35.5	TBD		5	TBD	TBD	TBD	TBD	TBD
13	03	42	+47.0	TBD	B	5	TBD	TBD	TBD	TBD	TBD
14	03	44	+24.0	TBD	A	17	TBD	TBD	TBD	TBD	TBD
15	03	46	+32.5	TBD	A	11	TBD	TBD	TBD	TBD	TBD
16	03	47	+ 6.0	TBD		4	TBD	TBD	TBD	TBD	TBD
17	03	50	+35.0	TBD	D	8	TBD	TBD	TBD	TBD	TBD
18	03	51	-24.0	TBD		4	TBD	TBD	TBD	TBD	TBD
19	04	01	+ 5.0	TBD		5	TBD	TBD	TBD	TBD	TBD
20	04	10	+50.5	TBD		4	TBD	TBD	TBD	TBD	TBD
21	04	10	+47.5	TBD	C	3	TBD	TBD	TBD	TBD	TBD
22	04	15	+ 9.0	TBD		10	TBD	TBD	TBD	TBD	TBD
23	04	21	+21.5	TBD		11	TBD	TBD	TBD	TBD	TBD
24	04	21	+14.5	TBD		19	TBD	TBD	TBD	TBD	TBD
25	04	22	+17.5	TBD		17	TBD	TBD	TBD	TBD	TBD
26	04	32	+16.0	TBD		15	TBD	TBD	TBD	TBD	TBD
27	04	37	+11.5	TBD		5	TBD	TBD	TBD	TBD	TBD
28	04	37	- 3.5	TBD	B	6	TBD	TBD	TBD	TBD	TBD
29	04	48	+ 7.0	TBD		3	TBD	TBD	TBD	TBD	TBD
30	04	54	+ 1.5	TBD		8	TBD	TBD	TBD	TBD	TBD
31	04	54	- 6.5	TBD		5	TBD	TBD	TBD	TBD	TBD
32	04	58	+42.0	TBD		7	TBD	TBD	TBD	TBD	TBD
33	05	12	- 8.0	TBD	B	5	TBD	TBD	TBD	TBD	TBD
34	05	15	-13.0	TBD	B	8	TBD	TBD	TBD	TBD	TBD
35	05	22	+ 2.5	TBD	A	10	TBD	TBD	TBD	TBD	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950 h	m	DECLINATION-1950 °	GUIDE STAR	STARFIELD CRITERIA	NO. OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC) 30	90	270	MANUAL
36	05	23	+29.5	TBD		6	TBD	TBD	TBD	TBD	TBD
37	05	24	+ 6.5	TBD	B	5	TBD	TBD	TBD	TBD	TBD
38	05	24	- 1.5	TBD	A	18	TBD	TBD	TBD	TBD	TBD
39	05	25	+16.0	TBD	B	10	TBD	TBD	TBD	TBD	TBD
40	05	30	+21.0	TBD	C	4	TBD	TBD	TBD	TBD	TBD
41	05	33	+25.0	TBD	D	8	TBD	TBD	TBD	TBD	TBD
42	05	33	+ 9.0	TBD	B	6	TBD	TBD	TBD	TBD	TBD
43	05	33	- 6.0	TBD	A	22	TBD	TBD	TBD	TBD	TBD
44	05	34	+17.0	TBD		6	TBD	TBD	TBD	TBD	TBD
45	05	34	+ 3.0	TBD		6	TBD	TBD	TBD	TBD	TBD
46	05	34	- 1.5	TBD	A	18	TBD	TBD	TBD	TBD	TBD
47	05	38	-34.0	TBD		9	TBD	TBD	TBD	TBD	TBD
48	05	45	+14.0	TBD		6	TBD	TBD	TBD	TBD	TBD
49	05	48	- 9.0	TBD		4	TBD	TBD	TBD	TBD	TBD
50	05	53	-35.0	TBD	C	6	TBD	TBD	TBD	TBD	TBD
51	06	06	+19.0	TBD		6	TBD	TBD	TBD	TBD	TBD
52	06	08	- 5.5	TBD		9	TBD	TBD	TBD	TBD	TBD
53	06	10	+15.0	TBD	B	9	TBD	TBD	TBD	TBD	TBD
54	06	16	- 8.0	TBD		7	TBD	TBD	TBD	TBD	TBD
55	06	18	-13.0	TBD		4	TBD	TBD	TBD	TBD	TBD
56	06	18	-19.0	TBD		4	TBD	TBD	TBD	TBD	TBD
57	06	22	-53.0	TBD	C	8	TBD	TBD	TBD	TBD	TBD
58	06	25	-31.5	TBD	B	6	TBD	TBD	TBD	TBD	TBD
59	06	28	- 6.0	TBD	B	10	TBD	TBD	TBD	TBD	TBD
60	06	30	+68.5	TBD		4	TBD	TBD	TBD	TBD	TBD
61	06	35	+ 5.5	TBD	B	10	TBD	TBD	TBD	TBD	TBD
62	06	35	+ 0.0	TBD		4	TBD	TBD	TBD	TBD	TBD
63	06	39	-37.0	TBD	B	12	TBD	TBD	TBD	TBD	TBD
64	06	44	-16.0	TBD		4	TBD	TBD	TBD	TBD	TBD
65	06	46	-31.5	TBD	D	8	TBD	TBD	TBD	TBD	TBD
66	06	52	-20.0	TBD	B	10	TBD	TBD	TBD	TBD	TBD
67	06	52	-24.0	TBD	B	11	TBD	TBD	TBD	TBD	TBD
68	06	58	-28.0	TBD		7	TBD	TBD	TBD	TBD	TBD
69	07	00	-16.0	TBD	C	4	TBD	TBD	TBD	TBD	TBD
70	07	03	-25.0	TBD	B	10	TBD	TBD	TBD	TBD	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950		DECLINATION-1950	GUIDE STAR	STARFIELD CRITERIA	NO. OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC)			
	h	m	°					30	90	270	MANUAL
71	07	07	-11.0	TBD	D	9	TBD	TBD	TBD	TBD	TBD
72	07	10	-40.0	TBD		7	TBD	TBD	TBD	TBD	TBD
73	07	12	-26.0	TBD	A	18	TBD	TBD	TBD	TBD	TBD
74	07	16	-36.5	TBD	B	8	TBD	TBD	TBD	TBD	TBD
75	07	17	-24.0		A	11	TBD	TBD	TBD	TBD	TBD
76	07	19	-17.5	TBD		7	TBD	TBD	TBD	TBD	TBD
77	07	19	-31.0	TBD	B	14	TBD	TBD	TBD	TBD	TBD
78	07	25	-22.5	TBD		7	TBD	TBD	TBD	TBD	TBD
79	07	33	-14.5	TBD		6	TBD	TBD	TBD	TBD	TBD
80	07	35	-23.5	TBD		9	TBD	TBD	TBD	TBD	TBD
81	07	35	-36.0	TBD	A	20	TBD	TBD	TBD	TBD	TBD
82	07	37	-27.0	TBD	A	11	TBD	TBD	TBD	TBD	TBD
83	07	43	-38.0	TBD	A	23	TBD	TBD	TBD	TBD	TBD
84	07	46	-25.5	TBD		7	TBD	TBD	TBD	TBD	TBD
85	07	51	-43.5	TBD	B	13	TBD	TBD	TBD	TBD	TBD
86	07	52	-47.5	TBD	A	13	TBD	TBD	[redacted]	[redacted]	TBD
87	07	58	-39.5	TBD	B	6	TBD	TBD	TBD	TBD	TBD
88	07	58	-53.0	TBD	D	8	TBD	TBD	[redacted]	[redacted]	TBD
89	08	01	-49.0	TBD	A	15	TBD	[redacted]	[redacted]	[redacted]	TBD
90	08	04	-63.0	TBD		7	TBD	TBD	TBD	TBD	TBD
91	08	12	-47.5	TBD	A	12	TBD	[redacted]	[redacted]	[redacted]	TBD
92	08	14	-36.5	TBD	B	12	TBD	TBD	[redacted]	[redacted]	TBD
93	08	20	-70.0	TBD		5	TBD	TBD	TBD	TBD	TBD
94	08	26	-47.5	TBD		6	TBD	TBD	TBD	TBD	TBD
95	08	28	-51.5	TBD	B	12	TBD	TBD	[redacted]	[redacted]	TBD
96	08	29	-43.0	TBD	D	6	TBD	TBD	TBD	[redacted]	TBD
97	08	29	-59.0	TBD		8	TBD	TBD	TBD	TBD	TBD
98	08	41	-48.5	TBD	B	10	TBD	TBD	[redacted]	[redacted]	TBD
99	08	44	-46.0	TBD	B	13	TBD	TBD	[redacted]	[redacted]	TBD
100	08	45	-53.5	TBD	A	12	TBD	TBD	[redacted]	[redacted]	TBD
101	08	51	-58.0	TBD	A	12	TBD	TBD	[redacted]	[redacted]	TBD
102	08	54	-59.5	TBD	A	10	TBD	TBD	[redacted]	[redacted]	TBD
103	09	09	-70.0	TBD		6	TBD	TBD	TBD	TBD	TBD
104	09	11	- 8.5	TBD		5	TBD	TBD	TBD	TBD	TBD
105	09	11	-44.0	TBD	D	8	TBD	TBD	TBD	[redacted]	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950		DECLINATION-1950	GUIDE STAR	STARFIELD CRITERIA	NO. OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC)			
	h	m	°					30	90	270	MANUAL
106	09	13	-58.5	TBD		10	TBD	TBD	TBD	TBD	TBD
107	09	24	-62.0	TBD	C	8	TBD	TBD	[redacted]	[redacted]	TBD
108	09	25	-52.0	TBD	D	8	TBD	TBD	TBD	[redacted]	TBD
109	09	49	-45.0	TBD		6	TBD	TBD	TBD	TBD	TBD
110	10	01	-53.0	TBD	A	11	TBD	TBD	[redacted]	[redacted]	TBD
111	10	35	-65.0	TBD	A	13	TBD	TBD	[redacted]	[redacted]	TBD
112	10	39	-58.5	TBD	B	22	TBD	TBD	TBD	[redacted]	TBD
113	11	10	-71.5	TBD	D	6	TBD	TBD	TBD	[redacted]	TBD
114	11	17	-64.5	TBD		7	TBD	TBD	TBD	TBD	TBD
115	11	25	-54.0	TBD	C	3	TBD	TBD	[redacted]	[redacted]	TBD
116	11	33	-60.5	TBD		13	TBD	TBD	TBD	TBD	TBD
117	11	47	-63.0	TBD	A	17	TBD	TBD	[redacted]	[redacted]	TBD
118	12	03	-78.5	TBD	C	5	TBD	TBD	TBD	[redacted]	TBD
119	12	07	-51.0	TBD	B	6	TBD	TBD	TBD	TBD	TBD
120	12	15	-63.5	TBD	A	17	TBD	TBD	TBD	TBD	TBD
121	12	19	-58.0	TBD		10	TBD	TBD	TBD	TBD	TBD
122	12	29	-50.0	TBD	C	7	TBD	TBD	TBD	TBD	TBD
123	12	39	-68.0	TBD	B	9	TBD	TBD	TBD	TBD	TBD
124	12	41	-48.0	TBD		8	TBD	TBD	TBD	TBD	TBD
125	12	45	-59.5	TBD	B	9	TBD	TBD	TBD	TBD	TBD
126	12	48	-56.5	TBD	B	7	TBD	TBD	TBD	TBD	TBD
127	13	02	-49.0	TBD	C	6	TBD	TBD	TBD	TBD	TBD
128	13	13	-65.5	TBD		9	TBD	TBD	TBD	TBD	TBD
129	13	14	-59.5	TBD	C	7	TBD	TBD	TBD	TBD	TBD
130	13	28	+55.5	TBD		5	TBD	TBD	TBD	TBD	TBD
131	13	42	+54.0	TBD		6	TBD	TBD	TBD	TBD	TBD
132	13	43	-53.0	TBD	D	8	TBD	TBD	TBD	TBD	TBD
133	13	47	-32.5	TBD	C	6	TBD	TBD	TBD	TBD	TBD
134	13	48	-41.5	TBD	B	5	TBD	TBD	TBD	TBD	TBD
135	13	52	-46.0	TBD	B	6	TBD	TBD	TBD	TBD	TBD
136	14	06	-60.0	TBD		7	TBD	TBD	TBD	TBD	TBD
137	14	16	-56.5	TBD		4	TBD	TBD	TBD	TBD	TBD
138	14	21	-45.5	TBD	C	7	TBD	TBD	TBD	TBD	TBD
139	14	32	-41.5	TBD		5	TBD	TBD	TBD	TBD	TBD
140	14	33	-48.5	TBD	C	7	TBD	TBD	TBD	TBD	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950 h	m	DECLINATION-1950 °	GUIDE STAR	STARFIELD CRITERIA	NO. OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC) 30	90	270	MANUAL
141	14	44	-37.0	TBD		7	TBD	TBD	TBD	TBD	TBD
142	14	44	-63.0	TBD		5	TBD	TBD	TBD	TBD	TBD
143	14	45	-26.0	TBD		8	TBD	TBD	TBD	TBD	TBD
144	14	53	-42.5	TBD	C	4	TBD	TBD	TBD	TBD	TBD
145	15	07	+73.0	TBD		3	TBD	TBD	TBD	TBD	TBD
146	15	09	-47.5	TBD	C	8	TBD	TBD	TBD	TBD	TBD
147	15	13	-44.5	TBD	B	6	TBD	TBD	TBD	TBD	TBD
148	15	14	-59.5	TBD		8	TBD	TBD	TBD	TBD	TBD
149	15	21	-37.5	TBD		9	TBD	TBD	TBD	TBD	TBD
150	15	25	-40.5	TBD	A	11	TBD	TBD	TBD	TBD	TBD
151	15	31	-73.0	TBD		3	TBD	TBD	TBD	TBD	TBD
152	15	46	-34.0	TBD		5	TBD	TBD	TBD	TBD	TBD
153	15	51	-25.5	TBD	B	9	TBD	TBD	TBD	TBD	TBD
154	15	55	-21.5	TBD	B	5	TBD	TBD	TBD	TBD	TBD
155	16	01	-37.5	TBD	B	9	TBD	TBD	TBD	TBD	TBD
156	16	06	-20.0	TBD	C	4	TBD	TBD	TBD	TBD	TBD
157	16	08	-24.5	TBD	D	6	TBD	TBD	TBD	TBD	TBD
158	16	10	+46.0	TBD		3	TBD	TBD	TBD	TBD	TBD
159	16	11	-28.0	TBD		4	TBD	TBD	TBD	TBD	TBD
160	16	19	-48.0	TBD		6	TBD	TBD	TBD	TBD	TBD
161	16	22	-25.0	TBD	C	6	TBD	TBD	TBD	TBD	TBD
162	16	31	-43.0	TBD		4	TBD	TBD	TBD	TBD	TBD
163	16	47	-41.5	TBD	B	15	TBD	TBD	TBD	TBD	TBD
164	16	48	-59.0	TBD	D	8	TBD	TBD	TBD	TBD	TBD
165	16	54	-37.5	TBD	C	7	TBD	TBD	TBD	TBD	TBD
166	16	56	-33.5	TBD		6	TBD	TBD	TBD	TBD	TBD
167	17	12	-33.0	TBD		6	TBD	TBD	TBD	TBD	TBD
168	17	22	-61.5	TBD		5	TBD	TBD	TBD	TBD	TBD
169	17	24	-45.5	TBD		8	TBD	TBD	TBD	TBD	TBD
170	17	32	-38.0	TBD	C	9	TBD	TBD	TBD	TBD	TBD
171	17	35	+53.5	TBD		5	TBD	TBD	TBD	TBD	TBD
172	17	39	-32.5	TBD		3	TBD	TBD	TBD	TBD	TBD
173	17	42	-39.0	TBD		9	TBD	TBD	TBD	TBD	TBD
174	17	50	+52.0	TBD		4	TBD	TBD	TBD	TBD	TBD
175	17	56	+ 1.5	TBD		7	TBD	TBD	TBD	TBD	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950		DECLINATION-1950	GUIDE STAR	STARFIELD CRITERIA	NO.OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC)			
	h	m	°					30	90	270	MANUAL
176	18	01	+ 3.0	TBD	C	8	TBD	TBD	TBD	TBD	TBD
177	18	03	+21.0	TBD		9	TBD	TBD	TBD	TBD	TBD
178	18	10	-20.5	TBD	D	9	TBD	TBD	TBD	TBD	TBD
179	18	24	-34.0	TBD		6	TBD	TBD	TBD	TBD	TBD
180	18	25	-45.0	TBD	B	7	TBD	TBD	TBD	TBD	TBD
181	18	35	+32.5	TBD	D	7	TBD	TBD	TBD	TBD	TBD
182	18	38	-62.0	TBD	C	4	TBD	TBD	TBD	TBD	TBD
183	18	47	-26.5	TBD	C	3	TBD	TBD	TBD	TBD	TBD
184	18	52	+32.5	TBD	B	9	TBD	TBD	[redacted]	[redacted]	TBD
185	19	01	-21.0	TBD		11	TBD	TBD	TBD	TBD	TBD
186	19	14	+21.5	TBD		6	TBD	TBD	TBD	TBD	TBD
187	19	45	+46.0	TBD		7	TBD	TBD	TBD	TBD	TBD
188	19	48	+ 9.5	TBD		13	TBD	TBD	TBD	TBD	TBD
189	19	52	+39.0	TBD	D	9	TBD	TBD	TBD	[redacted]	TBD
190	19	52	+37.0	TBD	B	10	TBD	TBD	TBD	[redacted]	TBD
191	19	55	+31.5	TBD		6	TBD	TBD	TBD	TBD	TBD
192	20	14	+36.0	TBD	A	10	TBD	TBD	[redacted]	[redacted]	TBD
193	20	15	-13.5	TBD		8	TBD	TBD	TBD	TBD	TBD
194	20	20	+38.5	TBD	B	14	TBD	TBD	[redacted]	[redacted]	TBD
195	20	33	+12.5	TBD		10	TBD	TBD	TBD	TBD	TBD
196	20	39	+14.5	TBD		9	TBD	TBD	TBD	TBD	TBD
197	20	46	+45.0	TBD	A	11	TBD	TBD	TBD	TBD	TBD
198	21	00	+45.5	TBD	A	12	TBD	TBD	TBD	TBD	TBD
199	21	17	+38.0	TBD		9	TBD	TBD	TBD	TBD	TBD
200	21	18	+35.5	TBD		8	TBD	TBD	TBD	TBD	TBD
201	21	30	+61.5	TBD		6	TBD	TBD	TBD	TBD	TBD
202	21	37	+51.0	TBD	B	8	TBD	TBD	TBD	TBD	TBD
203	21	41	-16.0	TBD		5	TBD	TBD	TBD	TBD	TBD
204	21	48	+57.0	TBD		6	TBD	TBD	TBD	TBD	TBD
205	21	57	+63.0	TBD	B	14	TBD	TBD	TBD	TBD	TBD
206	22	02	- 1.5	TBD		4	TBD	TBD	TBD	TBD	TBD
207	22	03	+57.5	TBD	B	12	TBD	TBD	TBD	TBD	TBD
208	22	05	+51.5	TBD		4	TBD	TBD	TBD	TBD	TBD
209	22	05	-28.0	TBD		7	TBD	TBD	TBD	TBD	TBD
210	22	07	-13.0	TBD		4	TBD	TBD	TBD	TBD	TBD

S019 UV STELLAR ASTRONOMY

CANDIDATE STARFIELDS

A. MORE THAN 3 O/B STARS FROM BSC AND MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL AND MORE THAN 9 STARS ALTOGETHER FROM BSC.
B. MORE THAN 3 O/B STARS FROM BSC AND EITHER MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL OR MORE THAN 9 STARS ALTOGETHER FROM BSC.
C. MORE THAN 1 O/B STAR BRIGHTER THAN 5.1 VISUAL.
D. MORE THAN 4 O/B STARS FROM BSC.

STARFIELD ID NUMBER	RT ASCENSION-1950		DECLINATION-1950	GUIDE STAR	STARFIELD CRITERIA	NO.OF STARS IN BSC	PRIORITY	EXPOSURE SETTINGS (SEC)			
	h	m	°					30	90	270	MANUAL
211	22	22	+57.0	TBD		9	TBD	TBD	TBD	TBD	TBD
212	22	24	+47.5	TBD	C	5	TBD	TBD	TBD	TBD	TBD
213	22	26	- 0.5	TBD	C	5	TBD	TBD	TBD	TBD	TBD
214	22	27	+50.5	TBD		7	TBD	TBD	TBD	TBD	TBD
215	22	33	+38.5	TBD	D	9	TBD	TBD	TBD	TBD	TBD
216	22	55	+41.0	TBD	D	8	TBD	TBD	TBD	TBD	TBD
217	23	15	- 9.5	TBD		4	TBD	TBD	TBD	TBD	TBD
218	23	33	+43.0	TBD	B	4	TBD	TBD	TBD	TBD	TBD
219	23	57	+57.0	TBD		8	TBD	TBD	TBD	TBD	TBD
220	23	59	- 4.5	TBD		4	TBD	TBD	TBD	TBD	TBD

S020 X-RAY/UV SOLAR PHOTOGRAPHY
FO-1 QUIET SUN
FO-2 ACTIVE SUN

MRD 11/1/71
EOH 12/1/71
ERD 10/30/70
ODB

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
0:00		10	//S020 EXP IN 08.04.01-00 //		
			S020-X PREP S-SAL INSTALL SPECTROGRAPH ASSEMBLY IN THE S-SAL DEPRESSURIZE/LEAK TEST SAL REMOVE FMSC, OWS FILM VAULT VENT SAL & FMSC TO OWS LOAD FILM & FILTER DEPRESSURIZE SAL VVOH TO VENT		
0:20					
0:00		07	//S020 EXP AL 08.04.02-00 //	07	//S020 EXP AL 08.04.02-00 //
			S020-X ALIGN S-SAL ANNOUNCE ALIGNMENT AT SUNRISE +5 MIN, OPEN SAL OUTER DOOR PERFORM OA ATTITUDE POINTING PROCEDURE RECORD OFFSET BIAS		S020-X ALIGN ATM C&D EXECUTE OA X & Y ATTITUDE MANEUVERS AS REQUESTED RECORD BIAS INPUTS φX1____ φY1____ φZ1____
0:15					
0:00		15	//S020 EXP OP 08.04.03-00 //		
			S020-X S-SAL PERF #____OF 10 EXPOSURE____________ AT ____________ ● EXPOSE FILM VOICE RECORD ● START OF EXPOSURE, GMT ● FRAME NUMBER ● INTENDED DURATION		

SCHEDULE CRITERIA

- The crew timeline will vary depending on how the S020 FO's or individual parts of F01 and F02 are sequenced.
- Either FO may be scheduled first and the individual parts of F01 can be scheduled in any order with F02 scheduled between any of the ten recommended F01 exposures.
- For premission planning the best days during the mission for a quiet sun or an active sun are not known in advance nor can this be predicted with any degree of certainty. It is presently planned to schedule blocks of time for flare watch & reschedule during real time as flare predictions are received.
- Two series of exposures are required for F01. The first series of 5 exposures is to be scheduled early in the mission & the second series of 5 exposures is to be scheduled late in the mission. The exposures can be conducted in any order.
- A minimum of 48 hours is to be assigned to flare watch activity (during an active sun period) with 8 hrs. minimum duration for each solar flare watch. This will require three to six work days on standby status for one crewman.
- Two film magazines are available for each mission. Each film magazine contains ten frames or strips of film. Assuming 3 exposures per solar flare, a total of 9 exposures would be expended on 3 flares and 10 exposures are required for F01.

S020 X-RAY/UV SOLAR PHOTOGRAPHY
FO-1 QUIET SUN
FO-2 ACTIVE SUN

ET	AM 1	AM 2	AM 3	V	*δ		*δ	
						AT______________ END EXPOSURE, RECORD GMT		
0:30 to 1:10						REPEAT FOR ALL EXPOSURES IN SCHEDULED PERFORMANCE AT SUNSET - 5 MIN, CLOSE SAL OUTER DOOR		
					04	//S020 FILM //		
0:00						S020-X FILM CHANGE S-SAL		
0:08						CHANGE FILM CANISTER STOW EXPOSED FILM IN FMSC		
					10	//S020 EXP ST 08.04.04-00 //		
0:00						S020-X STOW S-SAL		
0:20						PRESSURIZE SAL REMOVE SA FROM SAL REMOVE FILM & FILTER & STOW IN FMSC DEPRESSURIZE FMSC, TBS MIN SECURE SAL STOW SA AND FMSC		
					03	//S020 FILM T //		
0:00						S020 FILM TRANS F		
0:05						TRANSFER FMSC TO CSM		

SCHEDULE CRITERIA (Continued)

- The exposures required for each F01 photo series are 60, 30, 15, 8 & 5 min. The 60 min. exposure can be completed during two revs (consec. revs are required) if necessary. With high βangles, one rev. may be sufficient. The 15, 8 & 5 minute exposures can all be taken during one revolution. Each frame exposure will be considered a performance.

FRAME#	PERFORM	DURATION
1	Early	60 min.
2		30 "
3		15 "
4		8 "
5		5 "
6	Late	60 "
7		30 "
8		15 "
9		8 "
10		5 "

- During the flare watch period, the operator may be engaged in other activities but must be able to return and operate the SA within TBD seconds after a flare alarm occurs.
- The solar SAL is required. Do not schedule concurrently with T027, T027/S073, T025 & S063-2.
- OA attitude is near SI. Do not schedule concurrently with EREP. ATM recorder data required.

S020 X-RAY/UV SOLAR PHOTOGRAPHY
FO-1 QUIET SUN PHOTOGRAPHY
FO-2 ACTIVE SUN PHOTOGRAPHY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
									SCHEDULE CRITERIA (Continued) • All performances are to be conducted during daylight from 5 min. after sunrise to 5 min. before sunset. • An update pad is to be supplied by MCC-H one rev prior to conducting the experiment. • ATM experiments S054 and S082 A&B are to be coordinated & operated with S020-2 during a solar flare. CONSTRAINTS • Voice record vacuum valve position, film advance, offset bias, bias input & other pertinent comments. • The spectrograph principal axis must be within 7 deg. of the sun line for initial coarse pointing. • Experiment pointing accuracy to be within $\pm 0.25°$ of the center of the solar disc for F01 or flare center for F02. • Do not operate concurrently with M509, T020 and T013. • SAL outer door is to be closed for each dark side pass. Do not perform scheduled waste dumps, venting or thruster operation with SAL outer door open. • Film to be stowed in depressurized FMSC when not in use. Minimize film exposure to the OWS atmosphere. Exposure to the oxygen atmosphere is limited to 30 minutes per setup. RETURN WEIGHT • FMSC 9.5 pounds

S020 X-RAY/UV SOLAR PHOTOGRAPHY
FO-1 QUIET SUN PHOTOGRAPHY
FO-2 ACTIVE SUN PHOTOGRAPHY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
									NOTES (Cont.) • It is presently believed that an alignment of 1.75° away from SI is the maximum allowable to conduct ATM concurrently with S020. • The number of exposures & duration of each exposure for each solar flare will be determined in real time. Typically, a solar flare exposure cycle will consist of a one minute exposure for the flare rise followed by several exposures of varied duration during the decay period. • If S082 & S020 cannot both be pointed as required concurrently, it is expected that ATM will have priority during solar flares. • Film temperature must be maintained between 35° & 75° F. • The FMSC stowage evacuation time must be determined. • If the second film magazine is not utilized in active sun photography because of a lack of solar flares, a decision will be made as to exposure of the film without flare activity. • S020 is an alternate to T027 for M151 photographic requirements.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-1 PHOTOGRAPH OZONE ATMOSPHERE AT UV WAVELENGTHS AND EARTH ATMOSPHERE AT VISIBLE WAVELENGTHS

MRD	11/1/71
EOH	1/3/72
ERD	9/70
ODB	

ET	*δ	CREWMAN	*δ	CREWMAN
	03	// S063 PRE-PRP 04.03.01-00//		
0:00		S063-1 PRE PREP F REMOVE LAUNCH CONSTRAINTS FROM EQUIPMENT		
0:05	07	// S063 PREP 0 08.05.01-00 //		S063-1 UPDATE PAD
0:00		S063-1 PREP F,W INSTALL VISIBLE CAMERA MOUNT IN WARDRM WINDOW INSTALL EA I WINDOW & UV MOUNT IN A-SOL-SAL ATTACH OPTICAL SIGHT DEPRESSURIZE SAL		
0:14	05	// S063 FILM 0 08.05.02-00 //		
0:00		S063-1 FILM INSTALL F,W LOAD COLOR & UV FILM IN CAMERAS INSTALL VISIBLE & UV CAMERAS IN WARDROOM & A-SOL-SAL	03	//S063-1 Z-LV 18.09.06-00 //
0:10				S063-1 Z-LV ATM C&D MNVR TO Z-LV ATTITUDE AT________
	07	// S063 OZONE 08.05.03-00 //		
0:00		S063-1 F PERF #___OF___ SUBDUE LIGHTING AT________,OPEN SAL TRACK TARGET, EXPOSE FILM REPEAT FOR____FRAMES AT________, CLOSE SAL OWS LIGHTS ON	03	// S063-1 S1 18.09.02-00 //
0:15				S063-1 S1 ATM C&D MNVR TO S1 ATTITUDE AT________
		CONTINUED		

SCHEDULE CRITERIA

- ATM recorder data required.
- Concurrent use of anti-solar airlock for UV photography & wardroom window for visible photography of earths' ozone atmosphere.
- Do not schedule concurrently with S149, S019, T027/S073 and S183.
- A number of passes to obtain 150 UV camera exposures in Z-LV attitude is required. The visible camera will be operated by remote control at the same time.
- Concurrent operation with EREP is desired if crew & SAL time is available.
- Schedule UV photographs as follows:

NO.	SUN	DURATION	FILTER
15	60°-40°	20S	2800 A
15	60°-40°	20S	3200 A
30	40°-15°	8S	2800 A
30	40°-15°	8S	3200 A
30	15°-0°	2S	2800 A
30	15°-0°	2S	3200 A

- Do not schedule manual overboard vents or RCS operation during exp. performance.
- Do not schedule operation of T013, T020 or M509 when S063 equipment is installed in the anti solar sal.
- Schedule flight crew operations so that no crewman is exposed to UV radiation from the Sal windows for more than 27 minutes in any 24 hr. period.
- Schedule a tape dump after each photo session.

CONSTRAINTS

- The optical sighting device must be kept pointed to within 0.5° on a chosen tracking feature.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-1 PHOTOGRAPH OZONE ATMOSPHERE AT UV WAVELENGTHS AND EARTH ATMOSPHERE AT VISIBLE WAVELENGTHS

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					05	// S063 STOW 0 08.05.04-00 //		
0:00						S063-1 STOW FILM F,W REMOVE CAMERAS FROM A-SOL SAL & WARDROOM WINDOW & STOW IN OWS FILM VAULT		
0:10								
					06	// S063 EA1 EQ 08.05.05-00 //		
0:00						S063-1 STOW EQUIP F,W REPRESSURIZE SAL REMOVE EA1 WINDOW & CAMERA MOUNTS, STOW		
0:11								

CONSTRAINTS CONT.

- Maintain IMC via tracking during the exposure.
- Maximum pitch, yaw or roll rates during the exposure period will not exceed 0.1°/sec.
- Thermal limits on cameras & film are as follows:

ITEM	STORED	OPERATED
Exp. Assy.	0-100°F	65-90°F
Film	85°F	65-90°F

- Constraint on film negative density (increase not to exceed 0.3 density units above baseline fot) cannot be monitored by crew. Crew to minimize film time outside the OWS film vault.
- If experiment operation times are separated by more than 4 hours, the film and camera will be stowed in the OWS film vault.
- Logging requirements shall include orbit number, location of experiments, beginningfilm exposure number, last exposure number and equip. condition.
- Voice record camera ID, filter code, series number, camera orientation, exposure initiation in GMT to within 1.0 sec., exposure number, and exposure duration.

RETURN WEIGHT

- Film 5.7 pounds total for both FO's.

NOTES

- Film/filters/batteries will be carried on SL 3 & 4.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-1 PHOTOGRAPH OZONE ATMOSPHERE AT UV WAVELENGTHS AND EARTH ATMOSPHERE AT VISIBLE WAVELENGTHS

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
									NOTES CONT. • The color exposures taken from the wardroom window will have a standard exposure duration of 1/250 second. • The experiment is battery powered and requires no OWS interface. • If the camera has unexposed film between data takes, the entire camera will be stowed in the OWS vault rather than just the film. • The visible camera will use a single haze cutting filter.

S063 UV AIRGLOW PHOTOGRAPHY
FO-2 PHOTOGRAPH EARTHS TWILIGHT AIRGLOW AT VISIBLE & UV WAVELENGTHS

MRD	11/1/71
EOH	1/3/72
ERD	9/70
ODB	

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
0:00		05	// S063 PREP T 08.05.06-00 //		
			S063-2 PREP SOL-SAL INSTALL EA II WINDOW & CAMERA MOUNT IN SOL-SAL ATTACH OPTICAL SIGHT DEPRESSURIZE SAL		
0:11	▲				
0:00		03	// S063 FILM T 08.05.07-00 //		
			S063-2 FILM INSTALL SOL-SAL LOAD FILM & ATTACH UV CAMERA TO WINDOW MOUNT		
0:06		14	// S063 TWILIG 08.05.08-00 //		S063-2 UPDATE PAD
0:00			S063-2 SOL-SAL PERF # ___ OF ___ SUBDUE LIGHTING SET MOUNT ARC & CIRCULAR TRACT, RECORD SIGHT ON AIRGLOW EXPOSE FILM BETWEEN THE FOLLOWING TIME PERIODS TWILIGHT START ______ TWILIGHT STOP ______ DAWN START ______ DAWN STOP ______ CLOSE SAL OWS LIGHTS ON		
0:28					
0:00		03	// S063 STOW T 08.05.10-00 //		
			S063-2 STOW FILM F REMOVE CAMERA, STOW IN OWS FILM VAULT		
0:06					

SCHEDULE CRITERIA

- ATM recorder data required.
- Solar SAL required. Do not schedule concurrently with S020, T025, T027, & T027/S073.
- Schedule observations to occur during spacecraft evening and spacecraft dawn.
- Schedule 130 exposures of airglow in the visible spectrum & 130 exposures of the airglow in the UV spectrum.
- Schedule 40 exposures of targets of opportunity, i.e., red arcs, aurora & noctilucent clouds, A/C contrails &flares
- Schedule exposures as follows:

No.	Type	Duration	Filter
30	Visible	30	6300
30		60	6300
20		120	6300
20		40	5577
20		80	5577
10		120	5577
30	UV	30	3900
30		60	3900
20		120	3900
20		30	2600
20		60	2600
10		120	2600
15	Red Arcs	5-10	-
5	Aurora	0.1-20	6300
5			5577
5			3900
10	Noctilucent Clouds	0.01 to 1.0	-
	A/C contrails		-
	solar flares		

- Use the visible camera with color film & f/1.2 for photographing the noctilucent clouds.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-2 PHOTOGRAPH EARTHS TWILIGHT AIRGLOW
AT VISIBLE & UV WAVELENGTHS

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					04	// S063 EA II E 08.05.09-00//			
0:08						S063-2 STOW EQUIP SOL-SAL REMOVE EA II CAMERA MOUNT AND WINDOW FROM THE SOL-SAL			

SCHEDULE CRITERIA CONT.

- Schedule twilight airglow photography when the spacecraft is located at solar depression angles between 26.5 deg/ and 37.5 deg.
- Schedule the photography sessions at β angles between 35 and 62 degrees.
- Exposures with any of the four filters can be made whenever the portion of the twilight horizon that is being photographed is not in either the northern or southern auroral zone.
- The photo sequences may be scheduled during CMG dump periods.
- Do not schedule manual overboard vents or RCS operation during exp. performance.
- Do not schedule operation of T013, T020, of M509 when S063 equipment is installed in the solar SAL.
- Schedule flight crew operations so that no crewman is exposed to UV radiation from the SAL windows for more than 27 minutes in any 24 hr. period.
- Schedule a tape dump after each photo session.

CONSTRAINTS

- The camera must be kept pointed at a chosen airglow layer within 0.5°.
- Maintain IMC via tracking during the exposure.
- Maximum pitch, yaw or roll rates during the exposure period will not exceed 0.1°/sec.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-2 PHOTOGRAPH EARTHS TWILIGHT AIRGLOW AT VISIBLE & UV WAVELENGTHS

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	

CONSTRAINTS CONT.

- Thermal limits on cameras and film:

ITEM	STORED	OPERATED
Exp. Assy.	0-100°F	65-90°F
Film	85° F Max.	65-90°F

- Constraint on film negative density cannot be monitored by crew. Crew to minimize unstowed film time.
- If experiment operation times are separated by more than 4 hours, the film and camera will be stowed in the OWS film vault.
- Logging requirements shall include orbit number, location of experiment, beginning film exposure number, last exposure number and equip. condition.
- Voice record camera ID, filter code, series number, camera orientation, exposure initiation in GMT to within 1.0 sec., exposure number and exposure duration.
- The internal lights that may cause light to enter the camera and all external lights will be extinguished.

RETURN WEIGHT

- Film - See FO-1.

NOTES

- Film/filters/batteries will be carried on SL 3 & 4.
- The experiment is battery powered and requires no OWS power interface.
- If the camera has unexposed film between data takes, the entire camera will be stowed in the OWS vault rather than just the film.

S063 UV AIRGLOW HORIZON PHOTOGRAPHY
FO-2 PHOTOGRAPH EARTHS TWILIGHT AIRGLOW
AT VISIBLE & UV WAVELENGTHS

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
									NOTES CONT. • The airglow, together with the earth limb & background starfield will be photographed from the OWS night position in the solar direction. • The exposure sequence at evening twilight will generally be 30, 60 & 120 sec. while the sequence at spacecraft dawn will be reversed, i.e., 120, 60 & 30 sec. • With working times greater than 5 consecutive minutes, it is desirable to obtain a series of alternate 6300A & 5577A exposures with exposure times increasing from twilight & decreasing toward dawn. • With working times less than 5 consecutive minutes, only the red or green filters will be used. • Alternating the UV filters in one orbit is not necessary.

MRD	2/25/72
EOH	1/3/72
ERD	
ODB	

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					30	//S072 PREP P 11.08.03-00 //	30	//S073 PREP P 11.08.03-00 //
0:00						S073-X PREP S-SAL		S073-X PREP S-SAL
						REMOVE PHOTOMETER & FILM FROM OWS STOWAGE		REMOVE M151 DAC FROM
						DEPLOY PHOTOMETER HEAD,LOAD FILM & RETRACT HEAD		SET UP DAC AT LOCATION E
								ASSIST WITH PHOTOMETER SETUP
								PHOTOGRAPH SETUP, M151-2
						REMOVE TRIPOD FROM STOWAGE		
						INSTALL PHOTOMETER SYSTEM INTO THE SOL-SAL		
						ATTACH TRIPOD SUPPORT		
				▲		DEPRESSURIZE SAL, LEAK TEST OPEN SAL OUTER DOOR		
						INSTALL POWER & INST CABLES		S073 UPDATE PAD
						PERFORM PRE-POWER CHECKS POWER-ON (5 MIN WARMUP)		
						ADVANCE FILM 10 FRAMES		
						PRESET PANEL		
1:00								
					05	//S073 DEPLOY 11.08.04-00 //		
0:00						S073-X DEPLOY S-SAL		

Refer to Tables on pages 4-32M & 4-32N for individual FO requirements & test conditions.

SCHEDULE CRITERIA

- Do not schedule solar SAL scans concurrently with T027, T025, S020, S063-2, S183 & S149.
- Do not schedule anti solar SAL scans concurrently with S149, S019, S063-1, S183 & T027.
- Do not schedule any performance concurrently with T020, M509, T013 & M092/M093.
- Do not schedule concurrently with maneuvers into and out of Z-LV(E) or while in Z-LV(E).
- Do not schedule major OA maneuvers concurrent with experiment data collection. Refer to chart for momentum dump inhibit requirements.
- Schedule at least 5 min. warmup from power on to initial data collection.
- When operating out of the solar SAL, extend & retract the photometer system while the OA is in earth shadow.
- The crewmen will voice record & time correlate comments relevant to experiment operation.
- Schedule ATM recorder for pointing data during data scans. Knowledge of the pointing direction of the photometer will be required to within 1/2 deg.
- Programs 0-a & 1-a can be scheduled prior to determining SAL alignment, however, SAL alignment must be performed prior to scheduling the remaining data scans.

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
0:10		EXTEND THE PHOTOMETER __ ROD LENGTHS		
	05	//S073 OA ASA 11.08.06-01 //		
0:00		S073-1 A-SOL-SAL PERF #1 OF 1, PROGRAM 0-a SYSTEM MONITOR START RECORDER & PROGRAM AT ________ MONITOR FOR __ MIN		START ANYTIME IN ORBIT
0:10		(94 MIN. OPERATION)		
1:44 1:46	02	S073-1 RECORDERS OFF M,E		
	05	//S073 OA SSA 11.08.06-02 //		
0:00		S073-1 SOL-SAL PERF #___OF 3, PROGRAM 0-a SYSTEM MONITOR START RECORDER & PROGRAM AT ________ MONITOR FOR __ MIN		START ANYTIME IN ORBIT
0:10		(94 MIN. OPERATION)		
1:44 1:46	02	S073-1 RECORDERS OFF M,E		
	05	//S073-1A IAS 11.08.06-03 //		//S073 MOMEN I //
0:00		S073-2 A-SOL-SAL PERF #___OF 3,PROGRAM 1-a CONTAMINATION START RECORDER & PROGRAM		S073-2 ATM C&D INHIBIT MOMENTUM DUMP

SCHEDULE CRITERIA (Cont.)

- An update pad is required at least one rev prior to conducting a data scan.
- Calibrate the photometer, Mode 0, before or after each Mode 1 sequence. Calibration is conducted automatically as a part of modes 2 thru 5.
- M151 photography is required only one time each during setup & removal from each SAL.

CONSTRAINTS

- Power is to be left on when the photometer is deployed out the anti solar SAL.
- The Boom is to be retracted when scan sequences are separated by more than TBD hours.
- The photometer shall not be pointed within 15 degrees of the moon or the sun.
- Max allowable scan rate error in shaft or trun during data collection is ± 0.025 deg/sec.
- S1 or any other inertial mode with random rates below 0.05 deg/sec is preferred.
- Constant rates up to 0.1 deg/sec causing secular changes in orientation may be acceptable depending on scan mode & direction of vehicle movement.
- Angular accelerations which result in rates less than 0.05 deg/sec are acceptable.

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAPS	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
0:10		AT ______ MONITOR FOR __ MIN (20 MIN. OPERATION) (WAIT 50 MINUTES)		START WHILE IN EARTHS SHADOW
1:00		ROTATE SHAFT 180° RESTART PHOTOMETER AT ______ MONITOR FOR __ MIN (20 MIN. OPERATION)		START 15 MIN. BEFORE OWS NIGHT
			02	//S073 MOMEN E
1:25				S073-2 ATM C&D ENABLE MOMENTUM DUMP
1:27	02	S073-2 RECORDERS OFF M,E		
	05	//S073 IA ISS 11.08.06-04 //	02	//S073 MOMEN I //
0:00		S073-2 SOL-SAL PERF # ___ OF 3, PROGRAM 1-a CONTAMINATION START RECORDER & PROGRAM AT ______		S073-2 ATM C&D INHIBIT MOMENTUM DUMP
0:10		MONITOR FOR __ MIN (20 MIN. OPERATION) (WAIT 50 MINUTES)		START WHILE IN EARTHS SHADOW
1:00		ROTATE SHAFT 180° RESTART PHOTOMETER AT ______		START 15 MIN. BEFORE OWS NIGHT
1:10				

CONSTRAINTS (Cont.)

- Total radiation dosage for each film magazine must not exceed 2 rads.
- Film magazines must not exceed 80°F.
- Extinguish lighting & cover windows that interferes with data collection.
- The photometer temp. should be above the dew point temp. during retrieval procedures.

RETURN WEIGHT

- Film 3.0 pounds.

NOTES

- Unless otherwise noted, after photometer setup and deployment, the crewman need only be present to set the automatic programmer, start the scan and verify proper initial operation.
- Only the crew can turn the AM experiment recorders on and off. The ground can dump the AM experiment recorders over any station. For multiple orbit scans, the recorders will be required to run during the non-data taking periods unless crew time can be scheduled during each orbit for recorder operation.
- The anti-solar SAL will employ a desicant air filter to dry incoming SAL air.
- There are 18 different operating procedures. The example shows Mode 1-a only. Schedule remaining modes per the attached chart.

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 ⊥ TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
1:10		MONITOR FOR __ MIN		
		(20 MIN. OPERATION)		
			02	//S073 MOMEN E //
1:30				S073-2 ATM C&D ENABLE MOMENTUM DUMP
1:32	02	S073-2 RECORDERS OFF M,E		
	05	//S073 1B EXP 11.08.06-05 //	02	//S073 MOMEN I //
0:00		S073-7 A-SOL-SAL PERF # ___ OF 3, PROGRAM 1-b GEGENSCHEIN START RECORDERS & PROGRAM AT ___		S073-7 ATM C&D INHIBIT MOMENTUM DUMP START 24 MIN BEFORE ANTI-SOL POINT
0:10		MONITOR FOR __ MIN		
		(48 MIN. OPERATION)	02	//S073 MOMEN E //
				S073-7 ATM C&D ENABLE MOMENTUM DUMP
1:00	02	S073-7 RECORDERS OFF M,E		
	05	//S073 1C EXP 11.08.06-06 //	03	//S073 1C EXP 11.08.06-06 //
0:00		S073-2 A-SOL-SAL PERF # 1 OF 1, PROGRAM 1-c CONTAMINATION START RECORDER & PROGRAM AT ___		S073-2 ATM C&D INITIATE ___ VENT 10 MIN BEFORE OWS DAYLIGHT START 5 MIN. BEFORE OWS DAYLIGHT
0:10		MONITOR FOR __ MIN		
		(20 MIN. OPERATION)		

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR
FO-2 CONTAMINATION
FO-3 ECLIPTIC
FO-4 VERTICAL CIRCLE
FO-5 ALL SKY MAP
FO-6 CELESTIAL POLES
FO-7 GEGENSCHEIN
FO-8 1 TO ECLIPTIC
FO-9 ZODIACAL LIGHT/CONTAMINATION
FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
0:30 0:32	02	S073-2 RECORDERS OFF M,E		
	05	//S073 1D EXP 11.08.06-07 //		
0:00		S073 1D A-SOL-SAL PERF #___ OF 2, PROGRAM 1-d ECLIPTIC POLE ____ START RECORDER & PROGRAM AT ______________		START UPON ENTERING EARTHS SHADOW
0:10		MONITOR FOR __ MIN (15 MIN. OPERATION)		
0:25 0:27	02	S073-10 RECORDERS OFF M,E		
	05	// S073 1E EXP 11.08.06.08 //		
0:00		S073-6 A-SOL-SAL PERF #___ OF 6, PROGRAM 1-e CELESTIAL POLE, ___ START RECORDERS & PROGRAM AT ______________		START 15 MIN. BEFORE ANTI-SOLAR POINT
0:10		MONITOR FOR __ MIN (30 MIN. OPERATION)		
0:40 0:42	02	S073-6 RECORDERS OFF M,E		
	05	//S073 2A EXP 11.08.06-10 //	02	//S073 MOMEN I //
0:00		S073-3 A-SOL-SAL		S073-3 ATM C&D

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 ⊥ TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
		PERF #___OF 3, PROGRAM 2-a ECLIPTIC START RECORDER & PROGRAM AT___________ MONITOR FOR __ MIN		INHIBIT MOMENTUM DUMP START UPON LEAVING EARTHS SHADOW
0:10		(19 MIN. OPERATION)	02	//S073 MOMEN E //
0:29				S073-3 ATM C&D ENABLE MOMENTUM DUMP
0:31	02	S073-3 RECORDERS OFF M,E		
	05	//S073 2B EXP 11.08.06-11 //	02	//S073 MOMEN I //
0:00		S073-3 SOL-SAL PERF #___OF 3, PROGRAM 2-b ECLIPTIC START RECORDERS & PROGRAM AT___________ MONITOR FOR __ MIN		S073-3 ATM C&D INHIBIT MOMENTUM DUMP START 10 MIN. BEFORE ANTI-SOLAR POINT
0:10		(19 MIN. OPERATION) (WAIT 40 MINUTES)		
0:50		RESTART PHOTOMETER AT ___________		START 10 MIN. PRIOR TO SOLAR POINT
0:55		MONITOR FOR __ MIN		
		(19 MIN. OPERATION)	02	//S073 MOMEN E //
1:14				S073-3 ATM C&D ENABLE MOMENTUM DUMP
1:16	02	S073-3 RECORDERS OFF M,E		
0:00	05	//S073 2C EXP 11.08.06-12 //	02	//S073 MOMEN I //

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 ⊥ TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	*δ	CREWMAN	*δ	CREWMAN
		S073-4 A-SOL-SAL PERF # ___ OF 2, PROGRAM 2-c VERTICAL CIRCLE START RECORDERS & PROGRAM AT ______________		S073-4 ATM C&D INHIBIT MOMENTUM DUMP
				START 15 MIN. BEFORE TERMINATOR
0:10		MONITOR FOR __ MIN		
		(30 MIN. OPERATION)		
0:40		ROTATE SHAFT ___ DEGREES RESTART PHOTOMETER AT ______________		START NEAR ANTI SOLAR POINT
0:45		MONITOR FOR __ MIN		
		(30 MIN. OPERATION)	02	//S073 MOMEN E //
1:15				S073-4 ATM C&D ENABLE MOMENTUM DUMP
1:17	02	S073-4 RECORDERS OFF M,E		
	05	//S073 2D EXP 11.08.06-13 //	02	//S073 MOMEN I //
0:00		S073-4 SOL-SAL PERF # ___ OF 2, PROGRAM 2-d VERTICAL CIRCLE START RECORDERS & PROGRAM AT ______________		S073-4 ATM C&D INHIBIT MOMENTUM DUMP
				START 15 MIN. BEFORE TERMINATOR
0:10		MONITOR FOR __ MIN		
		(30 MIN. OPERATION)		
0:40		ROTATE SHAFT ___ DEGREES RESTART PHOTOMETER AT ______________		START NEAR ANTI SOLAR POINT
0:45				

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 ⊥ TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
						MONITOR FOR __ MIN		
						(17 MIN. OPERATION)	02	//S073 MOMEN E //
0:27					02	S073-8 RECORDERS OFF M,E		S073-8 ATM C&D ENABLE MOMENTUM DUMP
					05	//S073 3B EXP 11.08.06-15 //		
0:00						S073-2 SOL-SAL PERF #___OF 2, PROGRAM 3-b CONTAMINATION START RECORDERS & PROGRAM AT____________		START UPON ENTERING DAYLIGHT
0:10						MONITOR FOR 15 MINUTES		
0:27						SET TRUNNION TO 20° MONITOR FOR 15 MINUTES		
0:44						SET TRUNNION TO 25° MONITOR FOR 15 MINUTES		

073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
1:01						SET TRUNNION TO 30° MONITOR FOR 15 MINUTES			
1:16						RECORDERS OFF			
1:18					05	//S073 3C EXP 11.08.06-16 //			
0:00						S073-7 OPERATE A-SOL-SAL PERF #___OF 2, PROGRAM 3-c GEGENSCHEIN START RECORDERS & PROGRAM AT________________		START 15 MIN. BEFORE ANTI SOLAR POINT	
0:10						MONITOR FOR 15 MINUTES			
0:27						SET TRUNNION TO 4.2° MONITOR FOR 15 MINUTES			
8:42 8:44						RECORDERS OFF			

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					34	//S073 3D EXP 11.08.06-17 //			
0:00						S073-2 A-SOL-SAL PERF # 1 OF 1, PROGRAM 3-d CONTAMINATION START RECORDER & PROGRAM AT ______		START AT THE SOLAR POINT	
0:10						MONITOR OPERATION MONITOR INTENSITY & CHANGE GAIN AS REQUIRED			
0:27						SET TRUNNION TO 110°, RESTART MONITOR OPERATION MONITOR INTENSITY AND CHANGE GAIN AS REQUIRED			
0:42						DEPLOY PHOTOMETER TO ___ RODS			
						SET TRUNNION TO 112° RESTART PROGRAM AT ______		START 34 MIN. BEFORE SOLAR POINT	
1:04						MONITOR OPERATION MONITOR INTENSITY AND CHANGE GAIN AS REQUIRED			

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1 2 3	V	*δ	CREWMAN	*δ	CREWMAN	
1:21				SET TRUNNION TO 110° MONITOR OPERATION MONITOR INTENSITY AND CHANGE GAIN AS REQUIRED			
1:36			02	RECORDERS OFF			
1:38			05	//S073 4A EXP 11.08.06-18 //			
0:00				S073-7 A-SOL-SAL PERF # ___ OF 2, PROGRAM 4-a GEGENSCHEIN START RECORDER & PROGRAM AT ______ MONITOR FOR __ MIN		START UPON ENTERING OWS NIGHT	
0:10				(WAIT 920 MINUTES)			
15:30			02	S073-7 RECORDERS OFF M,E			
15:32			05	//S073 4B EXP 11.08.06-19 //	02	//S073 MOMEN I //	
0:00				S073-9 SOL-SAL PERF # ___ OF 1, PROGRAM 4-b INNER ZODIACAL LT/CONTAM START RECORDERS AND PROGRAM AT ______		S073-9 ATM C&D INHIBIT MOMENTUM DUMP START 16 MIN. PRIOR TO SOLAR POINT	
0:10							

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
			MONITOR FOR __ MIN		
			(WAIT 920 MINUTES)	02	//S073 MOMEN E //
15:30 15:32		02	S073-9 RECORDERS OFF M,E		S073-9 ATM C&D ENABLE MOMENTUM DUMP
		05	//S073 5A EXP 11.08.06-20 //		
0:00			S073-5 A-SOL-SAL PERF #1 OF 1, PROGRAM 5-a ALL SKY MAP START RECORDERS & PROGRAM AT ________		START 16 MIN. PRIOR TO ANTI SOLAR POINT
0:10			MONITOR FOR __ MIN		
			(WAIT 920 MINUTES)		
15:30 15:32		02	S073-5 RECORDERS OFF M,E		
		05	//S073 5B EXP 11.08.06-21 //		
0:00			S073-5 SOL-SAL PERF # 1 OF 1, PROGRAM 5-b ALL SKY MAP START RECORDERS AND PROGRAM AT ________		START 15 MIN. PRIOR TO SOLAR POINT
o:10			MONITOR FOR __ MIN		
			(WAIT 920 MINUTES)		
15:30 15:32		02	S073-5 RECORDERS OFF M,S		

S073/T027 GEGENSCHEIN/ZODIACAL LIGHT & CONTAMINATION MEASUREMENT

FO-1 SYSTEM MONITOR	FO-4 VERTICAL CIRCLE	FO-7 GEGENSCHEIN
FO-2 CONTAMINATION	FO-5 ALL SKY MAP	FO-8 1 TO ECLIPTIC
FO-3 ECLIPTIC	FO-6 CELESTIAL POLES	FO-9 ZODIACAL LIGHT/CONTAMINATION
		FO-10 ECLIPTIC POLES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					05	//S073 RETRAC 11.08.05-00 //			
0:00						S073-X RETRACT S-SAL RETRACT PHOTOMETER DON GLOVES, RETRACT PHOTOMETER INTO SAL CLOSE OUTER SAL DOOR			
0:10					30	//S073 STOW P 11.08.07-00 //	30	//S073 STOW P 11.08.07-00 //	
0:00						S073-X STOW S-SAL STOW PHOTOMETER DON GLOVES, RETRACT PHOTOMETER INTO SAL CLOSE SAL OUTER DOOR PRESSURIZE SAL, GN2 REMOVE POWER & INST. CABLES REMOVE TRIPOD SUPPORT REMOVE PHOTOMETER FROM SOLAR SAL, ATTACH END COVER ALLOW PHOTOMETER TO WARM ABOVE DEW PT TEMP REMOVE END COVER DEPLOY PHOTOMETER HEAD, REMOVE FILM, RETRACT HEAD STOW FILM IN OWS FILM VAULT STOW PHOTOMETER SYSTEM		S073-X STOW S-SAL STOW PHOTOMETER REMOVE M151 DAC FROM ______ SET UP DAC AT LOCATION E ASSIST WITH PHOTOMETER REMOVAL PHOTOGRAPH REMOVAL, M151-2	
1:00					02	//S073 TRANS //			
0:00						S073 FILM TRANSFER TRANSFER FILM TO CSM			
0:05									

SL-2 MINIMUM PERFORMANCE REQUIREMENTS
T027/S073

SAL	PROGRAM	FO	PROGRAM TITLE	IMD	ROD	SCHEDULING CRITERIA/CONSTRAINTS
SOL	1-a	2	CONTAMINATION	X	7	• PERFORM EARLY IN MISSION. TARGET FOR MISSION DAYS 2 THRU 5. • PROGRAM 1-a TO BE FOLLOWED BY PROGRAM 0-a. PERFORM ON CONSECUTIVE ORBITS AND PRIOR TO ATM IF POSSIBLE. • PROGRAM 2-a ANTI SOL-SAL TO FOLLOW PROGRAM 2-b WITHIN 2 DAYS MAXIMUM • PROGRAMS 1-a, 0-a AND 2-b ARE MANDATORY. • PROGRAM 5-b IS HIGHLY DESIRABLE.
	0-a	1	SYSTEM MONITOR		7	
	2-b	3	ECLIPTIC	X	7	
	5-b	5	ALL SKY MAP		7	
A	1-a	2	CONTAMINATION	X	7/2	• PERFORM EARLY IN MISSION. TARGET FOR MISSION DAYS 6 THRU 10. • PROGRAM 1-a TO BE FOLLOWED BY PROGRAM 0-a. PERFORM ON CONSECUTIVE ORBITS IF POSSIBLE. • SCHEDULE PROGRAM 2-a WITHIN 2 DAYS MAXIMUM OF PROGRAM 2-b ABOVE. • PROGRAMS 1-a, 0-a, 2-a AND 1-d ARE MANDATORY. • PROGRAM 2-c IS HIGHLY DESIRABLE.
	0-a	1	SYSTEM MONITOR		2	
SOL	2-a	3	ECLIPTIC	X	2	
	2-c	4	VERTICAL CIRCLE		2	
	1-d	10	ECLIPTIC POLE N	X	2	
SOL	0-a	1	SYSTEM MONITOR		7	• PERFORM DURING MID-MISSION. TARGET FOR MISSION DAYS 11 THRU 14. • PERFORM PROGRAM 3-b FIRST AND AT LEAST 5 DAYS FROM THE PERFORMANCE OF PROGRAM 4-b. • PROGRAMS 0-a, 2-d and 3-b ARE MANDATORY.
	2-d	4	VERTICAL CIRCLE	X	7	
	3-b	2	CONTAMINATION *		7	
A	1-b	7	GEGENSCHEIN *	X	2	• PERFORM DURING MID-MISSION. TARGET FOR MISSION DAYS 15 THRU 18 • SCHEDULE PROGRAM 1-b AND 1-e (N) WITHIN ± ONE WEEK OF THE NEW MOON. • COORDINATE PROGRAM 1-b OBSERVATIONS WITH GROUND OBSERVATIONS AT HAWAII. • SCHEDULE N & S POLE OBSERVATION WITHIN TWO DAYS OF EACH OTHER. • PROGRAMS 1-b, 1-e (N) AND 4-a ARE MANDATORY. • PROGRAM 1-e (S) IS HIGHLY DESIRABLE.
SOL	1-e	6	CELESTIAL POLE N. *		2	
	1-e	6	CELESTIAL POLE S. *		2	
	4-a	7	GEGENSCHEIN *		2	
SOL	1-a	2	CONTAMINATION	X	2/7	• PERFORM LATE IN MISSION. TARGET FOR MISSION DAYS 19 THRU 22. • PERFORM PROGRAM 4-b AT LEAST 5 DAYS FROM PERFORMANCE OF PROGRAM 3-b. • PROGRAMS 1-a AND 4-b ARE MANDATORY. • PROGRAM 0-a IS HIGHLY DESIRABLE.
	0-a	1	SYSTEM MONITOR		7	
	4-b	9	ZODIACAL LIGHT *	X	7	
A	3-a	8	PERP. TO ECLIPTIC *	X	2	• PERFORM LATE IN MISSION. TARGET FOR MISSION DAYS 23 THRU 27. • PROGRAMS 3-d, 3-a AND 5-a ARE MANDATORY. • PROGRAM 1-a IS HIGHLY DESIRABLE.
SOL	5-a	5	ALL SKY MAP *		2	
	3-d	2	CONTAMINATION		7/2	
	1-a	2	CONTAMINATION		7	

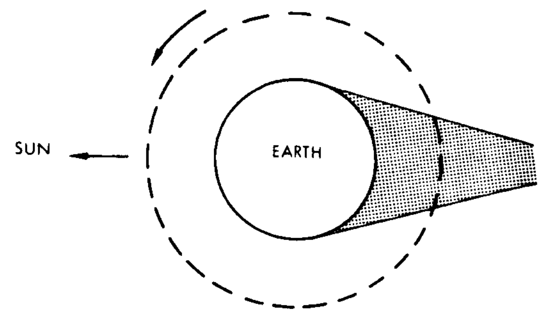
NOTE: THE PROGRAMS DESIGNATED WITH AN ASTERISK CAN BE SCHEDULED AT ANY TIME IN THE MISSION.

Functional Objective Summary Table

FO	PROGRAM	NUMBER OF PERFORMANCES	SAL	NUMBER OF RODS	TIME PER PERFORMANCE	TOTAL OBSERVING TIME	CREW REQUIREMENTS(1)	CMG DUMP INHIBIT	HAWAII COORDINATION	NEW MOON +1 WEEK	REMARKS(2)
1	0a	3	S	7	94	282					Highly desirable for 1 solar SAL performance prior to ATM.
		1	A	2	94	94					
2	1a	3	S	7, 2	40	120		Yes			Highly desirable for 1 solar SAL performance prior to ATM.
		3	A	7, 2	40	120					
	1c	0	S	-	-	-					To be initiated prior to a TBD overboard venting.
		1	A	2	20	120					
	3b	2	S	7	68	136	Change trunnion angles				Coordinate with Program 4b of FO 9.
		0	A	-	-	-					
	3d	0	S	-	-	-	Change trunnion angles Monitor intensity Change gain and rods				Perform near end of mission.
		1	A	7, 2	68	68					
3	2a	0	S	-	-	-		Yes			
		3	A	2	19	57					
	2b	3	S	7	38	114		Yes			
		0	A	-	-	-					
4	2c	0	S	-	-		Change shaft values	Yes			30 minute dark side passes are highly desirable.
		2	A	2	60	120					
	2d	2	S	7	60	120	Change shaft values	Yes			30 minute dark side passes are highly desirable.
		0	A	-	-						
5	5a	0	S	-	-	-					Perform during first photometer deployment. Requires use of orbital counter.
		1	A	2	320	320					
	5b	1	S	7	290	290					Perform during first photometer deployment following SAL alignment. Requires use of orbital counter.
		0	A	-	-	-					
6	1e	0	S	-					North Celestial Pole	> One North Celestial Pole Observation	North Celestial Pole Observations have a higher priority than the South Celestial Pole.
		6	A	2	30	180					
7	1b	0	S	-	-	-		Yes	> One Performance	> One Performance	
		3	A	2	48	144					
	3c	0	S	-	-		Change trunnion values	Yes			
		2	A	2	34	68					
	4a	0	S	-	-	-					Requires use of orbital counter and may be performed during a crew day off or sleep period.
		2	A	2	160	320					
8	3a	0	S	-	-	-		Yes			FO 3, Programs 2a and 2b are of higher priority than the third repetition of FO 8 Program 3a.
		3	A	2	17	51					
9	4b	1	S	7	320	320		Yes			Coordinate with Program 3b of FO 2. Requires use of orbital counter.
		0	A	-	-	-					
10	1d	0	S	-	-	-					Perform early in mission. North Ecliptic Pole is of higher priority.
		2	A	2	15	30					

T027/S073 MODE PROGRAM SUMMARY

PROGRAM 0-a

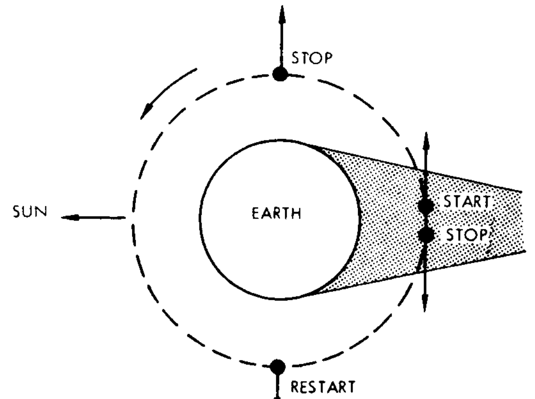


- SYSTEM MONITOR F0-1
- PHOTOMETER CAPPED
- SCAN DURING ENTIRE ORBIT
- SOLAR SAL 3 PERFORMANCES
- A-SOL-SAL 1 PERFORMANCE

MODE 1

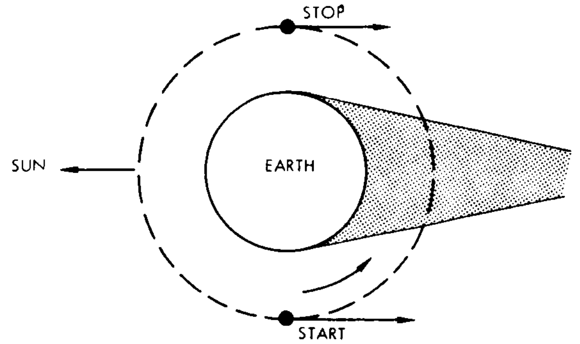
- FIXED POSITION
- OBSERVATIONS ARE MADE WITH THE PHOTOMETER POINTED AT A TARGET. NO PHOTOMETER MOVEMENT IN SHAFT OR TRUNNION.

PROGRAM 1-a



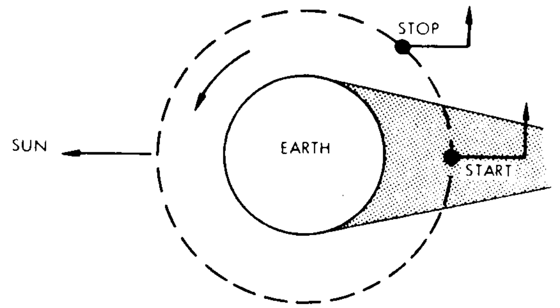
- CONTAMINATION F0-2
- PHOTOMETER IN FIXED POSITION POINTED 90° TO SUN LINE
- TWO 20 MINUTE OPERATING PERIODS PER PERFORMANCE
- SOLAR SAL 3 PERFORMANCES
- A-SOL-SAL 3 PERFORMANCES
- CREWMAN REQUIRED TO REPOSITION PHOTOMETER BETWEEN SCANS

PROGRAM 1-b



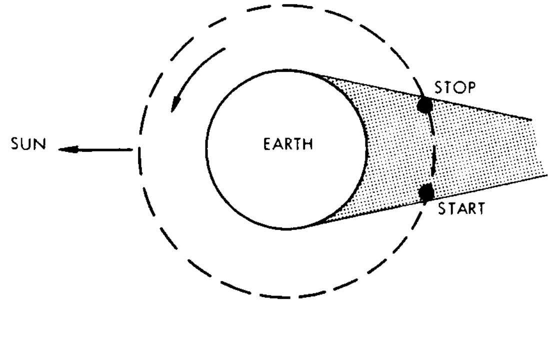
- GEGENSCHEIN F0-7
- PHOTOMETER POINTED IN ANTI SOLAR DIRECTION
- 48 MINUTE OPERATING PERIOD
- A-SOL-SAL 3 PERFORMANCES
- ONE PERFORMANCE REQUIRED ± 1 WEEK OF THE NEW MOON.

PROGRAM 1-c



- CONTAMINATION F0-2
- PHOTOMETER POINTED IN DIRECTION OF CONTAMINATION SOURCE
- 20 MINUTE OPERATING PERIOD
- A-SOL-SAL 1 PERFORMANCE
- START PRIOR TO LEAVING EARTH'S SHADOW & CONTINUE IN SUNLIGHT
- CAMERA SYSTEM REQUIRED

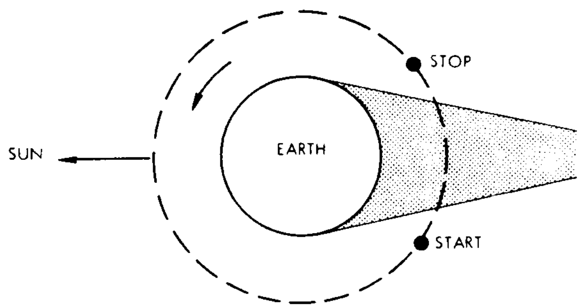
PROGRAM 1-d



PROGRAM 1-d Continued

- ECLIPTIC POLES N. OR S. F0-10
- PHOTOMETER POINTED AT NORTH OR SOUTH ECLIPTIC POLE
- 15 MINUTE OPERATING PERIOD
- A-SOL-SAL 2 PERFORMANCES
- PERFORM WITHIN EARTH'S SHADOW

PROGRAM 1-e

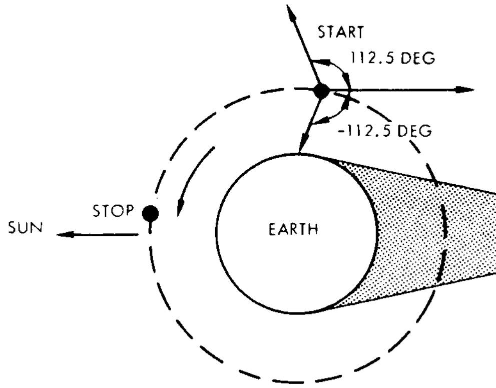


- CELESTIAL POLES N. OR S. F0-6
- PHOTOMETER POINTED AT NORTH OR SOUTH ECLIPTIC POLE
- 30 MINUTE OPERATING PERIOD
- A-SOL-SAL 6 PERFORMANCES
- COORDINATE WITH GROUND OBSERVATIONS AT HAWAII

MODE 2

- VERTICAL CIRCLE
- PHOTOMETER SCANS IN TRUNNION BETWEEN SET LIMITS
- SHAFT IS SET AT A FIXED POSITION
- ALL FILTERS ARE USED

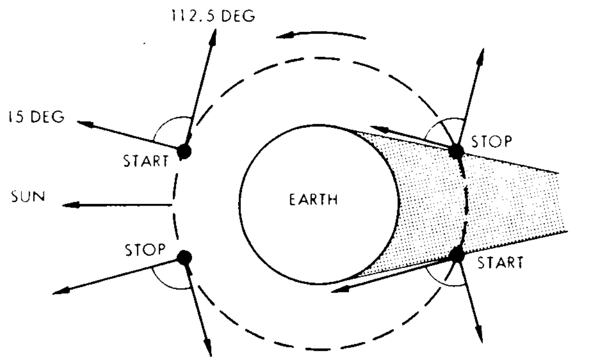
PROGRAM 2-a



PROGRAM 2-a Continued

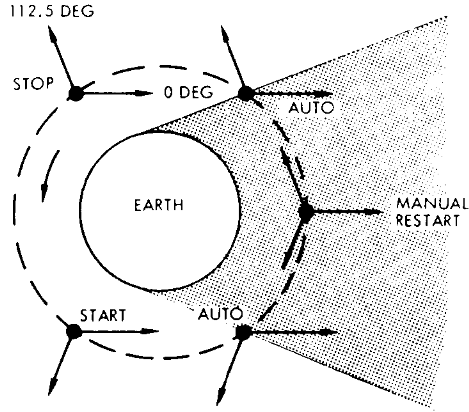
- ECLIPTIC F0-3
- SCAN IN TRUNNION FROM +112° TO ANTI SOLAR POINT, ROTATE 180°, SCAN TO -112°
- 19 MINUTE SCAN
- A-SOL-SAL 3 PERFORMANCES
- TRUNNION 180° ROTATION IS AUTOMATIC
- PERFORM IN DARKNESS OUTSIDE THE EARTH'S SHADOW

PROGRAM 2-b



- ECLIPTIC F0-3
- SCAN IN TRUNNION BETWEEN +112° & +15°
- TWO 19 MINUTE SCANS PER PERFORMANCE
- PERFORM IN EARTH'S SHADOW, REPEAT DURING DAYLIGHT PORTION OF ORBIT
- SOLAR SAL 3 PERFORMANCES
- CREWMAN REQUIRED TO RESET PROGRAM AFTER INITIAL 19 MIN. OBSERVATION

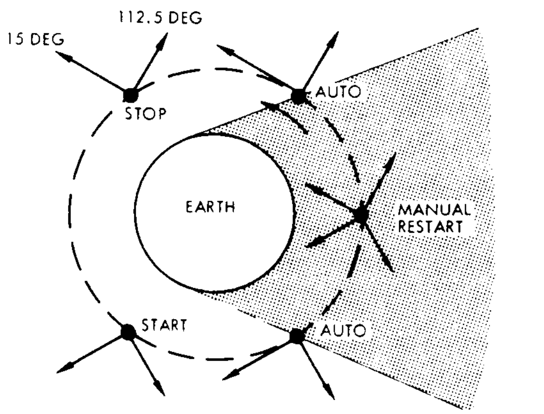
PROGRAM 2-c



PROGRAM 2-c Continued

- VERTICAL CIRCLE F0-4
- SCAN IN TRUNNION BETWEEN 0° & 112° AS ILLUSTRATED
- FOUR 15 MINUTE SCANS PER PERFORMANCE
- START PROGRAM 15 MIN. BEFORE TERMINATOR
- A-SOL-SAL 2 PERFORMANCES
- 30 MINUTE MINIMUM DARK PERIOD DESIRABLE
- CREWMAN REQUIRED TO CHANGE SHAFT SETTING & RESTART PROGRAM AFTER THE FIRST TWO 15 MIN. SCANS

PROGRAM 2-d



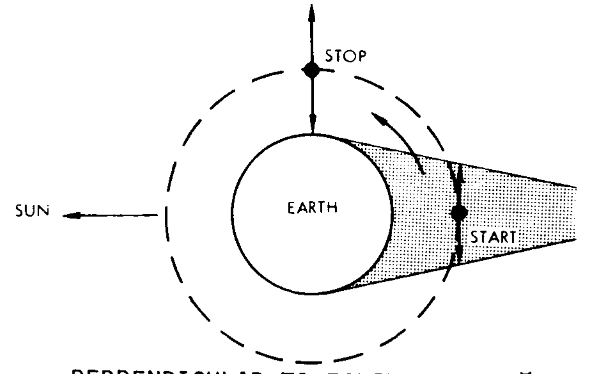
- VERTICAL CIRCLE F0-4
- SCAN IN TRUNNION BETWEEN +15° & +112° AS ILLUSTRATED
- FOUR 15 MINUTE SCANS PER PERFORMANCE
- START PROGRAM 15 MIN. BEFORE TERMINATOR
- SOLAR SAL 2 PERFORMANCES
- 30 MINUTE MINIMUM DARK PERIOD DESIRABLE
- CREWMAN REQUIRED TO CHANGE SHAFT SETTINGS & RESTART PROGRAM AFTER THE FIRST TWO 15 MINUTE SCANS

MODE 3

- ALMUCANTER
- PHOTOMETER SCANS IN SHAFT BETWEEN SET LIMITS
- TRUNNION IS SET AT A FIXED POSITION
- ALL 10 FILTERS ARE USED

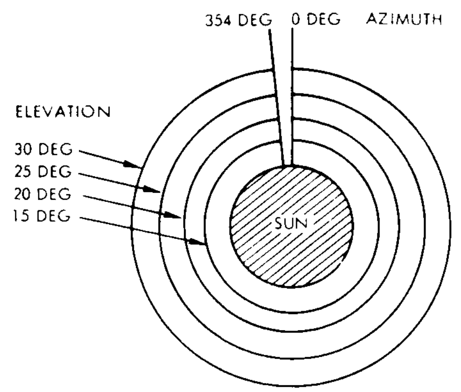
T027 / S073 MODE PROGRAM SUMMARY

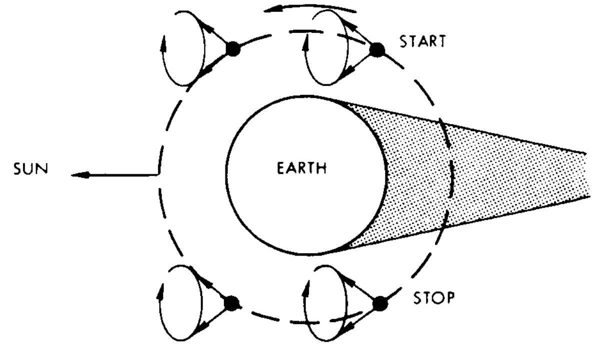
PROGRAM 3-a



- PERPENDICULAR TO ECLIPTIC FO-8
- TRUNNION PRESET AT 90°
- SCAN IN SHAFT FROM 0° TO 354°
- 17 MINUTE SCAN
- A-SOL-SAL 3 PERFORMANCES
- PERFORM INSIDE & OUTSIDE THE EARTH'S SHADOW

PROGRAM 3-b

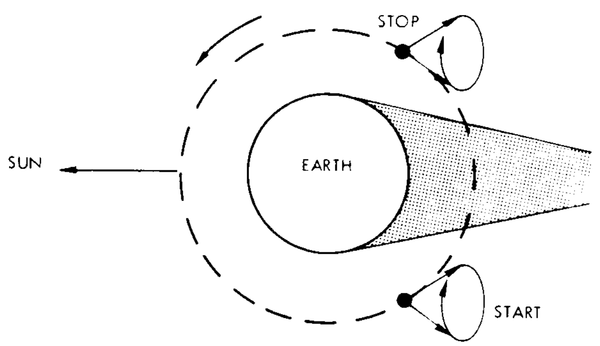




PROGRAM 3-b Continued

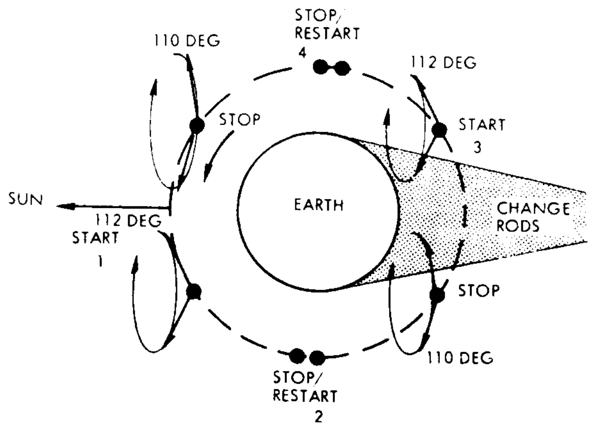
- CONTAMINATION FO-2
- TRUNNION MANUALLY SET AT 15°, 20°, 25° & 30°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 68 MINUTES PER PERFORMANCE, FOUR 15 MINUTE SCANS
- SOLAR SAL 2 PERFORMANCES
- CREWMAN REQUIRED TO CHANGE TRUNNION SETTINGS

PROGRAM 3-c



- GEGENSCHEIN FO-7
- TRUNNION MANUALLY SET AT 2.8° & 4.2°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 34 MINUTES PER PERFORMANCE, TWO 15 MINUTE SCANS
- A-SOL-SAL 2 PERFORMANCES
- CREWMAN REQUIRED TO CHANGE TRUNNION SETTING

PROGRAM 3-d



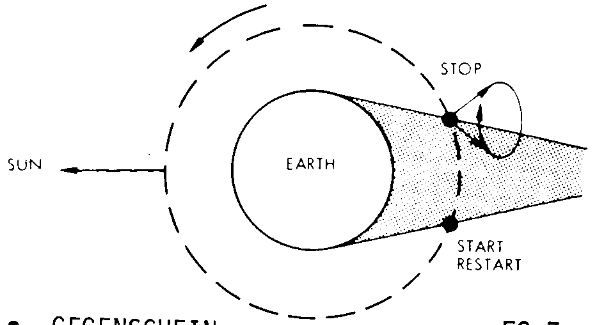
PROGRAM 3-d Continued

- CONTAMINATION FO-2
- TRUNNION MANUALLY SET AT 112° & 110°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 34 MINUTES PER PERFORMANCE, TWO 15 MINUTE SCANS
- ONE PERFORMANCE AT 2 ROD LENGTHS & ONE PERFORMANCE AT 7 ROD LENGTHS
- A-SOL-SAL ONE PERFORMANCE
- PERFORM OUTSIDE THE EARTH'S SHADOW
- CREWMAN REQUIRED TO MONITOR INTENSITY, CHANGE TRUNNION SETTING, PMT GAIN & ROD LENGTHS

MODE 4

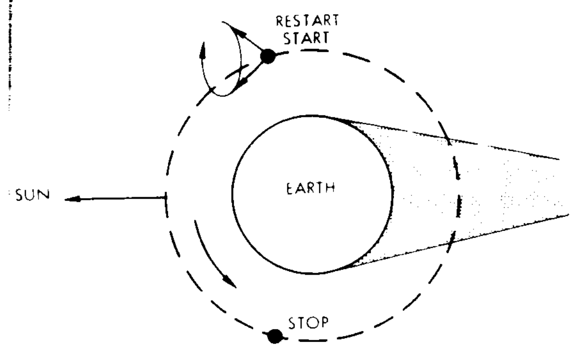
- SKY MAPPING
- MAP LIMITED REGIONS NEAR SUN OR GEGENSCHEIN
- SERIES OF ALMUCANTAR SCANS
- ALL 10 FILTERS USED

PROGRAM 4-a



- GEGENSCHEIN FO-7
- TRUNNION INITIALLY SET AT 2.8° & AUTOMATICALLY STEPS IN INCREMENTS OF 2.8° TO 28° FOR EACH FILTER
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 160 MINUTES PER PERFORMANCE, 16 MINUTES PER FILTER
- SCAN IN ANTI SOLAR DIRECTION DURING NIGHT SIDE OF ORBIT
- A-SOL-SAL 2 PERFORMANCES
- TAKES 10 CONSECUTIVE ORBITS

PROGRAM 4-b

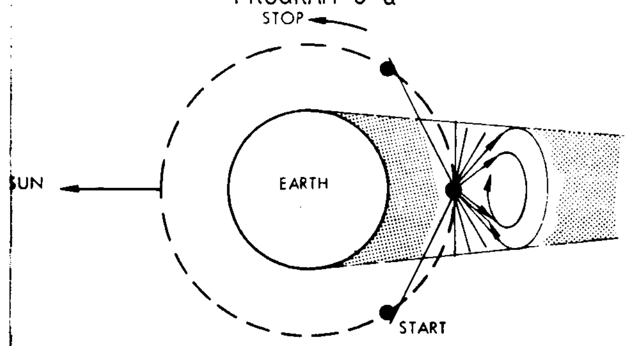


- INNER ZODIACAL LIGHT/ CONTAMINATION FO-9
- TRUNNION INITIALLY SET AT 15° & AUTOMATICALLY STEPS IN INCREMENTS OF 2.8° TO APPROXIMATELY 70°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 320 MINUTES PER PERFORMANCE, 32 MINUTES PER FILTER
- SCAN IN SOLAR DIRECTION DURING DAY SIDE OF ORBIT
- SOLAR SAL ONE PERFORMANCE
- TAKES 10 CONSECUTIVE ORBITS USING THE ORBITAL COUNTER

MODE 5

- ALL SKY MAPPING
- SERIES OF ALMUCANTAR SCANS
- ALL 10 FILTERS USED

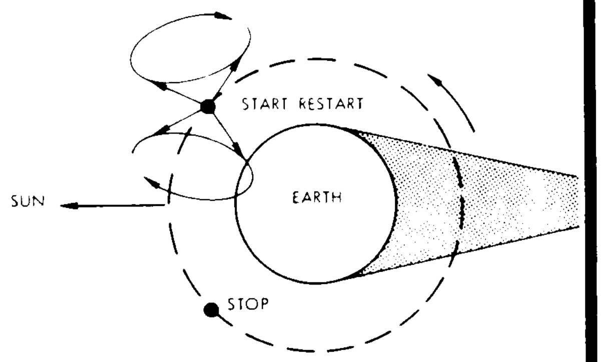
PROGRAM 5-a



PROGRAM 5-a Continued

- ALL SKY MAP FO-5
- TRUNNION INITIALLY SET AT 2.8° & AUTOMATICALLY STEPS IN INCREMENTS OF 5.6° TO APPROXIMATELY 112°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 320 MINUTES PER PERFORMANCE, 32 MINUTES PER FILTER
- CONCENTRIC SCANS IN THE ANTI-SOLAR DIRECTION
- A-SOL-SAL ONE PERFORMANCE
- TAKES 10 CONSECUTIVE ORBITS USING THE ORBITAL COUNTER

PROGRAM 5-b



- ALL SKY MAP FO-5
- TRUNNION INITIALLY SET AT 15° & AUTOMATICALLY STEPS IN INCREMENTS OF 5.6° TO APPROXIMATELY 112°
- SCAN IN SHAFT FROM 0° TO 354° AT EACH TRUNNION SETTING
- 290 MINUTES PER PERFORMANCE, 29 MINUTES PER FILTER
- SOLAR-SAL ONE PERFORMANCE
- SCAN IN THE SOLAR DIRECTION
- TAKES 10 CONSECUTIVE ORBITS USING THE ORBITAL COUNTER

S149 PARTICLE COLLECTION. DEPLOY, EXPOSE, RETRIEVE & RETURN TO EARTH MICROMETEORITE IMPACT DETECTION CASSETTES
FO-1 DURING MANNED PORTION OF FLIGHT
FO-2 DURING UNMANNED PORTION OF FLIGHT

MRD 11/1/71
EOH 11/1/71
ERD 1/12/71
ODB

ET	*δ	CREWMAN	*δ	CREWMAN
0:00	12	//S149 PREPAR 08.02.01-00//	12	// S149 PREPAR 08.02.01-00//
		S149-X PREP A-SOL-SAL ATTACH MD/CSU TO T027 EXTENSION MECHANISM INSTALL ASSEMBLY INTO A-SOL-SAL ATTACH TRIPOD SUPPORT OPEN SAL OUTER DOOR DEPLOY 2 RODS OUT CONNECT PWR/INST CABLES PRESET PANEL SWITCHES NOTIFY GROUND EXPERIMENT IS READY FOR ACTIVATION		S149-X PREP A-SOL-SAL ASSIST WITH EXTENSION MECHANISM INSTALLATION INTO A-SOL-SAL
0:25 0:00	07	//S149 MANNED 08.02.03-00//		
		S149-1 A-SOL-SAL MANNED EXPOSURES PERF # ____ OF 1 VERIFY PROPER OPERATION (WAIT 72 HRS NOMINAL)		S149 UPDATE PAD
0:15 0:00	05	//S149 RETRACT 08.02.09-00//		
		S149-X RETRACT A-SOL-SAL MONITOR CASSETTE CLOSURE REMOVE PWR/INST CABLES,STOW RETRACT MD/CSU CLOSE SAL DOOR, PRESSURIZE		
0:10 0:00	07	//S149 STOWAG 08.02.10-00//	07	//S149 STOWAG 08.02.10-00//
		(CONTINUED)		

SCHEDULE CRITERIA
- Detection system will be exposed to near earth space for 72 hours (min 8 hrs).
- Exp must not be scheduled concurrently with S019, S063, T027/S073, T020, T013, M509, S183, & EREP.
- Schedule during the solar inertial mode only.
- Solar SAL may be used in contingency mode.
- Use wait period shown in CREWMAN column.
- Do not schedule during crew controlled vents.
- Deploy the second cassette at the end of SL-2 mission for unmanned exposure.

CONSTRAINTS
- Close detection cassettes during periods of extraneous contamination, i.e., waste dumps, vents, thruster firing, etc.
- Minimum exposure of 8 hours.

RETURN WEIGHT
- Cassettes & stowage container - 11.5 pounds.

NOTES
- Recorded voice or log entries will be made to describe anomalous conditions, contamination periods such as urine dumps, venting, etc., including time spans and quantities.
- Record attitude deviations of more than ±15° from nominal (any axis), (ATM recorder).
- MCC-H will activate & demonstrate experiment remotely with crew backup as required.

S149 PARTICLE COLLECTION. DEPLOY, EXPOSE, RETRIEVE & RETURN TO EARTH MICROMETEORITE IMPACT DETECTION CASSETTES

FO-1 DURING MANNED PORTION OF FLIGHT

FO-2 DURING UNMANNED PORTION OF FLIGHT

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
0:00						S149-X STOW A-SOL-SAL AFTER 14 HRS WARMUP, REMOVE ASSEMBLY FROM A-SOL-SAL REMOVE MD/CSU FROM T027 EXT MECH & ATTACH PHOTOMTR STOW MD/CSU STOW PHOTOMETER ASSEMBLY		S149-X STOW A-SOL-SAL ASSIST WITH EXTENSION MECHANISM REMOVAL FROM A-SOL-SAL	NOTES (CONTINUED) • Cassettes will be stored in CM for return to earth (TBD). • As the cassettes open, the PMT CAP display will go gray. When the cassettes are fully open, the PMT SHT display will go gray. • If necessary, the cassettes can be retracted thru the SAL fully open. • Four cassettes are deployed each time. • Mission scheduling is as follows: SL-2 manned SL-2 to SL-3 unmanned SL-3 to SL-4 unmanned SL-4 manned
0:15									

S183 ULTRAVIOLET PANORAMA

FO-1 THROUGH 12 OBTAIN ULTRAVIOLET PHOTOGRAPHS OF DESIGNATED STARFIELDS DURING DARKSIDE PASSES

MRD	4/1/72
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	2/17/72
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
					5	// S019 AMS IN 08.03.01-00//		
0:00						S019-T A-SOL-SAL		
						INSTALL AMS IN SAL		
0:10								
					11	// S183 SA INS 08.09.01-00//	1	// S183 ASSIST //
0:00						S183-T SET UP A-SOL-SAL		S183-T
						ATTACH SPECTROGRAPH ASSEMBLY AND FILM CARROUSEL		ASSIST IN EXPERIMENT ASSEMBLY
						INSTALL MAUER CAMERA		
				▲		VENT SAL TO SPACE		
0:22								
					23	// S183 OPERAT 08.09.03-00//	1	// S183 INHIBI //
0:00						S183-T A-SOL-SAL PERF #___OF 12 OPEN SAL DOOR, EXTEND MIRROR SYSTEM STARFIELD TILT ____ ROT ___._ EXP ___._ STARFIELD TILT ____ ROT ___._ EXP ___._		S183-T INHIBIT CMG DUMP

SCHEDULE CRITERIA

- Anti-solar SAL required. Do not schedule concurrently with S019, S063, S149, and T027/S073, -2, -3, -5, -7.
- Schedule as close as possible to S019, so results will be comparable (provides similar film and optics degradation).
- Do not schedule concurrently with T013, T020, M509 or any activity requiring excessive crew motion.
- Experiment can only be performed on dark-side passes.
- Waste dumps or outgassing which would affect optics and viewing must be inhibited.
- The mirror system need only be retracted into the SAL during daylight portion of orbit. To minimize film degradation the experiment must be dismantled if observing periods are separated by more than 12 hours. Total exposure time (to OWS ambient radiation) should not exceed 96 hours.
- The mirror system, spectrograph assembly and film canister must be evacuated following experiment disassembly and before restowing.
- Spacecraft should be in solar inertial attitude.

CONSTRAINTS

- All lights which could scatter lights into the spectrograph will be extinguished during exposure periods.

S183 ULTRAVIOLET PANORAMA
FO-1 THROUGH 12 OBTAIN UV PHOTOGRAPHS OF DESIGNATED STARFIELDS

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
						STARFIELD TILT _ _ _ _ ROT _ _ _._ EXP _ _ _._ RETRACT MIRROR SYSTEM AND CLOSE SAL DOOR BEFORE SUNRISE		
0:45					7	// S183 SA REM 08.09.06-00//	1	// S183 ENABLE //
0:00						S183 -1 A-SOL-SAL REMOVE SA AND FILM CARROUSEL FROM AMS		S183 -1 ENABLE CMG DUMP
								// S183 DISASS //
0:13					19	// S183 STOW E 08.09.08-00 //		S183 -1 ASSIST IN EXPERIMENT DISASSEMBLY
0:00				▲		S183 -1 A-SOL-SAL REMOVE AMS FROM SAL EVACUATE AND STOW AMS EVACUATE AND STOW SA EVACUATE AND STOW FILM CARROUSEL REMOVE AND STOW MAUER CAMERA		

NOTES

- The average time for a photographic sequence is assumed to be 15 minutes. Since the exposure times for each starfield vary considerably it may be possible to schedule more than one starfield per night pass.
- It is anticipated that the 35 photographic plates will be exposed on 12 starfields at the rate of 3 exposures per darkside pass.
- The question of whether to inhibit momentum dumps or schedule around them during an exposure sequence has not been settled.

RETURN WEIGHT

- Film carrousel 6.0 lb.
- Film stowage container 4.0 lb.
- Film magazine (16mm DAC) 1.0 lb.

S183 ULTRAVIOLET PANORAMA
FO-1 THROUGH 12 OBTAIN UV PHOTOGRAPHS OF DESIGNATED STARFIELDS

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
						SECURE SAL			
0:38					5	// S183 LOG A 08.09.09-00 //			
0:00						S183 -1 STOW STOW LOG AND FILM IN CM FOR RETURN			
0:10									

S183 ULTRAVIOLET PANORAMA

CANDIDATE STAR FIELDS

*STAR NUMBER IN SMITHSONIAN ASTROPHYSICAL OBSERVATORY STAR CATALOG

ID NUMBER	GMT	RT ASCENSION-1950 h	m	s	DECLINATION - 1950 °	'	"	CATALOG NUMBER*	PRIORITY	MAGNITUDE	EXPOSURE TIMES (SEC) 1	2	3
1	TBD	0	30	8.4	+60	39	22	645	1	4.24	TBD	TBD	TBD
2	TBD	0	34	10.3	+53	37	19	727	2	3.72	TBD	TBD	TBD
3	TBD	1	22	31.5	+59	58	34	1715	2	2.80	TBD	TBD	TBD
4	TBD	2	18	51.2	+55	37	05	2836	1	5.22	TBD	TBD	TBD
5	TBD	3	25	00.1	+59	46	05	4113	TBS	4.42	TBD	TBD	TBD
6	TBD	3	32	55.5	+48	1	41	4287	1	4.26	TBD	TBD	TBD
7	TBD	3	44	30.4	+23	57	08	4541	1	2.96	TBD	TBD	TBD
8	TBD	3	46	22.6	+32	56	23	4592	1	5.10	TBD	TBD	TBD
9	TBD	5	03	00.2	+41	10	08	6226	2	3.28	TBD	TBD	TBD
10	TBD	5	10	55.3	-12	59	57	6387	2	4.46	TBD	TBD	TBD
11	TBD	5	16	43.0	+33	54	28	6515	2	5.16	TBD	TBD	TBD
12	TBD	5	22	26.9	+06	18	22	6668	1	1.70	TBD	TBD	TBD
13	TBD	5	29	30.6	- 7	20	13	6850	1	4.64	TBD	TBD	TBD
14	TBD	5	32	23.8	+24	00	30	6916	2	5.28	TBD	TBD	TBD
15	TBD	5	33	40.5	-01	13	56	6960	1	1.75	TBD	TBD	TBD
16	TBD	6	11	33.3	+17	55	20	7956	2	5.74	TBD	TBD	TBD
17	TBD	6	26	18.9	-32	32	51	8410	2	4.48	TBD	TBD	TBD
18	TBD	6	30	12.0	+ 7	22	16	8506	1	4.50	TBD	TBD	TBD
19	TBD	6	51	52.0	-11	58	29	9051	2	4.25	TBD	TBD	TBD
20	TBD	7	16	49.0	-26	29	36	9740	1	5.40	TBD	TBD	TBD
21	TBD	7	32	02.4	-36	13	43	10139	1	5.51	TBD	TBD	TBD
22	TBD	7	56	17.4	-45	26	31	10790	1	5.16	TBD	TBD	TBD
23	TBD	8	45	25.0	-56	35	07	12138	2	4.63	TBD	TBD	TBD
24	TBD	8	48	03.9	-45	07	16	12204	1	5.02	TBD	TBD	TBD
25	TBD	10	30	14.5	-61	25	40	14489	1	3.58	TBD	TBD	TBD
26	TBD	11	33	27.9	-62	44	35	15899	1	3.34	TBD	TBD	TBD
27	TBD	13	19	23.0	-60	43	37	18087	2	4.62	TBD	TBD	TBD
28	TBD	13	55	34.8	-44	33	38	18883	2	4.17	TBD	TBD	TBD
29	TBD	15	05	27.9	-45	05	20	20356	2	4.39	TBD	TBD	TBD
30	TBD	15	55	34.6	-24	41	20	21442	1	5.41	TBD	TBD	TBD
31	TBD	16	16	05.3	-50	02	06	21933	2	4.14	TBD	TBD	TBD
32	TBD	16	48	28.7	-37	57	49	22677	TBS	3.09	TBD	TBD	TBD
33	TBD	17	44	24.7	-27	48	49	24135	1	Var	TBD	TBD	TBD
34	TBD	17	46	27.2	-37	01	46	24188	1	3.25	TBD	TBD	TBD
35	TBD	18	10	46.3	-21	04	26	24856	1	Var	TBD	TBD	TBD
36	TBD	18	51	58.7	+36	54	29	25934	1	5.51	TBD	TBD	TBD
37	TBD	19	03	35.7	-04	57	33	26285	2	3.55	TBD	TBD	TBD
38	TBD	19	14	04.0	+21	18	03	26569	2	4.60	TBD	TBD	TBD

S183 ULTRAVIOLET PANORAMA

CANDIDATE STAR FIELDS

*STAR NUMBER IN SMITHSONIAN ASTROPHYSICAL OBSERVATORY STAR CATALOG

ID NUMBER	GMT	RT ASCENSION-1950			DECLINATION - 1950			CATALOG NUMBER*	PRIORITY	MAGNITUDE	EXPOSURE TIMES (SEC)		
		h	m	s	°	'	"				1	2	3
39	TBD	19	37	52.0	+33	51	45	27216	1	6.12	TBD	TBD	TBD
40	TBD	20	15	56.5	+37	52	35	28218	1	Var	TBD	TBD	TBD
41	TBD	20	54	48.8	+44	43	54	29241	1	6.01	TBD	TBD	TBD
42	TBD	21	36	34.7	+61	51	21	30302	1	4.87	TBD	TBD	TBD
43	TBD	22	00	00.4	+52	38	26	30828	1	5.66	TBD	TBD	TBD
44	TBD	22	39	14.0	+39	57	50	31670	1	Var	TBD	TBD	TBD
45	TBD	23	04	29.5	+59	08	57	32197	2	4.93	TBD	TBD	TBD
46	TBD	23	37	56.2	+44	03	25	32886	2	4.33	TBD	TBD	TBD
47	TBD	0	46	51.7	-75	11	43	983	1	4.96	TBD	TBD	TBD
48	TBD	5	13	47.4	-67	14	30	6444	1	4.78	TBD	TBD	TBD
49	TBD	0	47	02.8	+40	48	25	989	1	4.42	TBD	TBD	TBD
50	TBD	1	18	21.1	+28	28	39	1630	1	5.60	TBD	TBD	TBD
51	TBD	4	33		+16			TBS	1	0.86	TBD	TBD	TBD
52	TBD	8	38		+3	45		TBS	1	4.30	TBD	TBD	TBD
53	TBD	13	43	36	+49	49		TBS	TBS	1.86	TBD	TBD	TBD

S190B EARTH TERRAIN CAMERA

MRD
EOH 1/3/72
ERD 2/18/72
ODB

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN
0:00		15	//S190B PREP 08.0802-00 // S190B-X PREP A-SOL-SAL INSTALL ETC WINDOW IN ANTI SOLAR SAL REMOVE CAMERA FROM STOWAGE CONTAINER, INSTALL FILTER INSTALL CAMERA IN SAL WINDOW SET CAMERA CONTROLS & SWITCHES PER C/L CONNECT POWER CABLES	15	//S190B PREP 08.08.02-00 // S190B-X PREP A-SOL-SAL ASSIST WITH ETC CAMERA INSTALLATION INTO ANTI-SOLAR SAL
0:30					
0:00		02	//S190B MAGAZ 08.08.03-00 // S190B-X LOAD A-SOL-SAL INSTALL FILM MAGAZINE IN ETC		
0:05					
0:00		15	//S190B CAMER 08.08.04-00 // S190B-X A-SOL-SAL PERF #____ OF_____ ADVANCE FILM 6 FRAMES VERIFY CAMERA OPERATION SET PER UPDATE PAD • SHUTTER SPEED • MR/SEC • FRAMES/MIN VENT SAL, OPEN DOOR CONNECT PLATEN VACUUM SUBDUE REQUIRED LIGHTING		

SCHEDULE CRITERIA

- An update pad is required at least one rev prior to the data taking pass.
- Attitude data is required on the ATM recorder.
- Schedule S190B photography in conjunction with S190A.
- For each data pass voice recorded camera and site data.
- Data taking periods will vary between 10 to 30 minutes.

CONSTRAINTS

- Film temperature - 50 to 90°F.
  Humidity - 30 to 95%
  Radiation - less than .37 rads/ds.
- The camera lens optical axis must be pointed to within $\pm 0.5°$ of the nominal -Z axis.
- Photography in the summer hemisphere is constrained to periods when the sun elevation angle is greater than 30° and greater than 20° in the winter hemisphere.
- Spacecraft attitude control must be within $\pm 20°$ about each axis.
- Allowable S/C rates must not exceed 0.05°/sec in any axis.
- Film is to be stowed in the OWS film vault if time between data passes exceed 3 hours.
- A total of___data passes in Z-LV(E) and ___passes in SI are required during Skylab.

RETURN WEIGHT

- S190B film ______pounds.

S190B EARTH TERRAIN CAMERA

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
0:30						OPERATE CAMERA, CHANGE SPEED & IMC CONTROL AS REQ SECURE CAMERA		
0:50					02	//S190B DOWN 08.08.05-00 //		
0:00						S190B-X UNLOAD A-SOL-SAL DOWNLOAD MAGAZINE REMOVE FILM & STOW		
0:05					10	//S190B STOWA 08.08.06-00 //	10	//S190B STOWA 08.08.06-00 //
0:00						S190B-X STOWAGE A-SOL-SAL DISCONNECT PWR CABLES &STOW REMOVE CAMERA FROM WINDOW & STOW IN CONTAINER CLOSE DOOR, PRESSURIZE SAL REMOVE ETC WINDOW INSTALL SAL WINDOW STOW ETC WINDOW		S190B-X STOWAGE A-SOL-SAL ASSIST WITH ETC CAMERA REMOVAL FROM ANTI-SOLAR SAL & CAMERA STOWAGE
0:20					05	//S190B TRANS 08.08.08-00 //		
0:00						S190B-X TRANSFER CM TRANSFER EXPOSED FILM CASSETTES TO CM STOWAGE		
0:10								

NOTES

- Each film canister contains 200 feets of film, approximately 450 frames. Film allocation is as follows: SL-2 4 canisters, SL-3 6 canisters and SL-4 6 canisters.
- The ETC controls are as follows:
  Power - on/off
  Shutter speed - 1/100 sec
  1/200 sec
  1/500 sec
  IMC - 0 to 25 milliradians/sec
  film speed - 0 to 25 frames/min
  film advance - 2 feet/second
- Eight filters, neutral density and spectral shaping, are utilized.
- Surface coverage at 235 miles altitude will be approximately 59 sq. miles.
- Data collection periods will vary from 10 to 30 minutes depending on the length of Z-LV(E) coverage.

T002 MANUAL NAVIGATION SIGHTINGS
FO-1 PERFORM SIX PERIODS OF MIDCOURSE TYPE NAVIGATION SIGHTINGS ON TWO KNOWN STARS USING A HAND-HELD SEXTANT

MRD	11/1/71
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	11/8/71
AE	1/3/72

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					25	// T002 SEXT M 09.03.02-00 //	5	// T002 PAD UP 09.03.01-00 //
						T002-1 CS-W UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING PERFORM REFERENCE CALIBRATION OF SEXTANT VOICE RECORD GMT, SEXTANT TEMP & TARGET PAIR AT START OF SESSION ACQUIRE: STAR 1 ____ STAR 2 ____ VOICE "MARK" WHEN IMAGES ALIGNED AND ANNOUNCE MEASURED ANGLE REPEAT SIGHTING FOR A TOTAL OF 10 TIMES MINIMUM STOW EXPERIMENT HARDWARE		UPDATE PAD
0:50								

SCHEDULE CRITERIA
- Do not schedule concurrently with S063-1 since both experiments use the wardroom window.
- Experiment to be performed on dark side of orbit and external lights near the wardroom window will be off.
- Wardroom interior lights will be dimmed during experiment.
- Waste dumps will not be performed during experiment performance.
- The sighting periods should be distributed equally in time throughout the mission.
- If the experiment is not scheduled on SL-2 then one performance of FO-1 would be desirable on SL-2 to test the equipment.
- One ATM recorder required.

CONSTRAINTS
- Maximum allowable spacecraft rates will be nominal solar inertial attitude rates.

RETURN WEIGHT
- N/A

T002 MANUAL NAVIGATION SIGHTINGS
FO-2 PERFORM 12 PERIODS OF MIDCOURSE TYPE NAVIGATION SIGHTINGS ON A KNOWN STAR AND THE LUNAR LIMB USING A HAND-HELD SEXTANT

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
0:00					23	// T002 ST LU 09.03.02-02 // T002-2 CS-W UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING PERFORM REFERENCE CALIBRATION OF SEXTANT VOICE RECORD GMT, SEXTANT TEMP & TARGET AT START OF SESSION ACQUIRE: STAR ______ AND LUNAR LIMB VOICE "MARK" WHEN IMAGES ALIGNED AND ANNOUNCE ANGLE AND FILTER USED REPEAT SIGHTINGS FOR A MIN. TOTAL OF 10 TIMES STOW EXPERIMENT HARDWARE		// T002 PAD UP 09.03.01-00 // T002 PAD UP UPDATE PAD	
0:45									

SCHEDULE CRITERIA
- Do not schedule concurrently with S063-1 since both experiments use the wardroom window.
- Experiment to be performed on dark side of orbit and external lights near the wardroom window will be off.
- Wardroom interior lights will be dimmed during experiment performance.
- The sighting periods should be distributed equally in time throughout the mission.
- Waste dumps will not be performed during experiment performance.
- One ATM recorder required.

CONSTRAINTS
- Maximum allowable spacecraft rates will be nominal solar inertial attitude rates

RETURN WEIGHT
- N/A.

T002 MANUAL NAVIGATION SIGHTINGS

FO-3 PERFORM SIX PERIODS OF MIDCOURSE TYPE NAVIGATION SIGHTINGS ON TWO PORTIONS OF THE LUNAR LIMB USING A HAND-HELD SEXTANT

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					23	// T002 LU LU 09.03.02-03 // T002-3 CS-W UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING PERFORM REFERENCE CALIBRATION OF SEXTANT VOICE RECORD GMT, SEXTANT TEMP & TARGET AT START OF SESSION ACQUIRE THE TWO PORTIONS OF THE LUNAR LIMB WITH SEXTANT VOICE "MARK" WHEN IMAGES ALIGNED AND ANNOUNCE MEASURED ANGLE REPEAT SIGHTING FOR A MIN. TOTAL OF 10 TIMES VOICE GMT AND SEXTANT TEMP STOW EXPERIMENT HARDWARE			SCHEDULE CRITERIA • Do not schedule concurrently with S063-1 since both experiments use the wardroom window. • Experiment to be performed on dark side of orbit and external lights near the wardroom window will be off. • Wardroom interior lights will be dimmed during experiment. • The sighting periods should be distributed equally in time throughout the mission. • Waste dumps will not be performed during experiment performance. • The lunar limb must be visible through the wardroom window. • One ATM recorder required. CONSTRAINTS • Maximum allowable spacecraft rates will be nominal solar inertial attitude rates. RETURN WEIGHT • N/A.
0:45									

T002 MANUAL NAVIGATION SIGHTINGS
FO-4 PERFORM FIVE PERIODS OF ORBIT TYPE NAVIGATION SIGHTINGS ON THE EARTH'S HORIZON USING A HAND-HELD STADIMETER

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					23	// T002 STAD 0 09.03.03-00// T002-4 UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING VOICE RECORD GMT AT START OF SESSION AND FILTER USED IF IN DAYLIGHT PERFORM STADIMETER HORIZON SIGHTING VOICE "MARK" WHEN IMAGES ALIGNED AND ANNOUNCE READING CONDUCT AS MANY SIGHTINGS AS CONVENIENT DURING SESSION STOW EXPERIMENT HARDWARE			SCHEDULE CRITERIA • Do not schedule concurrently with S063-1 since both experiments use the wardroom window. • Waste dumps will not be performed during experiment performance. • The earth's horizon must be visible from the wardroom window. • If the experiment is not scheduled on SL-2 then one performance of FO-4 would be desirable on SL-2 to test the equipment. • Wardroom interior lights will be dimmed during experiment. • One ATM recorder required. CONSTRAINTS • Maximum allowable spacecraft rates will be nominal solar inertial attitude rates. RETURN WEIGHT • N/A.'
0:45									

T002 MANUAL NAVIGATION SIGHTINGS
FO-5 PERFORM 2 PERIODS OF ORBIT TYPE NAVIGATION SIGHTINGS ON THE EARTH'S HORIZON AND A KNOWN STAR USING A HAND-HELD SEXTANT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					25	//T002 SEXT 0 09.03.04-00 // T002-5 CS-W UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING PERFORM REFERENCE CALIBRATION OF SEXTANT VOICE RECORD GMT, SEXTANT TEMP & TARGET AT START OF SESSION ACQUIRE: STAR ________ AND HORIZON VOICE "MARK" WHEN IMAGES ALIGNED. ANNOUNCE ANGLE AND CHRONOGRAPH TIME OF SIGHTING REPEAT SIGHTING AS OFTEN AS POSSIBLE DURING NIGHT PASS VOICE GMT AND SEXTANT TEMP STOW EXPERIMENT HARDWARE		// T002 PAD UP 09.03.01-00// PAD UPDATE	SCHEDULE CRITERIA ● Do not schedule concurrently with S063-1 since both experiments use the wardroom window. ● Experiment to be performed on dark side of orbit and external lights near the wardroom window will be off. ● Wardroom interior lights will be dimmed during experiment performance. ● Waste dumps will not be performed during experiment performance. ● The night earth horizon must be moonlit and visible from the wardroom window. ● One ATM recorder required. CONSTRAINTS ● Maximum allowable spacecraft rates will be nominal solar inertial attitude rates. RETURN WEIGHT ● N/A.
0:50									

T002 MANUAL NAVIGATION SIGHTINGS

FO-6 PERFORM THREE PERIODS OF BOTH ORBIT AND MIDCOURSE TYPE NAVIGATION SIGHTINGS CONSISTING OF SEXTANT MEASUREMENTS ON THE EARTH'S HORIZON AND TWO KNOWN STARS AND STADIMETER MEASUREMENTS

ET	AM 1 2 3 V	*δ	CREWMAN	*δ	CREWMAN	
		33	// T002 ST OPE 09.03.05-00//			SCHEDULE CRITERIA ● First stadimeter sighting upon entering day portion of orbit. ● Do not schedule concurrently with S063-1 since both experiments use the wardroom window. ● Sextant sightings to be performed on dark side of orbit and external lights near the wardroom window will be off. ● Wardroom interior lights will be dimmed during sextant sightings. ● Waste dumps will not be performed during experiment performance. ● For the sextant sightings the earth's horizon should be moonlit and visible from the wardroom window. ● One ATM recorder required. CONSTRAINTS ● Maximum allowable spacecraft rates will be nominal solar inertial attitude rates. RETURN WEIGHT ● N/A.
0:00			T002 -6 CS-W UNSTOW EXPERIMENT HARDWARE SUBDUE LIGHTING PERFORM 3 STADIMETER SIGHTINGS, 15 MINUTES APART ON THE EARTH'S HORIZON VOICE "MARK" & START STOPWATCH WHEN IMAGES ALIGNED ANNOUNCE READING WHEN CONVENIENT, STOP STOPWATCH AND RECORD TIME FROM CHRONOGRAPH STOW EXPERIMENT HARDWARE			
1:05						

T002 MANUAL NAVIGATION SIGHTINGS

FO-6 PERFORM THREE PERIODS OF BOTH ORBIT AND MIDCOURSE TYPE NAVIGATION SIGHTINGS CONSISTING OF SEXTANT MEASUREMENTS ON THE EARTH'S HORIZON AND TWO KNOWN STARS AND STADIMETER MEASUREMENTS

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
					25	// T002 SE OPE 09.03.06-00/			
0:00						T002-6 CS-W	5	// T002 PAD UP 09.03.01-00 //	
						PERFORM REFERENCE CALIBRATION OF SEXTANT		PAD UPDATE	
						ACQUIRE STAR & EARTH'S NIGHT HORIZON WITH SEXTANT ON ALIGNMENT VOICE "MARK" AND ANNOUNCE ANGLE AND FILTER USED			
						ACQUIRE STAR AND EARTH'S NIGHT HORIZON WITH SEXTANT ON ALIGNMENT VOICE "MARK" AND ANNOUNCE ANGLE			
						REPEAT PREVIOUS SIGHTINGS A SECOND TIME			
						STOW EXPERIMENT HARDWARE			
0:50									

T003 IN-FLIGHT AEROSOL ANALYSIS
FO-1 INITIAL MEASUREMENTS AFTER OWS ACTIVATION

MRD	11/1/71
EOH VOL I	12/28/71
EOH VOL II	6/7/71
ODB	1/6/72
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00					15	// T003 FO-1 // T003-1 AS LISTED RECORD AA MEASUREMENTS AT: • CS-E, NEAR CEILING • CS-E,NEAR AIR DIFFUSER • CS-W • CS-H • CS-F • CS-D,CENTER OF AM/OWS HATCH • CS-CM, CENTER COUCH			
0:30									

SCHEDULE CRITERIA
- Schedule the complete performance as soon as possible after OWS activation, but not later than 5 days.
- Schedule just the measurement at CS-E near the ceiling every 8 ± 2 hours.
- Schedule the removal and stowage of the filter unit only after the last reading has been taken in the mission.

CONSTRAINTS
- During the operation the crewman must keep his movements to a minimum.
- During measurements, the air inlet of the analyzer will be pointed perpendicular to the spacecraft longitudinal axis, and away from the couch pad in the CM.

RETURN WEIGHT
- Filter/impact unit 0.25 pounds.
- Filter/impact unit container 0.25 pounds.
- Data cards TBD pounds.

T003 IN-FLIGHT AEROSOL ANALYSIS

FO-2 OBTAIN MEASUREMENTS EVERY 10 DAYS AFTER FO-1 PERFORMANCE

ET	AM 1	AM 2	AM 3	V	*δ		*δ		
0:00					4	//T003 MEAS 2 10.07.02-00// T003-2 AS LISTED MEASURE AT: CS-E CS-D CS-CM			SCHEDULE CRITERIA ● Schedule performance every 10 days after initial measurements (FO-1). ● Schedule immediately after the regularly scheduled 8 ±2 hours reading at CS-E (near the ceiling). CONSTRAINTS ● During the operation the crewman must keep his movements to a minimum. ● During measurements, the air inlet of the analyzer will be pointed perpendicular to the spacecraft longitudinal axis, and away from the couch pad in the CM. RETURN WEIGHT ● See FO-1 page 4-30.
0:08									

T003 IN-FLIGHT AEROSOL ANALYSIS

FO-3 OBTAIN MEASUREMENT EVERY 10 DAYS AFTER FO-1 PERFORMANCE

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00					12	// T003 FO-3 T003-3 AS LISTED PERFORM AA MEASUREMENT • CS-W • CS-H • CS-F			SCHEDULE CRITERIA • Schedule performances every 10 days after initial measurements (FO-1). • Schedule analyzer measurements before and after a meal during each performance (CS-W). • Schedule analyzer measurements before a period of sanitary facility use and after a weighing of the wet fecal sample bag (M071) during each performance (CS-H). • Schedule analyzer measurements at CS-F immediately after change and/or suit donning when convenient, during each performance. CONSTRAINTS • During the operation the crewman must keep his movements to a minimum. • During measurements, the air inlet of the analyzer will be pointed perpendicular to the spacecraft longitudinal axis, and away from the couch pad in the CM. RETURN WEIGHT • See FO-1 page 4-30.
0:24									

T003 IN-FLIGHT AEROSOL ANALYSIS
FO-4 OBTAIN UP TO 20 MEASUREMENTS AT LOCATIONS OF SUSPECT PARTICULATE GENERATION

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00					4	// T003 MEAS 8 10.07.06-00//			SCHEDULE CRITERIA ● Performances will be at astronaut's discretion at locations which may be a source of particulate generation.
						T003-4 AS LISTED RECORD AA MEASUREMENT AT: ● CREW SELECTED LOCATION			CONSTRAINTS ● During the operation the crewman must keep his movements to a minimum. ● During measurements, the air inlet of the analyzer will be pointed perpendicular to the spacecraft longitudinal axis, and away from the couch pad in the CM.
0:09									
0:00					2	// T003 DEACTI 14.05.04-00//			RETURN WEIGHT ● See FO-1 page 4-30.
0:04						T003-4 STOW CS-E REMOVE AND STOW FILTER			

T013 CREW VEHICLE DISTURBANCES

FO-1 PERFORM VARIOUS BODY MOVEMENTS IN OWS USING A LIMB MOTION SENSOR (LIMS) AND FORCE MEASURING UNITS

MRD	4/1/72
EOH VOL. I	11/19/71
EOH VOL. II	6/7/71
ODB	1/26/72
AE	1/3/72

ET	AM 1 2 3 V	*δ		*δ	
		5	//T013 PRE OPE 04.06.02-00//		
0:00			T013-1 CS-F EQUIPMENT CHECKOUT		
0:10					
0:00		24	// T013 OPERAT //	24	//T013 ASSIST //
			T013-1 SUBJECT CS-F PERF # 1 OF 1 SET UP DACS DON LIMS ASSEMBLY UNCAGE FMU SAND CALIBRATE SIMULATE OPERATING MOTIONS OF CONSOLE PERFORM STATIONARY EXERCISES ON FMU PERFORM FREE SOARING MOVEMENTS BETWEEN FMUS CAGE FMU'S DOFF AND STOW LIMS ASSY STOW CAMERAS AND FILM		T013-1 OBSERVER CS-F CONNECT LIMS DATA CABLE ACTIVATE VOICE AND DATA RECORDING SYSTEMS ASSIST SUBJECT START CAMERAS VERIFY GROUND TRACKING CONTACT ANNOUNCE EACH STEP IN EXPERIMENT PERFORMANCE ASSIST SUBJECT IN DOFFING EQUIPMENT AND STOWAGE
0:47					PHOTO PAD

SCHEDULE CRITERIA

- Schedule during daylight portion of orbit with the acquisition sun sensors of the ATM/APCS active.
- The console simulation part of the experiment has to be conducted over a ground tracking station for ATM PCS real-time data transmission. At least 5 min. contact required.
- Spacecraft should be in Solar Inertial attitude.
- All equipment that may obstruct the experiment performance must be cleared from the surrounding area. This requirement prohibits scheduling experiments using the A-SOL SAL during T013 performance.
- Do not schedule experiment performance during a CMG desaturation maneuver.
- One ATM recorder is required.

CONSTRAINTS

- Observer and third crewman to remain motionless while the operator is performing the experiment tasks.

RETURN WEIGHT

- Film - 3.0 pounds.

NOTES

- None

T020 FOOT CONTROLLED MANEUVERING UNIT
FO-1 PERFORM VARIOUS MANEUVERS (MODE I) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) IN SHIRTSLEEVES

MRD	4/1/72
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	1/17/72
AE	1/3/72

ET	AM 1	2	3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					73	// T020 FO-1 OP //		
						T020-T SUBJECT CS-F PERF # __ OF 2 CLEAR EXPERIMENT AREA AND SETUP PHOTOGRAPHIC EQUIP ADJUST FCMU AND CONNECT PSS AND POWER UMBILICALS TO BACKPACK INSTALL DAC IN FCMU INSTALL BATTERY IN BACKPACK REMOVE PSS FROM PSS RACK AND INSTALL IN BACKPACK DON HEADSET, HARD HAT, AND EAR PROTECTORS		
						DON SHOE PLATES AND MOUNT FCMU	53	// T020 FO-1 AS //
						LOCK SHOE PLATES IN POSITION AND ADJUST HARNESS STRAPS COMMAND THRUSTER FIRINGS AND CAMERA OPERATION TO VERIFY RESPONSE RELEASE FCMU AND MOVE UP OUT OF MOUNTING FIXTURE RUN NO 1: PERFORM PRESCRIBED MANEUVERS VOICE RECORD COMMENTS ON RUN		T020-1 OBSERVER CS-F DON EAR PROTECTORS VERIFY PROPER THRUSTER FIRING RESPONSE AND CAMERA OPERATION POSITION SUBJECT IN CENTER OF OWS AND ADJUST FCMU LENGTH PHOTOGRAPH MANEUVERS OBSERVE SUBJECT AND ASSIST WHEN REQUIRED

SCHEDULE CRITERIA

- The following experiments must not be performed concurrently with T020 because of the experiment flight envelope - S019, S020, S063, S073, S149, S183, M172, M509, T003, T013, T025, and T027.
- Performances of M509 or T020 must be scheduled at least 5 days apart to maintain OWS atmosphere.
- Two crewmen will each complete one performance of FO-1 (MODE I) and FO-2 (MODE II).

CONSTRAINTS

- Maximum allowable spacecraft rate about any axis (during rim) will be 6 degrees/minutes.
- Maximum acceleration (during rim) will be 1.5×10^{-3}g along any axis and 1×10^{-3} degrees/second-squared.

RETURN WEIGHT

- Film TBD pounds.

NOTES

- All crewmen should wear ear protectors during performance of experiment.

T020 FOOT CONTROLLED MANEUVERING UNIT

FO-1 PERFORM VARIOUS MANEUVERS (MODE I) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) IN SHIRTSLEEVES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						RUN NO 2: PERFORM PRESCRIBED MANEUVERS			
						VOICE RECORD COMMENTS ON RUN		PHOTO PAD (3)	
						RUN NO 3: PERFORM PRESCRIBED MANEUVERS VOICE RECORD COMMENTS ON RUN			
						DOCK TO MOUNTING FIXTURE AND BLEED THRUSTERS DISMOUNT FCMU AND REMOVE EAR PROTECTORS, SHOE PLATES AND HARD HAT		ASSIST SUBJECT TO DOCK AND CLOSE PSS VALVE INSTALL SHOE PLATES ON FOOT CONTROLLERS	
						REMOVE PSS TANK FROM BACK-PACK AND GIVE INITIAL CHARGE AT AM RECHARGE STATION. REPLACE IN PSS STORAGE RACK AND ALLOW TBS HRS TO COOL REMOVE BATTERY FROM BACK-PACK AND STOW IN M509 DONNING STATION STOW HANDLEBARS, BACKPACK AND SHOULDER RESTRAINTS REMOVE AND STOW PHOTOGRAPH-IC EQUIPMENT			
2:25						WAIT TBS HRS FOR PSS TANK TO COOL			

T020 FOOT CONTROLLED MANEUVERING UNIT
FO-1 PERFORM VARIOUS MANEUVERS (MODE) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) IN SHIRTSLEEVES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
					5	// T020 TOPOFF //			
0:00						T020-1 CS-F GIVE PSS TANK TOPPING OFF CHARGE AT AM STATION THEN REPLACE IN STORAGE RACK			
0:10									

T020 FOOT CONTROLLED MANEUVERING UNIT
FO-2 PERFORM VARIOUS MANEUVERS (MODE II) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) SUITED

MRD	4/1/72
EOH VOL I	11/19/71
EOH VOL II	6/7/71
ODB	1/17/72
AE	1/3/72

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
0:00					75	// T020 FO 2 OP //	75	// T020 FO 2 AS //
						T020 -2 SUBJECT CS-F PERF #___OF 2		T020-2 OBSERVER CS-F
						UNSTOW EVA EQUIPMENT		CLEAR EXPERIMENT AREA AND SET UP PHOTOGRAPHIC EQUIP
						DON PGA, AND CONNECT LSU TO PCU		ADJUST FCMU AND CONNECT PSS AND POWER UMBILICAL TO BACKPACK INSTALL DAC IN FCMU
								INSTALL BATTERY IN BACKPACK
						DON SHOE PLATES AND MOUNT FCMU LOCK SHOE PLATES IN POSITION AND ADJUST HARNESS STRAPS		REMOVE PSS FROM PSS RACK AND INSTALL IN BACKPACK
								ASSIST SUBJECT TO DON SUIT AND SHOE PLATES
						PRESSURIZE SUIT		DON EAR PROTECTORS
						COMMAND THRUSTER FIRINGS AND CAMERA OPERATION TO VERIFY RESPONSE		VERIFY PROPER THRUSTER FIRING RESPONSE AND CAMERA OPERATION
						RELEASE FCMU AND MOVE UP OUT OF MOUNTING FIXTURE		POSITION SUBJECT IN CENTER OF OWS AND ADJUST FCMU LENGTH
								PHOTOGRAPH MANEUVERS
						RUN NO 4: PERFORM PRESCRIBED MANEUVERS		

SCHEDULE CRITERIA
- The following experiments must not be performed concurrently with T020 because of the experiment flight envelope - S019, S020, S063, S073, S149, S183, M172, M509, T003, T013, T025, and T027.
- Performances of M509 or T020 must be scheduled at least 5 days apart to maintain OWS atmosphere.
- Two crewman will each complete one performance of FO-1 (MODE I) and FO-2 (MODE II).

CONSTRAINTS
- Maximum allowable spacecraft rate about any axis (during rim) will be 6 degrees/minutes.
- Maximum acceleration (during rim) will be 1.5×10^{-3}g along any axis and 1×10^{-3} degrees/second-squared.

RETURN WEIGHT
- Film TBD pounds.

NOTES
- All crewman should wear ear protectors during performance of experiment.

T020 FOOT CONTROLLED MANEUVERING UNIT

FO-2 PERFORM VARIOUS MANEUVERS (MODE II) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) SUITED

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
						VOICE RECORD COMMENTS ON RUN		OBSERVE SUBJECT AND ASSIST WHEN REQUIRED	
						RUN NO 5: PERFORM PRESCRIBED MANEUVERS			
						VOICE RECORD COMMENTS ON RUN			
						DOCK TO MOUNTING FIXTURE AND BLEED THRUSTERS		ASSIST SUBJECT TO DOCK AND CLOSE PSS VALVE	
						DEPRESSURIZE PGA		DOFF EAR PROTECTORS INSTALL SHOE PLATES ON FOOT CONTROLLERS	
						DISMOUNT FCMU AND REMOVE SHOE PLATES		REMOVE PSS TANK FROM BACK-PACK AND GIVE INITIAL CHARGE AT AM RECHARGE STATION. REPLACE IN PSS STORAGE RACK AND ALLOW TBS HRS TO COOL	
						DISCONNECT LSU FROM PCU AND DOFF PGA		REMOVE BATTERY FROM BACK-PACK AND STOW IN M509 DONNING STATION	
						STOW EVA EQUIPMENT AND COMMENCE SUIT DRYING		STOW HANDLEBARS, BACKPACK AND SHOULDER RESTRAINTS REMOVE AND STOW PHOTOGRAPH-IC EQUIPMENT	
2:30									

T020 FOOT CONTROLLEC MANEUVERING UNIT
FO-2 PERFORM VARIOUS MANEUVERS (MODE II) WHILE FLYING THE FOOT CONTROLLED MANEUVERING UNIT (FCMU) SUITED

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN
								WAIT TBS HRS FOR PSS TANK TO COOL
							5	// T020 TOPOFF //
0:00								T020-2 CS-F GIVE PSS TANK TOPPING OFF CHARGE AT AM STATION THEN REPLACE IN STORAGE RACK
0:10								
								PHOTO PAD (3)
					5	// T020 FILMST //		
0:00						T020-2 STOW CS-CM STOW FILM AND LOG IN CM FOR RETURN		
0:10								

T025 PARTICULATE CORONAMETER
FO-1 PHOTOGRAPH PARTICULATE MATTER SURROUNDING THE OA
FO-2 PHOTOGRAPH PARTICULATE MATTER IN THE UPPER ATMOSPHERE
FO-3 F-CORONA PHOTOGRAPHY

MRD Prelim
EOH 12/1/71
ERD 1/71
ODB

ET	*δ	CREWMAN	*δ	CREWMAN
0:00	07	// T025 PREP E 11.07.02-00 //		
		T025-X PREP S-SAL INSTALL CORONAGRAPH IN SAL ATTACH 70MM NIKON CAMERA ATTACH OPTICAL DISPLAY LOAD FILM & FILTERS VENT SAL EXTEND DISC, ROTATE TO CHK		
0:15	05	// T025 ALIGNM 11.07.03-00//	05	// T025 ALIGNM 11.07.03-00 //
0:00		T025-X ALIGNMENT S-SAL ALIGN OPTICAL SIGHT TO WITHIN +0.5° OF THE CENTER OF THE SOLAR DISC		T025-X ALIGNMENT ATM C&D EXECUTE OA X & Y ATTITUDE MANEUVERS AS REQUESTED RECORD BIAS ϕX1___ ϕY1___ ϕZ1___
0:10	30	// T025 OPERAT 11.07.04-00 //		
0:00		T025-X S-SAL OPERATION & RETRACT PERF #___OF 5 ADJUST CAMERA FOR UPPER ATM PHOTOGRAPHY f____SS___APT____ SUBDUE REQUIRED LIGHTING EXPOSE________FRAMES ADJUST CAMERA FOR OA NEAR PHOTOGRAPHY f_____SS_____APT_____ EXPOSE 24 FRAMES ADJUST CAMERA SETTINGS PER PHOTO & UPDATE PADS		T025 UPDATE PAD

SCHEDULE CRITERIA

- Five photo taking orbits are to be scheduled on SL-2,____orbits on SL-3 & ____orbits on SL-4.
- Solar SAL is required. Do not schedule S020, S063-2, S073/T027 & T027.
- Do not schedule concurrently with T013, T020 & M509.
- Approximately 120 exposures to satisfy FO-1 are to be taken during 5 orbits.
- Approximately 75 exposures to satisfy FO-2 are to be taken during orbital sunrise & sunset of 5 orbits.
- Approximately____exposures to satisfy FO-3 are to be taken during_____orbits.
- Update pad required one rev prior to photo taking rev.
- The first rev shall be scheduled early in the mission to obtain baseline minimum contamination.
- Three revs are to be selected to occur after max. contamination events, i.e., venting & waste dumps or RCS firings for orbit shaping.
- The last or fifth rev is required to occur late in the mission.
- Internal and/or external lights shall be inhibited from scattering or reflecting light into the experiment field of view.
- Voice recording and log book entries are required concerning experiment alignment & operation.
- Recorded OA attitude is required from the ATM recorder.

T025 PARTICULATE CORONAMETER
FO-1 PHOTOGRAPH PARTICULATE MATTER SURROUNDING THE OA
FO-2 PHOTOGRAPH PARTICULATE MATTER IN THE UPPER ATMOSPHERE
FO-3 F-CORONA PHOTOGRAPHY

ET	*δ	CREWMAN	*δ	CREWMAN
		ADJUST CAMERA FOR F-CORONA PHOTOGRAPHY f___ SS___ APT___ EXPOSE______ FRAMES AT SUNSET ________ ADJUST CAMERA FOR UPPER ATMOSPHERE PHOTOGRAPHY f___ SS___ APT___ EXPOSE _____ FRAMES TURN ON LIGHTS RETRACT DISC, CLOSE SAL		
1:05	02	// T025 DEPLOY //		
0:00		T025-X DEPLOY S-SAL OPEN SAL OUTER DOOR, EXTEND DISC		
0:05	02	// T025 FILM S 11.07.05-00//		
		T025-X FILM STOW F REMOVE FILM CASSETTE FROM CAMERA & STOW IN VAULT		
0:05	05	// T025 FILM 1 11.07.06-00 //		
0:00		T025-X S-SAL FILM INSTALLATION REMOVE FILM FROM STOWAGE & INSTALL IN CAMERA OPEN SAL DOOR, EXTEND DISC		
0:10				

CONSTRAINTS

- Inhibit controlled vents & waste dumps prior to conducting the first photo sequence.
- Position the OA to align the photometer to within $\pm 0.5°$ of the center of the solar disc.
- OA drift rates not to exceed 0.012 deg/sec
- Roll rates about the major exp. pointing axis to remain less than 0.012 deg/sec.
- Max. film temp. 85°F.
- Max. film radiation TBD.
- Film to be stowed in film vault during non-operating periods.
- Camera settings:
  TBD
- Film magazine may be kept on camera if two photo taking orbits are scheduled within_____hrs of each other.
- The occulting disc is to be retracted into the SAL during non-operating periods.

RETURN WEIGHT

- Film 3.5 pounds.

T025 PARTICULATE CORONAMETER
FO-1 PHOTOGRAPH PARTICULATE MATTER SURROUNDING THE OA
FO-2 PHOTOGRAPH PARTICULATE MATTER IN THE UPPER ATMOSPHERE
FO-3 F-CORONA PHOTOGRAPHY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					08	// T025 STOW E 11.07.07-00//			
						T025-X STOW EQUIP F REMOVE CAMERA, FILTERS & FILM.STOW REMOVE BOOM ASSY & STOW REMOVE CORONAGRAPH FROM SAL & STOW SECURE SAL			
0:16									
					02	//T026 TRANSFER //			
0:00						T025 TRANS FILM CSM TRANSFER FILM TO CSM		T025 PHOTO PAD	
0:05									

T027 CONTAMINATION MEASUREMENT
FO-1 DEPLOY, EXPOSE, RETRIEVE & RETURN SAMPLE ARRAY

MRD 11/1/71
EOH 1/3/71
ODB

ET	*δ	CREWMAN	*δ	CREWMAN
0:00	15	//T027 PREP A 11.08.01-00 //	15	//T027 PREP A 11.08.01-00 //
		T027-1 PREP S-SAL REMOVE SAMPLE ARRAY SYSTEM (SAS) FROM STOWAGE VENT SAS, REMOVE END PLATES INSTALL SAS IN S-SAL OPEN SAL OUTER DOOR OPEN SAS ARRAY VALVES CONNECT POWER/INST CABLES DEPLOY SAS WITH EXTENSION MECHANISM POWER ON START SWITCH ON RECORD PERTINENT DATA		T027-1 PREP S-SAL INSTALL DAC ASSIST WITH SAMPLE ARRAY INSTALLATION PHOTOGRAPH INSTALLATIONS, M151-3
0:30	30	//T027 STOW S 11.08.02-00 //	30	//T027 STOW S 11.08.02-00 //
0:00		T027-1 STOW S-SAL POWER OFF RECORD DEACTIVATION DATA DISCONNECT & STOW POWER/INST CABLES RETRACT SA INTO CANISTER CLOSE SAL OUTER DOOR ATTACH SAS REAR END PLATE REMOVE SAS FROM SAL, ATTACH SAS FRONT END PLATE EVACUATE END PLATE AREAS (15 MIN EACH)		T027-1 STOW S-SAL INSTALL DAC ASSIST WITH SAMPLE ARRAY REMOVAL PHOTOGRAPH REMOVAL M151-3 M151 PHOTO PAD

SCHEDULE CRITERIA
- T027-1 requires the S-SAL for five consecutive days, 120 hours minimum.
- Experiments T025, S073-1, 4 & 6, S020, and S063-2 & 3, cannot be conducted concurrently with T027.
- Do not operate concurrently M509, T013, & T020. Deploy as soon as possible after the first performance of T027/S073.

CONSTRAINTS
- Sample array to be stowed aboard OWS sealed in its vacuum tight storage container.
- Sample array to be removed from stowage container prior to return to Earth & stowed aboard CM in locker A-8.

RETURN WEIGHT
- Sample array canister 27 pounds.

NOTES
- No crew monitoring required during 5 day deployment period.
- Experiment is shut down automatically.

T027 CONTAMINATION MEASUREMENT

FO-1 DEPLOY, EXPOSE, RETRIEVE & RETURN SAMPLE ARRAY

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
1:00						STOW SAS IN CONTAINER EVACUATE (5 MIN) SECURE SAL AREA			
					05	// T027 TRANSFER //			
0:00						T027-1 CM TRANSFER EQUIPMENT REMOVE SAS FROM OWS STOWAGE CONTAINER & STOW IN CM			
0:10									

SKYLAB PHOTOGRAPHY
(M151, M487, M516, OPS)

EXP	FO	ACTIVITY	SOURCE PRIME	SOURCE ALT	SOURCE CONT	PERFORMANCES	FILMING TIME PER PERF (MIN)	FRAME RATE (FPS)	FILM FOOTAGE (ONE PERF)	FILM TYPE	CAMERA TYPE	FILM FOOTAGE (ALL PERF)
M151	1	DONNING OF VCG SENSORS, HARNESS AND BELT; TRANSLATION TO AND FROM AND INGRESS AND EGRESS OF CONFINED ENCLOSURES; DONNING OF METABOLIC APPARATUS, MOUNTING, APPLYING RESTRAINTS, AND OPERATING ERGOMETER.	M092/M171	1. M092/M093 2. M093	TBD	8 PERFORMANCES OF M092 OF 2 CREWMEN 4 TIMES EACH AND AT LEAST 4 PERFORMANCES OF M171 METABOLIC ACTIVITY BY ONE OF THE ABOVE CREWMEN.	M092-29 M171-15	6	M092-261 M171-135	S0168	16 MM DAC	M092 2088 M171 540
	2	DEPLOY AND RETRIEVAL OF LARGE HARDWARE	T027 OR S073	1. S149 2. S183	TBD	(1) DEPLOY AT SOLAR SAL (1) DEPLOY AT ANTI-SOLAR SAL (1) RETRIEVE SOLAR SAL (1) RETRIEVE ANTI-SOLAR SAL	DEPLOY 43.0 RETRIEVE 25.0	6	DEPLOY 387 RETRIEVE 225	S0168	16 MM DAC	DEPLOY 784 RETRIEVE 450
	3	DEPLOY AND RETRIEVAL OF MEDIUM SIZE HARDWARE.	T027 (SAMPLE ARRAY)	1. S020 2. T025 3. S019	TBD	(1) DEPLOY (ANY SAL) (1) RETRIEVE (ANY SAL)	DEPLOY 20.0 RETRIEVE 40.0	6	DEPLOY 180 RETRIEVE 360	S0168	16 MM DAC	DEPLOY 180 RETRIEVE 360
	4	DONNING AND DOFFING OF THE PRESSURE GARMENT ASSEMBLY.	PRE-EVA & POST-EVA	1. M509 (PRE- AND POST-SUITED) 2. T020 (PRE- AND POST-SUITED)	TBD	ONE PERFORMANCE OF 2 CREWMEN DONNING AND DOFFING PGA.	DON 45.0 DOFF 43.0	6	DON 405 DOFF 405	S0168	16 MM DAC	DON 405 DOFF 405
	5	PERIODIC MAINTENANCE OF HARDWARE WHICH REQUIRES REMOVAL & INSTALLATION OF ASSEMBLIES AND DONNING OF SUCH HARDWARE WHERE APPLICABLE.	M509	1. T020 2. S190 (PREP)	TBD	3 PERFORMANCES OF AT LEAST 1 CREWMAN	18.0	6	162	S0168	16 MM DAC	486
	6	FOOD PREPARATION AND FOOD RESIDUE MASS MEASUREMENT	MEALS (OWS) MEALS (CSM)	MEALS (MDA)	MEALS (CSM)	4 PERFORMANCES OF AT LEAST 2 CREWMEN WORKING SIMULTANEOUSLY	13.0	6	117	S0168	16 MM DAC	468
M487	1	DINING (FOOD AND WATER, MOBILITY AND RESTRAINTS, ARCHITECTURE, HOUSEKEEPING)				PERFORM 3 TIMES DURING THE MISSION ON DAYS 12, 24, AND TBD.	6	6	54	S0168	16 MM DAC	162
	2	SLEEP PREP. (DOFFING GARMENTS AND INGRESS SLEEP RESTRAINTS)				PERFORM 3 TIMES DURING THE MISSION ON DAYS 12, 24, AND TBD	2	6	18	S0168	16 MM DAC	54
	3	EGRESS SLEEP RESTRAINTS AND DON GARMENTS				PERFORM 3 TIMES DURING THE MISSION ON DAYS 13, 25, AND TBD	2	6	18	S0168	16 MM DAC	54
	4	CLEAN OWS AIR MIXING SCREEN				PERFORM 3 TIMES DURING THE MISSION ON DAYS 7, 14, AND 21	3	6	27	S0168	16 MM DAC	81
	5	STILL PHOTOGRAPHY OF ALL CREW AREAS				PERFORM 3 TIMES DURING THE MISSION ON DAYS 14, 26, AND TBD	1 3	2	1	S0168	16 MM DAC	3
M516	1	RECONFIGURE FOOD STOWAGE CONTAINERS TO ON ORBIT LOCATION				PERFORM TWICE ON MISSION DAY 2 AT TWO DIFFERENT LOCATIONS	3	6	27	S0168	16 MM DAC	54
	2	T027 HEAD REMOVAL, ASSEMBLE AND MOUNT S149, INSTALL IN SAL				PERFORM ONCE ON MISSION DAY 13	7	6	63	S0168	16 MM DAC	63
	3	CONFIGURE WHOLE BODY SHOWER				TBD	TBS	TBS	TBS	S0168	16 MM DAC	TBS
	4	M509 REMOVAL OF SHOCK MOUNTS, BATT RESTRAINTS DUST COVERS. INSTALLATION OF ASMU IN OPS. POS. IN PADDLES				PERFORM ON MISSION DAY 5	15	6	135	S0168	16 MM DAC	135
	5A	REMOVE FILM CASSETTES FROM S504 MAGAZINE				PERFORM ON MISSION DAY 26 (POST-EVA)	8	6	72	S0168	16 MM DAC	72
	5B	REMOVE S056 SHOE FROM M143 STOWAGE LOCKER				PERFORM ON MISSION DAY 26	2	6	18	S0168	16 MM DAC	18
	6	UNSCHEDULED MAINTENANCE				TBD	2	6	18	S0168	16 MM DAC	18
OPER PHOTOS 20.8	1	SWS PRIOR TO AND DURING CSM DOCKING				PHOTO DOCKING TARGETS, DOCKING LIGHTS, FLOATING DEBRIS DURING DAYLIGHT	5 (16 MM)	6 (16 MM)	16 MM, 45 FT 70 MM, 20 FRAMES	S0368	16 MM DAC 70 MM HASSELBLAD	16 MM 45 FT 70 MM 20 FR
	2	SWS AFTER UNDOCKING				PHOTO EREP (MDA), OWS AFT SKIRT, EVA AREA (AM), EVA/EXP. PREA (ATM) DURING DAYLIGHT	NA	NA	30 FRAMES	S0368	70 MM HASSELBLAD	30 FR

OPERATIONAL RADIATION MEASUREMENTS

FO-1 MEASURE AMBIENT RADIATION ENVIRONMENT FOR INTERNAL ACTIVITIES

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					05	// TBS //			SCHEDULE CRITERIA ● Make two measurements at each of 10 crew stations within the first five days after OA activation. ● Make measurements while passing through the SAA. ● Log peak dose rate and GMT. ● Take measurements with radiation survey meter (RSM). ● Take additional measurements coincidental with D008 operation if possible.
						RSM RAD MEAS CS-____ UNSTOW RSM FROM RACK MEASURE AND RECORD RAD AT 10 LOC TBD			
0:10									

OPERATIONAL RADIATION MEASUREMENTS

FO-6 OBTAIN RADIATION DATA FROM INSIDE OWS FILM VAULT

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ	CREWMAN	
0:00					03	// TBS //			SCHEDULE CRITERIA ● Perform during PRD installation. ● Perform at 9 to 10 day intervals throughout the mission. ● Perform during a normal access time to the vault (removing or returning cassettes).
0:07						OP RAD CS-F RECORD PRD READING FROM FILM VAULT (A,C,F)			

20.10 ENVIRONMENTAL MICROBIOLOGY

FO-1 OBTAIN INFLIGHT MICROBIOLOGICAL SAMPLES FROM THE SWS HARDWARE

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00						/// TBD /// 20.10-1 CS-AS LISTED TAKE SWAB SAMPLE AT TBD SITE PLACE SWAB SAMPLE IN TRANSPORT MEDIA TUBE AND REPLACE CAP REPEAT SAMPLE TAKING AT 15 DESIGNATED SITES STOW TRANSPORT MEDIA TUBES IN FOOD CHILLER			SCHEDULE CRITERIA ● Schedule 16 days prior to the end of the mission and again at the end of the mission. ● Schedule sample taking shortly after high crew activity periods on the days specified. ● Schedule the transport media tubes to be placed in the CM resupply and return system of the Inflight Medical Support System (IMSS) within 6 hours prior to separation. RETURN WEIGHT ● Sample media tubes TBD lbs.
0:30									

20.10 ENVIRONMENTAL MICROBIOLOGY

FO-2 OBTAIN INFLIGHT MICROBIOLOGICAL SAMPLES FROM THE CREW

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00						/// TBD /// 20.10-2 CS-TBD TAKE 4 BODY SWAB SAMPLES AND PLACE IN TRANSPORT MEDIA TUBES STOW TRANSPORT MEDIA TUBES IN FOOD CHILLER			SCHEDULE CRITERIA ● Schedule 16 days prior to the end of the mission. ● Schedule shortly after crew sleep period. ● Four body samples are to be taken from each crewman. ● Schedule the transport media tubes to be placed in the CM resupply and return system of the Inflight Medical Support System (IMSS) within 6 hours prior to separation. RETURN WEIGHT ● Sample media tubes TBD lbs.
0:12									

20.10 ENVIRONMENTAL MICROBIOLOGY

FO-3 OBTAIN INFLIGHT MICROBIOLOGICAL SAMPLES OF THE SWS AIR

ET	AM 1	AM 2	AM 3	V	*δ	CREWMAN	*δ		
0:00						/// TBD /// 20.10-3 CS-TBD M ATTACH AIR SAMPLE RECEPTACLE TO VACUUM SOURCE AT TBD OWS SITE OBTAIN AIR SAMPLE AT 3 TBD FLOW RATES CHANGE AIR SAMPLE RECEPTACLE AT MDA SITE OBTAIN AIR SAMPLE AT 3 TBD FLOW RATES STOW AIR SAMPLE RECEPTACLES IN FOOD CHILLER			SCHEDULE CRITERIA o Schedule performance at close of mission. o Do not schedule performance when the OWS vacuum cleaner is being used for general cleaning or for M512 and M479 chamber cleaning. o Schedule the air samples to be placed in the CM resupply and return system of the Inflight Medical Support System (IMSS) within 6 hours prior to separation. RETURN WEIGHT o Two air sample receptacles TBD lbs.
0:30									