

CREW ACTIVITY

PLAN

FINAL REV-A

PCN-1

Flight Data File Crew Activity Plan

STS 51-D

Mission Operations Directorate
Operations Division

Final, Revision A
March 26, 1985

EVENT:	CST		
Launch	07:04	Fri	Apr 12
TELESAT Deploy	16:43	Fri	Apr 12
SYNCOM Deploy	08:02	Sat	Apr 13
KSC Landing	07:15	Wed	Apr 17



National Aeronautics and
Space Administration

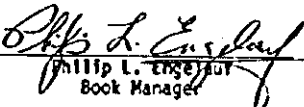
Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE


SIS 51-D CREW ACTIVITY PLAN


FINAL, REVISION A
March 26, 1985

PREPARED BY:

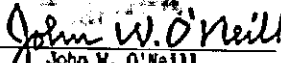

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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC Form 482 to OH4/FDF Manager, Bldg 4, Rm 352, 713-483-2869.

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Changes to the distribution list should be submitted in writing to OH4/Gwen Butler, Bldg 4, Rm 373, 713-483-5224.

Incorporates 482
No: CAP-311
CAP-314
CAP-317

ACKNOWLEDGMENTS

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STS 51-D CREW ACTIVITY PLAN

LIST OF EFFECTIVE PAGES

FINAL 02/05/85

REV A 03/26/85

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A1.....	5-5	CAP/51-0/0/BAS
DAP A2.....	5-6	CAP/51-0/0/BAS
A2.....	5-6	CAP/51-0/0/BAS
DAP A3.....	5-6	CAP/51-0/0/BAS
A3.....	5-6	CAP/51-0/0/BAS
DAP A4.....	5-7	CAP/51-0/0/BAS
A4.....	5-7	CAP/51-0/0/BAS
DAP A5.....	5-7	CAP/51-0/0/BAS
A5.....	5-7	CAP/51-0/0/BAS
DAP A6.....	5-8	CAP/51-0/0/BAS
A6.....	5-8	CAP/51-0/0/BAS
DAP A7.....	5-8	CAP/51-0/0/BAS
A7.....	5-8	CAP/51-0/0/BAS
DAP A8.....	5-9	CAP/51-0/0/BAS
A8.....	5-9	CAP/51-0/0/BAS
DAP A9.....	5-9	CAP/51-0/0/BAS
A9.....	5-9	CAP/51-0/0/BAS
DAP A10.....	5-10	CAP/51-0/0/BAS
A10.....	5-10	CAP/51-0/0/BAS
DAP A11.....	5-10	CAP/51-0/0/BAS
A11.....	5-10	CAP/51-0/0/BAS
(Blank).....	5-11	CAP/51-0/0/BAS
DAP B TOC.....	5-11	CAP/51-0/0/BAS
DAP B1.....	5-11	CAP/51-0/0/BAS
B1.....	5-11	CAP/51-0/0/BAS
DAP B2.....	5-12	CAP/51-0/0/BAS
B2.....	5-12	CAP/51-0/0/BAS
DAP B3.....	5-12	CAP/51-0/0/BAS
B3.....	5-12	CAP/51-0/0/BAS
DAP B4.....	5-13	CAP/51-0/0/BAS
B4.....	5-13	CAP/51-0/0/BAS
DAP B5.....	5-13	CAP/51-0/0/BAS
B5.....	5-13	CAP/51-0/0/BAS
DAP B6.....	5-14	CAP/51-0/0/BAS
B6.....	5-14	CAP/51-0/0/BAS
DAP B7.....	5-14	CAP/51-0/0/BAS
B7.....	5-14	CAP/51-0/0/BAS
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B8.....	5-15	CAP/51-0/0/BAS
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INTRODUCTION

The STS 51-D Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, Deorbit Prep, and Entry checklists. For continuity, the entire flight is shown in the summary level timeline.

This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-D Flight Requirements Document.

The Topping Flash Evaporator System will be forced to dispose of supply water for the entire flight. One waste water dump has been scheduled during the morning of FD 4 in conjunction with an RMS survey and OTO 0325.

OVERVIEW

OVERVIEW

FLIGHT		SIS 51 0		EDITION		FINAL REV A		PUR. DATE		3/26/89	
FD 1											
NOTES:											
FD 2	SLEEP		POST SLEEP	IMU	POST SLEEP						
NOTES:											
FD 3	SLEEP		POST SLEEP	IMU							
NOTES:											
FD 4	SLEEP		POST SLEEP	IMU							
NOTES:											
FD 5	POST SLEEP	IMU	POST SLEEP								
NOTES:											
FD 6	POST SLEEP	IMU	POST SLEEP								
NOTES:											

SUMMARY TIMELINE

SUMMARY TIMELINE

GMT	(DIMIN)	NET	(DIMIN)	LST	(DIMIN)	EQUINOX	BETH	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
1970	0000	0000	0000	0000	0000	0000	0000	0000	APR 17, 1965	310 ST-D	10000 REV 0	1965
NET 1965												
STS												
BRANCH (OBJECT DESCRIPTION)		POST INSERTION										
PL						WE DATA						
ORBIT												
EARTH COVERAGE												
FORMS												
ALTITUDE												
NOTES												

DATE	TIME	TYPE	LOCATION	FLIGHT	EDITION	PUB. DATE
1951	12	22	27	29	30	31
STP			SLEEP			
			POST SLEEP ACT			
PL						CPES MISSP 21
1951	12	26	27	29	30	31
ESTIM	--- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700					
CLEARANCE	--- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700					
PHYS	--- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700					
APPROX	--- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700 --- 700					
NOTES:						

COMP	OPERATOR	OFF	OPERATION	UNIT	CONTIN	ALTA DIR	MTN	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
									APPT. TO	STS NO	PTCH REV #	1/26/69
									15	16	17	18
STS											WEP	
										PRE WEP HT		
PL	YES											
	32	33	34	35	36	37	38	39	40			
ASPO COORDS	<p>ASPO COORDS: A series of alphanumeric codes and numbers are arranged in a grid pattern across the table columns, corresponding to the time slots.</p>											
PPDS	<p>PPDS: A series of alphanumeric codes and numbers are arranged in a grid pattern across the table columns, corresponding to the time slots.</p>											
OFFTUBE	<p>OFFTUBE: A series of alphanumeric codes and numbers are arranged in a grid pattern across the table columns, corresponding to the time slots.</p>											
NOTES:	<p>NOTES: A section for additional information, containing several small circular markers or symbols.</p>											

GMT	UT	DATE	TIME	NO. OF OBS.	NO. OF STARS	NO. OF CLOUDS	NO. OF SUN	NO. OF MOON	NO. OF PLANETS	NO. OF COMETS	NO. OF METEORS	NO. OF UNID. STARS	NO. OF UNID. PLANETS	NO. OF UNID. COMETS	NO. OF UNID. METEORS	NO. OF UNID. STARS	NO. OF UNID. PLANETS	NO. OF UNID. COMETS	NO. OF UNID. METEORS		
1750	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
S75	SLEEP										POST SLEEP-NT	S75									
P2											CPES HSSY D										
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	
45724	45725	45726	45727	45728	45729	45730	45731	45732	45733	45734	45735	45736	45737	45738	45739	45740	45741	45742	45743	45744	
0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	
0021	0022	0023	0024	0025	0026	0027	0028	0029	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	0040	0041	
0042	0043	0044	0045	0046	0047	0048	0049	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	0060	0061	0062	
NOTE:											@ DTG 0700 GARTHE READ AND VERIFY GARDING TORQUE MEASUREMENTS - HI DUBIT @ -ZLV, 0800 @ DTG 0325 WHITE AND SUPPLY WATER DUMPS										

GMT	TIMEZONE	NO.	ORIGIN	DESTINATION	REF. NO.	REF. DATE	MOON	MOONSTON UNIT	FLIGHT	EDITION	PUB. DATE
1	2	3	4	5	6	7	8	9	10	11	12
ST5							SLEEP				
			CHRON STON		HE SLEEP RLY						
			OPS C/DW TEST								
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											
<p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p> <p>63 64 65 66 67 68 69 70 71</p>											

COMP	COMPANY	REF	LOCATION	EST	LOCATION	RD/COF	DEPTH	WIND	HOUSTON DATE	FLIGHT	EDITION	PILOT DATE
100	1117	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
100	1117	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
STS												
	FSC LANDING (9/0011)											
P.												
NOTES:												

DETAILED TIMELINE

DETAILED
TIMELINE

DETAILED TIMELINE

NEW 51-D DETAILED

PL

MCC

 All activities scheduled prior to 07:00:00 are
 done in the M/CAR and POST INSPECTION CHECKLISTS.

 Operations begin when entering the CWP to
 breach ZLV.

200 - **POST INSPECTION CHECKLISTS**

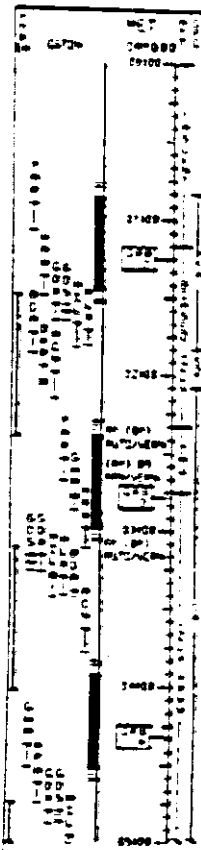
START TIME: 07:00:00
 STOP TIME: 07:00:00
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []



200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

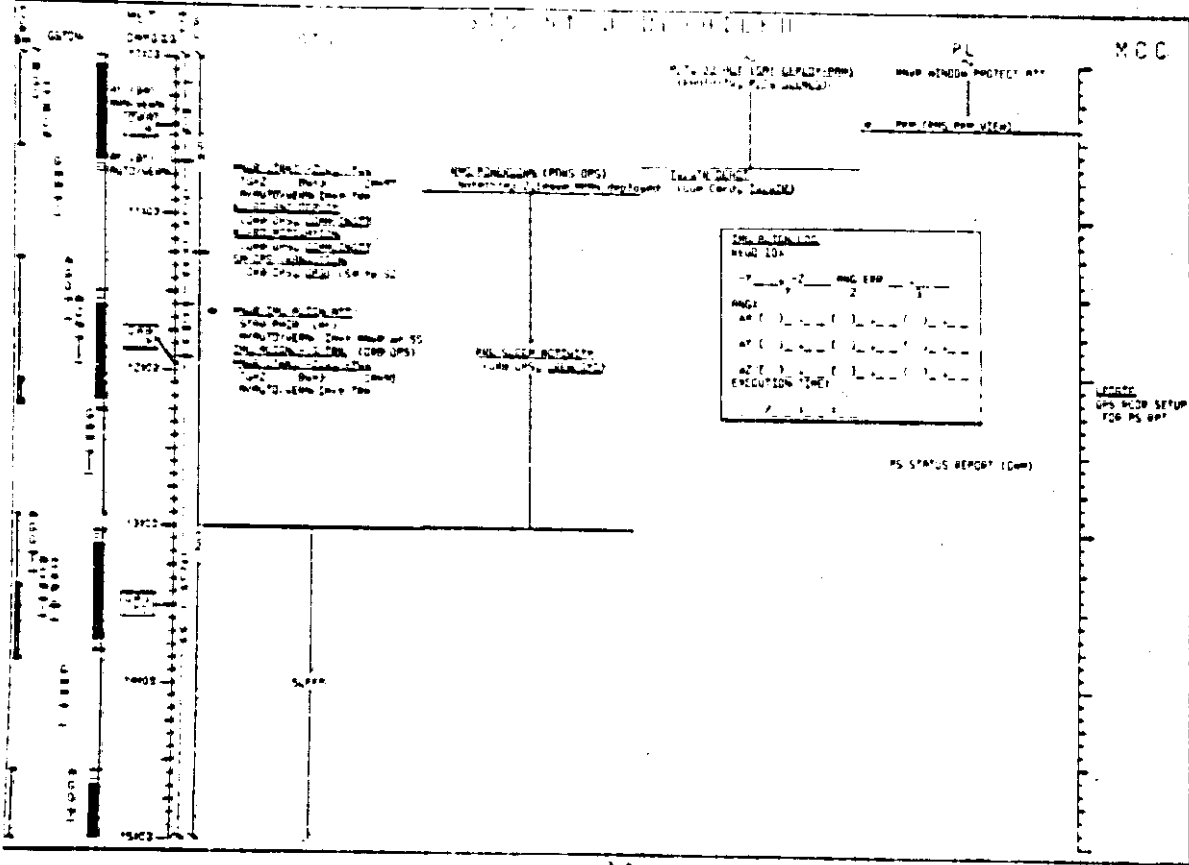
START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

200 - **POST INSPECTION CHECKLISTS**

START TIME: []
 STOP TIME: []
 OPERATOR: []
 DATE: []

SYSTEM STATUS REPORT

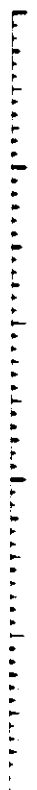
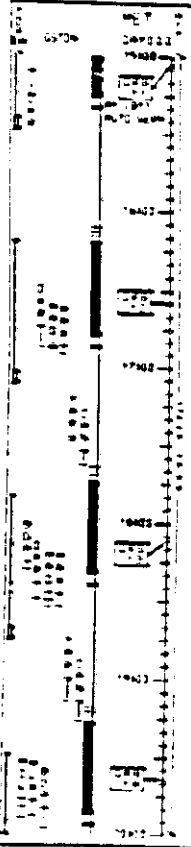
MCC

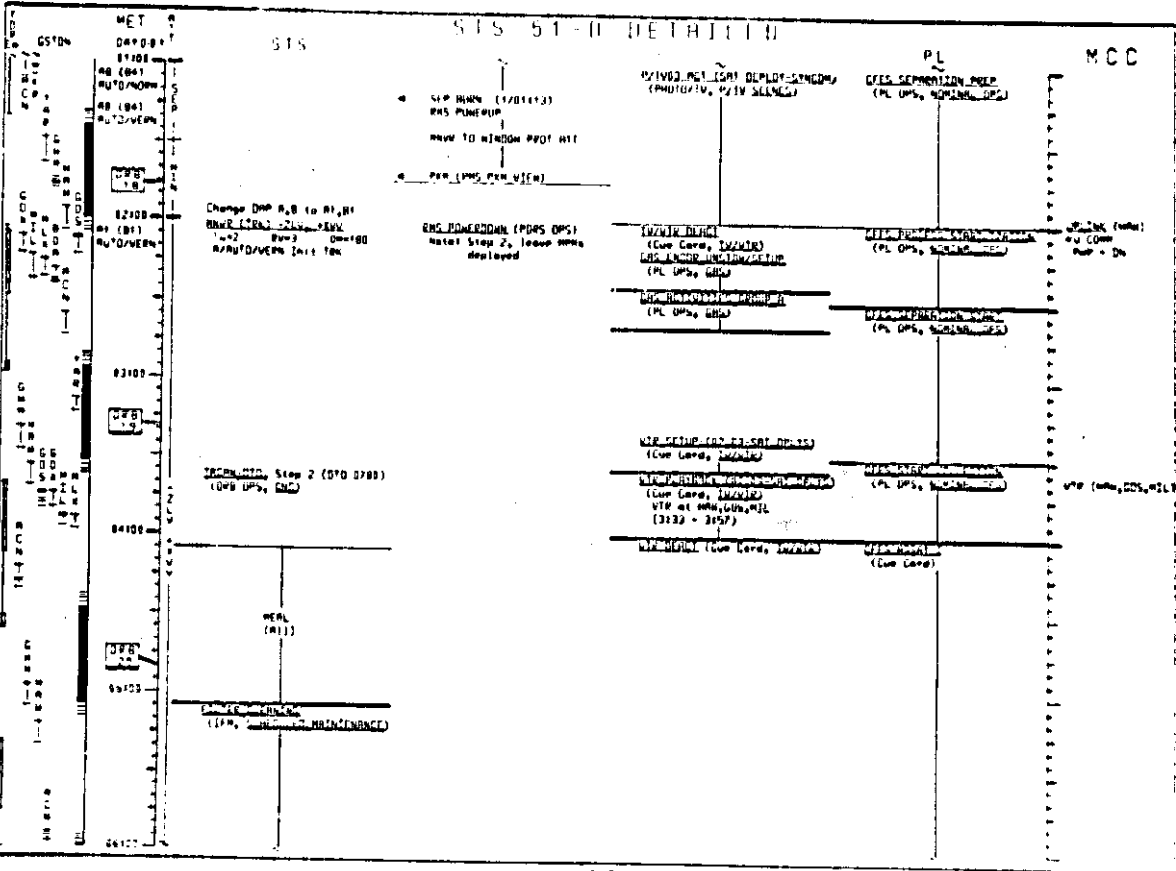


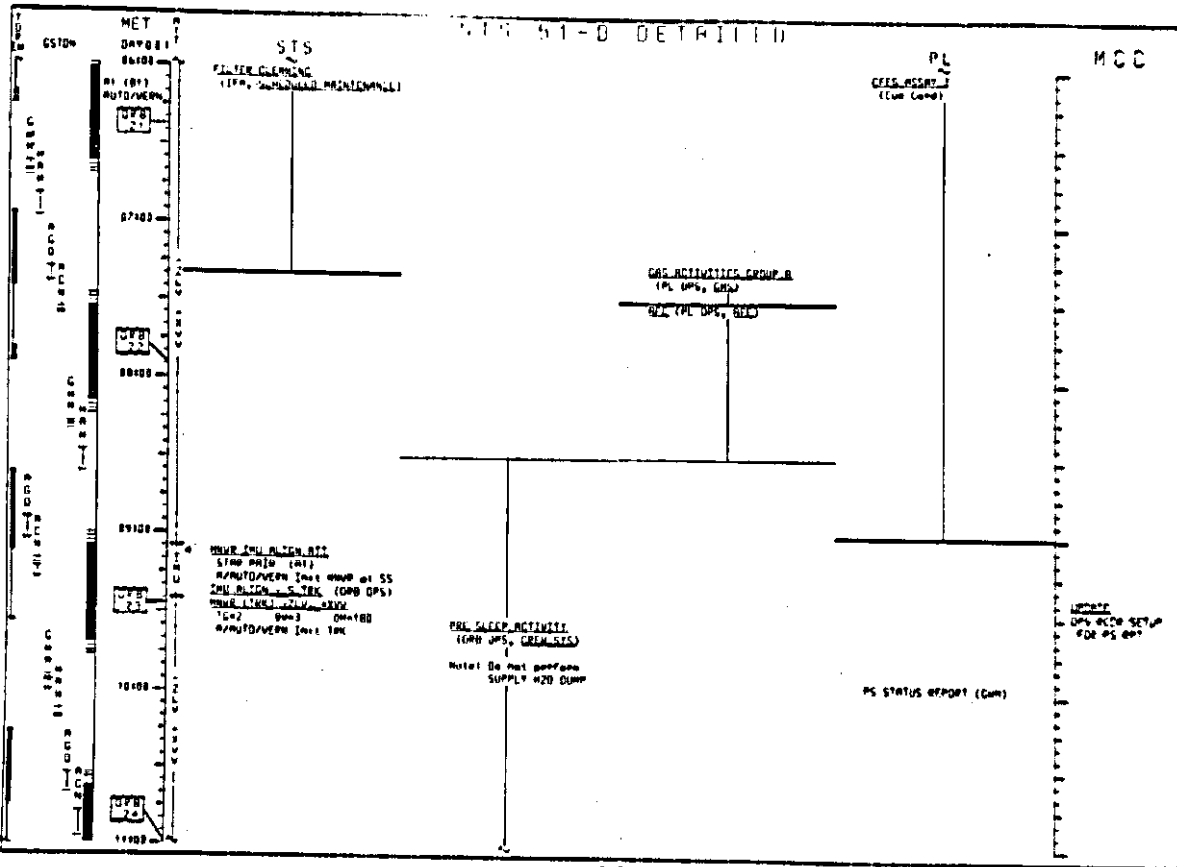
WEEK END DETAIL

PL

MCC







STS 51-0 DETAILED

STS

PL

MCC

MET
080001

AT 101
AUTOVERN

ON SLEEP ACTIVITY
(UPN UPS, WAK, STA)

12100

12000

10000

15100

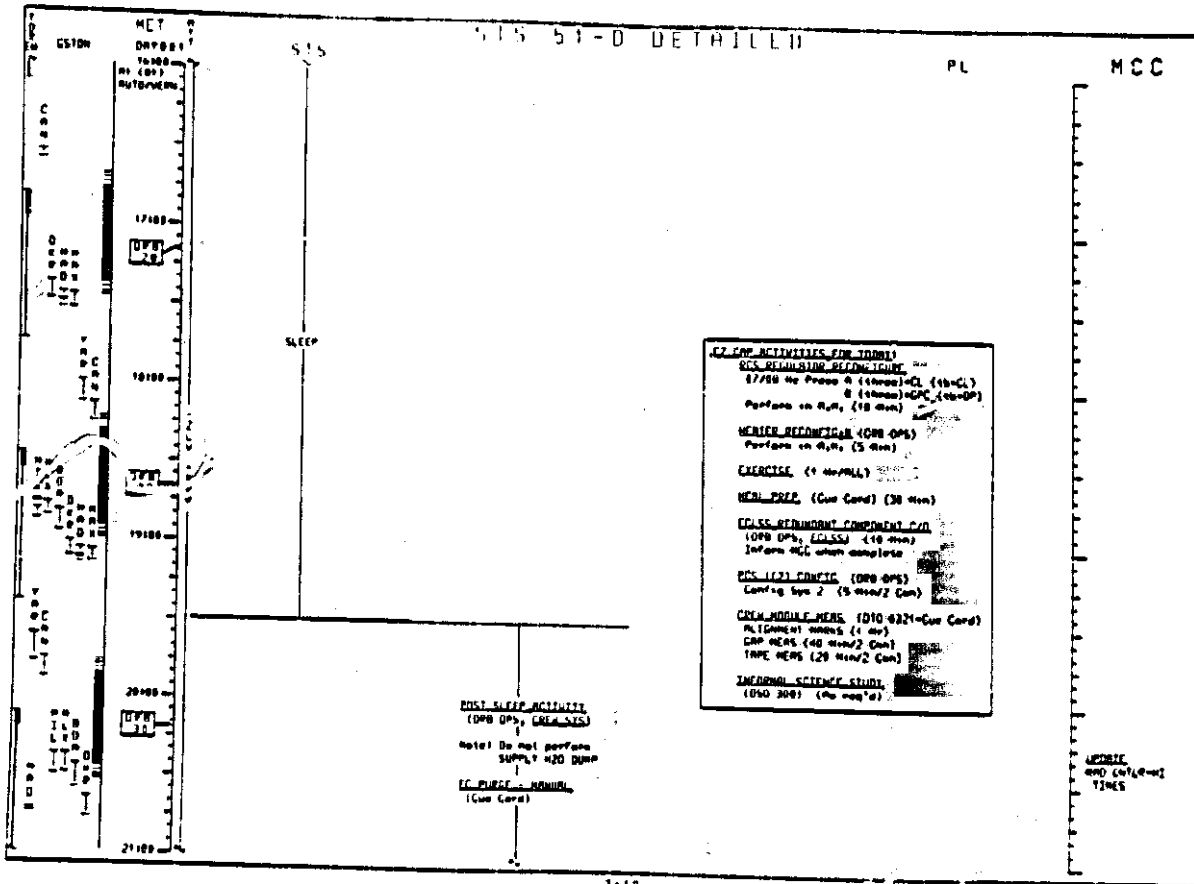
16400

SLEEP

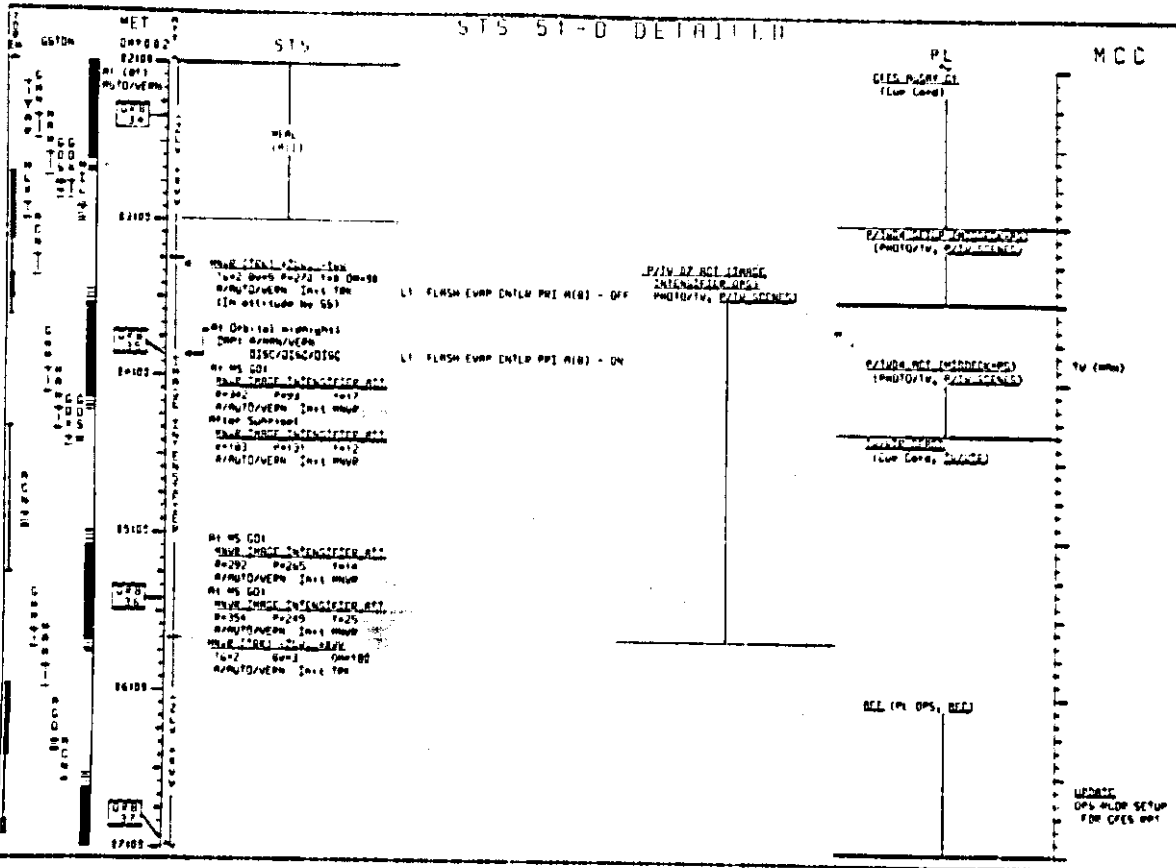
515 51-D DETAILED

PL

MCC



STS 51-D DETAILS



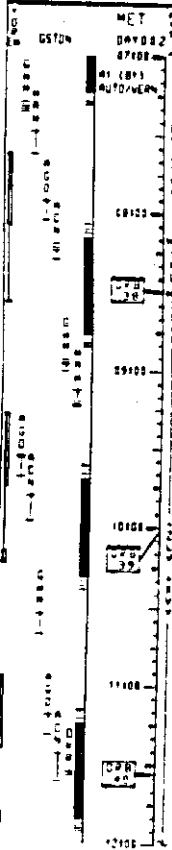
STS ST B DETAILED

STS

PL

MCC

PS STATUS REPORT (MMS)



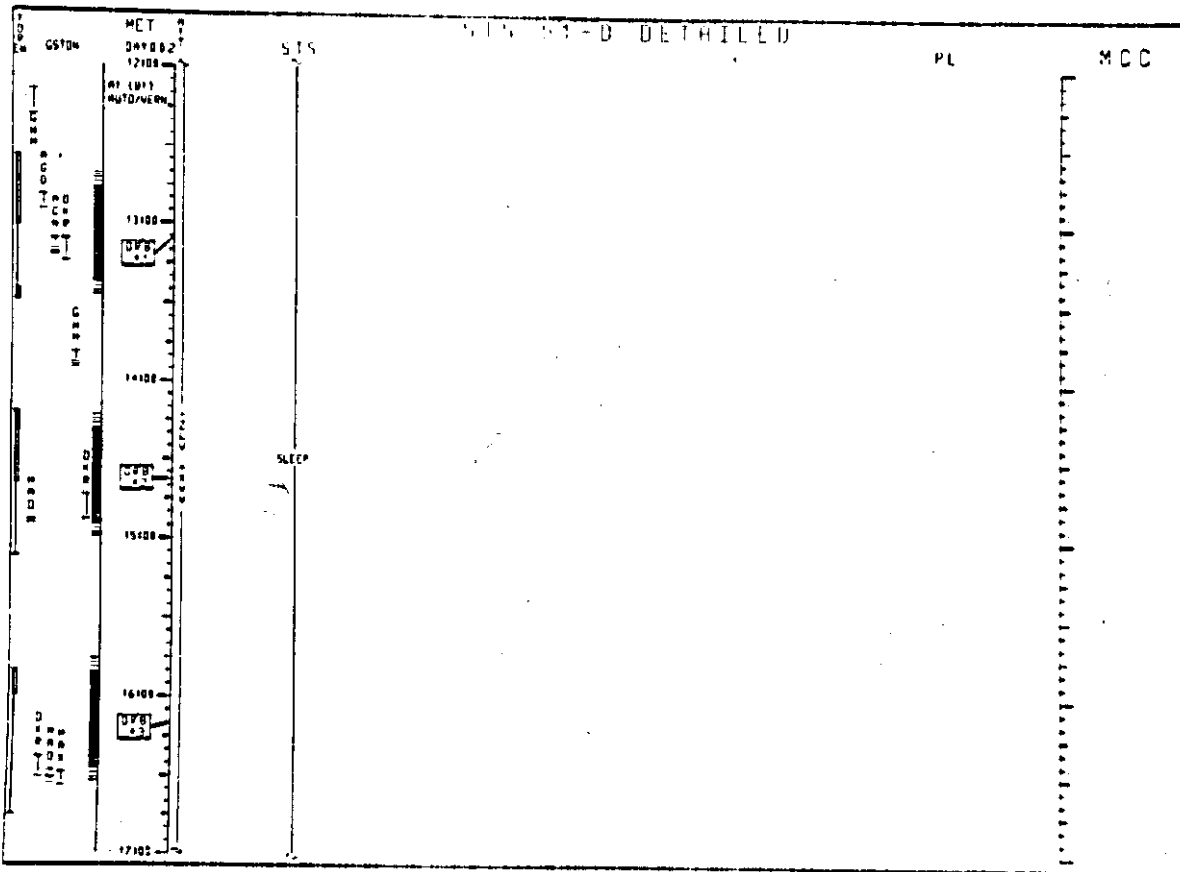
MET 0840 2 0700
 AT 0801
 AUTO/VERN
 08122
 09100
 10100
 11000
 12000

END SLEEP ACTIVITY
 10MB UPS (MMS) (MMS)
 Note: Do not perform
 SUPPLY H2O DUMP

END SLEEP ACTIVITY		MMS ID#	
1	2	1	2
MMS			
at	1	1	1
at	1	1	1
at	1	1	1
EXECUTION TIME			
1	1	1	1

SLEEP

WIN 63-D DETAILED



S/S 510 DELETED

PL

MCC

MET
DAY 022

GSTON

STS

SLEEP

1745
AT 1815
R/AUTO/VERN

1800

1900

2000

2100

2200
AT 2245
R/AUTO/VERN

100% MAIN LOG
MEMO ID#

1	2	3
1	2	3

MG:

AT () () () () () ()

AT () () () () () ()

AT () () () () () ()

(REGISTRATION TIME)

EXERCISES/ACTIVITY
(LIFE UPS, SALAMAND)

Note: Do not perform SUPPLY H2O DUMP

EXERCISES/ACTIVITY
(LIFE UPS, SALAMAND)

MEMO PRIOR (Cue Card) (30 Min)

EXERCISES/ACTIVITY
Perform when orange panel light is on

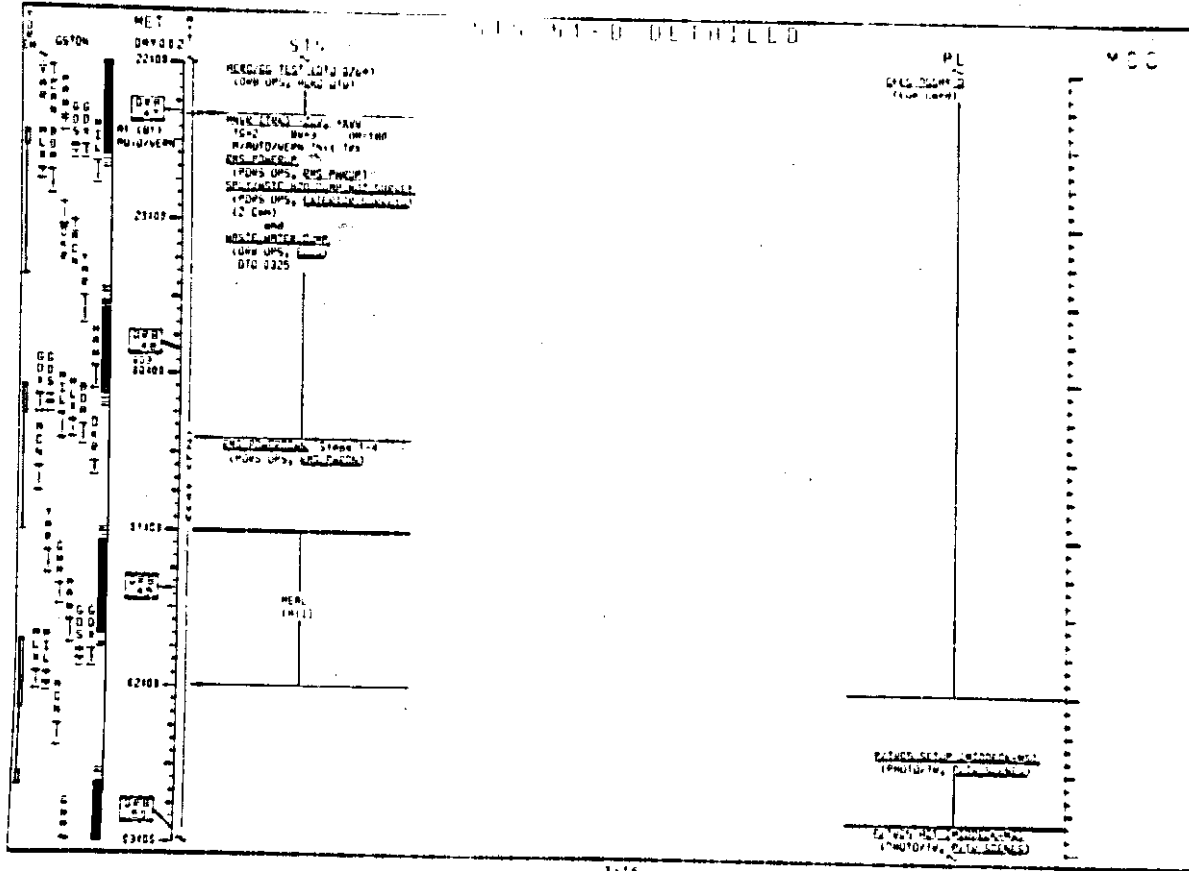
MEMO
NO. 24-10-02
TIMES

MEMO PRIOR (Cue Card)
STAY AWAY (AT)
R/AUTO/VERN [not done at 15
MEMO PRIOR (Cue Card) (30 Min)
MEMO PRIOR (Cue Card) (30 Min)
1st 2nd 3rd 4th 5th
R/AUTO/VERN [not done]

MEMO PRIOR (Cue Card)
(LIFE UPS, SALAMAND)

MEMO PRIOR (Cue Card)
(LIFE UPS, SALAMAND)

SECRET - UNCLASSIFIED



SIS 51-D DETROIT

SIS

PL

MCC

PL (MCC, PLS) (MCC, PLS)

TV (MCC, PLS)

(Line Card, MCC)

INSTRUCTIONS
 READ THE
 -1- -2- AND SW -3-
 1 2 3
 ANG1
 AT () () ()
 AT () () ()
 AZ () () ()
 EXECUTION TIME
 / /

REC. (PL, OPS, REC)

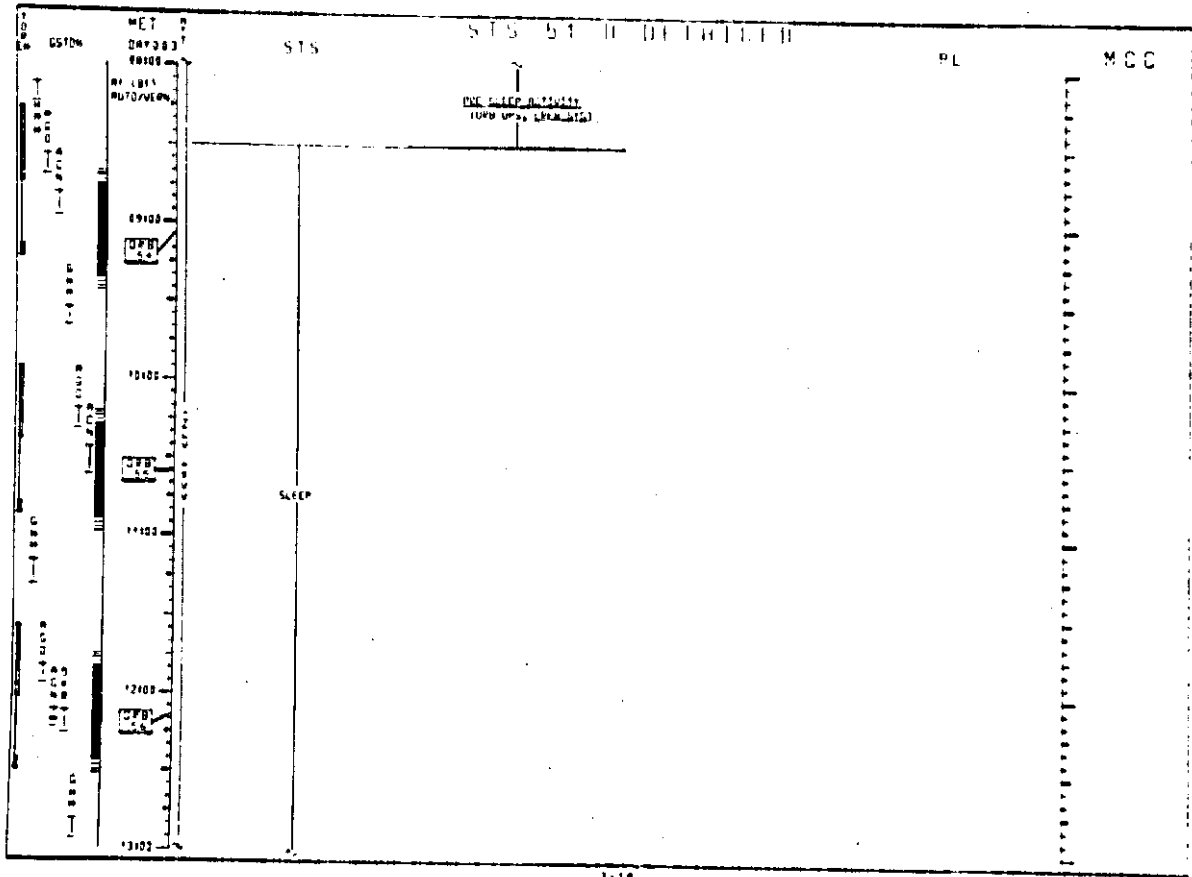
DATA ON DATA
 114000
 04100
 05400
 06122
 07100
 08100

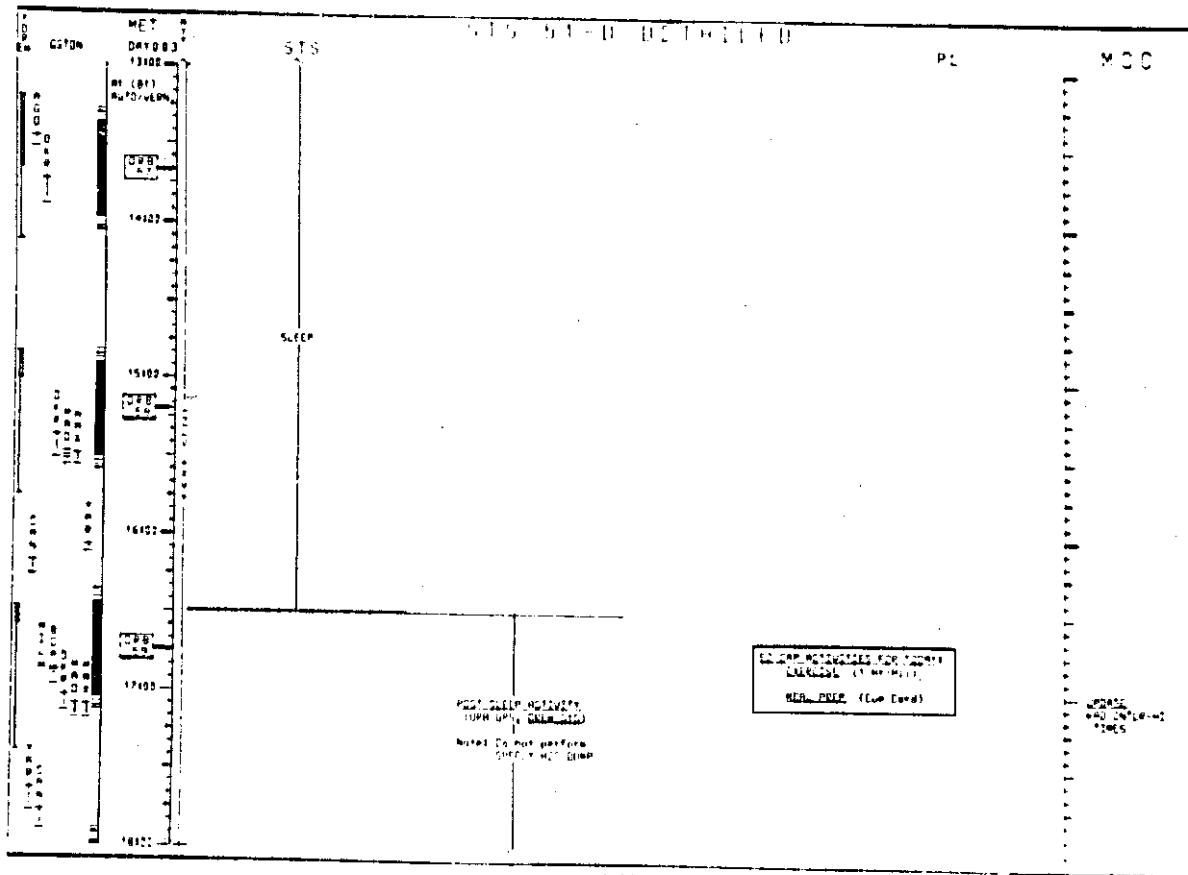
NO. CALLS RECEIVED
 (OMB OPS, MCC)

Notes: Do not perform
 SUPPLY AND DUMP

PS STATUS REPORT (MCC)

DATA
 114000
 04100
 05400
 06122
 07100
 08100





BT-D OF FILED.

PL

PCC

STW

21400
21500
21600
21700
21800
21900
22000
22100
22200
22300
22400
22500
22600
22700
22800
22900
23000
23100
23200
23300
23400
23500

UNIT 24, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 25, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 26, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 27, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 28, PL 197		UNIT 29, PL 197	
1	2	1	2
2000	2000	2000	2000
2000	2000	2000	2000
2000	2000	2000	2000
2000	2000	2000	2000

EMERGENCY PAGE

FILTER CLEANING
 (PL 197, 1975, 1975)

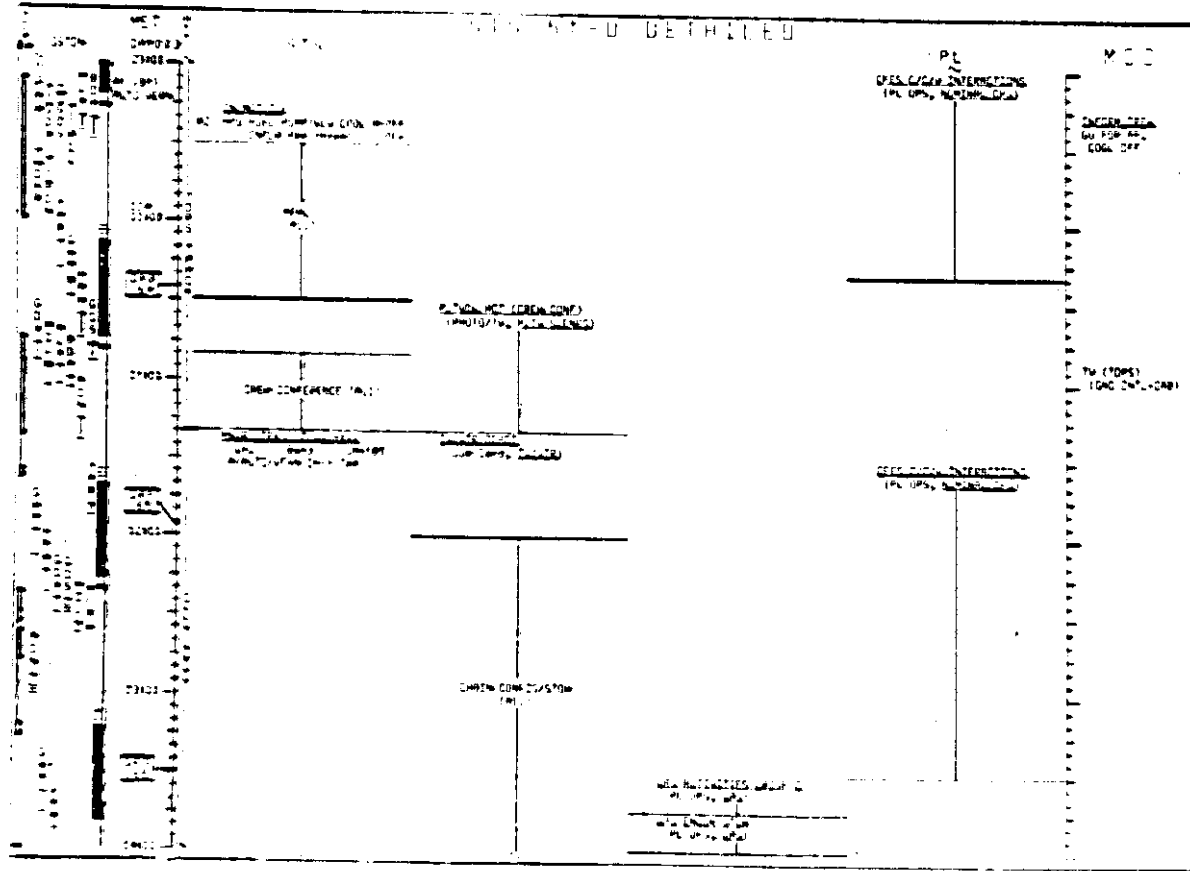
UNIT 30, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 31, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

UNIT 32, PL 197
 1700 PAGES (1975)
 15000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

PATROL SETUP (DUES CODE)
 10000 (1975) (Dues about 2000)
 10000 (1975) (Dues about 2000)

REVISED DETAILED



PLANT AND EQUIPMENT

PL

MCC

CHARGE COMPENSATION (MCC)

PL PL. UPS. MFD

DEEP FLOW AND DEEPSTATE
1% OFS. MFD. MFD.

UPDATE
UPS MFD SETUP
FOR PS MFD

PS STATUS REPORT (MFD)

PS STATUS REPORT	
NO.	TIME
1	10:00
2	10:05
3	10:10
4	10:15
5	10:20
6	10:25
7	10:30
8	10:35
9	10:40
10	10:45
11	10:50
12	10:55
13	11:00
14	11:05
15	11:10
16	11:15
17	11:20
18	11:25
19	11:30
20	11:35
21	11:40
22	11:45
23	11:50
24	11:55
25	12:00

REG. DEPT. MFD. MFD.
MFD. MFD. MFD.
MFD. MFD. MFD.
MFD. MFD. MFD.

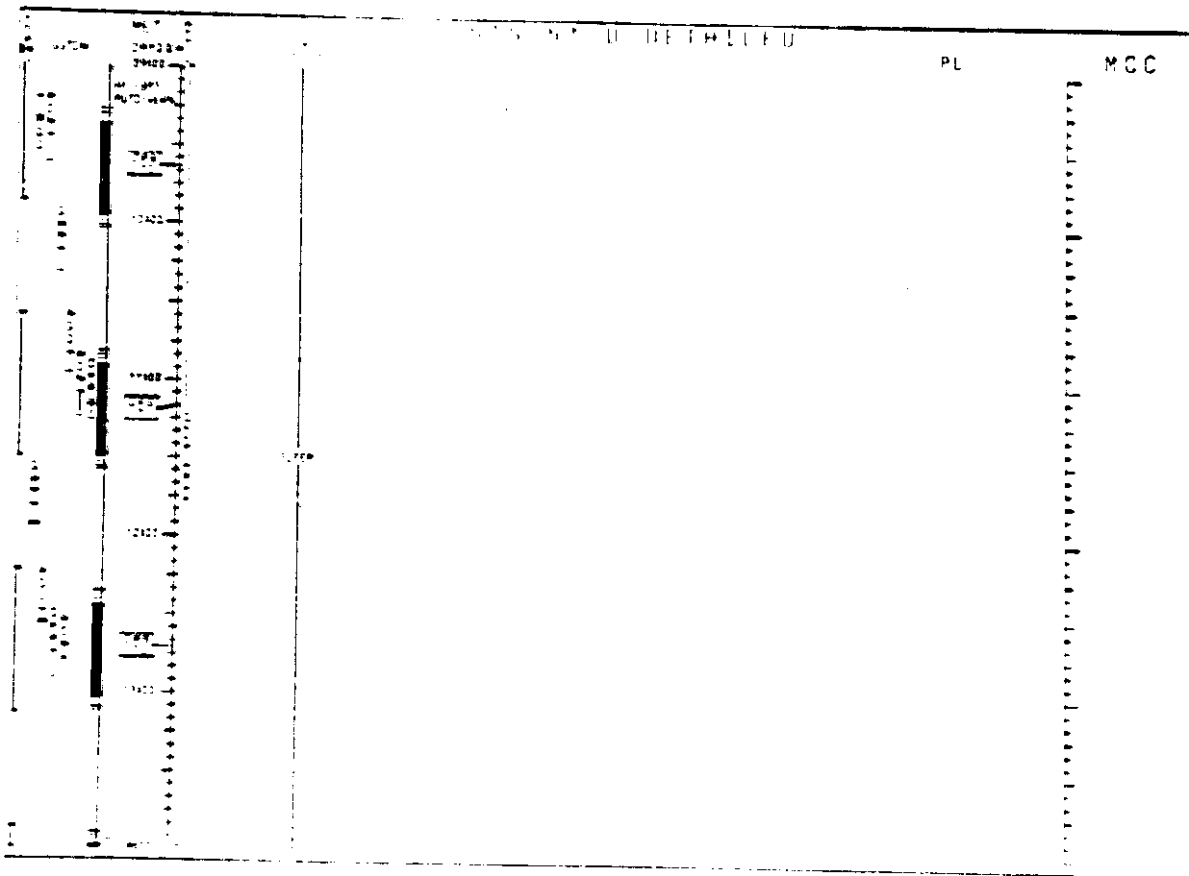
REG. DEPT. MFD. MFD.
MFD. MFD. MFD.
MFD. MFD. MFD.
MFD. MFD. MFD.

SLEEP

NOT TO BE DETAILLED

PL

MCC



STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

GO TO DEBRIEF PREP
 AT 4:15-4:30 MET

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

STUDENT EMPLOYMENT-COMP ROOMS
 Headmaster (H) to stop
 growth. More MET on floor 6.
 per [unclear] [unclear]

CONSUMABLES CURVES
(TBS)

CONSUMABLES
CURVES

The sections following this divider page will
not be included in flight copies.

DAP BOOK

DAP BOOK

TABLE 5-1
DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A8	A9	A10	
<u>TRANSLATION</u>											
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.05	
<u>ROTATION</u>											
DSC RT	NORM %/sec VERN %/sec	0.200 0.200	0.400 0.400	0.200 0.200	0.200 0.008	0.200 0.200	0.200 0.200	0.100 0.008	0.500 0.200	0.200 0.200	0.200 0.200
PULSE	NORM %/sec VERN %/sec	0.10 0.010	0.10 0.010	0.30 0.010	0.10 0.010	0.10 0.050	0.10 0.010	0.04 0.002	0.10 0.010	0.10 0.010	0.10 0.010
COMP	NORM %/sec VERN %/sec	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000
<u>DEADRANG</u>											
ATT	NORM (deg) VERN (deg)	5.00 1.000	1.00 1.000	5.00 1.000	1.00 0.070	5.00 1.000	5.00 1.000	3.00 0.500	3.00 1.000	2.00 1.000	2.00 1.000
RATE	NORM %/sec VERN %/sec	0.20 .020	0.20 .020	0.20 .020	0.20 .010	0.20 .020	0.20 .020	0.20 .010	0.20 .020	0.20 .020	0.20 .020
<u>JET OPT</u>											
P		1	1	3	1	1	3	3	1	1	1
Y		1	1	3	2	1	3	3	1	1	1
ONFL ACCEL		0	0	0	0	0	0	2	0	0	0

*I-LOADED OPS-2 DAP Configuration

TABLE 5-1 (Cont)
DAP II CONFIGURATIONS

	B1*	B2	B3	B4	B5	B6	B7	B8	
<u>TRANSLATION</u>									
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.05	0.01	0.02	
<u>ROTATION</u>									
DSC RT	NORM */sec VERN */sec	0.500 0.200	0.200 0.200	0.200 0.200	0.200 0.008	0.200 0.016	0.500 0.200	0.200 0.200	0.100 0.150
PULSE	NORM */sec VERN */sec	0.04 0.002	0.04 0.002	0.04 0.002	0.04 0.002	0.04 0.002	0.04 0.002	0.04 0.002	0.04 0.002
COMP	NORM */sec VERN */sec	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000
<u>DEBRAND</u>									
ATT	NORM (deg) VERN (deg)	3.00 1.000	3.00 1.000	3.00 1.000	0.30 0.100	3.00 0.033	2.00 1.000	2.00 1.000	3.00 1.000
RATE	NORM */sec VERN */sec	0.20 .020	0.20 .020	0.20 .020	0.20 .010	0.20 .020	0.20 .020	0.20 .020	0.20 .100
<u>JET OPT</u>									
P		1	3	1	1	3	1	1	3
Y		1	3	1	3	3	1	1	3
CTRL ACCEL		0	0	0	0	0	0	0	2

*I-LOADED OPS-2 DAP Configuration

DAP BOOK

HOOK
VELCRO

CAP/SI-B/O/BAS

*%IV P*G	
TGT ID =	1 Orbiting Vehicle
	2 Earth cfr
	3 Earth tgt
	Input (AT ± 90)
	LCN ± 180 , * = East
	ALT (-1440 to 20,000 nm)
	4 Sun cfr
	5 Celestial tgt
	Input RA (0-359.99)
	DEC ± 90)
	= 11-110 Rgr Stars
BODY VECT =	1 +X
	2 -X
	3 +Y
	4 -Y
	5 TIC (-2" below +X)*
	6 Collora)
	Input P (0-359.99)
	P (270-359.99, 0-90)
Input CM =	CM (0-359.99)
MU4 AXIS =	1 +X
	2 -X

CAP/SI-B/O/BAS

*DAP CONFIG			
ENTE ACCEL =	0 Ortker alone	JET OPT =	1 Normal
	1 LDEF = Not used		2 Rose 4-1p
	2 LDEF Release		3 Fall only

TOP
BACK OF FRONT COVER
'DAP BOOK'

(reduced copy)

TOP

DAP PURPOSE

- A1 - NOMINAL
IMU ALIGN
LOSS OF VERN
- A2 - PIC
- A3 - RCS HOT FIRE
- A4 - CG
- A5 - IMU ROTATION
- A6 - LOSS OF VERN
(TAIL ONLY)
- A7 - EDEP RELEASE
- A8 - FRISBEE SEP
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - (Blank)

CAP/ST-D/O/BAS

A1

TOP

DAPA1

PURPOSE:

- NOMINAL
- IMU ALIGN
- LOSS OF VERN
(NOSE & TAIL)

A1

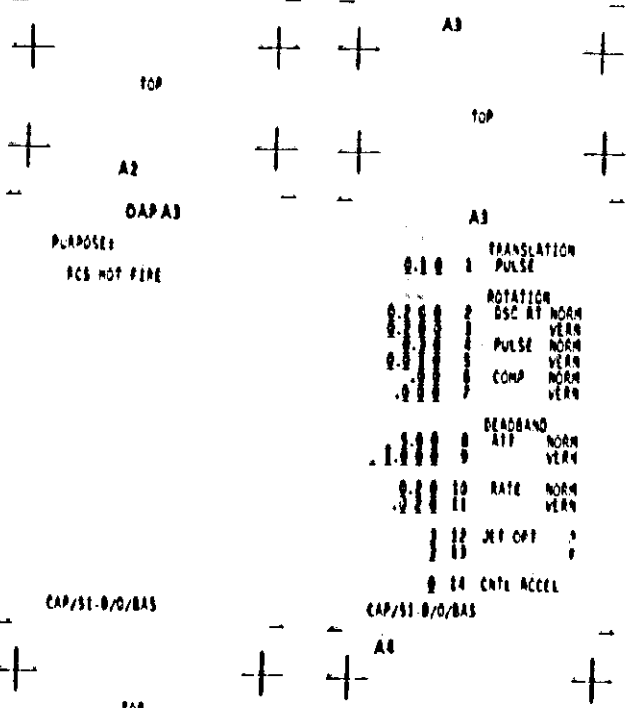
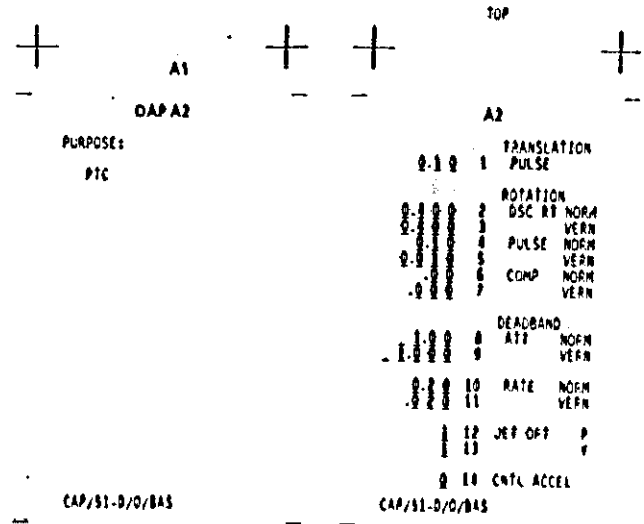
- 0.1 0 1 TRANSLATION
PULSE
- 0.1 0 2 ROTATION
DSC RT NORM
VERN
- 0.1 0 3 PULSE NORM
VERN
- 0.1 0 4 COMP NORM
VERN
- 1.1 0 5 DEADBAND
ATT NORM
VERN
- 0.2 0 10 RATE NORM
VERN
- 0 12 JET OPT P
- 0 13 J
- 0 14 CTRL ACCEL

CAP/ST-D/O/BAS

CAP/ST-D/O/BAS

A2

TOP



(reduced copy)

+

A3

+

+

TOP

+

DAP A4

PURPOSE:

CG

A4

0-1 Q	1	TRANSLATION PULSE
0-2 P	2	ROTATION DSC RT NORM
0-3 P	3	VERN
0-4 P	4	PULSE NORM
0-5 P	5	VERN
0-6 P	6	COMP NORM
0-7 P	7	VERN
0-8 P	8	DEADBAND ATT NORM
0-9 P	9	VERN
0-10 P	10	RATE NORM
0-11 P	11	VERN
0-12 P	12	JET CPT P
0-13 P	13	VERN
0-14 P	14	ENTL ACCEL

CAP/ST-D/O/BAS

CAP/ST-D/O/BAS

+

+

+

A3

+

TOP

TOP

+

+

+

A4

+

DAP A3

PURPOSE:

CMU ROTATION

A3

0-1 Q	1	TRANSLATION PULSE
0-2 P	2	ROTATION DSC RT NORM
0-3 P	3	VERN
0-4 P	4	PULSE NORM
0-5 P	5	VERN
0-6 P	6	COMP NORM
0-7 P	7	VERN
0-8 P	8	DEADBAND ATT NORM
0-9 P	9	VERN
0-10 P	10	RATE NORM
0-11 P	11	VERN
0-12 P	12	JET CPT P
0-13 P	13	VERN
0-14 P	14	ENTL ACCEL

CAP/ST-D/O/BAS

CAP/ST-D/O/BAS

+

+

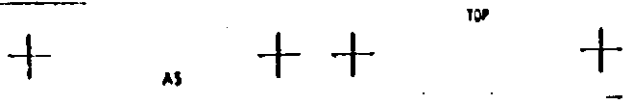
+

A3

+

TOP

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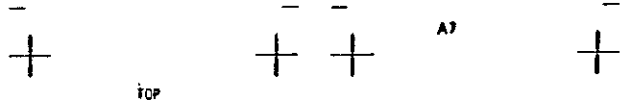
DAP A6

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

0.10	1	TRANSLATION PULSE
0.10	2	ROTATION
0.20	3	DSC RT NORM
0.20	4	VERN
0.20	5	PULSE NORM
0.20	6	VERN
0.20	7	COMP NORM
0.20	7	VERN
1.00	8	DEADBAND ATT NORM
1.00	9	VERN
0.20	10	RATE NORM
0.20	11	VERN
3	12	JET OPT P
3	13	V
0	14	CNTL ACCEL

CAP/SI-D/O/BAS

CAP/SI-D/O/BAS



A6

DAP A7

PURPOSE: LDEF RELEASE

0.10	1	TRANSLATION PULSE
0.10	2	ROTATION
0.10	3	DSC RT NORM
0.10	4	VERN
0.10	5	PULSE NORM
0.10	6	VERN
0.10	7	COMP NORM
0.10	7	VERN
1.00	8	DEADBAND ATT NORM
1.00	9	VERN
0.20	10	RATE NORM
0.10	11	VERN
3	12	JET OPT P
3	13	V
2	14	CNTL ACCEL

CAP/SI-D/O/BAS

CAP/SI-D/O/BAS



A8

+

A7

DAP A8

PURPOSE:
FRISBEE SEP

CAP/SI-D/O/BAS

+

TOP

+

DAP A9

PURPOSE:
RENDEZVOUS

CAP/SI-D/O/BAS

+

TOP

(reduced copy)

+

+

TOP

A8

0-1 0	1	TRANSLATION	
		PULSE	
0-1 0	2	ROTATION	
0-1 0	3	DSC RT	NORM
0-1 0	4		VERN
0-1 0	5	PULSE	NORM
0-1 0	6		VERN
0-1 0	7	COMP	NORM
			VERN
1-0 0 0	8	DEADBAND	
		ATT	NORM
			VERN
0-2 0	10	RATE	NORM
0-2 0	11		VERN
1	12	JET OPT	P
1	13		V
0	14	CNTL ACCEL	

CAP/SI-D/O/BAS

+

+

TOP

A8

+

+

A9

0-1 0	1	TRANSLATION	
		PULSE	
0-1 0	2	ROTATION	
0-1 0	3	DSC RT	NORM
0-1 0	4		VERN
0-1 0	5	PULSE	NORM
0-1 0	6		VERN
0-1 0	7	COMP	NORM
			VERN
1-0 0 0	8	DEADBAND	
		ATT	NORM
			VERN
0-2 0	10	RATE	NORM
0-2 0	11		VERN
1	12	JET OPT	P
1	13		V
0	14	CNTL ACCEL	

CAP/SI-D/O/BAS

+

+

A10

+



A9

DAPA10

PURPOSE:
PROX OPS

CAP/SI-D/O/BAS



TOP



A10

DAPA11

PURPOSE: (BTan)

CAP/SI-D/O/BAS



TOP

(reduced copy)



TOP

A10

- 0-0-0 1 TRANSLATION PULSE
- 0-0-0 2 ROTATION DSC RT NORM
- 0-0-0 3 VERN
- 0-0-0 4 PULSE NORM
- 0-0-0 5 VERN
- 0-0-0 6 COMP NORM
- 0-0-0 7 VERN
- 0-0-0 8 DEADBAND
- 0-0-0 9 AFT NORM
- 0-0-0 10 VERN
- 0-0-0 11 RATE NORM
- 0-0-0 12 VERN
- 0 12 JET OPT P
- 0 13 V
- 0 14 CNTL ACCEL

CAP/SI-D/O/BAS



A11

TOP



A11

- 0-0-0 1 TRANSLATION PULSE
- 0-0-0 2 ROTATION DSC RT NORM
- 0-0-0 3 VERN
- 0-0-0 4 PULSE NORM
- 0-0-0 5 VERN
- 0-0-0 6 COMP NORM
- 0-0-0 7 VERN
- 0-0-0 8 DEADBAND
- 0-0-0 9 AFT NORM
- 0-0-0 10 VERN
- 0-0-0 11 RATE NORM
- 0-0-0 12 VERN
- 0 12 JET OPT P
- 0 13 V
- 0 14 CNTL ACCEL

CAP/SI-D/O/BAS



TOP

A11

DAP PURPOSE

- B1 - NOMINAL
PPCS IMU ALIGN
GMS & RCS BURNS
- B2 - LOSS OF VERN
(ATA ONLY)
- B3 - LOSS OF VERN;
GG MNVR
- B4 - PAK DEPLOY
FRISBEE DEPLOY
- B5 - COAS CAL
- B6 - RENDEZVOUS
- B7 - PPCS GPS
- B8 - LDEF MNVR
- B9 - (BLANK)

CAP/51-D/O/BAS

CAP/51-D/O/BAS

TOP

TOP

DAP B1

B1

PURPOSE:
NOMINAL
PPCS IMU ALIGN
GMS & RCS BURNS

TRANSLATION
PULSE 15 0 0 2

ROTATION
DSC RT NORN 16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
VERN 17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PULSE NORN 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
VERN 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
COMP NORN 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
VERN 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

DEADBAND
ATT NORN 22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
VERN 23 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

RATE NORN 24 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
VERN 25 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

JET OPT P 26 1
V 27 1

CNTL ACCEL 28 0

CAP/51-D/O/BAS

CAP/51-D/O/BAS

TOP

B2

(reduced copy)

+ 01

DAP 02

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

CAP/51-D/O/BAS

+ TOP

+ 02

DAP 03

PURPOSE:
LOSS OF VERN
(NOSE & TAIL)
CG MWBR

CAP/51-D/O/BAS

+ TOP

+ +

TOP

02

TRANSLATION			
PULSE	15	0-0 2	
ROTATION			
BSC RT NORM	16	0-0 0 0	
VERN	17	0-0 0 0	
PULSE NORM	18	0-0 0 0	
VERN	19	0-0 0 0	
COMP NORM	20	0-0 0 0	
VERN	21	0-0 0 0	
DEADBAND			
ATT NORM	22	0-0 0 0	
VERN	23	0-0 0 0	
RATE NORM	24	0-0 0 0	
VERN	25	0-0 0 0	
JET OPT P	26		1
V	27		1
CNTL ACCEL	28		0

CAP/51-D/O/BAS

+ +

03

+ +

TOP

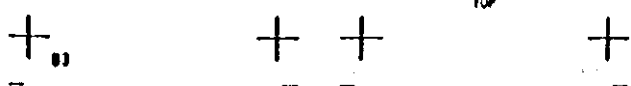
03

TRANSLATION			
PULSE	15	0-0 2	
ROTATION			
BSC RT NORM	16	0-0 0 0	
VERN	17	0-0 0 0	
PULSE NORM	18	0-0 0 0	
VERN	19	0-0 0 0	
COMP NORM	20	0-0 0 0	
VERN	21	0-0 0 0	
DEADBAND			
ATT NORM	22	0-0 0 0	
VERN	23	0-0 0 0	
RATE NORM	24	0-0 0 0	
VERN	25	0-0 0 0	
JET OPT P	26		1
V	27		1
CNTL ACCEL	28		0

CAP/51-D/O/BAS

+ +

04



DAP B4

PURPOSE:
PAN DEPLOY
FRISBEE DEPLOY

TRANSLATION
PULSE 15 0-0 2

ROTATION
DSC RT NORM 16 0-0 0
VERN 17 0-0 0
PULSE NORM 18 0-0 0
VERN 19 0-0 0
COMP NORM 20 0-0 0
VERN 21 0-0 0

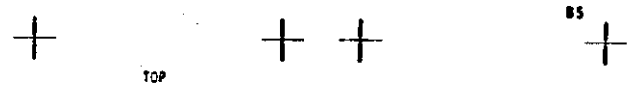
DEADBAND
ATT NORM 22 0-0 0
VERN 23 0-1 0

RATE NORM 24 0-2 0
VERN 25 0-2 0

JET OP: P 26 1
V 27 1

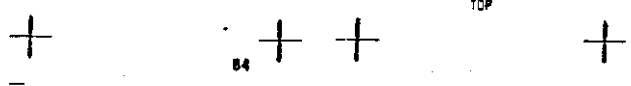
CNTL ACCEL 28 0
CAP/SI-B/O/BAS

CAP/SI-B/O/BAS



TOP

TOP



DAP B5

PURPOSE:
COAS CAL

TRANSLATION
PULSE 15 0-0 2

ROTATION
DSC RT NORM 16 0-0 0
VERN 17 0-0 0
PULSE NORM 18 0-0 0
VERN 19 0-0 0
COMP NORM 20 0-0 0
VERN 21 0-0 0

DEADBAND
ATT NORM 22 0-0 0
VERN 23 0-0 0

RATE NORM 24 0-2 0
VERN 25 0-2 0

JET OP: P 26 1
V 27 1

CNTL ACCEL 28 0
CAP/SI-B/O/BAS

CAP/SI-B/O/BAS



TOP

TOP

85
OAP 86

PURPOSE:
RENDEZVOUS

CAP/SI-B/O/BAS

TOP

86

OAP 87

PURPOSE:
PROX OPS

CAP/SI-B/O/BAS

TOP

86

TRANSLATION
PULSE 15 0-0 5

ROTATION
DSC RT NORM 16 0-0 0
VERN 17 0-0 0
PULSE NORM 18 0-0 0
VERN 19 0-0 0
COMP NORM 20 0-0 0
VERN 21 0-0 0

DEADBAND
ATT NORM 22 2-0 0
VERN 23 1-0 0

RATE NORM 24 0-2 0
VERN 25 0-2 0

JET OPT P 26 1
V 27 1

CNTL ACCEL 28 0

CAP/SI-B/O/BAS

87

TOP

TRANSLATION
PULSE 15 0-0 1

ROTATION
DSC RT NORM 16 0-2 0
VERN 17 0-2 0
PULSE NORM 18 0-0 0
VERN 19 0-0 0
COMP NORM 20 0-0 0
VERN 21 0-0 0

DEADBAND
ATT NORM 22 2-0 0
VERN 23 1-0 0

RATE NORM 24 0-2 0
VERN 25 0-2 0

JET OPT P 26 1
V 27 1

CNTL ACCEL 28 0

CAP/SI-B/O/BAS

88

07
CAP 88
PURPOSE:
LDEF MVR

104
88
TRANSLATION
PULSE 15 0-0 2
ROTATION
DSC RT NORM 16 0-1 0 0
VERN 17 0-1 0 0
PULSE NORM 18 0-0 0 0
VERN 19 0-0 0 0
COMP NORM 20 0-0 0 0
VERN 21 0-0 0 0
DEADBAND
ATT NORM 22 1-0 0 0
VERN 23 1-0 0 0
RATE NORM 24 0-0 0
VERN 25 1-0 0
JET OPT P 26 1
V 27 1
CNTL ACCEL 28 2
CAP/ST-B/O/BAS

CAP/ST-B/O/BAS

TOP

TOP

08
CAP 89
PURPOSE: (BLANK)

89
TRANSLATION
PULSE 15 ---
ROTATION
DSC RT NORM 16 ---
VERN 17 ---
PULSE NORM 18 ---
VERN 19 ---
COMP NORM 20 ---
VERN 21 ---
DEADBAND
ATT NORM 22 ---
VERN 23 ---
RATE NORM 24 ---
VERN 25 ---
JET OPT P 26 ---
V 27 ---
CNTL ACCEL 28 ---
CAP/ST-B/O/BAS

CAP/ST-B/O/BAS

TOP



09

CAP/SI-D/O/BAS



TOP

TOP
BACK COVER "CAP BOOK"



HOOK
VELCRO

CAP/SI-D/O/BAS



(reduced copy)

ATTITUDE
TIMELINE

ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline						
NET	MNVR OPTION	DAF	E/S	REMARKS	EVENT	
1 0/01:10:00	TRK TGT=2 BV=5(90.00, 0.00) OM=180.00	A1 AUTO VERH	DSC 0.200 DB AT 5.00 DE FT 0.20	EARTH 0 90 0 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
2 0/02:23:00 35:48	MNVR R+281.00 F+322.00 Y+323.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 64 0 139	STAR FR A1 COAS: 30 LOS- 3110	IMU ALIGN COAS CAL
3 0/02:45:00 56:56	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	EARTH 0 90 0 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
4 0/03:59:39 03:11:38	MNVR R+235.16 F+ 80.81 Y+ 0.39	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 90 0 204		TELESAT DEPLOY ATT
5 0/03:41:38 48:44	MNVR R+292.00 F+153.00 Y+346.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 162 0 223		TELESAT SEP BURN ATT
6 0/03:56:33 57:59	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	EARTH 0 90 0 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
7 0/10:07:33 19:59	TRK TGT=2 BV=5(250.00, 38.00) OM= 27.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	EARTH 0 106 0 140	LVLH R+ 27 F+ 20 Y+ 38	TELESAT WINDOW PROTECT ATT
8 0/10:23:38	CANCEL	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 95 0 147	INRTL R+344 F+ 35 Y+292	ATTITUDE HOLD
9 0/10:40:00 52:53	TRK TGT=2 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	EARTH 0 90 0 360	LVLH R+ 0 F+180 Y+270	-ZLV NOSE NORTH
10 0/11:35:00 43:13	MNVR R+281.00 F+322.00 Y+323.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 64 0 139	STAR FR A1	IMU ALIGN
11 0/11:55:00 12:06:49	TRK TGT=2 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	EARTH 0 90 0 360	LVLH R+ 0 F+180 Y+270	-ZLV NOSE NORTH
12 0/22:20:00 28:12	MNVR R+281.00 F+322.00 Y+323.00	A1 AUTO VERH	DSC 0.200 DB AT 1.00 DE FT 0.02	SUN 0 64 0 140	STAR FR A1	IMU ALIGN

Attitude Timeline

NET	MNFR OPTION		FAF	E/S	PARAMS	EVENT
1 0:22:40:00 53:47	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0	LVLH R+ 0 P+160 Y+ 0	-ZLV TAIL FWD
2 1:00:39:06 44:11	MNVR R+239.66 P+317.90 Y+302.72	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 93 0 181		SYNCOM DEPLOY ATT
3 1:01:01:06 06:55	MNVR R+292.00 P+163.00 Y+356.00	A8 AUTO NOPR	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN 0 161 0 179		SYNCOM SEP BURN ATT
4 1:01:16:06 17:02	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0	LVLH R+160 P+ 0 Y+ 0	-ZLV NOSE FWD
5 1:01:27:06 41:26	TRK TGT=2 BV=5(254.00, 9.00) OM= 7.00	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 106 0 171	LVLH R+ 7 P+ 16 Y+ 9	SYNCOM WINDOW PROTECT ATT
6 1:01:43:06	CANCEL	A8 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 180 0 172	INRTL R+230 P+299 Y+288	ATTITUDE HOLD
7 1:02:00:00 14:04	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0	LVLH R+160 P+ 0 Y+ 0	-ZLV NOSE FWD
8 1:09:05:00 17:37	MNVR R+281.00 P+322.00 Y+323.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 65 0 140	STAR PAIR A1	IMU ALIGN
9 1:09:25:00 36:36	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0	LVLH R+160 P+ 0 Y+ 0	-ZLV NOSE FWD
10 1:21:23:00 35:30	MNVR R+281.00 P+322.00 Y+323.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 65 0 141	STAR PAIR A1	IMU ALIGN
11 1:21:43:00 54:27	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0	LVLH R+160 P+ 0 Y+ 0	-ZLV NOSE FWD
12 2:03:15:00 30:00	TRK TGT=2 BV=5(270.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 180	LVLH R+ 0 P+ 0 Y+ 90	+ZLV NOSE SOUTH

Attitude Tracking

HEI	MNVR OPTION		DEP	EVS	REMARKS	EVENT
1 2/03:51:00	CANCEL	A1 MAN VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 95 1 184	INRTL R+333 F+ 75 Y+336	IMAGE INTENS ATT 81
2 2/04:00:00 03:48	MNVR R+342.00 F+ 93.00 Y+ 17.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 95 1 172		IMAGE INTENS ATT 82
3 2/04:15:00 27:34	MNVR R+183.00 F+131.00 Y+ 12.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 129 1 315		IMAGE INTENS ATT 83
4 2/05:05:00 19:27	MNVR R+292.00 F+265.00 Y+ 14.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 80 1 89		IMAGE INTENS ATT 84
5 2/05:25:00 29:57	MNVR R+354.00 F+249.00 Y+ 25.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 90 1 31		IMAGE INTENS ATT 85
6 2/05:40:00 50:49	TFK TGT=2 EV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	EARTH 0 90 1 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
7 2/05:10:00 22:17	MNVR R+281.00 F+322.00 Y+323.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 65 1 141	STAR FAIR A1	IMU ALIGN
8 2/05:30:00 41:18	TFK TGT=2 EV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	EARTH 0 90 1 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
9 2/20:27:00 39:15	MNVR F+281.00 F+322.00 Y+323.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	SUN 0 65 1 141	STAR FAIR A1	IMU ALIGN
10 2/20:47:00 58:10	TFK TGT=2 EV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DE AT 1.00 DE FT 0.02	EARTH 0 90 1 0	LVLH R+180 F+ 0 Y+ 0	-ZLV NOSE FWD
11 2/21:38:00 41:17	TFK TGT=2 EV=5(180.00, 0.00) OM=135.00	B1 AUTO NORM	DSC 0.500 DE AT 3.00 DE FT 0.20	EARTH 0 180 1 0	LVLH R+225 F+ 90 Y+ 0	AERO CG DTD ATT 81
12 2/21:54:00 58:00	TFK TGT=2 EV=5(270.00, 45.00) OM= 90.00	B1 AUTO NORM	DSC 0.500 DE AT 3.00 DE FT 0.20	EARTH 0 90 1 135	LVLH R+ 0 F+ 45 Y+ 90	AERO CG DTD ATT 82

Attitude Timeline

RET	MNVR OPTION	REF	E/S	FEMAS	EVENT	
1 2/22:20:00 32:23	TRK TGT=2 EV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	EARTH 0 90 0 0	LVLH R+100 F+ 0 Y+ 0	-ZLV NOSE FWD
2 3/05:41:00 53:07	MNVR R+201.00 F+322.00 Y+323.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 66 0 142	STAR PAIR A1	IMU ALIGN
3 3/06:01:00 12:04	TRK TGT=2 EV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	EARTH 0 90 0 0	LVLH R+100 F+ 0 Y+ 0	-ZLV NOSE FWD
4 3/17:59:00 16:10:05	MNVR R+201.00 F+322.00 Y+323.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 66 0 142	STAR PAIR A1	IMU ALIGN
5 3/18:10:00 28:56	TRK TGT=2 EV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	EARTH 0 90 0 0	LVLH R+100 F+ 0 Y+ 0	-ZLV NOSE FWD
6 3/22:40:00 54:56	MNVR F+ 30.00 F+ 52.00 Y+ 24.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 57 0 136		FFESS COMP ATT
7 4/01:20:00 27:36	TRK TGT=2 EV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	EARTH 0 90 0 0	LVLH R+100 F+ 0 Y+ 0	-ZLV NOSE FWD
8 4/06:16:00 27:57	MNVR F+201.00 F+322.00 Y+323.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 66 0 143	STAR PAIR A1	IMU ALIGN
9 4/06:26:00 46:48	TRK TGT=2 EV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	EARTH 0 90 0 0	LVLH R+100 F+ 0 Y+ 0	-ZLV NOSE FWD
10 4/17:02:00 13:49	MNVR R+201.00 F+322.00 Y+323.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 67 0 143	STAR PAIR A1	IMU ALIGN
11 4/17:22:00 34:20	TRK TGT=4 EV=5(114.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 176 0 180	ENRTL R+ 22 F+164 Y+334	TAIL SUN
12 4/20:03:27 16:52	MNVR R+202.00 F+256.00 Y+ 0.00	A1 AUTO VERN	BSC 0.200 DE AT 1.00 DE RT 0.02	SUN 0 92 0 183	-Y: 21 -Z: 19	IMU ALIGN

Attitude Timeline

RET	MNVR OPTION		DAF	E/S	REMARKS	EVENT
1 4/20:23:27 27:03	MNVR R+ 2.00 P+ 27.00 Y+291.00	B1 AUTO NORM	BSC 0.500 DB AT 3.00 DB RT 0.20	SUN 98 123	-Y: 20 -Z: 17	IMU VERIF
2 4/20:43:27 47:45	MNVR R+259.00 P+ 53.00 Y+329.00	* AUTO *	BSC 0.500 DB AT 3.50 DB RT 0.30	SUN 83 248		DECFBIT RUFN ATT
3 4/23:03:27	OMS IGNITION	* AUTO *	BSC 0.500 DB AT 3.50 DB RT 0.30			DECFBIT RUFN

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PAGE CHANGE NOTICE

JSC-19961

Incorporates 482
No: CAP-329

STS 51-D CREW ACTIVITY PLAN
FINAL, REY A 03/26/85
PCN-1 04/03/85
Sheet 1 of 1

Replace the followings:

1. Pages 1 and 11
2. Pages 4-1 thru 4-8

File this PCN immediately behind the front cover as a permanent record

Prepared by *Karen M. Allig* for *D.L. Engelauf*
Book Manager

Approved by *Chris B. Rippon* *11/85* *Robert H. Hatt*
Head, Crew Activity Planning Section 2 Chief, Flight Activity Branch

Encls 10 pages

STS 51-D CREW ACTIVITY PLAN

LIST OF EFFECTIVE PAGES

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REV A 03/26/85

PCN-1 04/03/85

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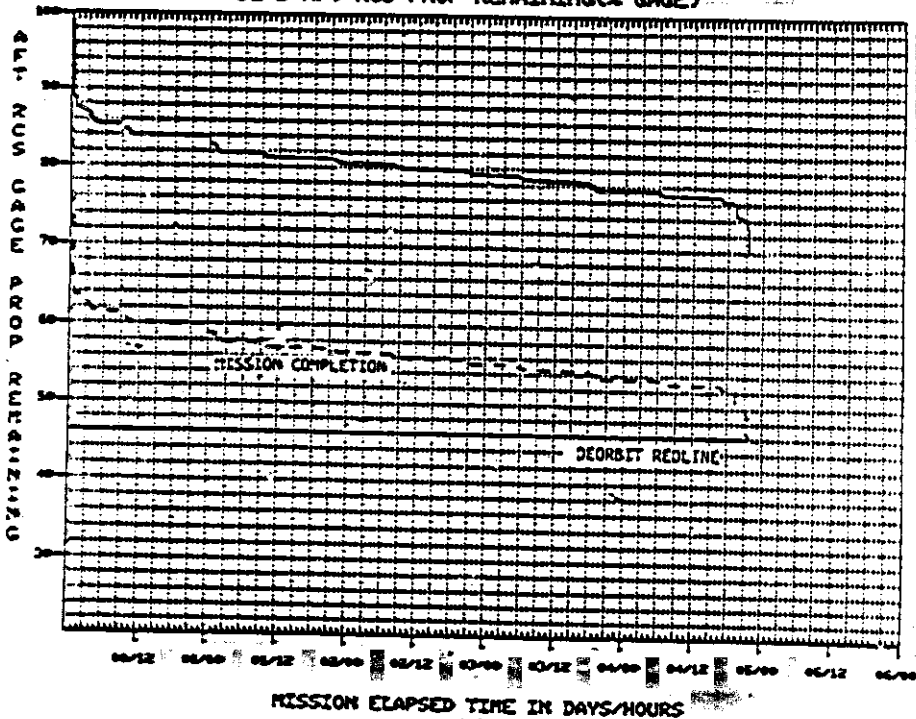
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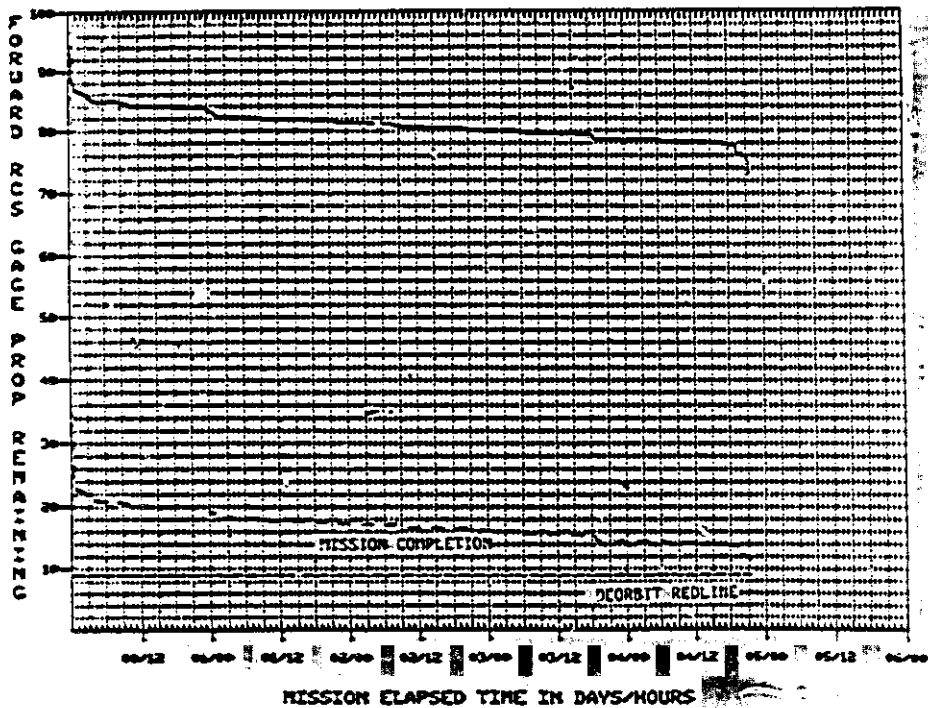
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29 March 1985
Prepared by: R.A.Glover
Verified by: *Dill Hollister*

SI-D AFT RCS PROP REMAINING(X GAGE)



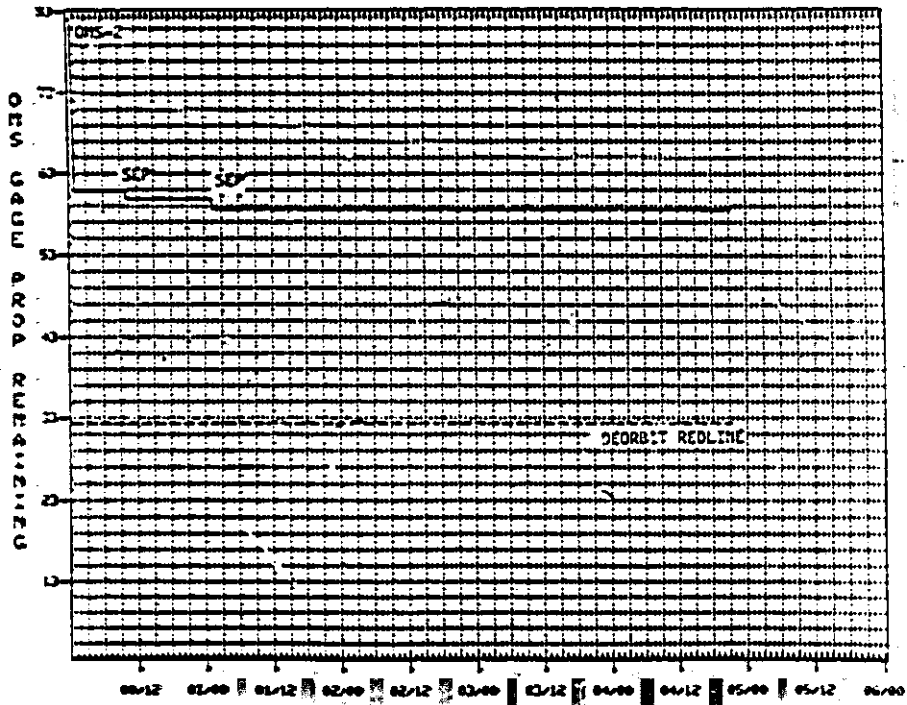
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51-D FORWARD RCS PROP REMAINING (X GAGE)



SDDS J-757 add 7
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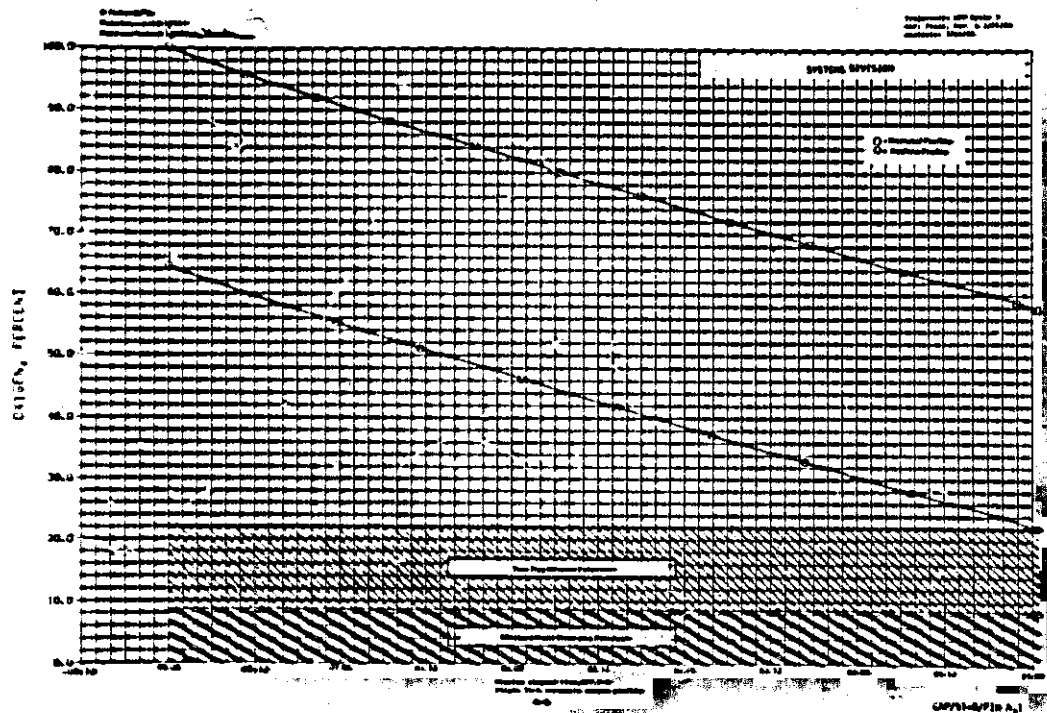
51-D OMS PROP REMAINING(% GAGE)

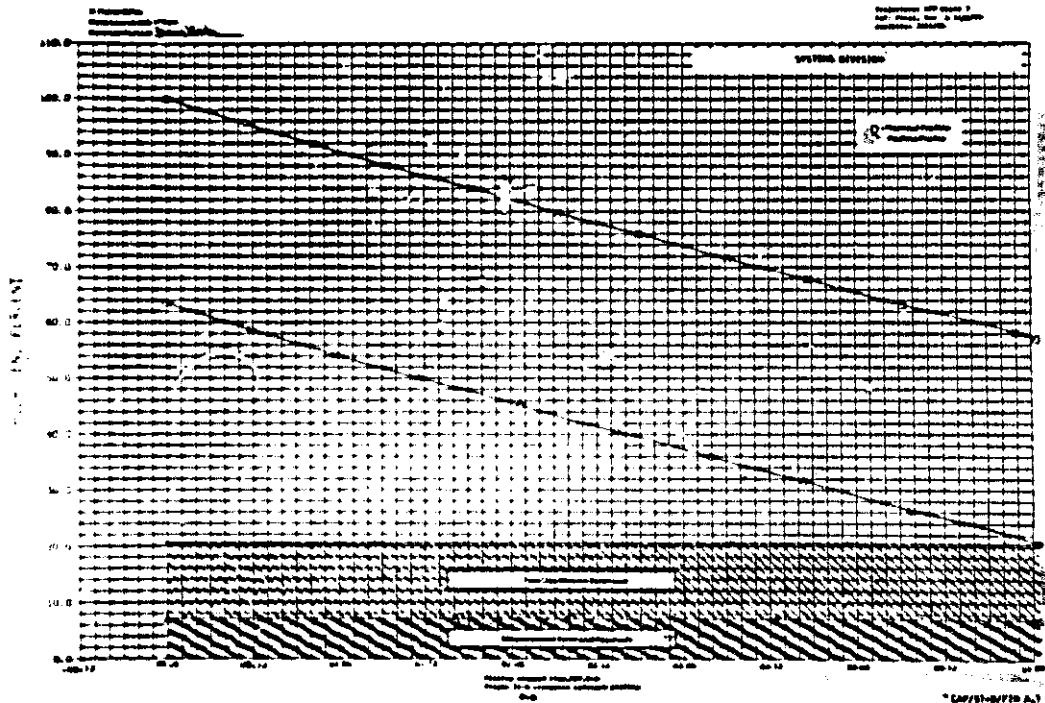


MISSION ELAPSED TIME IN DAYS/HOURS

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CAP/51-D/FIN A.1



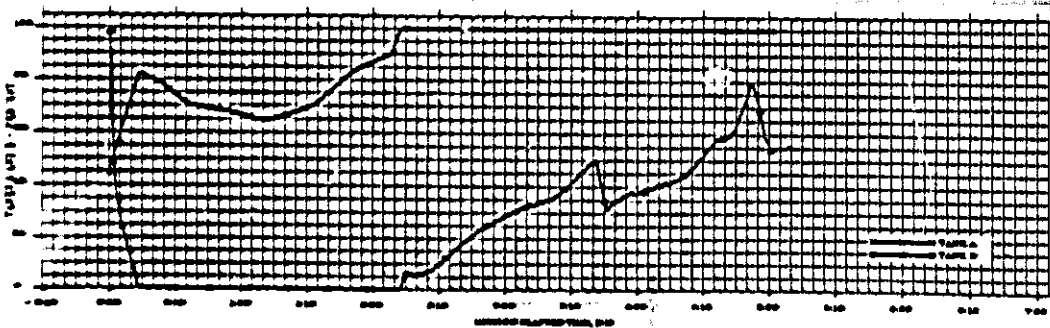


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DIFFERENTIAL EQUATION (10) AND FIGURE 1



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1922

MISSION OPERATIONS DIRECTORATE

STS 51-D CREW ACTIVITY PLAN

FINAL
February 5, 1985

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Comments concerning this document may be addressed to OMA/Thomas L. Vollrath or OMA/Karen Allig, Bldg 4, Rm 3488, 713-483-3486.

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No:	CAP-282 CAP-288
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	CAP-284 FDF-508
	CAP-285 FDF-515
	CAP-286

ACKNOWLEDGMENTS

The following individuals contributed significantly to preparing the STS
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STS 51-D CREW ACTIVITY PLAN

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FINAL 02/05/85

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(Blank).....	5-11	CAP/51-D/O/BAS
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B1.....	5-11	CAP/51-D/O/BAS
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DAP B5.....	5-13	CAP/51-D/O/BAS
B5.....	5-13	CAP/51-D/O/BAS
DAP B6.....	5-14	CAP/51-D/O/BAS
B6.....	5-14	CAP/51-D/O/BAS
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INTRODUCTION

The STS 51-D Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, Deorbit Prep, and Entry checklists. For continuity, the entire flight is shown in the summary level timeline.

This on-orbit timeline satisfied the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-D Flight Requirements Document.

The flight profile (cycle 2 trajectory data) used for this Crew Activity Plan is for a launch date of March 19, 1985, at 19:04 CST.

The Topping Flash Evaporator System will be forced to dispose of supply water for the entire flight. Prior to LDEF retrieval, one waste water dump has been scheduled during the morning of FDS in conjunction with an RMS survey and DTO 0325. A final waste water dump has been scheduled on an as-required basis on FDS.

OVERVIEW

OVERVIEW

OVERVIEW

FLIGHT 974 8-12		EDITION FINAL		PUR. DATE 2/25/85	
PO 1					
PO 2	SLEEP	PREP SLEEP	POST SLEEP		
PO 3	SLEEP	PREP SLEEP	POST SLEEP		
PO 4	SLEEP	PREP SLEEP	POST SLEEP		
PO 5	SLEEP	PREP SLEEP	POST SLEEP		
PO 6	SLEEP	PREP SLEEP	POST SLEEP		

SUMMARY
TIMELINE

SUMMARY TIMELINE

CLASS	GROUP	NO.	DATE	CSF	IDENTITY	FLY	DOY	RE	TR	MOON	MISSION DATE	FLIGHT	FCTION	PUR.	DATF
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STS	A1	20	21	22	23	24	25	26	27	28					SLIP
	A1	20	21	22	23	24	25	26	27	28					
	A1	20	21	22	23	24	25	26	27	28					
	A1	20	21	22	23	24	25	26	27	28					
P	A1	20	21	22	23	24	25	26	27	28					
ESTON	A1	20	21	22	23	24	25	26	27	28					
COBRO	A1	20	21	22	23	24	25	26	27	28					
	A1	20	21	22	23	24	25	26	27	28					
NOTES															

GMT (DIMIN)		MET (DIMIN)		CST (DIMIN)		PD/ DDY		REF	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
00101000Z 00101000Z		00101000Z 00101000Z		00101000Z 00101000Z		00101000Z		0.5		MARCH 21, 1965	STS 4-8	FINN	2005001
MET 1882		MET 1882		MET 1882		MET 1882							
STS				DWS SUPR DWS SUPR DC-2		DWS SUPR DWS SUPR DC-2					SLEEP		
FDC 4-5		FDC 4-5		FDC 2 & 3		FDC 2 & 3		PRE SLEEP ACT					
PL				WFE DATA		WFE DATA							
DAYS		DAYS		DAYS		DAYS		DAYS		DAYS		DAYS	
32		33		34		35		36		37		38	
39		40											
CSTON		CSTON		CSTON		CSTON		CSTON		CSTON		CSTON	
LOVEPASS		LOVEPASS		LOVEPASS		LOVEPASS		LOVEPASS		LOVEPASS		LOVEPASS	
TOPS		TOPS		TOPS		TOPS		TOPS		TOPS		TOPS	
NOTES:													

GMT	(DIMIN)	MET	(DIMIN)	CST	(DIMIN)	RD/ DDY	ACTA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
08211400	ADST100	08220800	ADST100	08211400	ADST100	34/ 081 1969	7.1		MARCH 22, 1969	STS 41-B	RTM	240300Z	
MET 1000						081902							
STS	LDEF REMOVED									SLEEP			
	LDEF MOUTH									PRE SLEEP ACT			
PL	R/TX ACT												
EVENT	48	49	50	51	52	53	54	55					
SYSTEM COVERAGE	MA-NL -D1 -EDS -RL -BDK	YAP-NL -SMH -SMH -CDS -RLL	ARC-NL -RDH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH	ARC-NL -RCH -RCH -RCH -RCH
LDPS													
ATTENT													
NOTES	* STD 0700 ON-ORBIT LOCAL NAVIGATION - * 2LV, 4MV * INVITE DUCT												

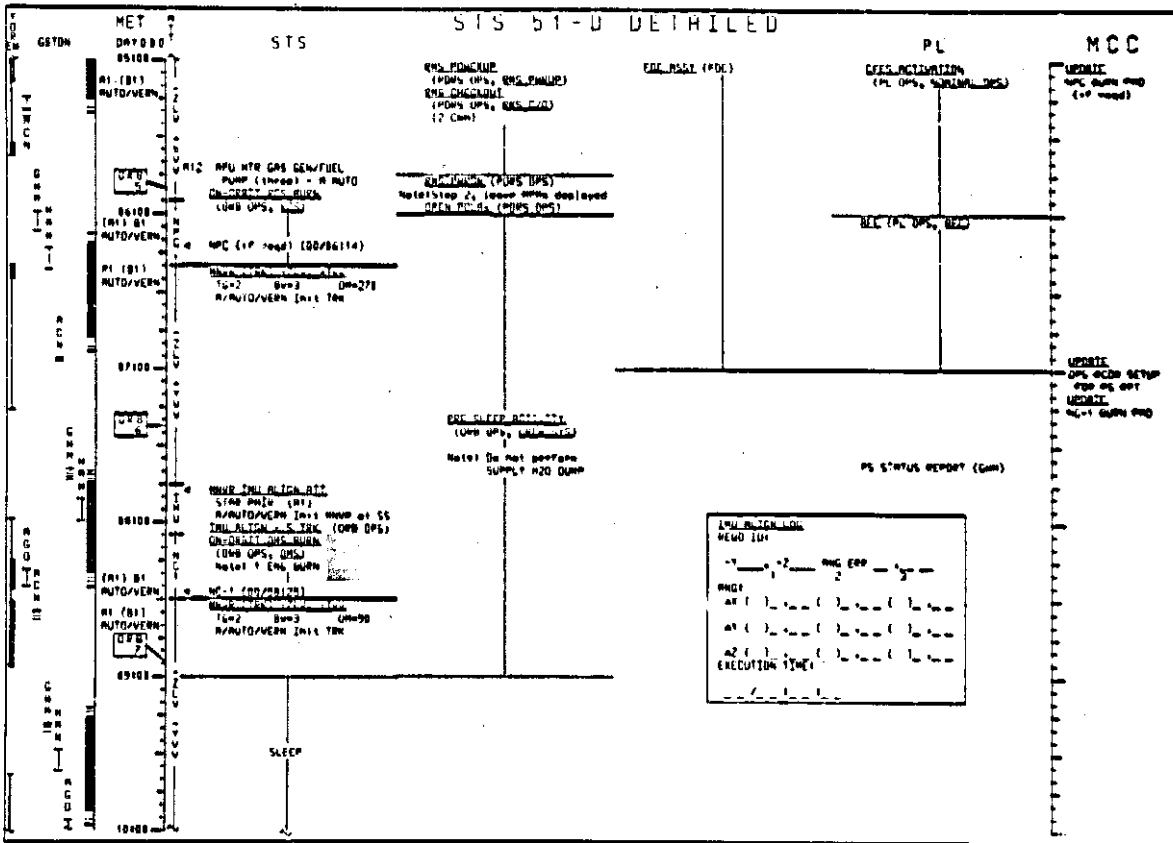
GMT (DIMIN)	MET (DIMIN)	CST (DIMIN)	RD/ DDY	RFTA	MDDN	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE											
08213000Z	08213000Z	08213000Z	08213000Z	08213000Z	08213000Z	MARCH 21, 1965	STS 51-L	FORM	12/29/65											
US: 1882	00 0000	00 0000	12 0000	13 0000	14 0000	15 0000	16 0000	17 0000	18 0000											
RD 1885																				
MET 1889	12 0000	13 0000	14 0000	15 0000	16 0000	17 0000	18 0000	19 0000	20 0000											
STS	SLEEP		I N M E N T A L T E S T	Z L V T E S T	HERO GA DIO	PCS GID	OPN CONV	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	HERO CONV DIO	
					POST SLEEP ACT		FDE VSR	PFTU SETUP	PFTU ACT	FDE VTR		FDE VTR								C O N T E N T
							FDE 2 & 3			FDE 4		FDE 4								V I D E O
								OPN STOP	OPN OSMATIC TEST	OPN CLEAN TEST										T E X T
PL																				
OPN/CONV																				
ORBIT	55	56	57	58	59	60	61	62	63											
ASTON COVERAGE	ALL -DVP -ALC																			
TOPS																				
OPERATING																				
NOTES:	<p>• 2LV, • 3W</p> <p>• 400 HP ACT MEASUREMENTS • 2LV, • 3W</p> <p>• DIO 5F64 ORBITAL HERO AND QUALITY SAMPLES</p> <p>TIME MEASUREMENTS • NI ORBIT</p> <p>• 2LV, • 3W</p> <p>• 010 0225 SATE AND SUPPLY CENTER DUMPS</p> <p>• 01 TOP CLEANING</p>																			

GMT	(DIMIN)	MET	(DIMIN)	CST	(DIMIN)	PD/DOY	RETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUR. DATE
080000	0000000	0000000	0000000	0000000	0000000	00/000	-7.0	●	MARCH 26 1965	STS-107	17000	220000
CST 1965		01000	10	02000	10	12	12	14	15	16	17	18
PD 1965	12	13	14	15	16	17	18	19	20	21	22	23
STS	WAKE							PLM DPV				
										DEORB 1 BLEN		
										KSC LANDING (4/21/68)		
PL												
DIST/CST	DAY	21	22	23	24	25	26	27	28	29	30	31
ESTON COVERAGE		---DIA ---WAD	---DIA ---WAD	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN	---DIA ---WAD ---TAP ---CAN
TOPS												
STATION												
NOTES:	● STUDENT EXPERIMENT											

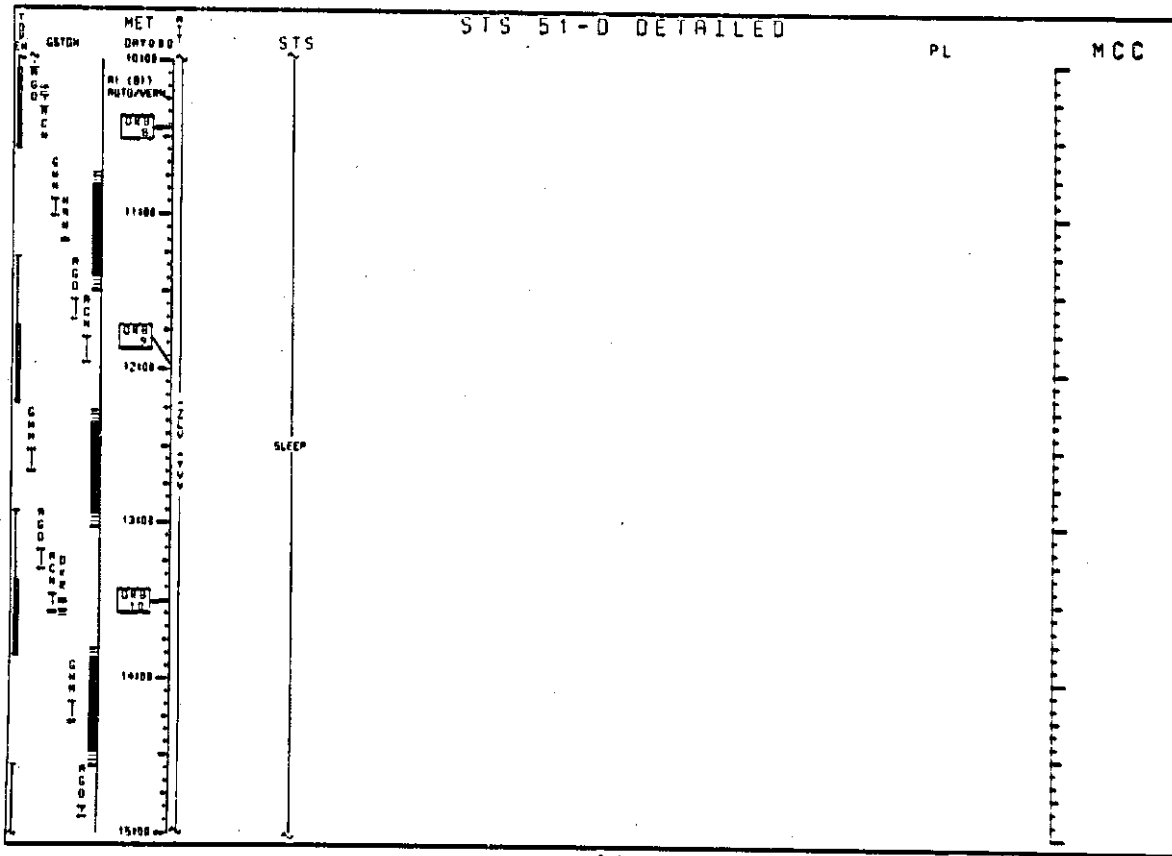
DETAILED TIMELINE

DETAILED
TIMELINE

STS 51-D DETAILED



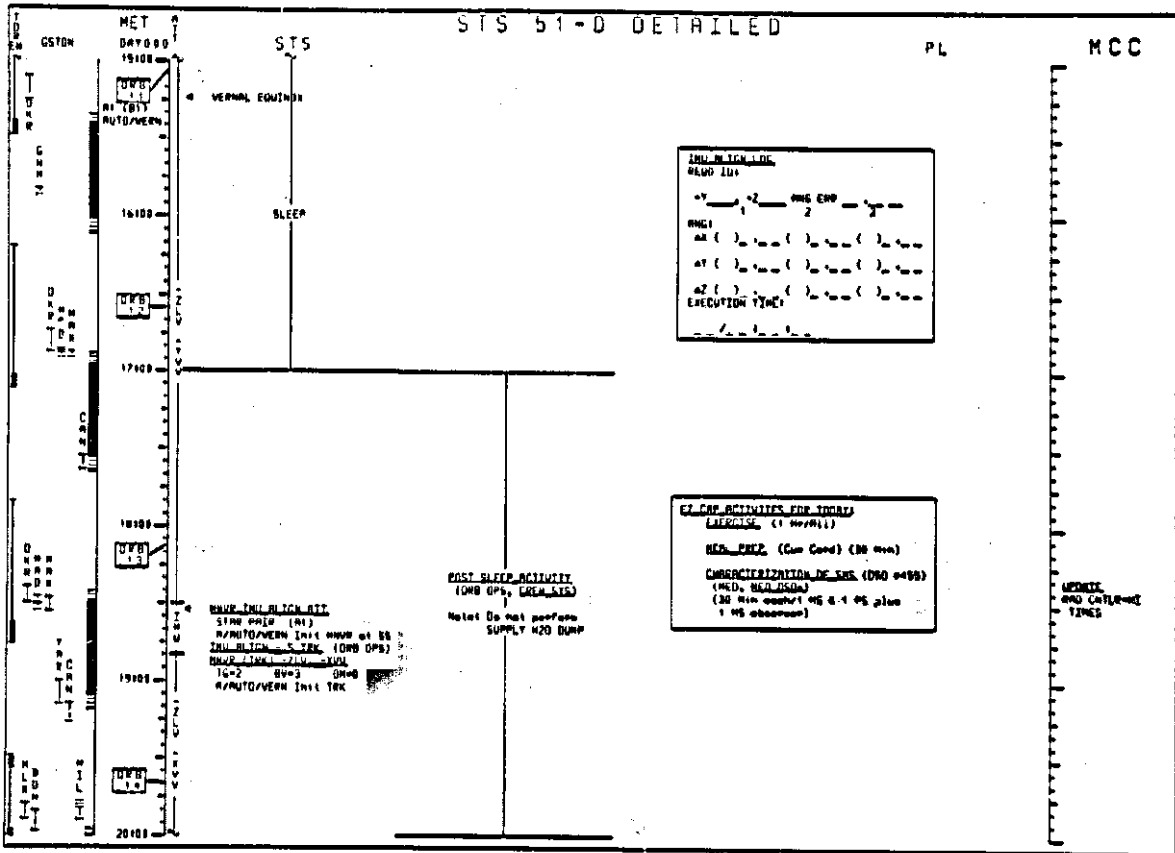
STS 51-D DETAILED



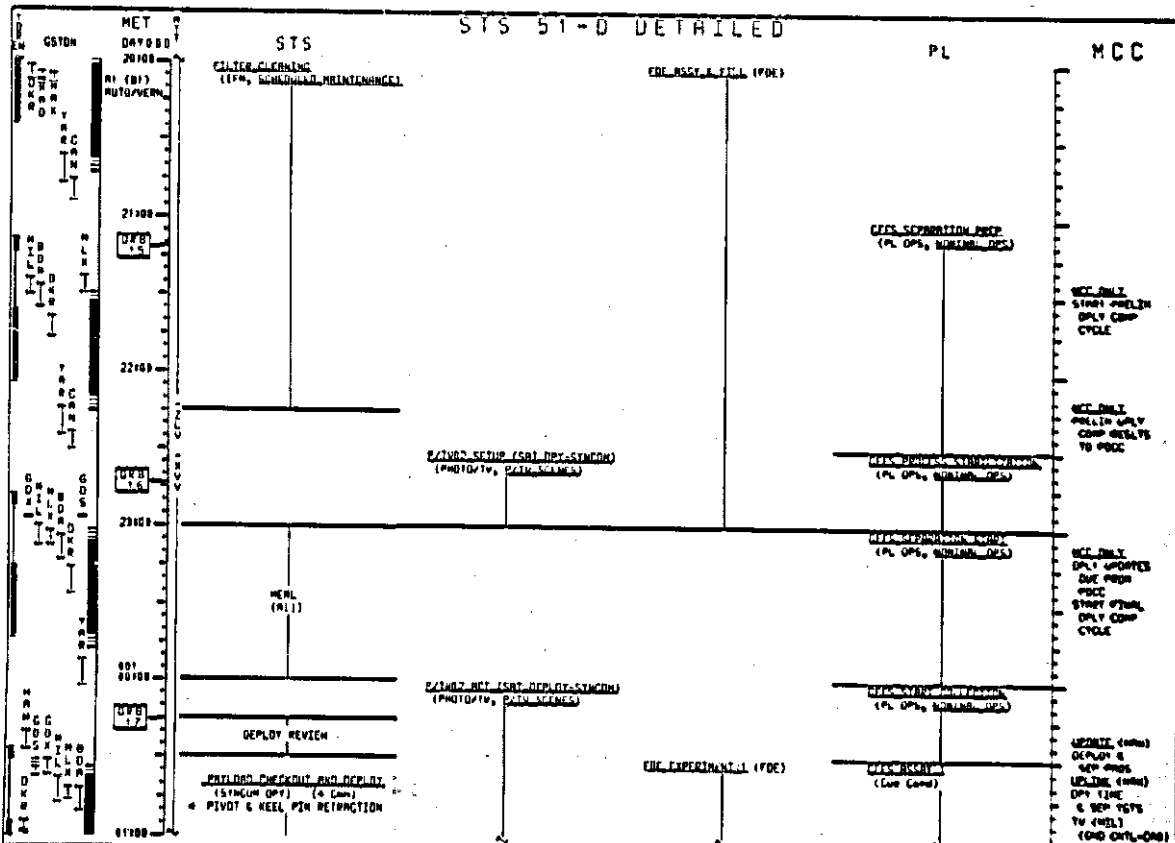
STS 51-D DETAILED

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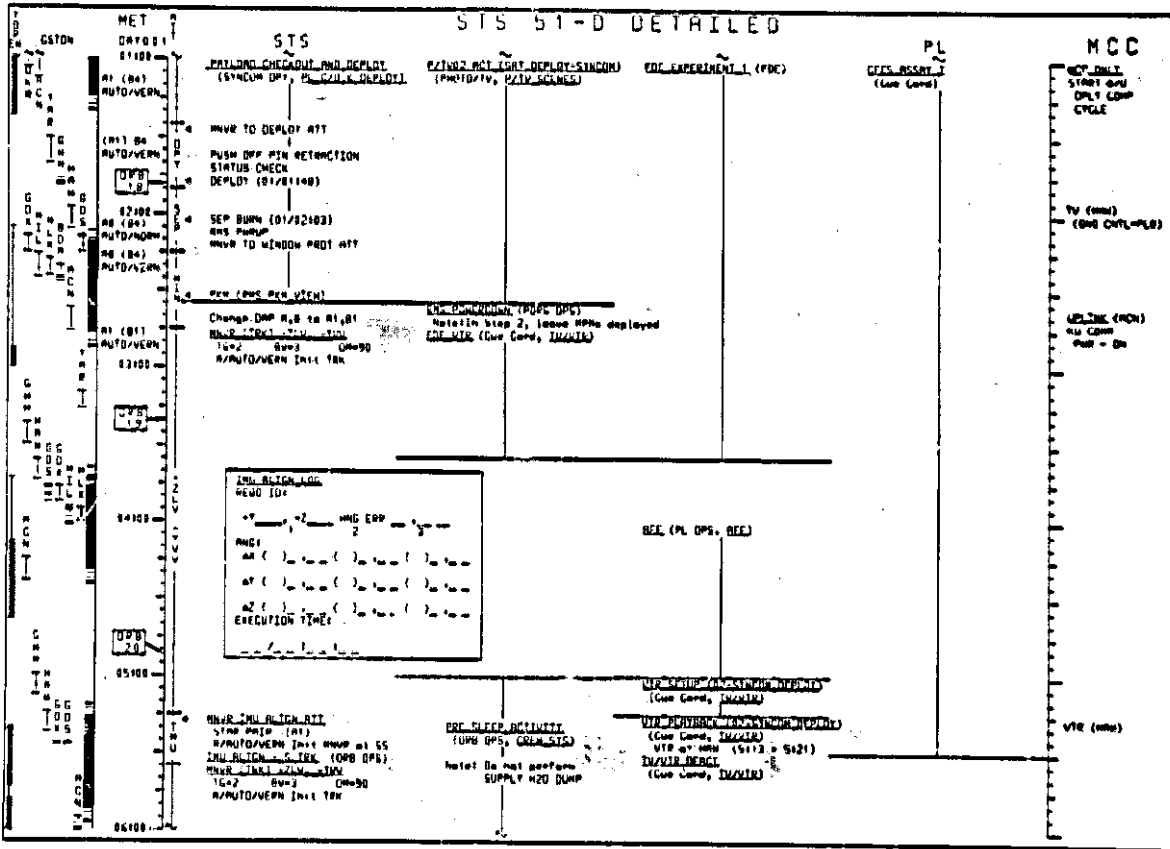
MCC



STS 51-D DETAILED



STS 51-D DETAILED



STS 51-D DETAILED

STS

PL

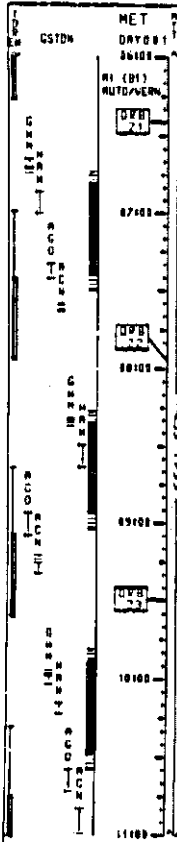
MCC

LOGICAL
OPS. HOUR SETUP
FOR PL CRT

PL STATUS REPORT (CONT)

PRE SLEEP ACTIVITY
1000 OPS, 0000 SLEEP

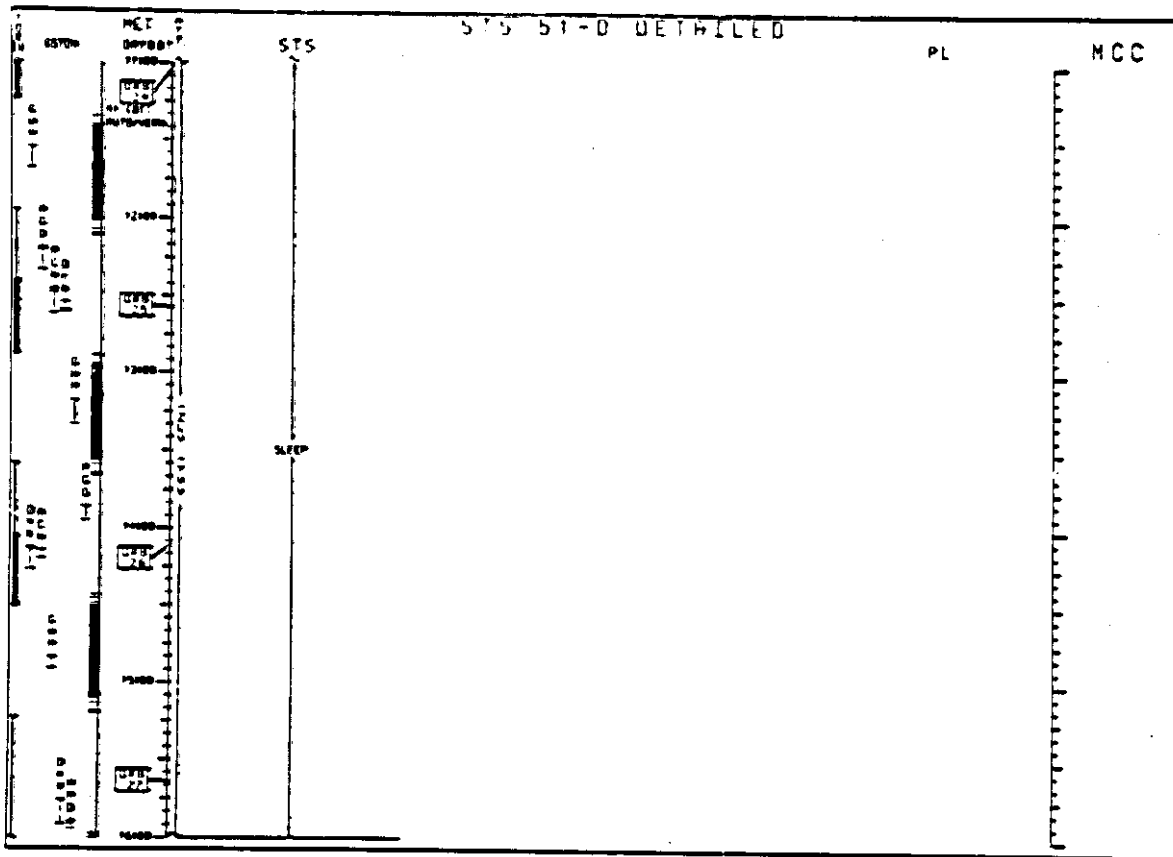
SLEEP



STS 51-D DETAILED

PL

MCC



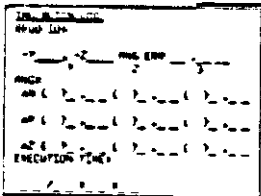
STS 51-D DETAILED

MEP
040000

STS

PL

MCC



EX. COP. ACTIVITIES FOR THREE

URG. MEDICAL ALLOCATION
0700 No Press in 11000-EL (10-EL)
073000-EL (10-OP)
Perform in N/M, (10 Min)

HEALTH RECHECKS (1000 OPS)
Perform in N/M, (5 Min)

EXERCISE (3 HOURS)

HEAL. PREP. (Cup Card) (30 Min)

COLOG. REQUIREMENT COMPONENT C/P
(1000 OPS, 10000) (10 Min)
Inform MCC when complete

CO-121 CHECKS (600 OPS)
Lamp type 2 (5 Hour/2 Can)

ORAL-HYGIENE (MED 0321-Cup Card)
MULTIPART MESS (2 Hrs)
COP MESS (40 Hour/2 Can)
TAPE MESS (20 Hour/2 Can)

CHARACTERIZATION OF SEC. (DSD 0055)
190 - RELEASE
(20 Min contact) 15 & 15 plus
1 HS observation

STUDENT EXPERIMENT-RWYX CELLS
When orange panel light is on, obtain 5 sets of VTR data

POST-SLEEP ACTIVITY
(1000 OPS, 100000)
Notes: Do not perform SUPPLY AND DUMP

THEO. CAL. RECHECK
(1700 OPS, 10000)
MULTIPART MESS (2 Hrs) plus 50
MULTIPART MESS (1000 OPS)
THEO. CAL. RECHECK
(1000 OPS, 10000)
MULTIPART MESS (2 Hrs)

OP. POWER
(1000 OPS, 10000)
SOLVENTS AND WASH POLYMERIZ.
(1000 OPS, 10000)
and
HEALTHY WIFE DUMP
(1000 OPS, 10000)
070 0320

EDX EXPERIMENTS, 4 & 5 (FOE)

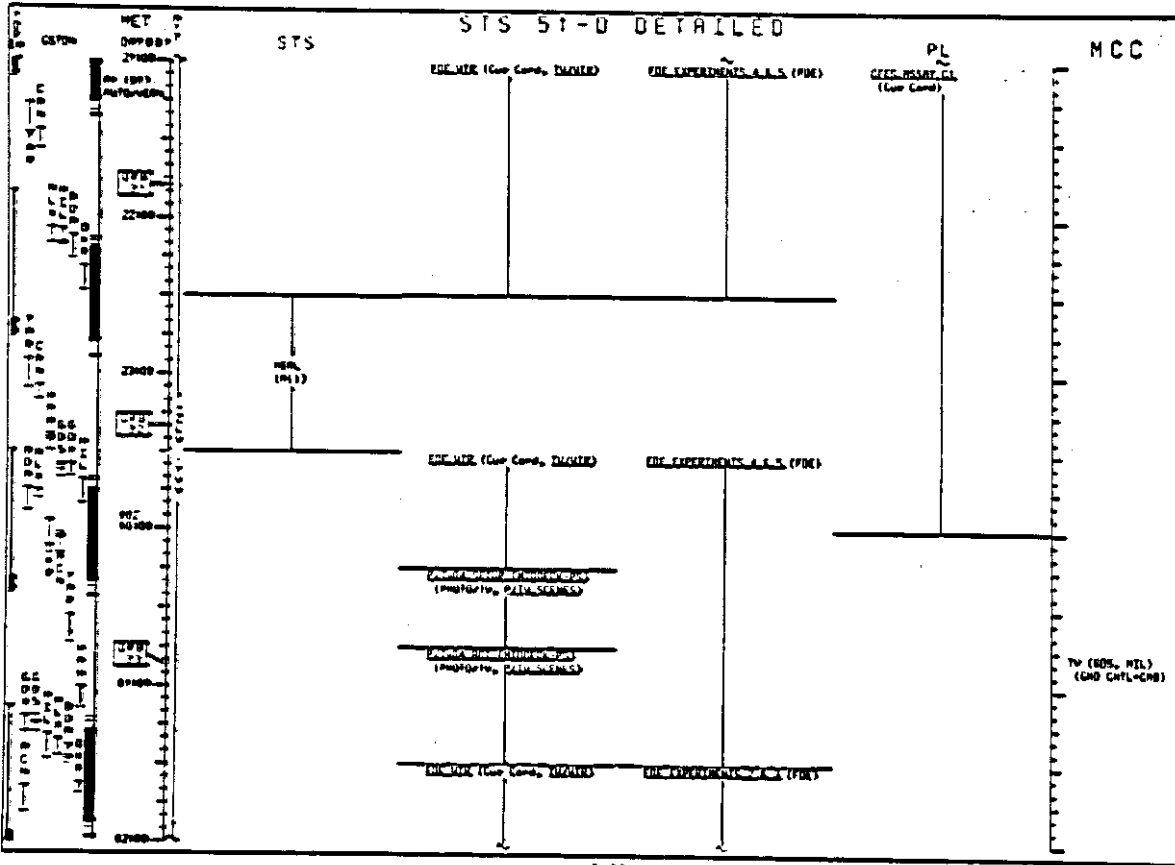
CAMERA SETUP (PHOTOGRAPHY)

CAMERA SETUP (PHOTOGRAPHY)

CEFS ASBY CI
(Cup Card)

EDX EXPERIMENTS, 4 & 5 (FOE)





STS ST-0 DETAILED

STS

PL

MCC

ENG. WEL (Crew Comp. TRACKED)

ENG. EXPERIMENTS 2, 3, 4 (FDR)

UNEXPECTED STOP F (DTP 8700)
1000 OPS, 0000

REC (PL OPS, REC)

USRIE
NO-2 8. 000
BURN PROS

ON-CHECKING BUS
1000 OPS, 0000
Report F 8700 0000

ON-CHECKING BUS
1000 OPS, 0000

NO APPROPRIATE
ACTION TAKEN
S100 OPS, 0000
APPROPRIATE DATA HAND AT 55
ON-CHECKING BUS (0000 OPS)
APPROPRIATE ACTION
S100 OPS, 0000
APPROPRIATE DATA HAND

PRE-SLEEP CHECK

MEMO BUS

→ 1 2 3 4 5 6 7 8 9 10

→ 1 2 3 4 5 6 7 8 9 10

AP () () () () () () () () () ()

AP () () () () () () () () () ()

AP () () () () () () () () () ()

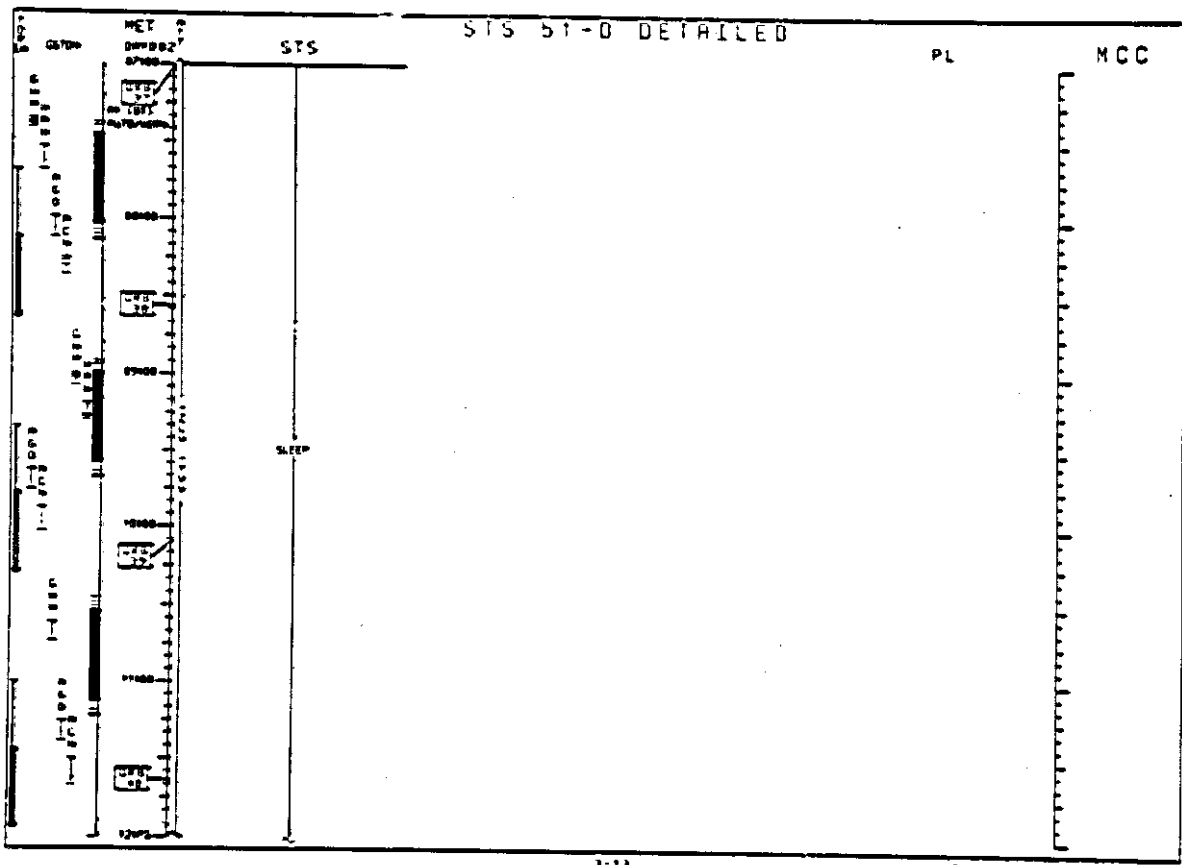
EXECUTION TIME

1 2 3 4 5 6 7 8 9 10

PRE-SLEEP ACTIVITY
1000 OPS, 0000 (SIS)
Notes Do not perform
SUPPLY WTD DUMP

USRIE
OPS RCDP SETUP
FOR PS RPT

PS STATUS REPORT (DWH)



STS 51-L DETAILED

STS

PL

MCC

STS 51-0 DETAILED

STS

PL

MCC

2ND FLIGHT - 1000 OPS
 1000 0000
 1000 0000
 1000 0000

PROG. 1000 0000
 1000 0000

THEM. (Low Case, 1000)

THE EXPERIMENTALS (1000)

THE 1000 (Low Case)

RESEARCHING (1000)
 (1000)

NORMAL
 1000 0000
 1000 0000
 1000 0000

1000 (1000)

1000 (1000)

1000 (1000)

1000 (1000)

UPDATE
 1000 0000
 1000 0000

UPDATE
 1000 0000
 1000 0000

UPDATE
 1000 0000
 1000 0000

UPDATE
 1000 0000
 1000 0000

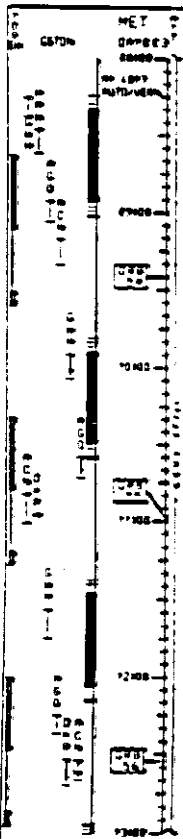
STS 51-D DETAILED

PL

MCC

STS

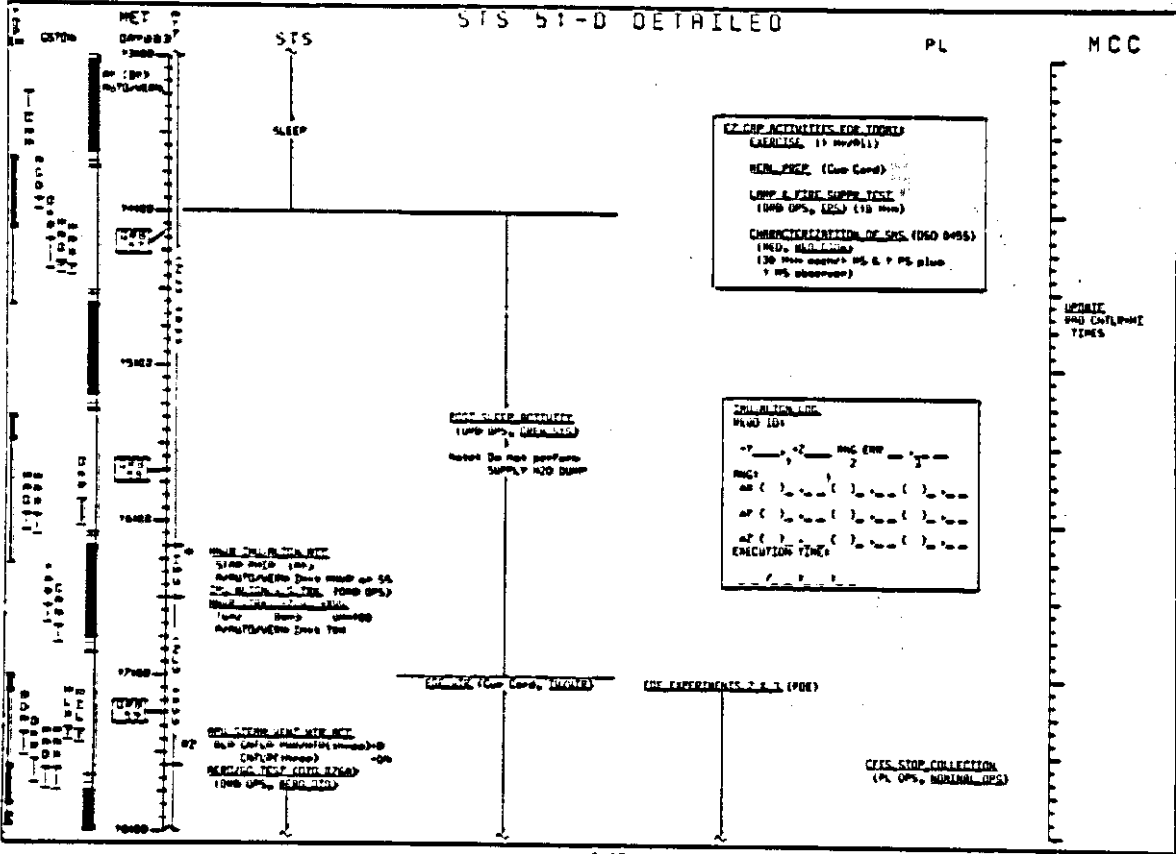
SLEEP

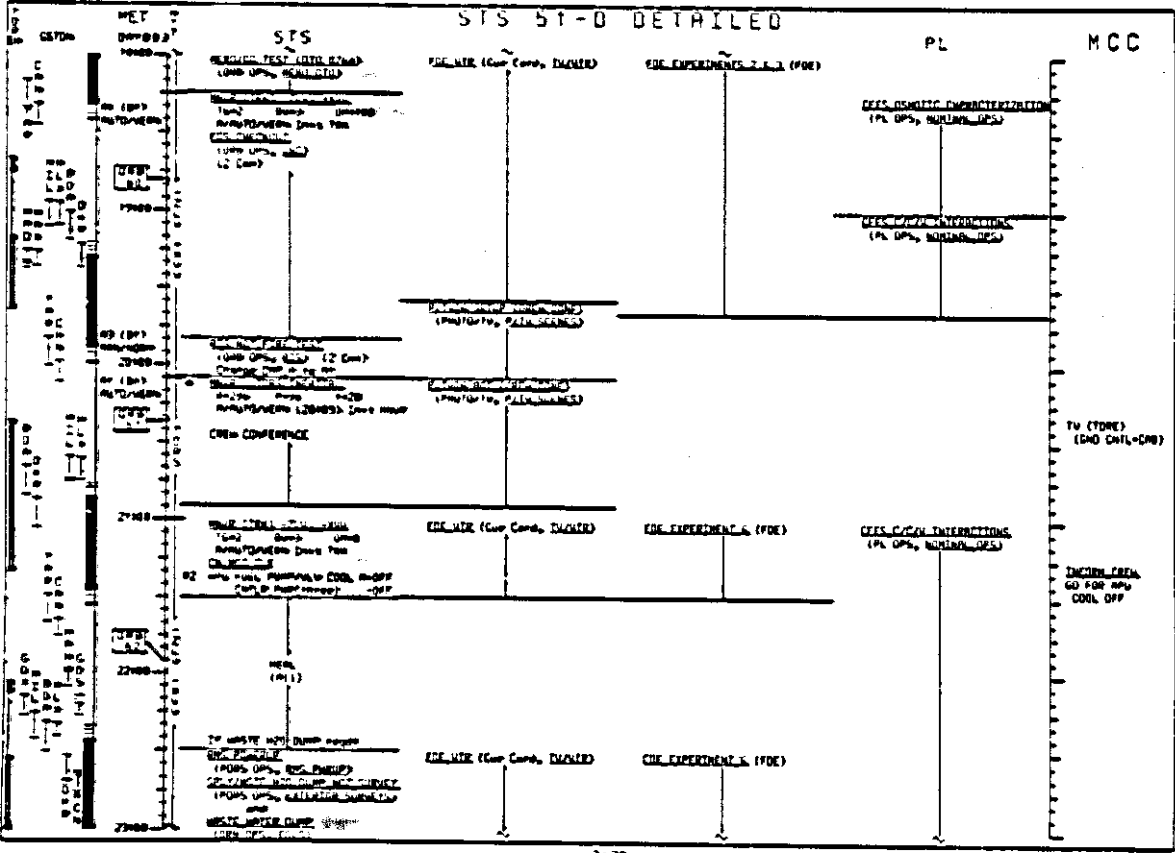


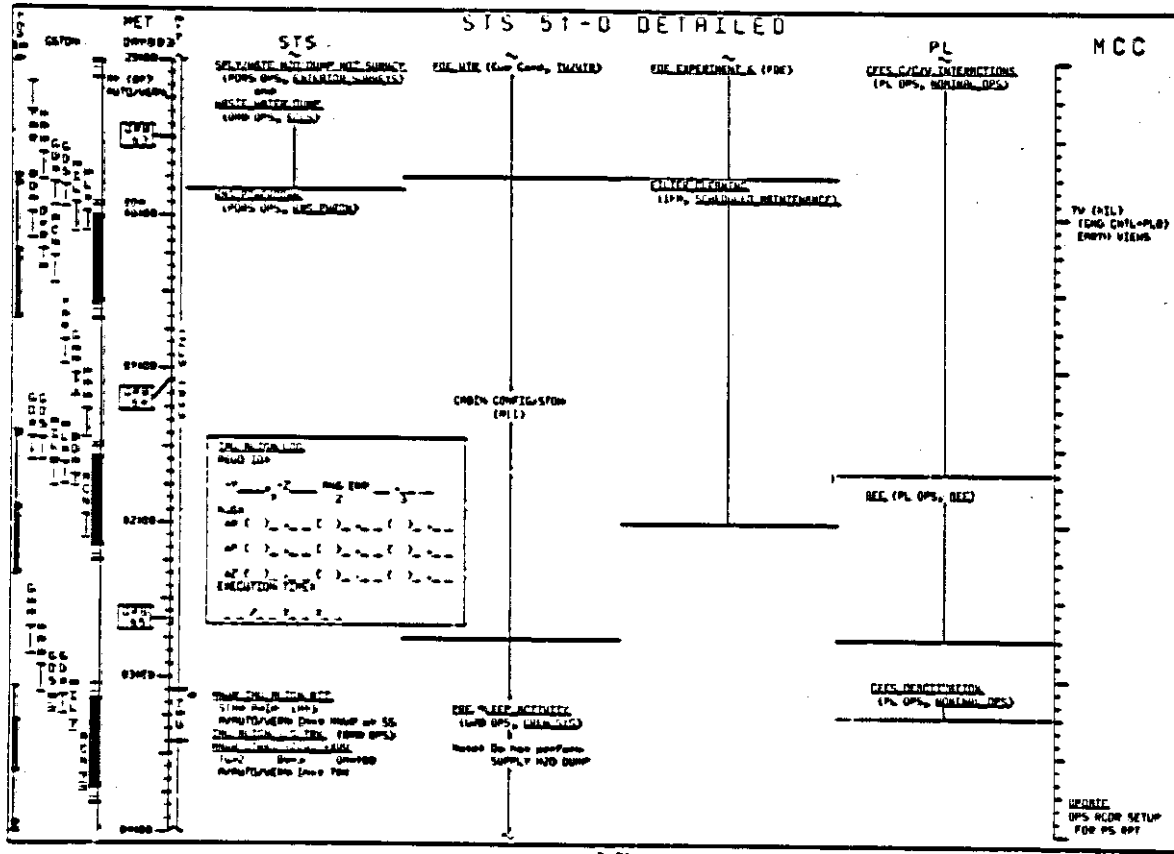
STS 51-D DETAILED

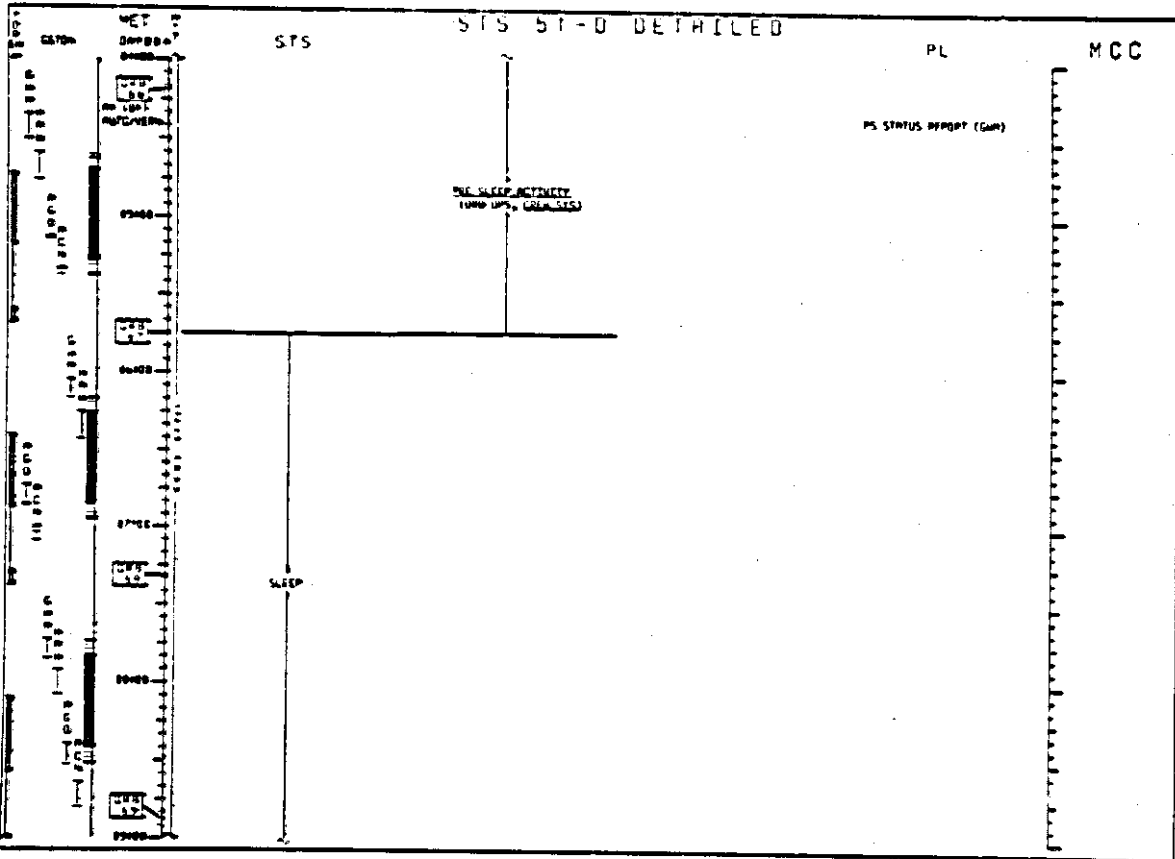
PL

MCC





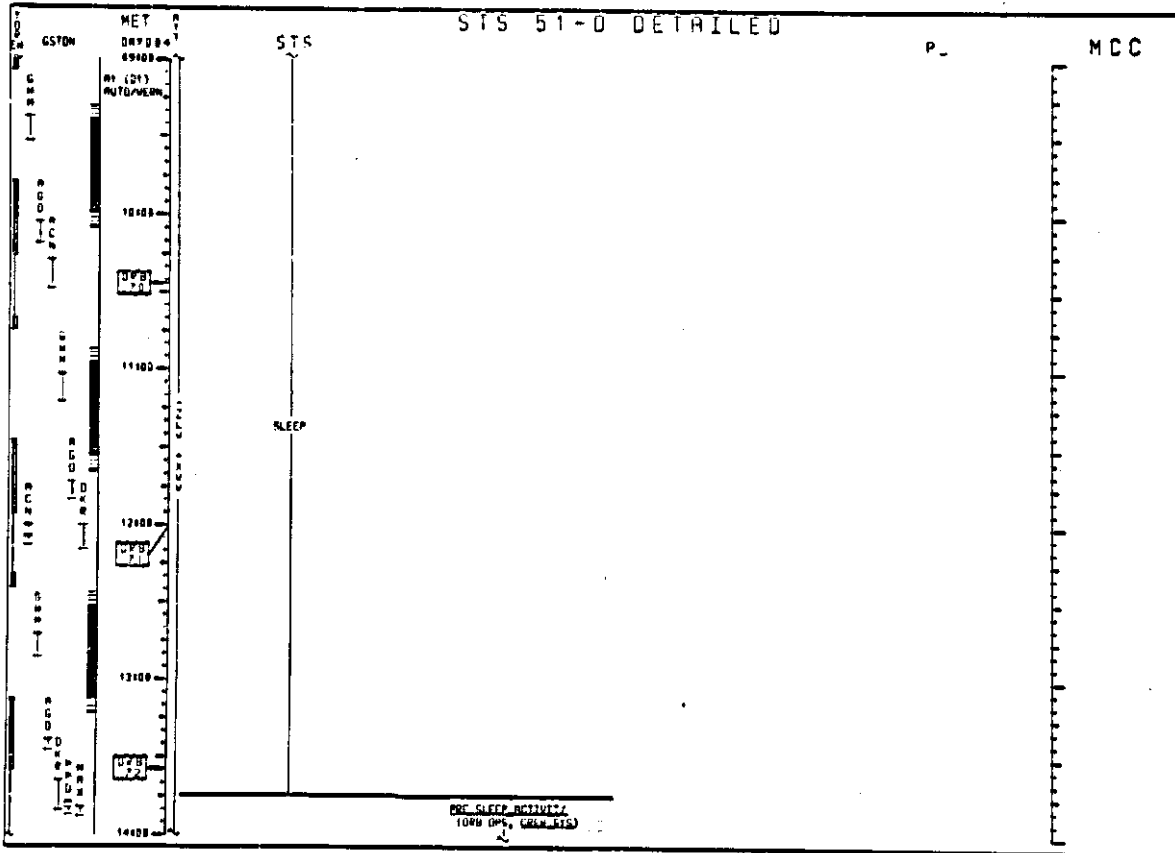




STS 51-0 DETAILED

P.

MCC

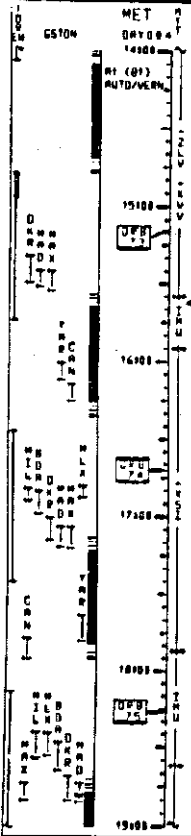


STS 51-D DETAILED

STS

PL

MCC



MAKE PRE-SLEEP ACTIVITY
SING PWR (AT)
AUTO/VERN INIT PWR at 55
PRE-SLEEP ACTIVITY (ORB OPS)
UPDATE ORF TIMER SETUP AND
1000 GWS FOLD IN DRYS
AUTO/VERN INIT TRK

PRE-SLEEP ACTIVITY
(ORB OPS, CALIB) IS
Note: Do not perform
SUPPLY M20 GUMP

PRE-DEPART ACTIVITIES BEFORE LEAVING CAP
DIE SAMPLE
Rec MCT on bottle
FLUID LOADING PREP
Fill 4 drink containers with
8 oz M20 each (per crewmember)

PRE-DEPART ACTIVITIES
M20 ID#
+1 +2 PWC CAP
MCT:
M1 () () () ()
M2 () () () ()
EXECUTION TIME:
/ /

Update ORF TIMER SETUP AND
IN ABOARD DEORBIT PREP

STUDENT EXPERIENCE ONLY
Knock switches (1B) to stop
growth, Mark MCT on View 4
Last check, Stop.

GO TO DEORBIT PREP AT 4/16:52

DEORBIT
CAP TIMER
SETUP AND

CONSUMABLES CURVES

CONSUMABLES
CURVES

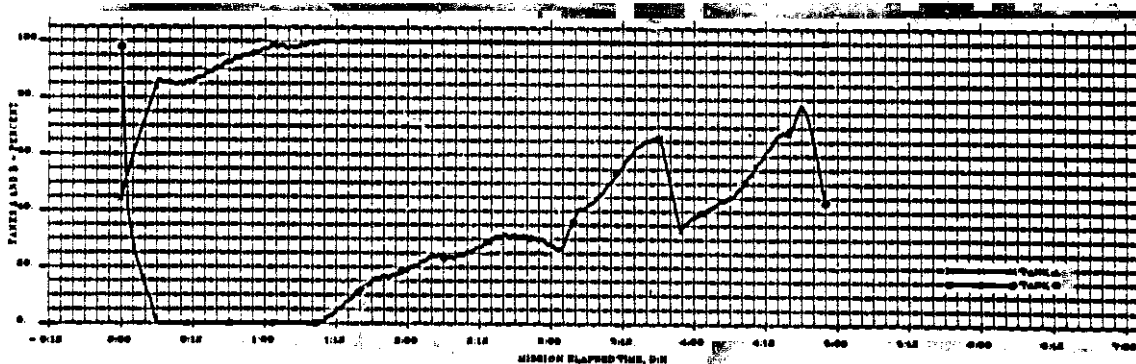
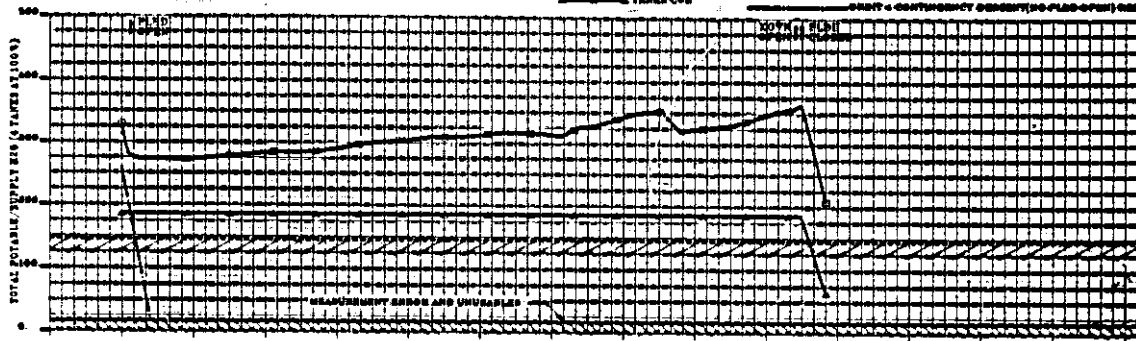
CONSUMABLES CURVES

MISSION PLANNING AND ANALYSIS DIVISION

G. SPENCER, E. & P. FISHER
 IC-185A1 (CAP) 12/07/00 W
 DATA CONTINUED

TRAJECTORY: CYCLE 2
 CAPT. VINN, OF/FA/05
 ANALYSIS DATE: 01/09/00

TABLE A+B
 AVIATION CONTINGENCY DEFENSE (100) MIN ORDLIN
 TABLE C+B
 AVIATION CONTINGENCY DEFENSE (50-PLAS-0700) ORDLIN



ITE 51-D SUPPLY WATER
 4-2

CAP/51-0/7TH

E. #shenFM3

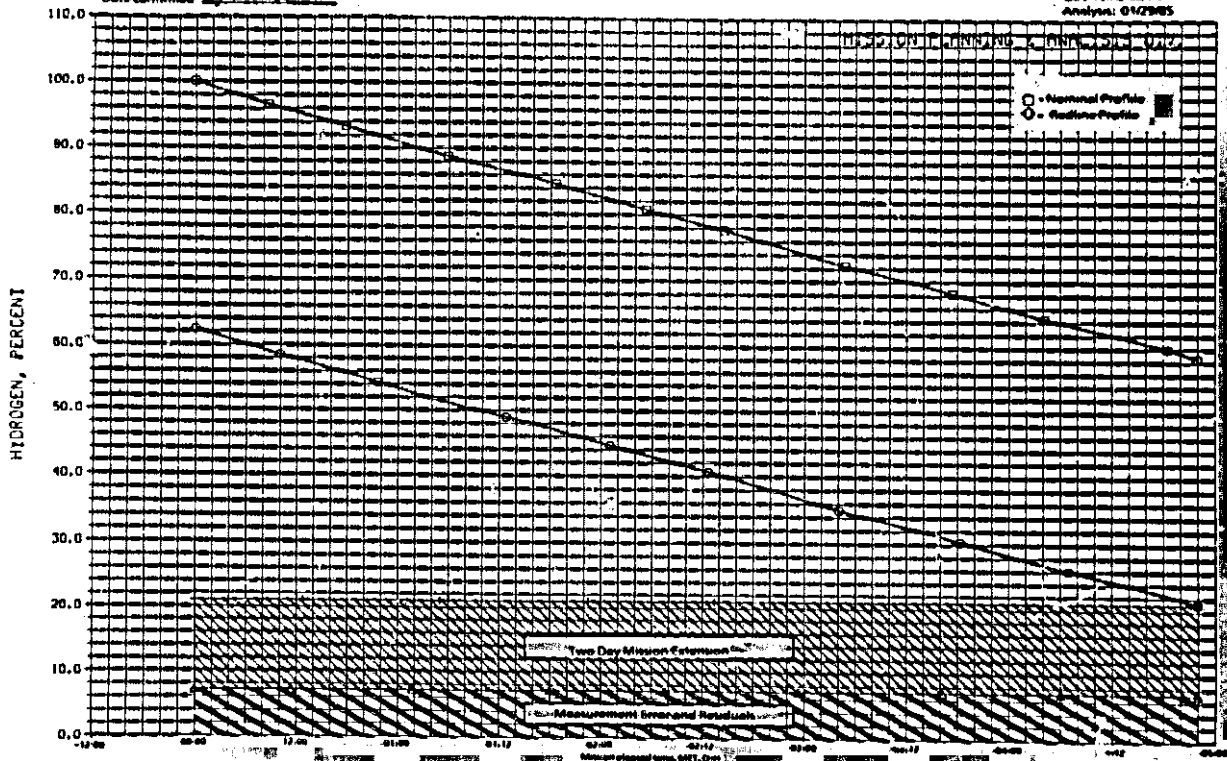
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Date confirmed 2nd Check

TRAJECTORY CYCLE 2

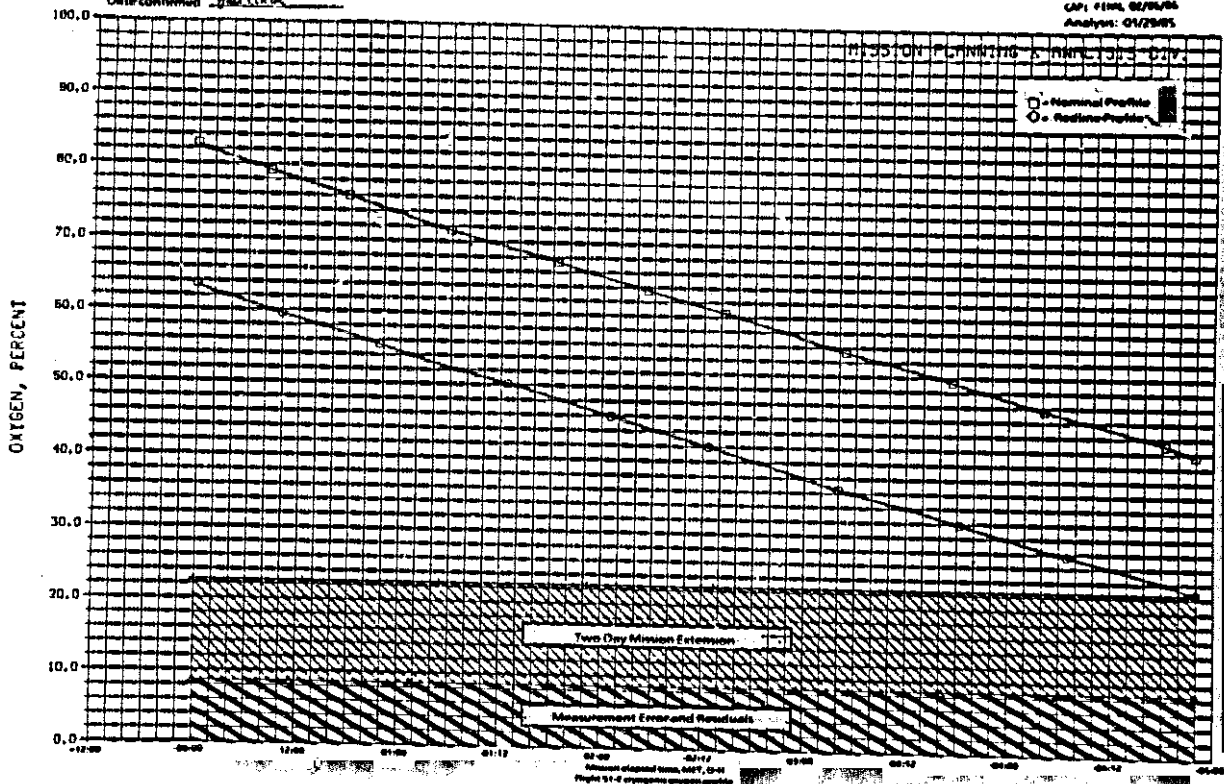
CP: 0101, 0205/06

Analysis: 010205



E. Fisher/SMZ
Data Source ISC-19961
Date confirmed Handbook

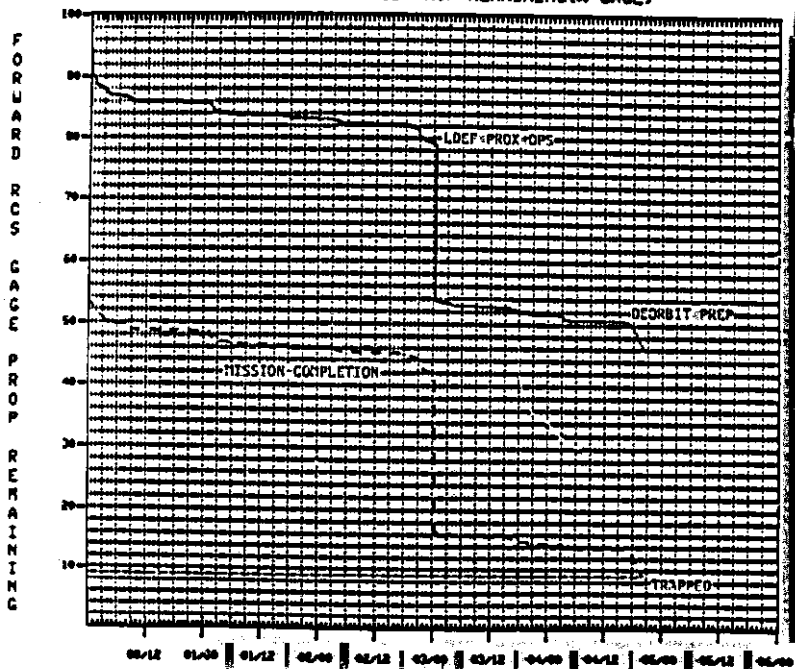
TRAJECTORY CYCLE P
CAP: 1196, 02/26/86
Analysis: 01/29/85



Amount of oxygen used, 667, 0-41
Flight 11-4 oxygen profile

28 JANUARY 1985
S005 J-757 ADD 5
PREPARED BY: R. A. GLOVER/NOTSCD
VERIFIED BY: *BR*

51-D FORWARD RCS PROP REMAINING(X GAGE)



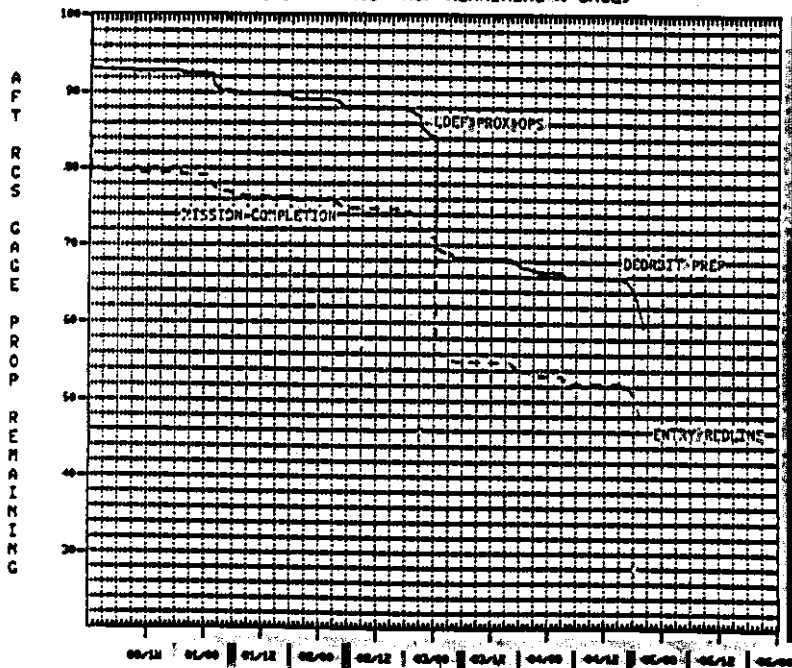
MISSION ELAPSED TIME IN DAYS/HOURS

4-5

CAP/51-D/FIN

23 JANUARY 1985
 SODS J-757 ADD 5
 PREPARED BY: R. A. GLOVER/MDTSCO
 VERIFIED BY: *RAH*

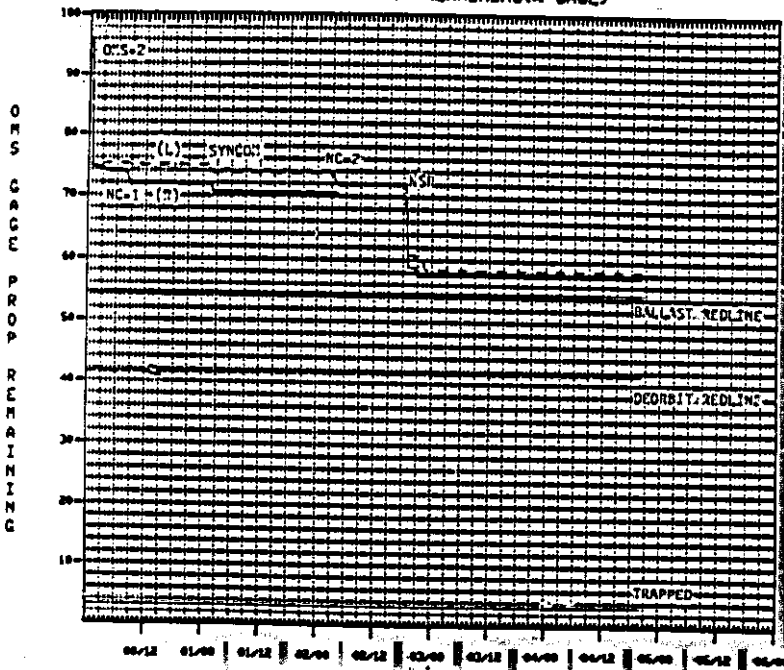
SI-D AFT RCS PROP REMAINING(x GAGE)



MISSION ELAPSED TIME IN DAYS/HOURS

51-D ONS PROP REMAINING(x GAGE)

SOOS J-757 6UD 5
 PREPARED BY: R. L. CLOVER/MDTSCO
 VERIFIED BY: *BAJ*



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MISSION ELAPSED TIME IN DAYS/HOURS

4-7

CAP/51-D/FIN

The sections following this divider page will
not be included in flight copies.

DAP BOOK

DAP BOOK

TABLE 5-1
DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A8	A9	A10
<u>TRANSLATION</u>										
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.05
<u>ROTATION</u>										
DSC RT										
NORM °/sec	0.200	0.400	0.200	0.200	0.200	0.200	0.100	0.500	0.200	0.200
VERN °/sec	0.200	0.400	0.200	0.008	0.200	0.200	0.008	0.200	0.200	0.200
PULSE										
NORM °/sec	0.10	0.10	0.30	0.10	0.10	0.10	0.04	0.10	0.10	0.10
VERN °/sec	0.010	0.010	0.010	0.010	0.050	0.010	0.002	0.010	0.010	0.010
COMP										
NORM °/sec	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
VERN °/sec	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
<u>DEADBAND</u>										
ATT										
NORM (deg)	5.00	1.00	5.00	1.00	5.00	5.00	3.00	3.00	2.00	2.00
VERN (deg)	1.000	1.000	1.000	0.070	1.000	1.000	0.500	1.000	1.000	1.000
RATE										
NORM °/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN °/sec	.020	.020	.020	.010	.020	.020	.010	.020	.020	.020
<u>JET OPT</u>										
P	1	1	3	1	1	3	3	1	1	1
Y	1	1	3	3	1	3	3	1	1	1
<u>CONT. ACCEL</u>										
	0	0	0	0	0	0	2	0	0	0

*I-LOADED OPS-2 DAP Configuration

TABLE S-1 (Cont)
DAP B CONFIGURATIONS

	B1*	E2	83	84	85	86	87	88
TRANSLATION								
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.05	0.01	0.02
ROTATION								
DSC RT								
NORM */sec	0.500	0.200	0.200	0.200	0.200	0.500	0.200	0.100
VERN */sec	0.200	0.200	0.200	0.008	0.016	0.200	0.200	0.150
PULSE								
NORM */sec	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
VERN */sec	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
COMP								
NORM */sec	.00	.00	.00	.00	.00	.00	.00	.00
VERN */sec	.000	.000	.000	.000	.000	.000	.000	.000
DEADBAND								
ATT								
NORM (deg)	3.00	3.00	3.00	0.30	3.00	2.00	2.00	3.00
VERN (deg)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000
RATE								
NORM */sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN */sec	.020	.020	.020	.010	.020	.020	.020	.100
JET OPT								
P	1	3	1	1	3	1	1	3
Y	1	3	1	3	3	1	1	3
QNTL ACCEL								
	0	0	0	0	0	0	0	2

*I-LOADED OPS-2 DAP Configuration

TOP
FRONT COVER 'DAP BOOK'

DAP BOOK

HOOK
VELCRO

CAP/51-B/D/BAS

UNITY PIG	
1	Orbiting Vehicle
2	Earth ctr
3	Earth tgt
	Input LAS (± 90)
	LON (± 180 , + = East)
	ALT (-3440 to 20,000 nm)
4	Sun ctr
5	Celestial tgt
	Input RA (0-359.99)
	DEC (± 90)
	11-110 Nav Stars
BODY VECT	1 +X*
	2 -X*
	3 -Z*
	4 PTC (-2' below +X)*
	5 Optional
	Input P (0-359.99)
	Y (270-359.99, 0-90)
* Input OM ->	OM (0-359.99)
MON AXIS	1 +X
	2 -X

CAP/51-B/D/BAS

620 GAP CONFIG	
CTRL ACCEL = 0	Orbiter alone
1	LDEF - not used
2	LDEF Release
JEV OPS = 1	Normal
2	Nose only
3	Tail only

TOP
BACK OF FRONT COVER
'DAP BOOK'

DAP PURPOSE

- A1 - NOMINAL
IMJ ALIGN
LOSS OF VERN
- A2 - PTC
- A3 - RCS HOT FIRE
- A4 - GO
- A5 - IMJ ROTATION
- A6 - LOSS OF VERN
(TAIL ONLY)
- A7 - LDEF RELEASE
- A8 - FRISBEE SEP
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - (STANK)

CAP/S1-B/O/BAS

A1

TOP

DAP A1

A1

PURPOSES

NOMINAL
IMJ ALIGN
LOSS OF VERN
(NOSE & TAIL)

0-1 0 1 TRANSLATION
PULSE

ROTATION
BSC AT NORM
VERN

PULSE NORM
VERN

COMP NORM
VERN

DEADBAND
ATT NORM
VERN

RATE NORM
VERN

12 JET OPS P

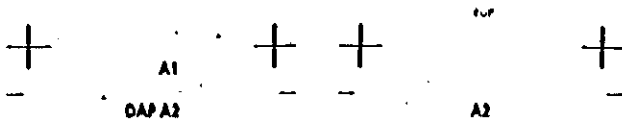
0 04 CNTR ACCEL

CAP/S1-B/O/BAS

CAP/S1-B/O/BAS

A2

TOP



PURPOSE:
PTC

DAP A2

0-1 0 1 TRANSLATION PULSE

0-1 0 2 ROTATION DSC AT NORM

0-1 0 3 VERM VERM

0-1 0 4 PULSE NORM

0-1 0 5 VERM VERM

0-1 0 6 COMP NORM

0-1 0 7 VERM VERM

0-1 0 8 DEADBAND ATT NORM

0-1 0 9 VERM VERM

0-1 0 10 RATE NORM

0-1 0 11 VERM VERM

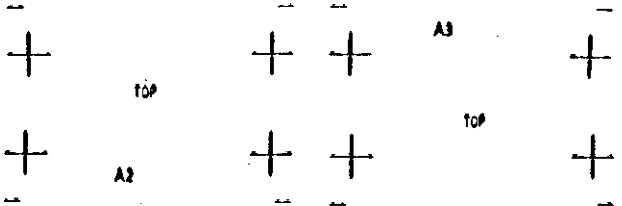
1 12 JET OP? P

1 13 V

0 14 CNTL ACCEL

CAP/SL-B/O/BAS

CAP/SL-B/O/BAS



PURPOSE:
RCS HGT FIRE

DAPA3

0-1 0 1 TRANSLATION PULSE

0-1 0 2 ROTATION DSC AT NORM

0-1 0 3 VERM VERM

0-1 0 4 PULSE NORM

0-1 0 5 VERM VERM

0-1 0 6 COMP NORM

0-1 0 7 VERM VERM

0-1 0 8 JAND A. F. NORM

0-1 0 9 VERM VERM

0-1 0 10 RATE NORM

0-1 0 11 VERM VERM

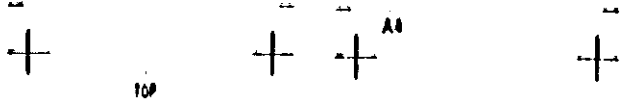
1 12 JET OP? P

1 13 V

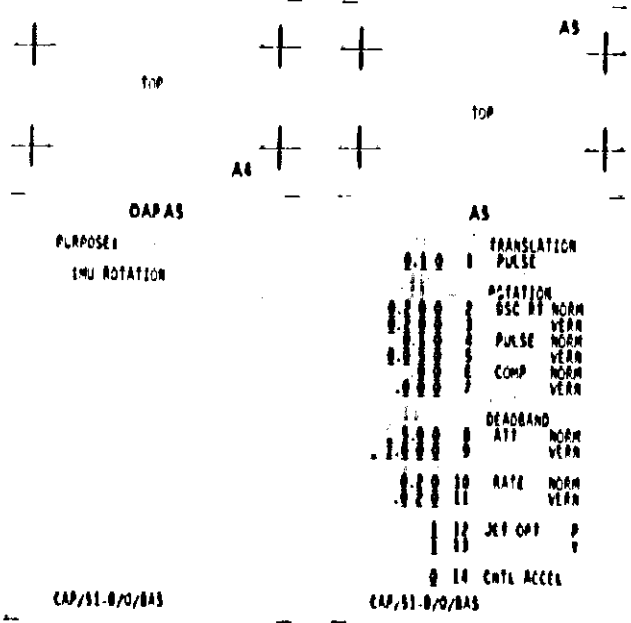
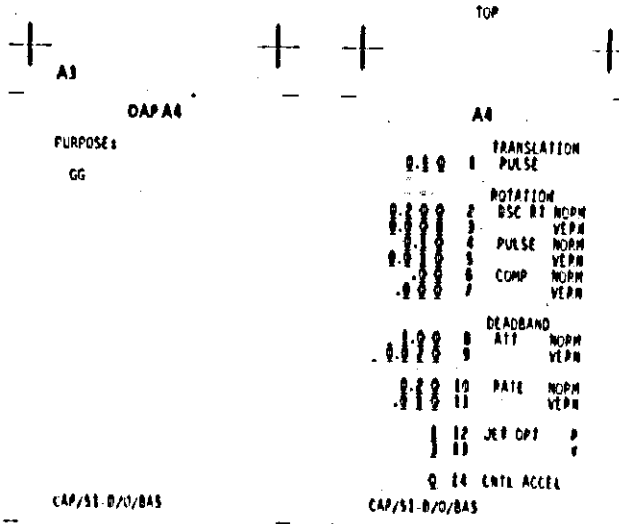
0 14 CNTL ACCEL

CAP/SL-B/O/BAS

CAP/SL-B/O/BAS



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AS

OAP A6

PURPOSE:
LOSS OF YERN
(TAIL ONLY)

CAP/SI-D/O/BAS

TOP

A6

OAP A7

PURPOSE: LDEF RELEASE

CAP/SI-D/O/BAS

TOP

(reduced copy)

A6

0-1 2	1	TRANSLATION PULSE	
0-1 3	2	ROTATION BSC RT	NORM VERN
0-1 4	3		
0-1 5	4	PULSE	NORM VERN
0-1 6	5		
0-1 7	6	COMP	NORM VERN
	7		
	8	DEADBAND ATT	NORM VERN
	9		
0-1 10	10	RATE	NORM VERN
0-1 11	11		
	12	JET OPT	P
	13		V
	14	CNTL ACCEL	

CAP/SI-D/O/BAS

A7

TOP

A7

0-1 1	1	TRANSLATION PULSE	
0-1 2	2	ROTATION BSC RT	NORM VERN
0-1 3	3		
0-1 4	4	PULSE	NORM VERN
0-1 5	5		
0-1 6	6	COMP	NORM VERN
	7		
	8	DEADBAND ATT	NORM VERN
	9		
0-1 10	10	RATE	NORM VERN
	11		
	12	JET OPT	P
	13		V
	14	CNTL ACCEL	

CAP/SI-D/O/BAS

A8

+

A7

OAP A8

PURPOSE:
FRISBEE SEP

CAP/SI-B/O/BAS

+

TOP

+

OAP A9

PURPOSE:
RENDEZVOUS

CAP/SI-B/O/BAS

+

TOP

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TOP

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A8

0-1 0	1	TRANSLATION	
		PULSE	
0-1 0 0	2	ROTATION	
0-1 0 0 0	3	BSC RT	NORM
0-1 0 0 0 0	4	PULSE	VERN
0-1 0 0 0 0 0	5	PULSE	NORM
0-1 0 0 0 0 0 0	6	COMP	VERN
0-1 0 0 0 0 0 0 0	7	COMP	NORM
		VERN	
	8	DEADBAND	
1-1 0 0 0	9	ATT	NORM
			VERN
0-1 0 0	10	RATE	NORM
			VERN
	12	NET OPT	P
	13		V
0	14	CNTRL ACCEL	

CAP/SI-B/O/BAS

+

+

A9

+

TOP

A8

+

+

+

A9

0-1 0	1	TRANSLATION	
		PULSE	
0-1 0 0	2	ROTATION	
0-1 0 0 0	3	BSC RT	NORM
0-1 0 0 0 0	4	PULSE	VERN
0-1 0 0 0 0 0	5	PULSE	NORM
0-1 0 0 0 0 0 0	6	COMP	VERN
0-1 0 0 0 0 0 0 0	7	COMP	NORM
		VERN	
	8	DEADBAND	
1-1 0 0 0	9	ATT	NORM
			VERN
0-1 0 0	10	RATE	NORM
			VERN
	12	NET OPT	P
	13		V
0	14	CNTRL ACCEL	

CAP/SI-B/O/BAS

+

+

A10

+



A9

DAPA10

PURPOSE:
PROX OPS



TOP



A10

0-0-0	1	TRANSLATION	
		PULSE	
0-0-0	2	ROTATION	
0-0-0		BSC RT	NORM
0-0-0	3		VERN
0-0-0	4	PULSE	NORM
0-0-0			VERN
0-0-0	5	COMP	NORM
0-0-0			VERN
1-0-0	8	DEADBAND	
1-0-0		AFT	NORM
1-0-0	9		VERN
0-0-0	10	RATE	NORM
0-0-0			VERN
	12	JET OPS	P
	13		V
	14	CNTL ACCEL	

CAP/SI-B/O/BAS

CAP/SI-B/O/BAS



TOP



A11

TOP



A10

DAPA11

PURPOSE: (Blank)



A11

▲▲▲	1	TRANSLATION	
		PULSE	
▲▲▲	2	ROTATION	
▲▲▲		BSC RT	NORM
▲▲▲	3		VERN
▲▲▲	4	PULSE	NORM
▲▲▲			VERN
▲▲▲	5	COMP	NORM
▲▲▲			VERN
▲▲▲	8	DEADBAND	
▲▲▲		AFT	NORM
▲▲▲	9		VERN
▲▲▲	10	RATE	NORM
▲▲▲			VERN
▲	12	JET OPS	P
▲	13		V
▲	14	CNTL ACCEL	

CAP/SI-B/O/BAS

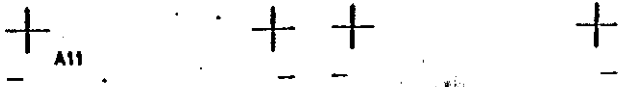
CAP/SI-B/O/BAS



TOP

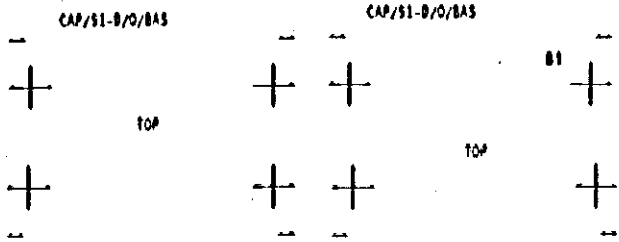


(reduced copy)



A11

- DAP PURPOSE
- R1 - NOMINAL
 PACS IMU ALIGN
 OMS & RCS BURNS
 - R2 - LOSS OF VERN
 (TAIL ONLY)
 - R3 - LOSS OF VERN;
 GG MNYR
 - R4 - PAM DEPLOY
 FRISBEE DEPLOY
 - R5 - COAS CAL
 - R6 - RENDEZVOUS
 - R7 - PROX OPS
 - R8 - L DEP MNYR
 - R9 - (BLANK)



CAP/S1-B/O/BAS

CAP/S1-B/O/BAS

B1

TOP

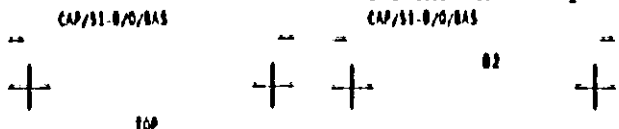
TOP

DAP B1

B1

PURPOSE:
NOMINAL
PACS IMU ALIGN
OMS & RCS BURNS

TRANSLATION			
PULSE	16	0.0	2
ROTATION			
DSC R1	NORM 16	0.0	0
	VERN 17	0.0	0
PULSE	NORM 18	0.0	0
	VERN 19	0.0	0
COMP	NORM 20	0.0	0
	VERN 21	0.0	0
DEADBAND			
A11	NORM 22	1.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.0	0
	VERN 25	0.0	0
JET OPS	P 26		1
	V 27		1
ENTR ACCEL	28		0



CAP/S1-B/O/BAS

CAP/S1-B/O/BAS

B2

TOP

(reduced copy)



B1

OAP B2

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

CAP/51-B/O/BAS



TOP



B2

OAP B3

PURPOSE:
LOSS OF VERN
(NOSE & TAIL)
CG MNVR

CAP/51-B/O/BAS



TOP

(reduced copy)



B1



B2

TRANSLATION			
PULSE	15	0.0	2
ROTATION			
DSC RT	NORM 16	0.0	0
	VERN 17	0.0	0
PULSE	NORM 18	0.0	0
	VERN 19	0.0	0
COMP	NORM 20	0.0	0
	VERN 21	0.0	0
DEADBAND			
ATT	NORM 22	1.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.0	0
	VERN 25	0.0	0
JET OPS	P 26		1
	V 27		1
CNTL ACCEL	28		0
CAP/51-B/O/BAS			

B3



TOP



B3

TRANSLATION			
PULSE	15	0.0	2
ROTATION			
DSC RT	NORM 16	0.0	0
	VERN 17	0.0	0
PULSE	NORM 18	0.0	0
	VERN 19	0.0	0
COMP	NORM 20	0.0	0
	VERN 21	0.0	0
DEADBAND			
ATT	NORM 22	1.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.0	0
	VERN 25	0.0	0
JET OPS	P 26		1
	V 27		1
CNTL ACCEL	28		0
CAP/51-B/O/BAS			

B4



TOP

<p style="text-align: center;">B3</p> <p style="text-align: center;">DAP B4</p> <p>PURPOSE:</p> <p>PAN DEPLOY</p> <p>FRISBEE DEPLOY</p> <p style="text-align: center;">CAP/SI-D/O/BAS</p>	<p style="text-align: center;">B4</p> <p>TRANSLATION PULSE 15 0.0 2</p> <p>ROTATION</p> <p>BSC RT NORM 16 0.0 0 0 0</p> <p>VERN 17 0.0 0 0 0</p> <p>PULSE NORM 18 0.0 0 0 0</p> <p>VERN 19 0.0 0 0 0</p> <p>COMP NORM 20 0.0 0 0 0</p> <p>VERN 21 0.0 0 0 0</p> <p>DEADBAND</p> <p>ATT NORM 22 0.0 0 0</p> <p>VERN 23 0.0 0 0</p> <p>RATE NORM 24 0.0 0 0</p> <p>VERN 25 0.0 0 0</p> <p>JET OPS P 26 1</p> <p>V 27 1</p> <p>CNTL ACCEL 28 0</p> <p style="text-align: center;">CAP/SI-D/O/BAS</p>
---	---

TOP

<p style="text-align: center;">B4</p> <p style="text-align: center;">DAP B5</p> <p>PURPOSE:</p> <p>COIS CAL</p> <p style="text-align: center;">CAP/SI-D/O/BAS</p>	<p style="text-align: center;">B5</p> <p>TRANSLATION PULSE 15 0.0 2</p> <p>ROTATION</p> <p>BSC RT NORM 16 0.0 0 0 0</p> <p>VERN 17 0.0 0 0 0</p> <p>PULSE NORM 18 0.0 0 0 0</p> <p>VERN 19 0.0 0 0 0</p> <p>COMP NORM 20 0.0 0 0 0</p> <p>VERN 21 0.0 0 0 0</p> <p>DEADBAND</p> <p>ATT NORM 22 0.0 0 0</p> <p>VERN 23 0.0 0 0</p> <p>RATE NORM 24 0.0 0 0</p> <p>VERN 25 0.0 0 0</p> <p>JET OPS P 26 1</p> <p>V 27 1</p> <p>CNTL ACCEL 28 0</p> <p style="text-align: center;">CAP/SI-D/O/BAS</p>
---	---

BS

OAP 86

PURPOSE:
RENDEZVOUS

CAP/51-B/O/BAS

TOP

B6

OAP 87

PURPOSE:
PACK OPS

CAP/51-B/O/BAS

TOP

(reduced copy)

B6

TRANSLATION			
PULSE	15	0.3	1
ROTATION			
BSC RT	NORM 16	0.3	0
	VERN 17	0.3	0
PULSE	NORM 18	0.3	0
	VERN 19	0.3	0
COMP	NORM 20	0.3	0
	VERN 21	0.3	0
DEADBAND			
ATT	NORM 22	1.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.3	0
	VERN 25	0.3	0
JET OPT	P 26		1
	V 27		
CNTL ACCEL	28		0
CAP/51-B/O/BAS			

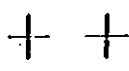
B7

TOP

B7

TRANSLATION			
PULSE	15	0.3	1
ROTATION			
BSC RT	NORM 16	0.3	0
	VERN 17	0.3	0
PULSE	NORM 18	0.3	0
	VERN 19	0.3	0
COMP	NORM 20	0.3	0
	VERN 21	0.3	0
DEADBAND			
ATT	NORM 22	1.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.3	0
	VERN 25	0.3	0
JET OPT	P 26		1
	V 27		
CNTL ACCEL	28		0
CAP/51-B/O/BAS			

B8



DAP 88

88

PURPOSE:
LDEF MNVR

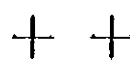
TRANSLATION PULSE	15	0.0 2
ROTATION		
BSC RT NORM	16	0.1
VERN	17	0.1
PULSE NORM	18	0.1
VERN	19	0.1
COMP NORM	20	0.1
VERN	21	0.1

DEADBAND		
ATT NORM	22	1.0
VERN	23	1.0
RATE NORM	24	0.2
VERN	25	0.2

JET OPT P	26	
V	27	

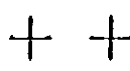
CNTL ACCEL	28	
CAP/SI-B/O/BAS		

CAP/SI-B/O/BAS



TOP

TOP



DAP 89

89

PURPOSE: (BLANK)

TRANSLATION PULSE	15	
ROTATION		
BSC RT NORM	16	
VERN	17	
PULSE NORM	18	
VERN	19	
COMP NORM	20	
VERN	21	

DEADBAND		
ATT NORM	22	
VERN	23	

RATE NORM	24	
VERN	25	

JET OPT P	26	
V	27	

CNTL ACCEL	28	
CAP/SI-B/O/BAS		

CAP/SI-B/O/BAS



TOP

(reduced copy)

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+

89

CAP/SI-B/O/BAS

+

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TOP

TOP
BACK COVER "DAP BOOK"

+

+

HOOK
VELCRO

CAP/SI-B/O/BAS

+

+

(reduced copy)

ATTITUDE
TIMELINE

ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline

REV	MNVR OPTION	SRP	E/S	REMARKS	EVENT	
1 0-01110:00	TRK TGT=2 SV=2(90.00, 0.00) GM=100.00	A1 AUTO NORM	BSC 0.200 SB AT 5.00 SB RT 0.20	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	-ZLV NOSE FWD
2 0-03109:00 16:33	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 125 0 156	STAR FR A1 COAS: 20 LOS - 04:00	IMU ALIGN COAS CAL
3 0-03140:00 52:53	TRK TGT=2 SV=3(90.00, 0.30) GM=100.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	-ZLV NOSE FWD
4 0-05134:00 06:03:59	MNVR R+242.00 P+ 97.00 Y+ 17.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 97 0 296	SV+ 0 fpa	NFC BURN ATT
5 0-06120:00 22:14	TRK TGT=2 SV=3(90.00, 0.00) GM=270.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+ 90	-ZLV NOSE SOUTH
6 0-07145:00 54:52	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 125 0 156	STAR PAIR A1	IMU ALIGN
7 0-08105:50 14:53	MNVR R+116.00 P+354.00 Y+ 9.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 11 0 100	SV+ 10 fpa	NC-S BURN ATT
8 0-08130:00 30:31	TRK TGT=2 SV=3(90.00, 0.00) GM= 90.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+270	-ZLV NOSE NORTH
9 0-10131:00 41:00	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 125 0 156	STAR PAIR A1	IMU ALIGN
10 0-10131:00 19:04:02	TRK TGT=2 SV=3(90.00, 0.00) GM= 0.00	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+100 Y+ 0	-ZLV TAIL FWD
11 1-01120:55	MNVR R+ P+ Y+	A1 AUTO VERN	BSC 0.200 SB AT 1.00 SB RT 0.02	SUN 0 0		SYNCOM DEPLOY ATT
12 1-01151:55 57:44	MNVR R+243.00 P+155.00 Y+ 10.00	A0 AUTO NORM	BSC 0.200 SB AT 1.00 SB RT 0.20	SUN 0 152 0 131	SV+ 15 fpa	SYNCOM SEP ATT

Attitude Timeline

KEY	MNVR OPTION	DAI	BSC	E/S	REMARKS	EVENT
1	1/02:06:55 TRK TGT=2 00:21 BV=3(90.00, 0.00) OM=100.00	A0 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	POST SEP ATT
2	1/02:17:55 TRK TGT=2 32:13 BV=3(252.00,350.00) OM=353.00	A0 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 100 0 190	LVLH R+350 P+ 10 Y+350	SYNCOM WINDOW PROTECT
3	1/02:33:55 STOP	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 09 0 196	INRTL R+340 P+ 05 Y+200	ATT HOLD
4	1/02:45:00 TRK TGT=2 55:40 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+270	-ZLV NOSE NORTH
5	1/05:17:00 MNVR R+200.00 27:03 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 124 0 156	STAR PAIR A1	IMU ALIGN
6	1/05:37:00 TRK TGT=2 49:36 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+270	-ZLV NOSE NORTH
7	1/17:36:00 MNVR R+200.00 45:57 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 124 0 156	STAR PAIR A1	IMU ALIGN
8	1/17:56:00 TRK TGT=2 18:00:20 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+270	-ZLV NOSE NORTH
9	2/03:11:00 MNVR R+200.00 21:50 P+ 0.00 Y+345.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 16 0 153	BV= 10 fps	NC-2 BURN ATT
10	2/03:58:00 MNVR Y+290.00 59:05 P+ 0.00 Y+355.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 11 0 206	BV= 4 fps	NH BURN ATT
11	2/04:23:00 MNVR R+200.00 37:24 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 123 0 155	STAR PAIR A1	IMU ALIGN
12	2/04:43:00 TRK TGT=2 55:23 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 360	LVLH R+ 0 P+100 Y+270	-ZLV NOSE NORTH

Altitude Timeline

REV	MNVR COPYON	MAP	E/Z	REMARKS	EVENT	
1 2/16:42:00 51:43	MNVR R+289.00 P+184.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 123 0 155	STAR PAIR A1	IMU ALIGN
2 2/17:02:00 14:09	TRK TGT=2 BV=3(90.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 360	LVLM R+ 0 P+180 Y+270	-ZLV HOSE NORTH
3 2/18:35:00 46:00	MNVR R+299.00 P+ 0.00 Y+351.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 14 0 190	BV= 137 fps	NSR BURN ATT
4 2/19:00:00	TRK TGT=1 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02			LDEF TRK
5 2/20:30:00	MNVR R+ 20.00 P+120.00 Y+317.00	A9 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 159 0 179	BV= 13 fps	NC3 BURN ATT
6 2/20:55:00	TRK TGT=1 BV=3(90.00, 0.00) OM= 0.00	B6 AUTO NORM	BSC 0.200 BB AT 1.00 BB RT 0.02			LDEF TRK
7 2/22:10:00	MNVR R+335.00 P+304.00 Y+ 44.00	A9 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 64 0 1	BV= 9 fps	TE BURN ATT
8 2/22:30:00	TRK TGT=1 BV=3(90.00, 0.00) OM= 0.00	A9 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02			LDEF TRK
9 3/00:30:00	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A10 AUTO NORM	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLM R+ 0 P+180 Y+ 0	-ZLV TAIL FWD
10 3/00:50:00	FREE DRIFT	B7 MAN VERN	BSC 0.200 BB AT 1.00 BB RT 0.02			LDEF BERTHING
11 3/01:30:00 39:00	TRK TGT=4 BV=2(100.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 180 0 274	ENRTL R+331 P+179 Y+350	-XSI
12 3/02:30:00 43:43	MNVR R+289.00 P+184.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 123 0 155	STAR PAIR A1	IMU ALIGN

Attitude Baseline

REV	MNVR OPTION	ADP	E/G	REMARKS	EVENT	
1 3/03:09:00 04:11:24	TRK TGT=2 BV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	-ZLV NOSE FWD
2 3/16:09:00 16:24	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 122 0 155	STAR FAIR A1	IMU ALIGN
3 3/16:29:00 42:00	TRK TGT=2 BV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	-ZLV NOSE FWD
4 3/17:02:00 36:17	TRK TGT=2 BV=3(100.00, 0.00) OM=135.00	B1 AUTO NORM	BSC 0.500 BB AT 3.00 BB RT 0.20	EARTH 0 100 0 0	LVLH R+225 P+ 90 Y+ 0	AERO CG 01
5 3/17:53:00 57:00	TRK TGT=2 BV=3(270.00, 45.00) OM= 90.00	B1 AUTO NORM	BSC 0.500 BB AT 3.00 BB RT 0.20	EARTH 0 90 0 135	LVLH R+ 0 P+ 45 Y+ 90	AERO CG 02
6 3/18:15:00 27:23	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+100 Y+ 0	-ZLV TAIL FWD
7 3/20:05:00 17:05	MNVR R+296.00 P+ 90.00 Y+ 29.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 90 0 241		CREW CONF
8 3/21:00:00 09:36	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+100 Y+ 0	-ZLV TAIL FWD
9 4/03:06:00 20:27	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 122 0 155	STAR FAIR A1	IMU ALIGN
10 4/03:26:00 39:53	TRK TGT=2 BV=3(90.00, 0.00) OM=100.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	EARTH 0 90 0 0	LVLH R+100 P+ 0 Y+ 0	-ZLV NOSE FWD
11 4/15:37:00 43:59	MNVR R+209.00 P+104.00 Y+ 55.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 121 0 154	STAR FAIR A1	IMU ALIGN
12 4/15:57:00 16:02:39	TRK TGT=4 BV=3(184.00, 0.00) OM= 90.00	A1 AUTO VERN	BSC 0.200 BB AT 1.00 BB RT 0.02	SUN 0 176 0 160	ENRTL R+332 P+175 Y+350	-XSI

Altitude Ties/line

KEY	MNVR OPTION	SRP	E/S	REMARKS	EVENT	
1 4-17:52:20 10:06:00	MNVR R+305.00 P+ 12.00 Y+ 11.00	A1 AUTO VERN	DSC 0.200 30 AT 1.00 30 RT 0.02	SUN 0 16 0 260	-Y: 27 -Z: 36	IMU ALIGN
2 4-18:12:20 14:26	MNVR R+344.00 P+310.00 Y+ 25.00	B1 AUTO NORN	DSC 0.500 30 AT 3.00 30 RT 0.20	SUN 0 31 0 360	-Y: 14 -Z: 26	IMU VERIF
3 4-18:20:20 23:33	MNVR R+ 56.00 P+195.00 Y+ 31.00	* AUTO *	DSC 0.500 30 AT 3.50 30 RT 0.30	SUN 0 142 0 7		SECURITY BURN ATT
4 4-20:52:20	DNS IGNITION	* AUTO *	DSC 0.500 30 AT 3.50 30 RT 0.30			SECURITY BURN

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STS 51-D

Mission Operations Directorate
Operations Division

Basic,
November 7, 1984

<u>EVENT:</u>	<u>CST</u>		
Launch	19:00	Tue	March 19
SYNCOM Deploy	21:11	Wed	March 20
LDEF Retrieval	19:20	Fri	March 22
Crew Press Conf	13:12	Sat	March 23
KSC Landing	16:22	Sun	March 24

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National Aeronautics and
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Lyndon B. Johnson Space Center
Houston, Texas

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STS 51-D CREW ACTIVITY PLAN

BASIC
November 7, 1984

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STS 51-D CREW ACTIVITY PLAN

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INTRODUCTION

The STS 51-D Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, Deorbit Prep, and Entry checklists. The STS 51-D Rendezvous book contains all RMS procedures which are to be conducted during the rendezvous operational timelines. All other RMS procedures are in the PORS OPS Checklist. For continuity, the entire flight is shown in the summary level timeline.

This on-orbit timeline satisfied the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-D Flight Requirements Document.

The flight profile data used for this Crew Activity Plan is for a launch date of March 18, 1985, at 19:33 CST. However, the Flight Definition and Requirements Document and the STS 51-D(23) Flight Requirements Document are currently being changed to reflect a launch date of March 19, 1985, at 19:00 CST. The dates and CST time scale shown on the Summary Timeline pages have been adjusted to reflect this new launch date.

Prior to LDEF retrieval on FD4, all supply (3) and waste (1) water dumps have been scheduled during the crew workday in conjunction with an RMS survey. This includes DTG 0325, Waste and Supply Dump, which will be accomplished during the waste water dump on FD3. Starting on FD4, the Topping Flash Evaporator System will be forced to dispose of supply water to minimize LDEF contamination. A final waste water dump has been scheduled on an as-required basis during cabin stow on FD5.

OVERVIEW

OVERVIEW

FLIGHT		SPS 50-0		EDITION		DMSIC		PUB. DATE		11/20/80	
FD1											
FD2	SLEEP	POST SLEEP ACT									
FD3	SLEEP	POST SLEEP ACT									
FD4	SLEEP	POST SLEEP ACT									
FD5	SLEEP	POST SLEEP ACT									
FD6	SLEEP	POST SLEEP ACT									

SUMMARY
TIMELINE

SUMMARY TIMELINE

SUMMARY
TIMELINE

GMT	(DZMMSS)	MFT	(DZMMSS)	CS?	(DZMMSS)	ED?	DOV	BFTM	NOON	MOON	DATE	FLIGHT	EDITION	PUB. DATE
000000	000000	000000	000000	000000	000000	000000	000000	000000	000000	000000	0000 00, 1900	000 00-0	0000	11/07/84
MFT 0000	0	1	2	3	4	5	6	7	8	9	10	11	12	
SPS														SLEEP
	(OBJECT INSERTION)													PRE SLEEP ACT
	LAUNCH													
PL														
ASPDN														
CS-ORANGE														
TPOB														
NOTES:														

UNIT	POSITION	STATUS	GR	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD		
NAME	GRADE	COMP	OFF	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	
SPT																						
NOTES:																						

COMP	(DINERS)	WPT	(DINERS)	GST	(DINERS)	PDZ	DDT	BFTB	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
									●	MARCH 27, 1985	STS 51-L	0857	11/27/85
STS.													
PL													
NOTES:													

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0200	2	2	2	2	2	2	2	2	2	2
0300	3	3	3	3	3	3	3	3	3	3
0400	4	4	4	4	4	4	4	4	4	4
0500	5	5	5	5	5	5	5	5	5	5
0600	6	6	6	6	6	6	6	6	6	6
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9000	90	90	90	90	90	90	90	90	90	90
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9200	92	92	92	92	92	92	92	92	92	92
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9400	94	94	94	94	94	94	94	94	94	94
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	0000000000 0000000000 0000000000	0000000000 0000000000 0000000000	THE SLEEP ACT						
PL	0000000000 0000000000 0000000000	0000000000 0000000000 0000000000	0000000000 0000000000 0000000000	0000000000 0000000000 0000000000					
GMT	01	02	03	04	05	06	07	08	09
ESTD CONVERSION	0000 0000	0000 0000	0000 0000	0000 0000	0000 0000	0000 0000	0000 0000	0000 0000	0000 0000
GMT	01	02	03	04	05	06	07	08	09
NOTES	© 1980 SPB SECURITY TRAINING CENTER - ALL RIGHTS RESERVED								

DATE	FD (SHEET)	REF (SHEET)	CS (SHEET)	PO/DOY	BFTM	MOON	HOUSTON GATE	FLIGHT	EDITION	PUB. DATE
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	OF 100 5700		PRE 5117 417							
PL		PRE 5700								
6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0		
6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0		
CONVERGE										
6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0		
NOTES:										

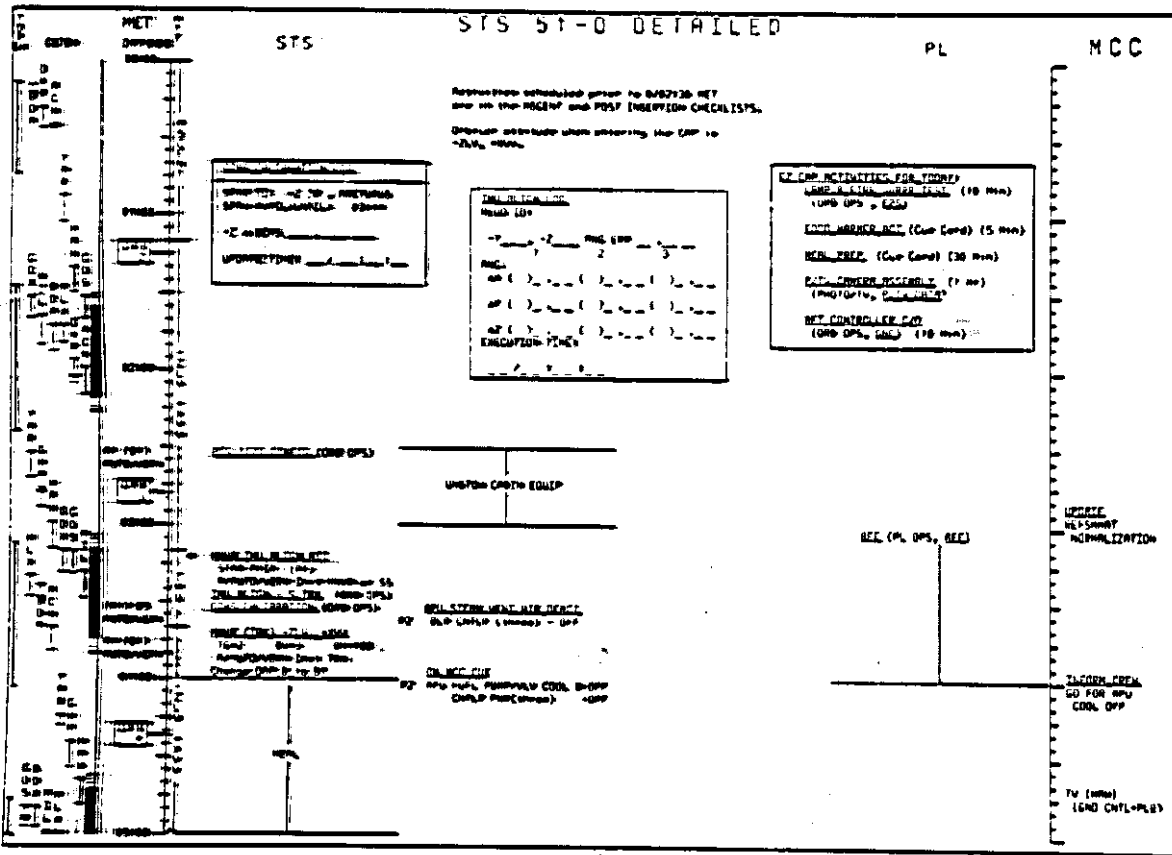
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SFS	NAMP			0000				0000				
									DECEMBER			
										ASC		
PL												
ACPD												
COVER												
FOOS												
NOTES	12-27-68 12-28-68 12-29-68 12-30-68 12-31-68 1-1-69 1-2-69 1-3-69 1-4-69 1-5-69 1-6-69 1-7-69 1-8-69 1-9-69 1-10-69 1-11-69 1-12-69 1-13-69 1-14-69 1-15-69 1-16-69 1-17-69 1-18-69 1-19-69 1-20-69 1-21-69 1-22-69 1-23-69 1-24-69 1-25-69 1-26-69 1-27-69 1-28-69 1-29-69 1-30-69 1-31-69 2-1-69 2-2-69 2-3-69 2-4-69 2-5-69 2-6-69 2-7-69 2-8-69 2-9-69 2-10-69 2-11-69 2-12-69 2-13-69 2-14-69 2-15-69 2-16-69 2-17-69 2-18-69 2-19-69 2-20-69 2-21-69 2-22-69 2-23-69 2-24-69 2-25-69 2-26-69 2-27-69 2-28-69 2-29-69 2-30-69 3-1-69 3-2-69 3-3-69 3-4-69 3-5-69 3-6-69 3-7-69 3-8-69 3-9-69 3-10-69 3-11-69 3-12-69 3-13-69 3-14-69 3-15-69 3-16-69 3-17-69 3-18-69 3-19-69 3-20-69 3-21-69 3-22-69 3-23-69 3-24-69 3-25-69 3-26-69 3-27-69 3-28-69 3-29-69 3-30-69 3-31-69 4-1-69 4-2-69 4-3-69 4-4-69 4-5-69 4-6-69 4-7-69 4-8-69 4-9-69 4-10-69 4-11-69 4-12-69 4-13-69 4-14-69 4-15-69 4-16-69 4-17-69 4-18-69 4-19-69 4-20-69 4-21-69 4-22-69 4-23-69 4-24-69 4-25-69 4-26-69 4-27-69 4-28-69 4-29-69 4-30-69 5-1-69 5-2-69 5-3-69 5-4-69 5-5-69 5-6-69 5-7-69 5-8-69 5-9-69 5-10-69 5-11-69 5-12-69 5-13-69 5-14-69 5-15-69 5-16-69 5-17-69 5-18-69 5-19-69 5-20-69 5-21-69 5-22-69 5-23-69 5-24-69 5-25-69 5-26-69 5-27-69 5-28-69 5-29-69 5-30-69 5-31-69 6-1-69 6-2-69 6-3-69 6-4-69 6-5-69 6-6-69 6-7-69 6-8-69 6-9-69 6-10-69 6-11-69 6-12-69 6-13-69 6-14-69 6-15-69 6-16-69 6-17-69 6-18-69 6-19-69 6-20-69 6-21-69 6-22-69 6-23-69 6-24-69 6-25-69 6-26-69 6-27-69 6-28-69 6-29-69 6-30-69 7-1-69 7-2-69 7-3-69 7-4-69 7-5-69 7-6-69 7-7-69 7-8-69 7-9-69 7-10-69 7-11-69 7-12-69 7-13-69 7-14-69 7-15-69 7-16-69 7-17-69 7-18-69 7-19-69 7-20-69 7-21-69 7-22-69 7-23-69 7-24-69 7-25-69 7-26-69 7-27-69 7-28-69 7-29-69 7-30-69 7-31-69 8-1-69 8-2-69 8-3-69 8-4-69 8-5-69 8-6-69 8-7-69 8-8-69 8-9-69 8-10-69 8-11-69 8-12-69 8-13-69 8-14-69 8-15-69 8-16-69 8-17-69 8-18-69 8-19-69 8-20-69 8-21-69 8-22-69 8-23-69 8-24-69 8-25-69 8-26-69 8-27-69 8-28-69 8-29-69 8-30-69 8-31-69 9-1-69 9-2-69 9-3-69 9-4-69 9-5-69 9-6-69 9-7-69 9-8-69 9-9-69 9-10-69 9-11-69 9-12-69 9-13-69 9-14-69 9-15-69 9-16-69 9-17-69 9-18-69 9-19-69 9-20-69 9-21-69 9-22-69 9-23-69 9-24-69 9-25-69 9-26-69 9-27-69 9-28-69 9-29-69 9-30-69 9-30-69 10-1-69 10-2-69 10-3-69 10-4-69 10-5-69 10-6-69 10-7-69 10-8-69 10-9-69 10-10-69 10-11-69 10-12-69 10-13-69 10-14-69 10-15-69 10-16-69 10-17-69 10-18-69 10-19-69 10-20-69 10-21-69 10-22-69 10-23-69 10-24-69 10-25-69 10-26-69 10-27-69 10-28-69 10-29-69 10-30-69 10-31-69 11-1-69 11-2-69 11-3-69 11-4-69 11-5-69 11-6-69 11-7-69 11-8-69 11-9-69 11-10-69 11-11-69 11-12-69 11-13-69 11-14-69 11-15-69 11-16-69 11-17-69 11-18-69 11-19-69 11-20-69 11-21-69 11-22-69 11-23-69 11-24-69 11-25-69 11-26-69 11-27-69 11-28-69 11-29-69 11-30-69 12-1-69 12-2-69 12-3-69 12-4-69 12-5-69 12-6-69 12-7-69 12-8-69 12-9-69 12-10-69 12-11-69 12-12-69 12-13-69 12-14-69 12-15-69 12-16-69 12-17-69 12-18-69 12-19-69 12-20-69 12-21-69 12-22-69 12-23-69 12-24-69 12-25-69 12-26-69 12-27-69 12-28-69 12-29-69 12-30-69 12-31-69											

DETAILED TIMELINE

DETAILED
TIMELINE

DETAILED
TIMELINE

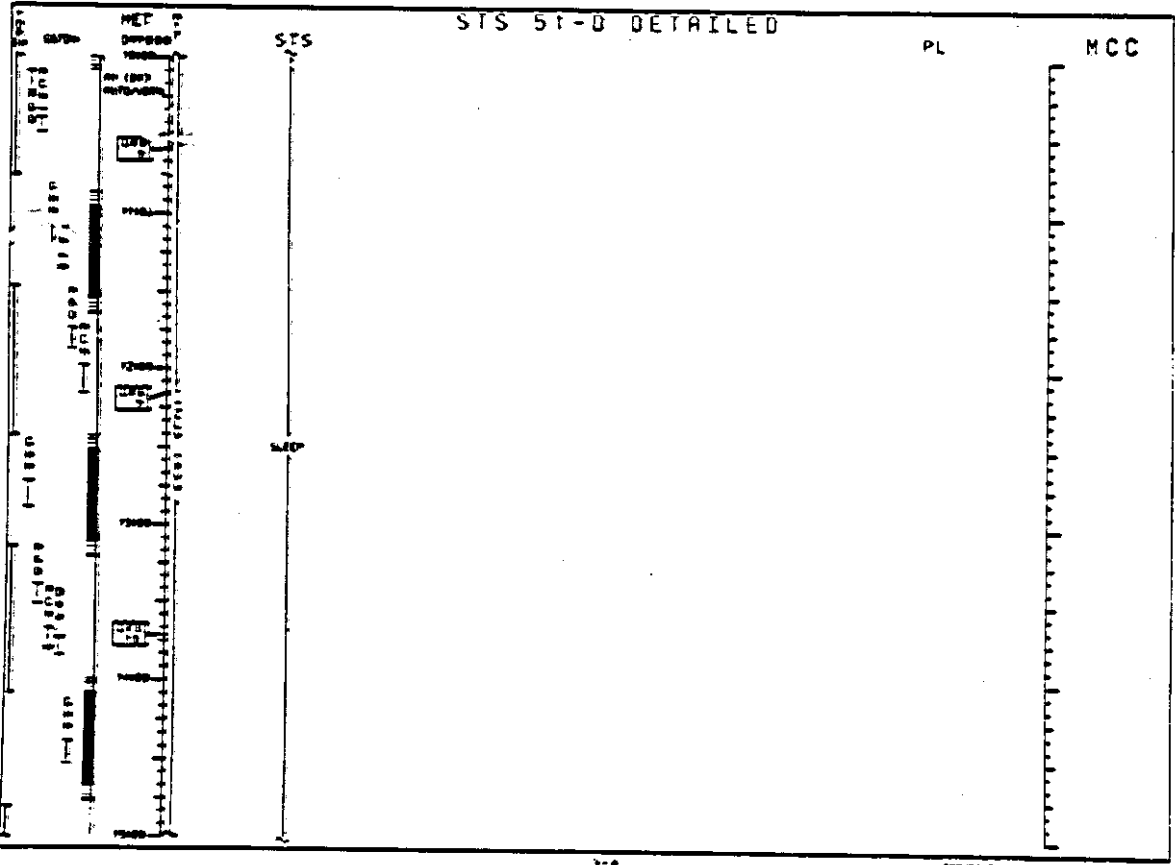
STS 51-0 DETAILED



STS 51-D DETAILED

PL

MCC

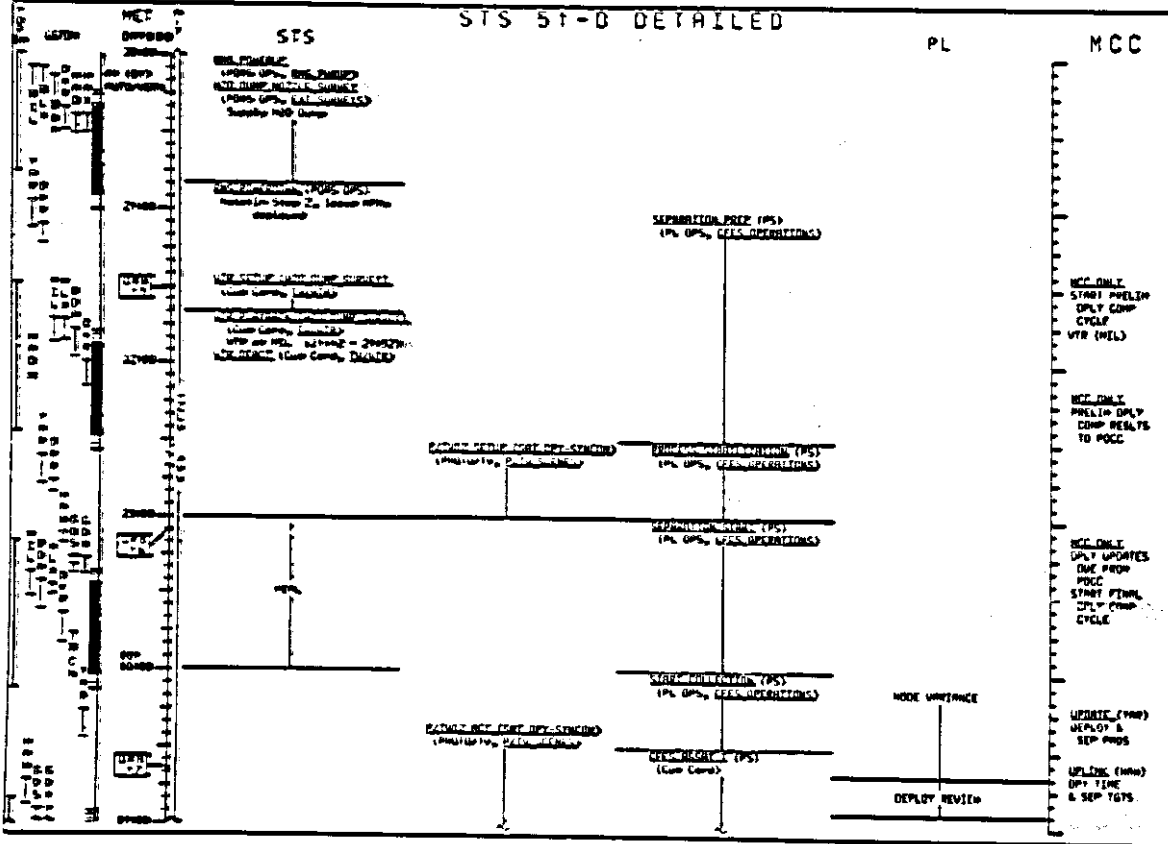


STS 51-G DETAILED

STS

PL

MCC



STS 51-D DETAILED

STS

PL

MCC

PLANNING, PRE-DEPLOY, DEPLOY, STATION
(PLANNING, PRE-DEPLOY, DEPLOY, STATION)

OPS ASSUMES (PLS)
(Low Level)

PRELIM CHECKOUT AND DEPLOY
(LUNCH OPS) (Low Level)

TV (MEL)
(GND CHTL+PLB)

- PIVOT & REEL PIN RETRACTION

MCC ONLY
START AND
OPLY COMP
CYCLE

- WARP TO DEPLOY HTY
- PUSH OFF PIN RETRACTION
STATUS CHECK
- DEPLOY (01/02/22)

TV (MEL)
(GND CHTL+PLB)

- SEP BURP (01/02/27)
- OPS PUMP
- WARP TO H/NOON PROF HTY

- PREP FORS NEW VTCN
- WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

PREP FORS NEW VTCN
WARP TO H/NOON

MEL/DIE (ACH)
NO CHTL
PWR = ON

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

Change DEP 0.8 to HTY
01/02/22
01/02/22
01/02/22

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

OPS STATUS REPORT (Gnd)

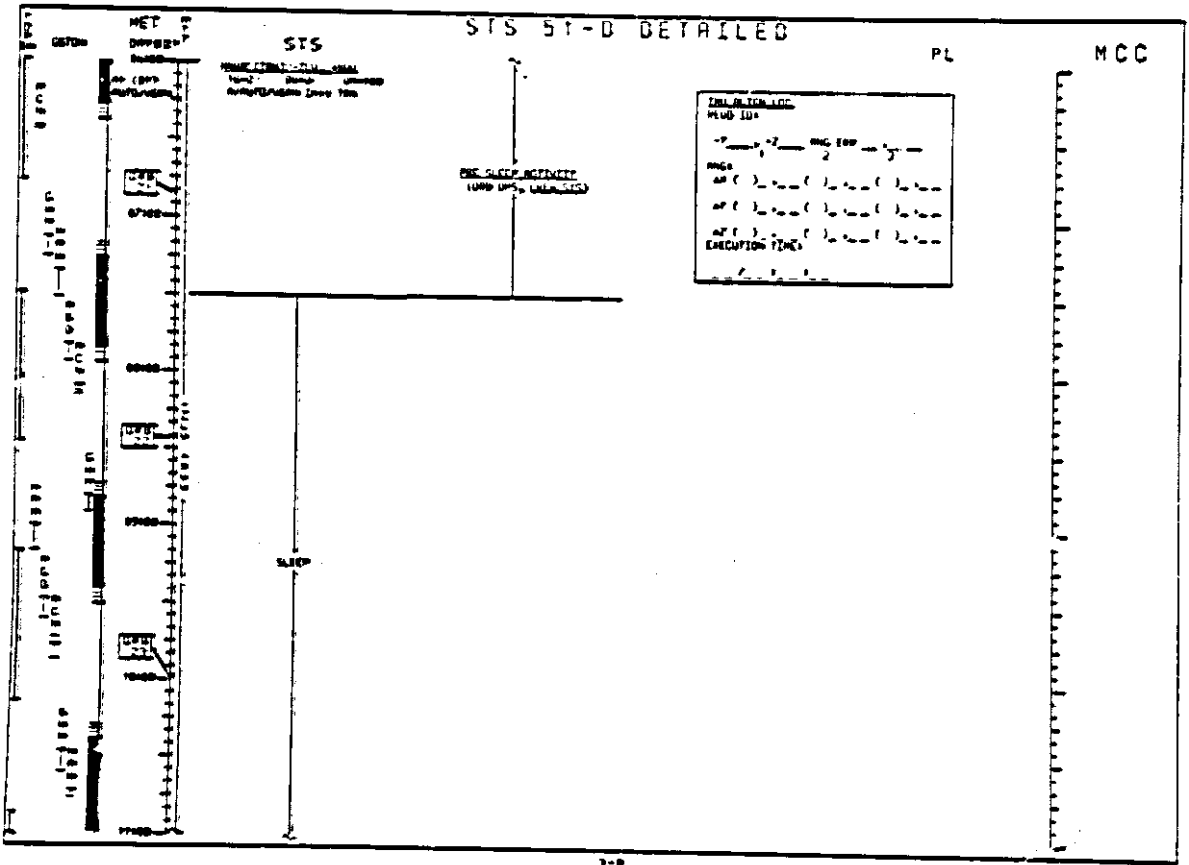
UPDATE
OPS REOR SETUP
FOR CPIS RPT

TV (MEL)

TV (MEL)

TV (MEL)

2.



NET
BUS 1
BUS 2
BUS 3
BUS 4

SPS 51-B DETAILED

PL

MCC

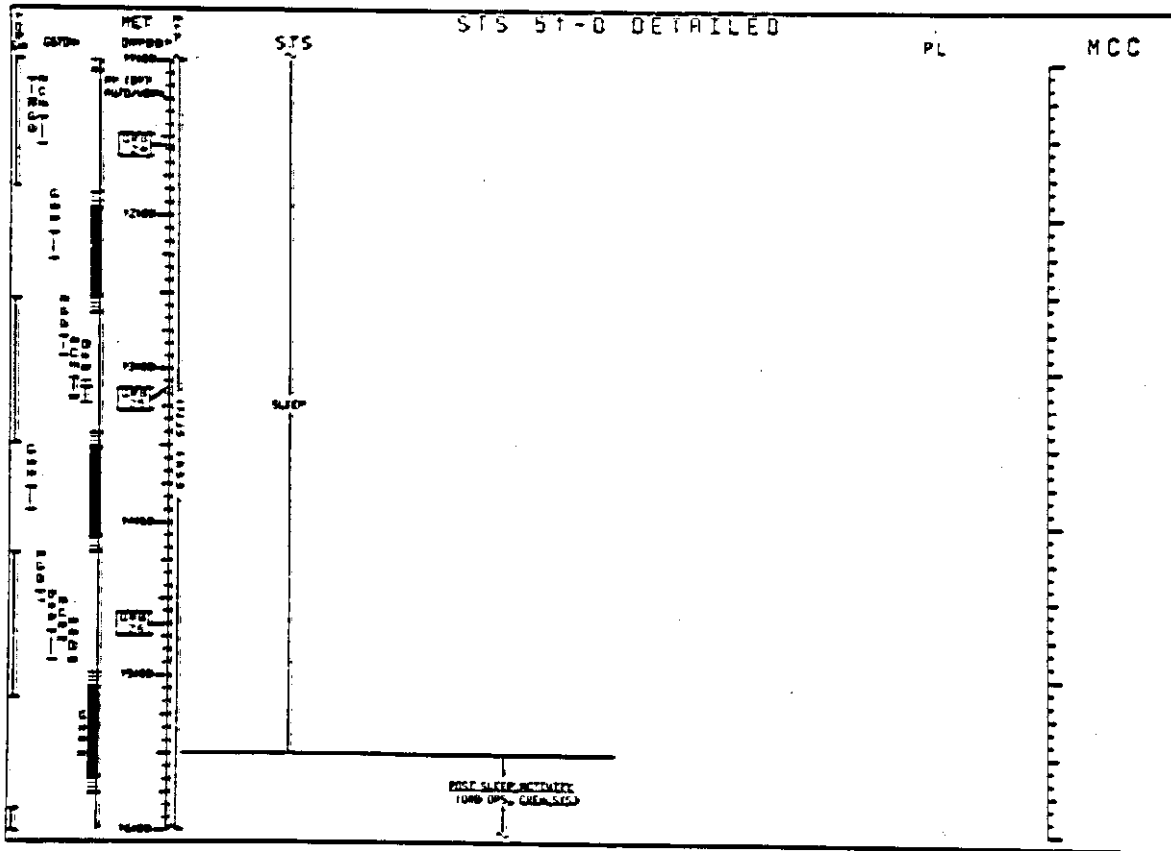
MCC 1		MCC 2		MCC 3		MCC 4	
AP	()	()	()	()	()	()	()
AP	()	()	()	()	()	()	()
AP	()	()	()	()	()	()	()
EXECUTION TIME	()	()	()	()	()	()	()

2.

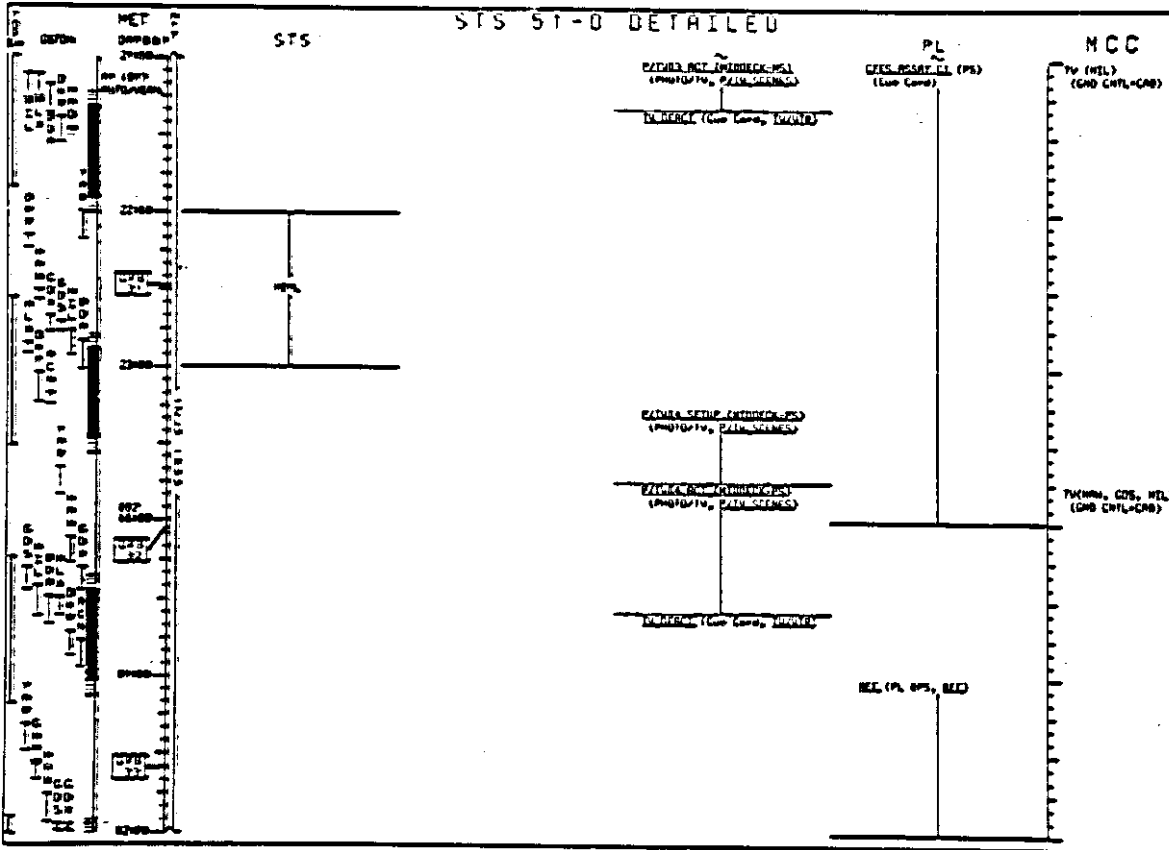
STS 51-D DETAILED

PL

MCC



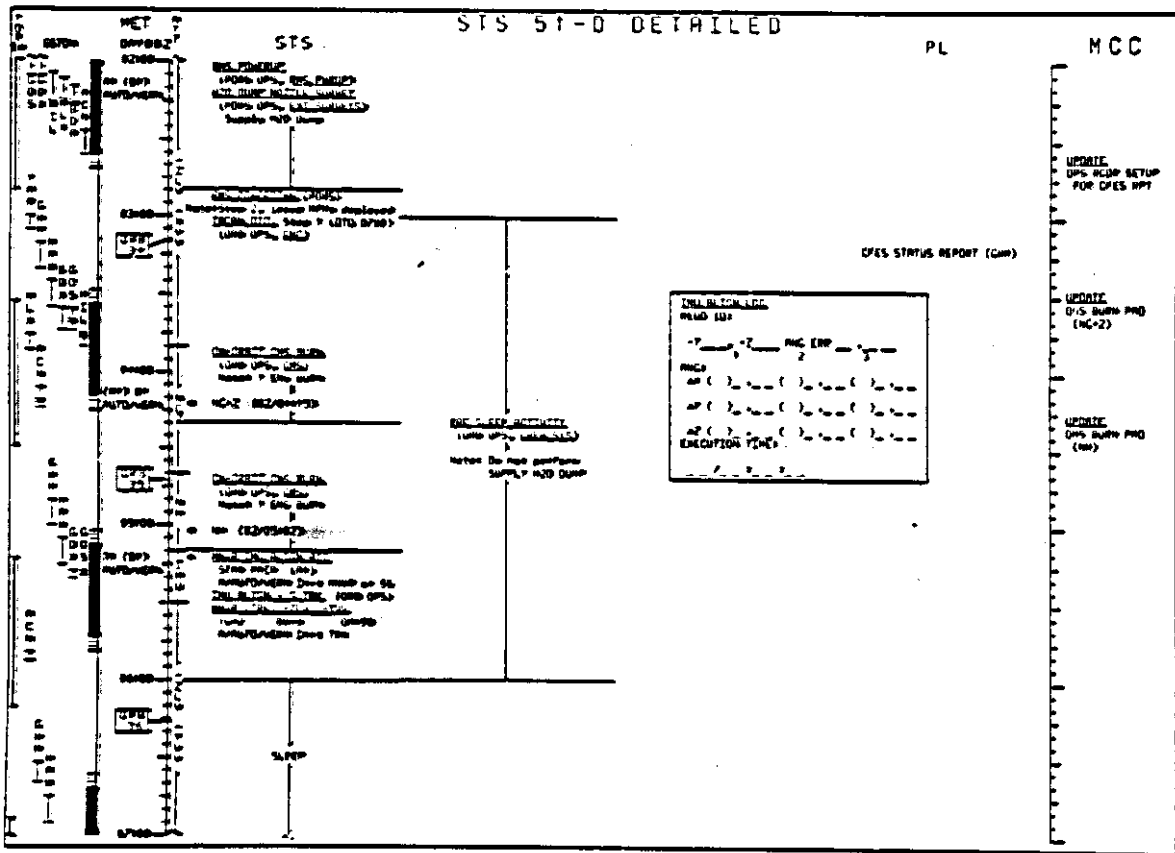
STS 51-D DETAILED



STS 51-D DETAILED

PL

MCC

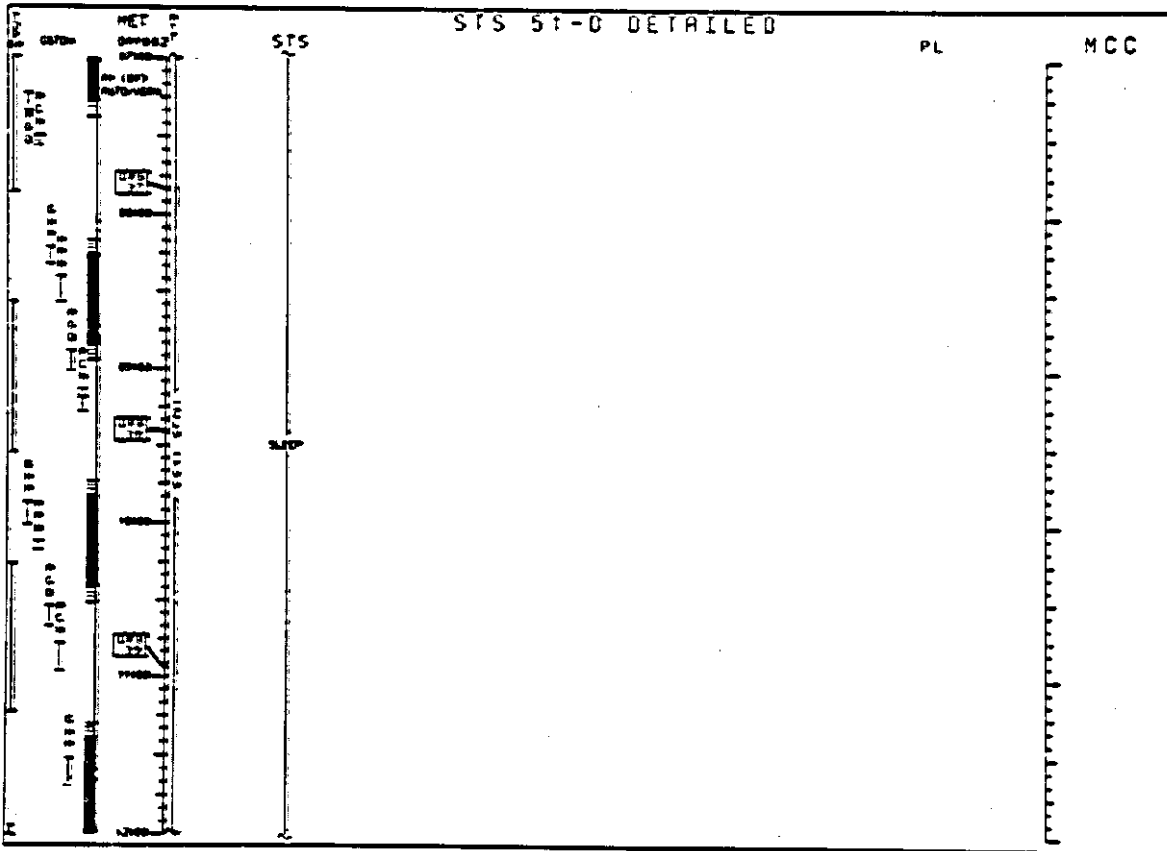


SFS 51-0 DETAILED

PL

MCC

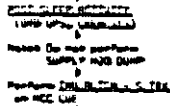
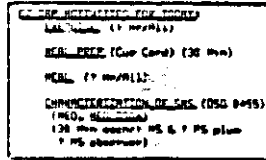
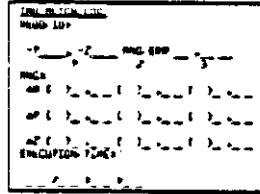
SFS



STS 51-D DETAILED

PL

MCC



MEALS
AND
ENCLINATION
TIMES

STS 51-D DETAILED

STS

PL

MCC

CEES-05507-E2 (PS)
(Last Copy)

UP-TIME
TGT SV AND
CON MATRIX

UPDATE
NO. MCC, YI
BURN PROS

UPDATE
FINAL YI BURN PRO

CONTRACTOR INC. (2 Cops)
(Last Copy)

NOVEMBER
AND 1977
EQUALS
NET 24/20/75
(NO-3 BURN)

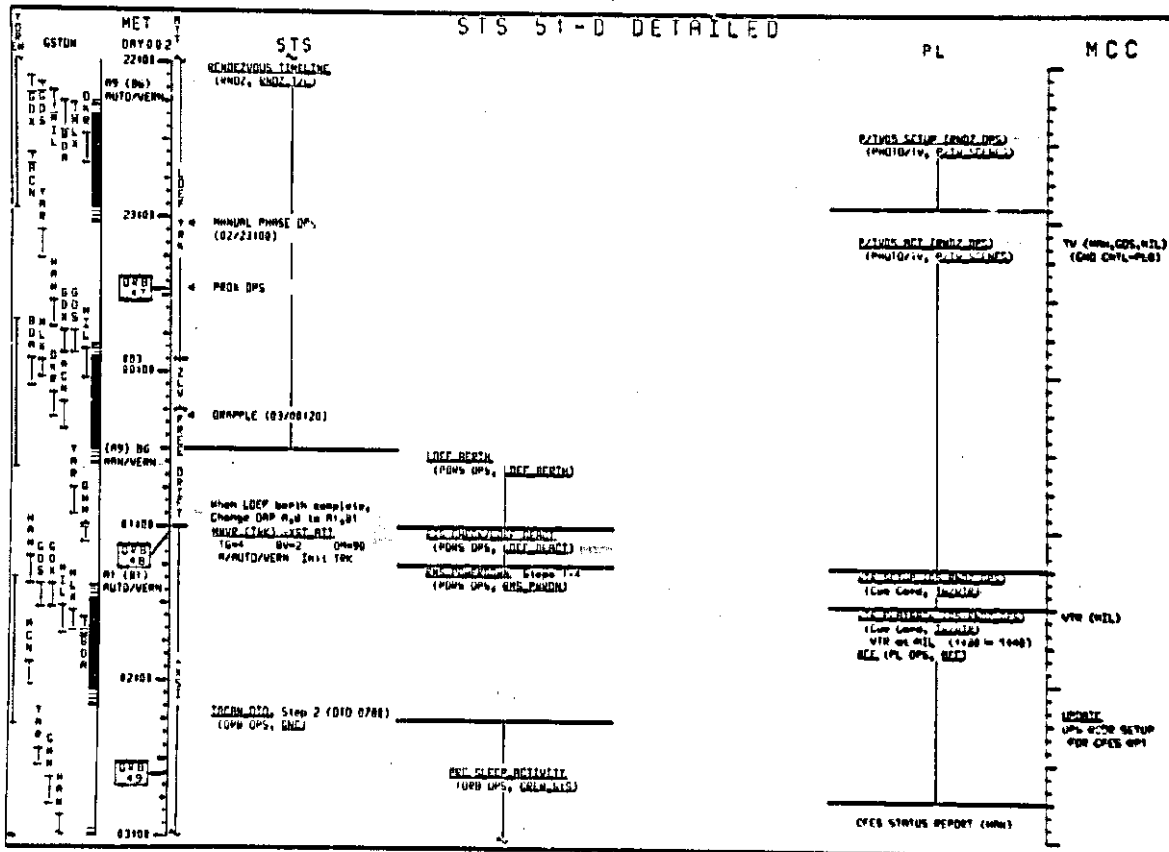
SEP (82/75/95)

NO-3 (82/20/75)

MCC (82/20/75)

YI (82/21/95)

STS 51-D DETAILED



STS 51-D DETAILED

STS

PL

MCC

MET

DAY 002

03100

AI (01)
AUTO/VERN

04100

05100

06100

07100

08100

PRE SLEEP ACTIVITY
(END OPS, CHECKS)

Note: Do not perform
SUPPLY H2O DUMP

WAKE 2ND ALIGN A11

STAR PW[2] (A1)

W/AUTO/VERN Int(WAMP at 05

SHU, BLCS - S, XEL (END OPS)

WAKE (YRK) - S, XEL

1G=2 B=2 D=100

W/AUTO/VERN Int Tok

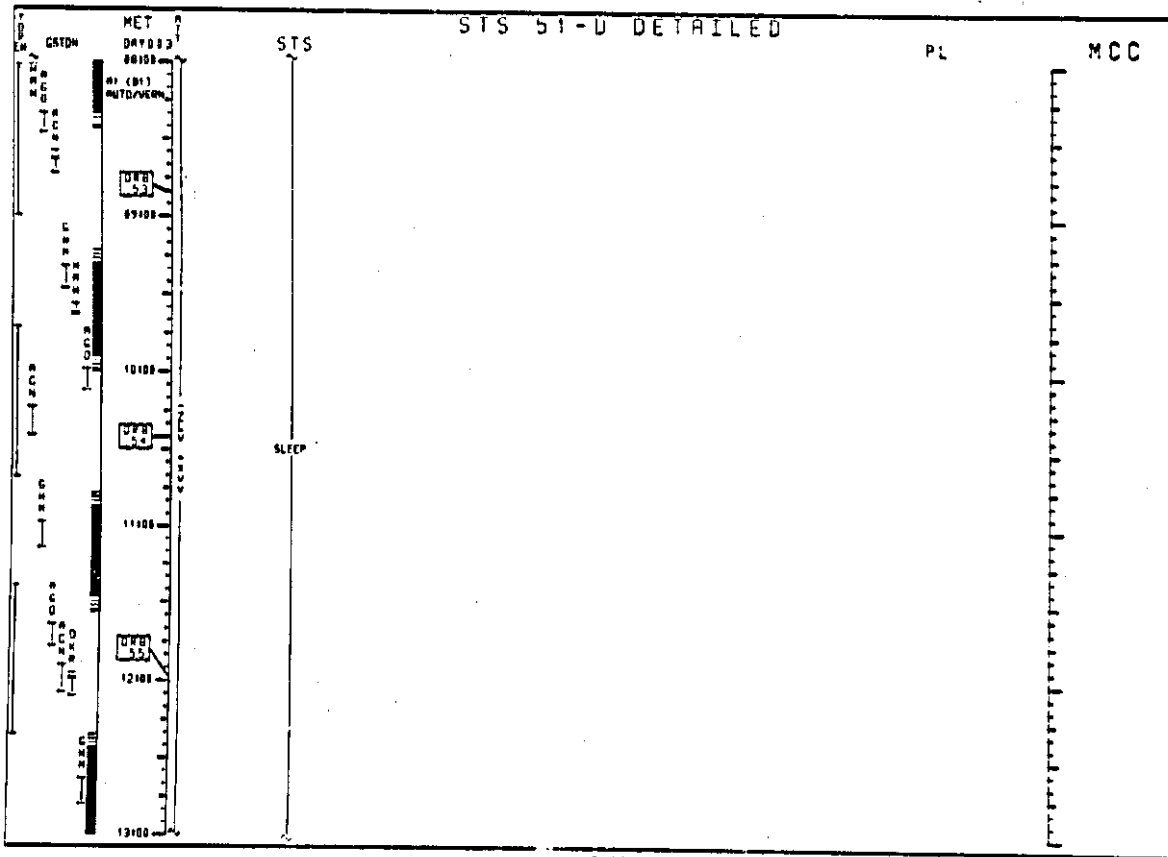
CPU ALIGN LOG	
MENU ID:	
01	02
ANG	EDD
AN ()	()
AT ()	()
AZ ()	()
EXECUTION TIME	

SLEEP

STS 51-D DETAILED

PL

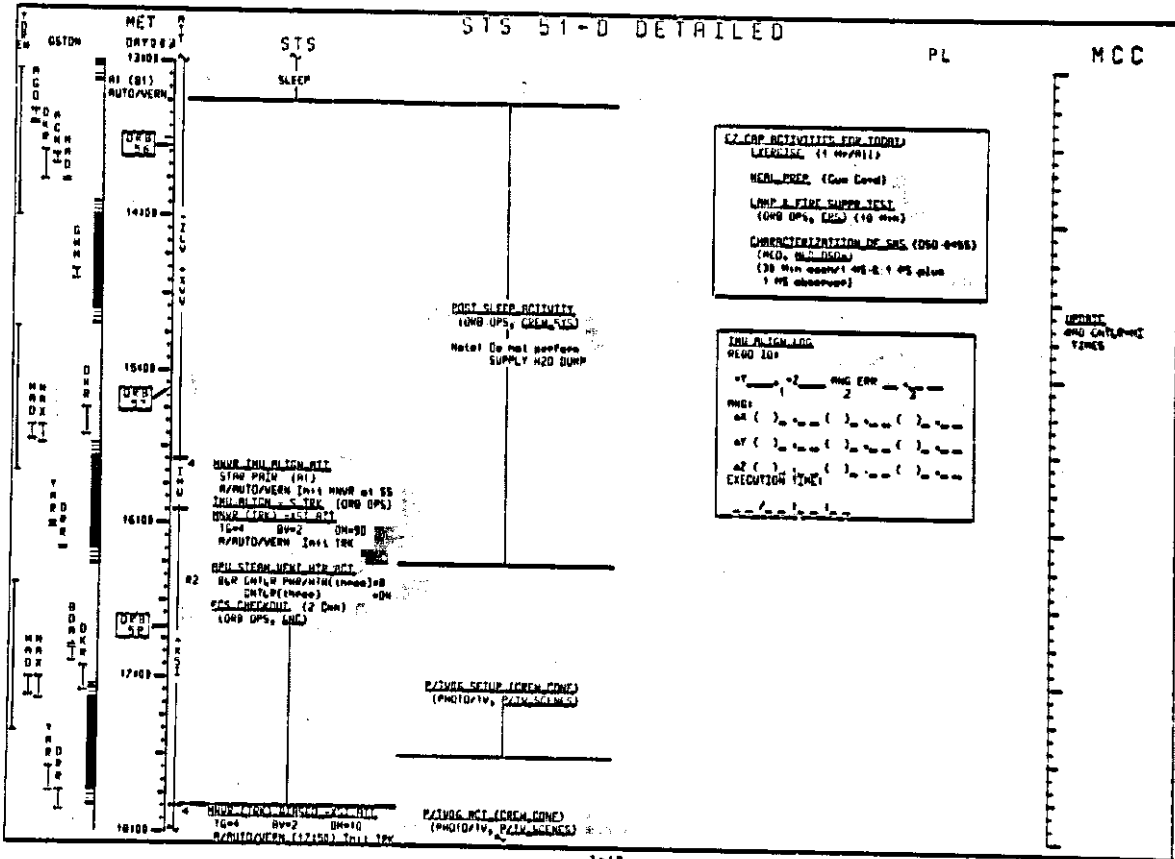
MCC

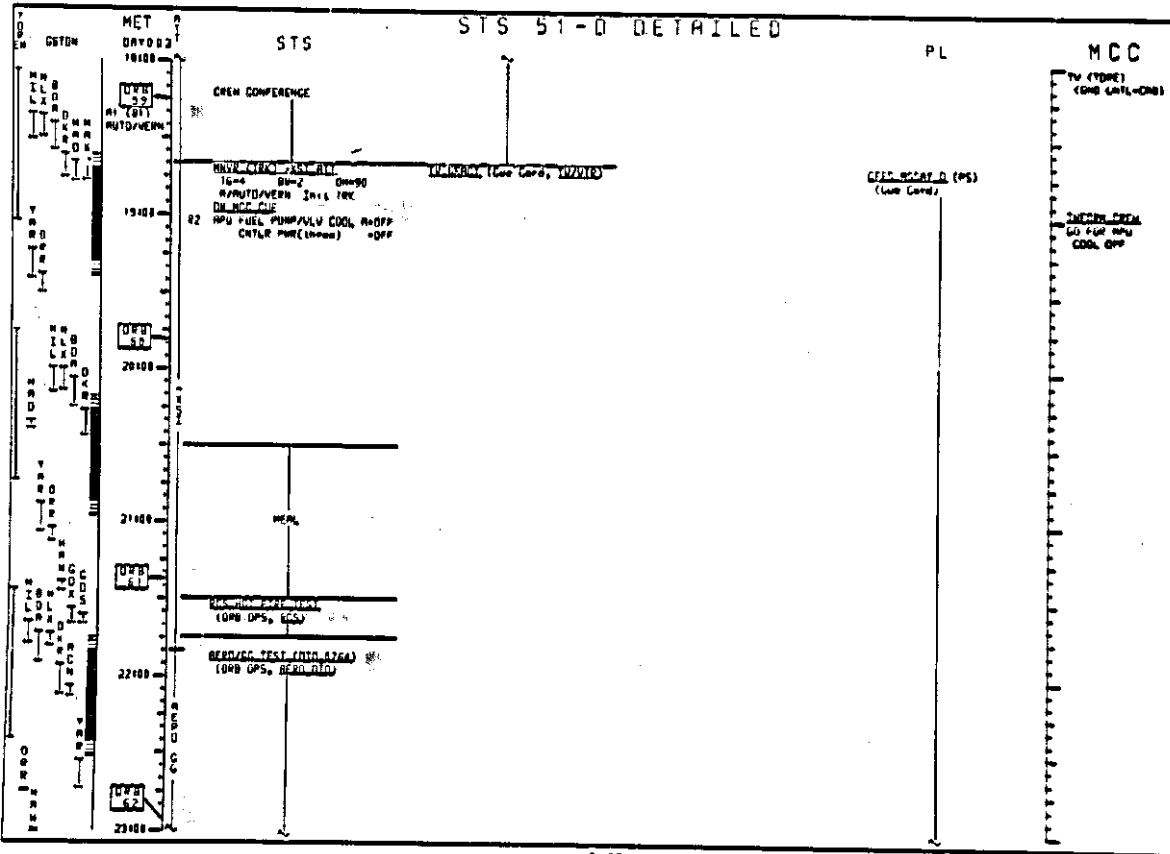


STS 51-D DETAILED

PL

MCC

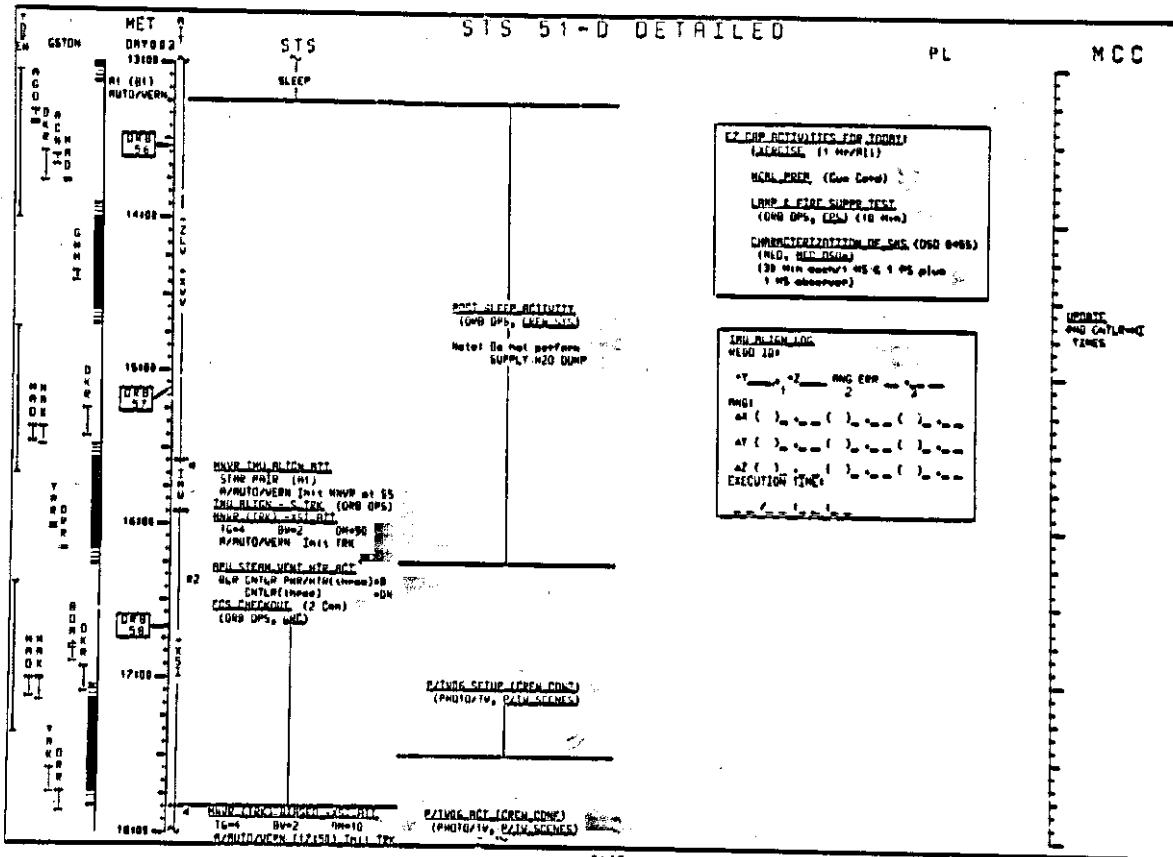


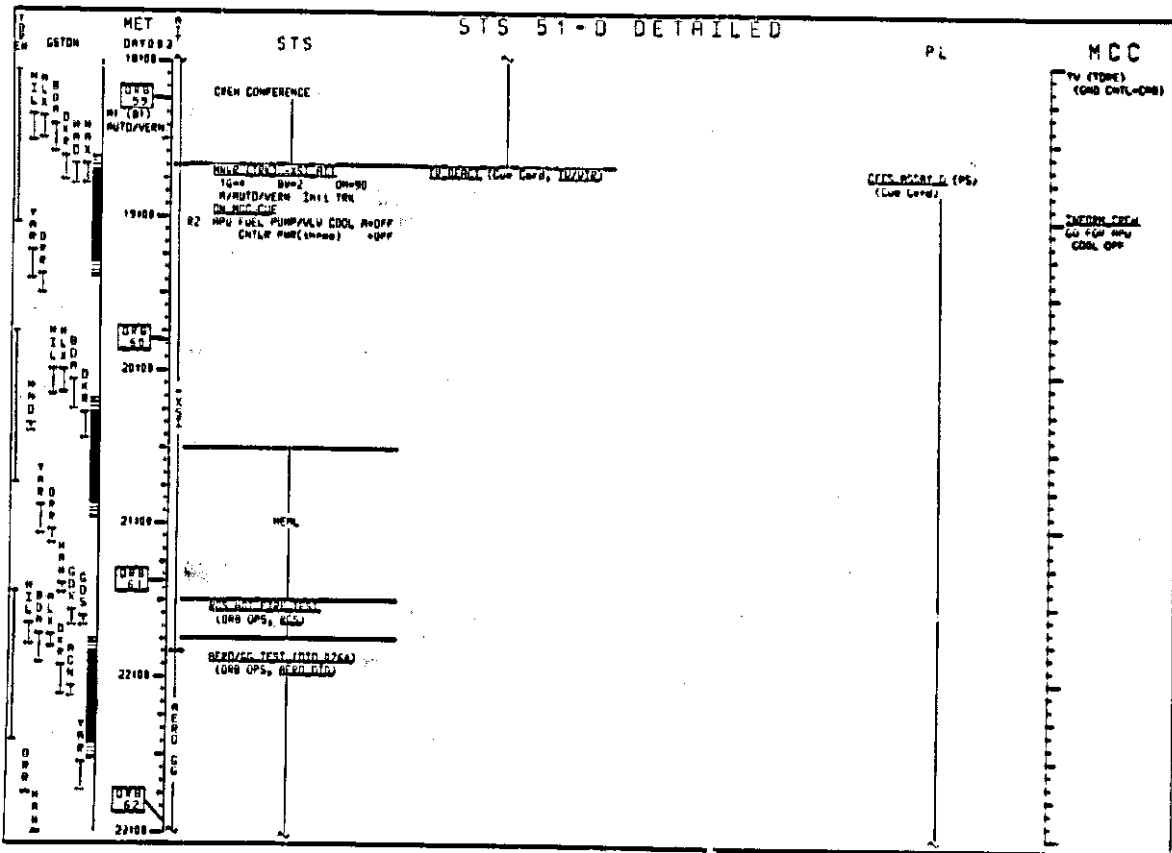


SIS 51-D DETAILED

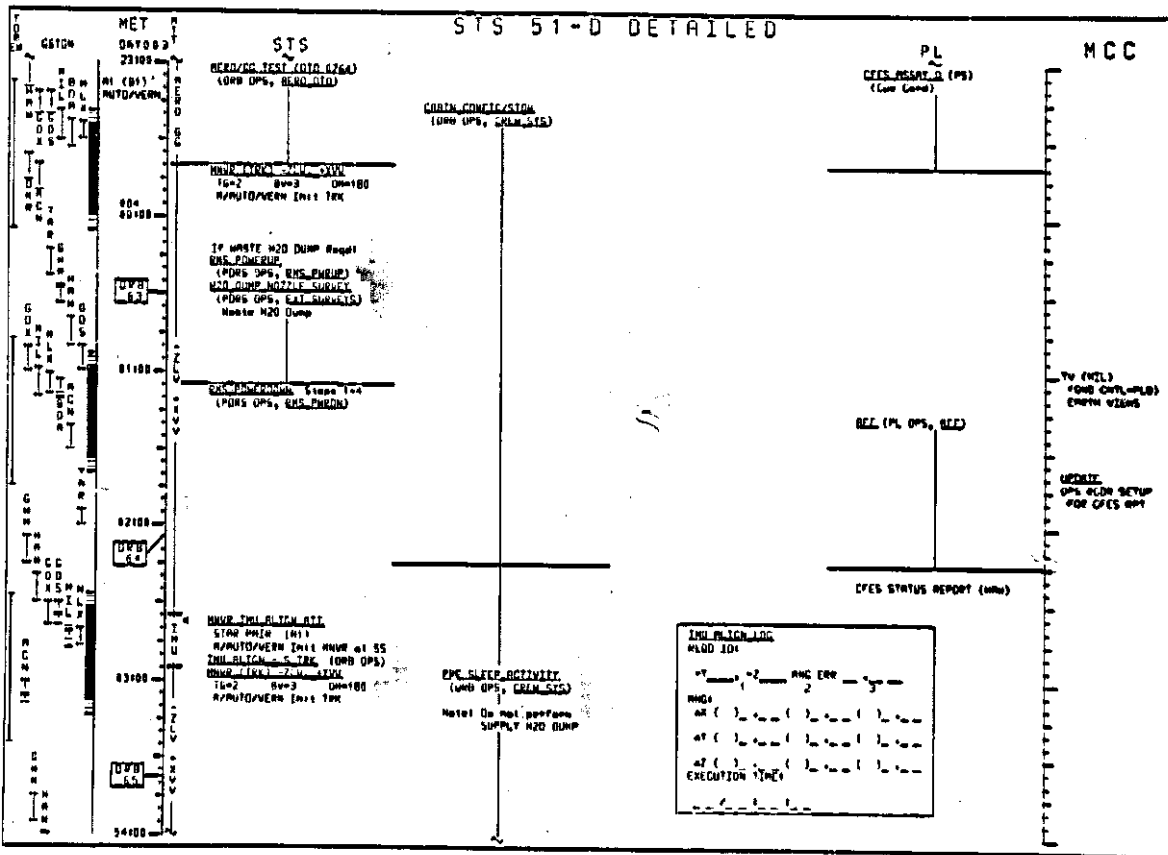
PL

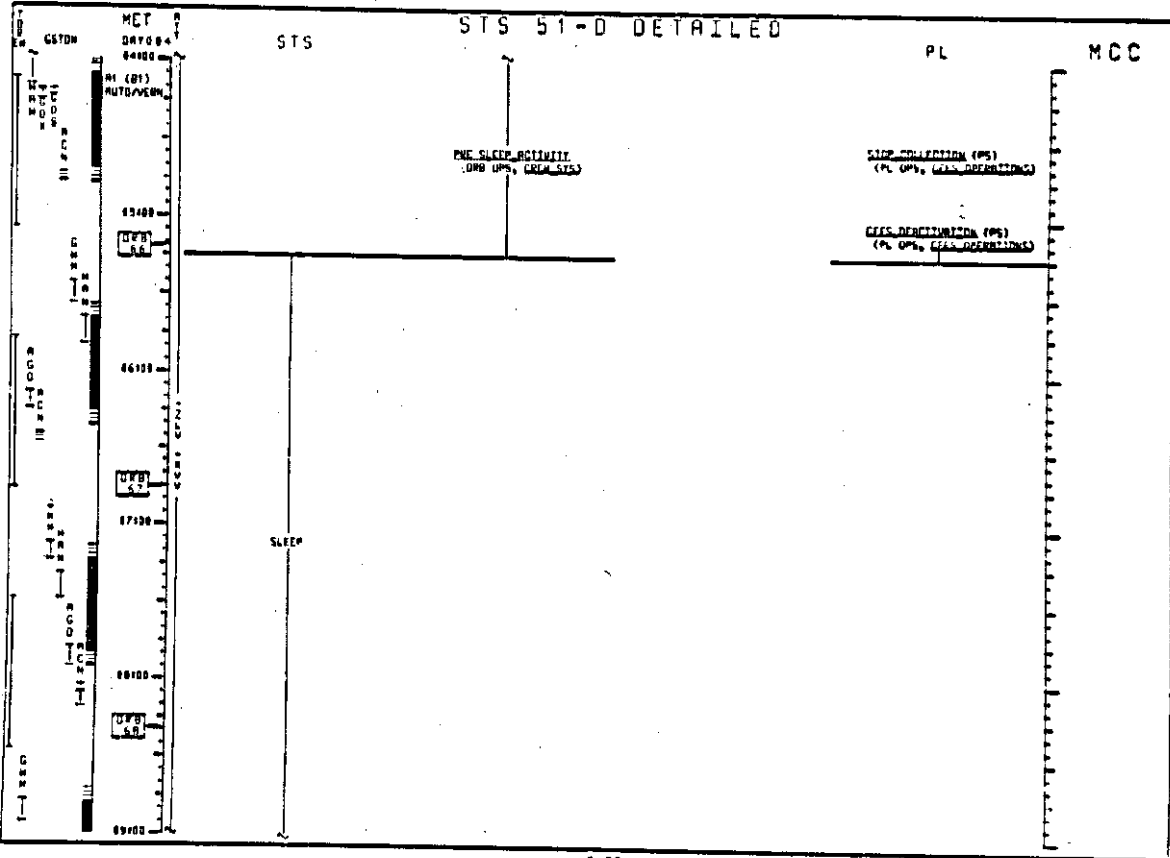
MCC





STS 51-D DETAILED

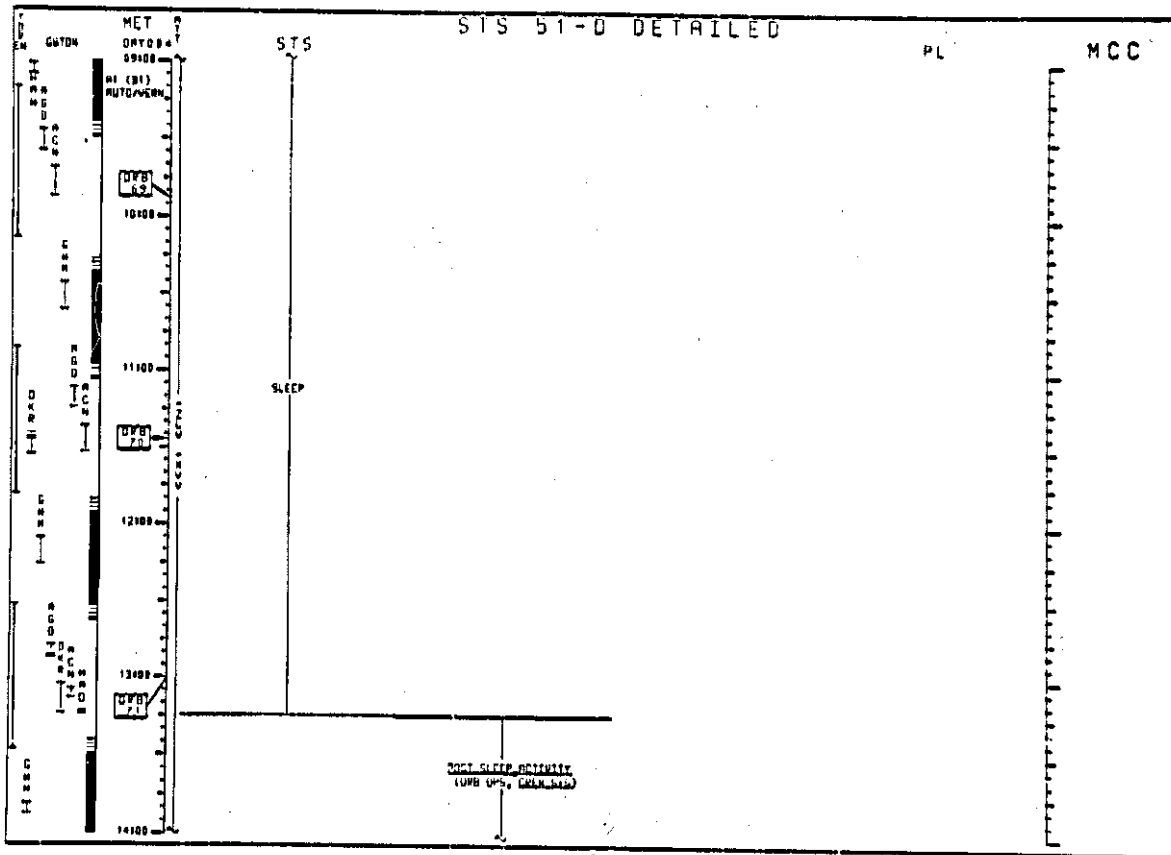


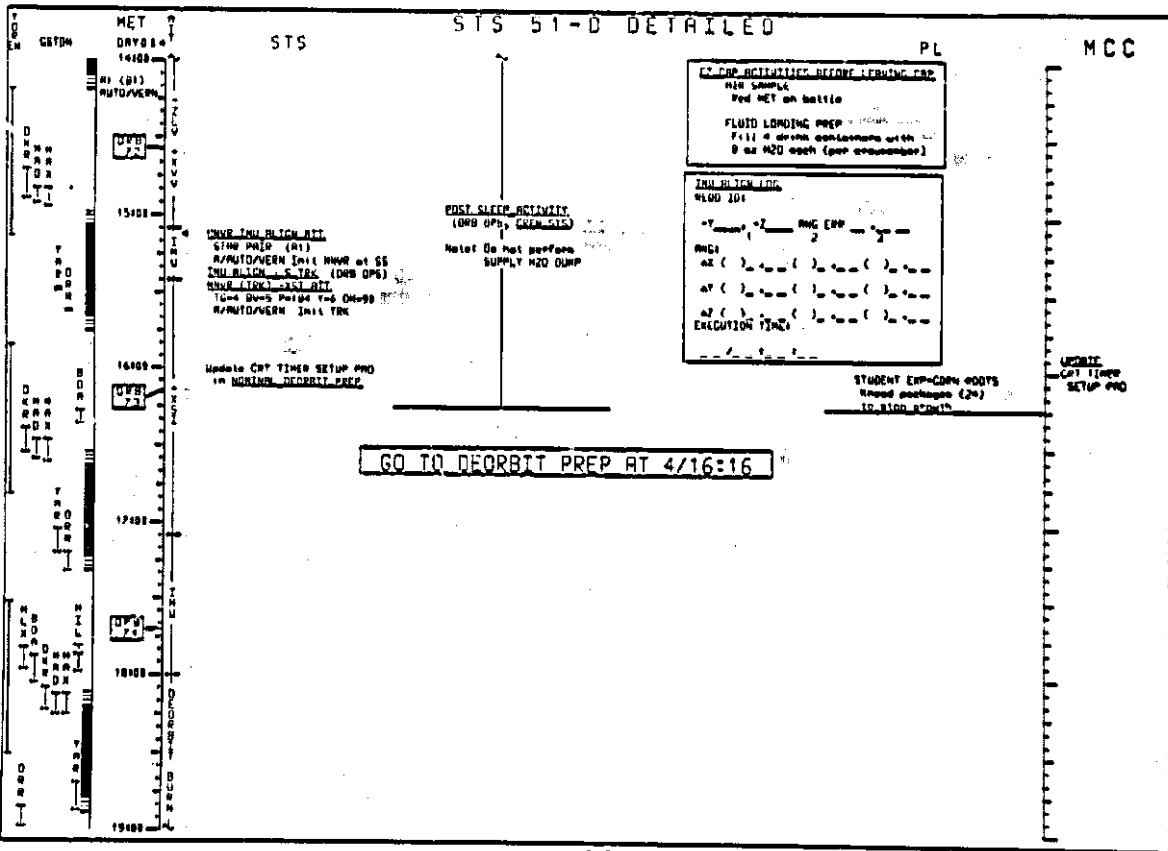


STS 51-D DETAILED

PL

MCC





CONSUMABLES CURVES
(TBS)

CONSUMABLES
CURVES

DAP BOOK

DAP BOOK

TABLE 5-1
DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A8	A9	A10	
TRANSLATION											
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.05	
ROTATION											
DSC RT	NORM %/sec VERN %/sec	0.200 0.200	0.400 0.400	0.200 0.200	0.200 0.008	0.200 0.200	0.200 0.200	0.100 0.008	0.500 0.200	0.200 0.200	0.200 0.200
PULSE	NORM %/sec VERN %/sec	0.10 0.010	0.10 0.010	0.30 0.010	0.10 0.010	0.10 0.050	0.10 0.010	0.04 0.002	0.10 0.010	0.10 0.010	0.10 0.010
COMP	NORM %/sec VERN %/sec	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000	.00 .000
DEADBAND											
ATT	NORM (deg) VERN (deg)	5.00 1.000	1.00 1.000	5.00 1.000	1.00 0.070	5.00 1.000	5.00 1.000	3.00 0.500	3.00 1.000	2.00 1.000	2.00 1.000
RATE	NORM %/sec VERN %/sec	0.20 .020	0.20 .020	0.20 .020	0.20 .010	0.20 .020	0.20 .020	0.20 .010	0.20 .020	0.20 .020	0.20 .020
NET OPT											
P		1	1	3	1	1	3	3	1	1	1
Y		1	1	3	3	1	3	3	1	1	1
CTRL ACCEL		0	0	0	0	0	0	2	0	0	0

*I-LOADED OPS-2 DAP Configuration

TABLE 5-1 (Cont)
DAP B CONFIGURATIONS

	B1*	B2	B3	B4	B5	B6	B7	B8	
<u>TRANSLATION</u>									
PULSE FT/sec	0.02	0.02	0.02	0.02	0.02	0.05	0.01	0.02	
<u>ROTATION</u>									
DSC RT									
NORM °/sec	0.500	0.200	0.200	0.200	0.200	0.500	0.200	0.100	
VERN °/sec	0.200	0.200	0.200	0.008	0.016	0.200	0.200	0.150	
PULSE									
NORM °/sec	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
VERN °/sec	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
COMP									
NORM °/sec	.00	.00	.00	.00	.00	.00	.00	.00	
VERN °/sec	.000	.000	.000	.000	.000	.000	.000	.000	
<u>REARRANG</u>									
ATT									
NORM (deg)	3.00	3.00	3.00	0.30	3.00	2.00	2.00	3.00	
VERN (deg)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000	
RATE									
NORM °/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
VERN °/sec	.020	.020	.020	.010	.020	.020	.020	.100	
<u>JET OPT</u>									
P	1	3	1	1	3	1	1	3	
Y	1	3	1	3	3	1	1	3	
CTRL ACCEL	0	0	0	0	0	0	0	2	

*1-LOADED OPS-2 DAP Configuration

TOP
FRONT COVER 'DAP BOOK'

DAP BOOK

HOOK
VELCRO

CAP/SI-B/O/BAS

UNIT PTE	
TGT ID =	1 Orbiting Vehicle
	2 Earth ctr
	3 Earth tgt
	Input CAT (+90)
	LCN (+180, ° = East)
	ALT (-3440 to 20,000 nm)
	4 Sun ctr
	5 Celestial tgt
	Input PA (0-359.99)
	DEC (+90)
	11-110 Nav Stars
BOOK VECC =	1 +1°
	2 -1°
	3 +2°
	4 PTC (-2" below +2)°
	5 Optional
	Input P (0-359.99)
	W (270-359.99, 0-90)
Input CM =	CM (0-359.99)
PLAN PPTS =	1 +1
	2 -1

CAP/SI-B/O/BAS

EPO DAP CONFIG			
CRTE ACCEL =	0 Operator alone	JET OPT =	1 Normal
	1 LDCF = Not used		2 Rose only
	2 LDCF Release		3 Fall only

TOP
BACK OF FRONT COVER
'DAP BOOK'

TOP

DAP PURPOSE

- A1 - NOMINAL
EMU ALIGN
LOSS OF VERN
- A2 - PTC
- A3 - RCS NOT FIRE
- A4 - GG
- A5 - EMU ROTATION
- A6 - LOSS OF VERN
(TAIL ONLY)
- A7 - LOEF RELEASE
- A8 - FRISBEE SEP
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - (Blank)

CAP/SL-D/O/BAS

A1

TOP

DAPA1

PURPOSES

- NOMINAL
- EMU ALIGN
- LOSS OF VERN
(NOSE & TAIL)

A1

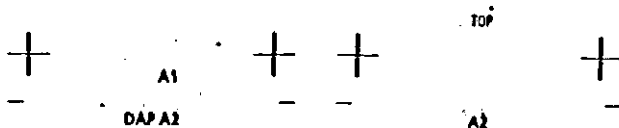
- 0.1 0 1 TRANSLATION
PULSE
- 0.1 0 2 ROTATION
DSC RT NORM
VERN
- 0.1 0 3 PULSE NORM
VERN
- 0.1 0 4 PULSE NORM
VERN
- 0.1 0 5 COMP NORM
VERN
- 0.1 0 6 COMP NORM
VERN
- 0.1 0 7
- 0.1 0 8 DEACBAND
ATT NORM
VERN
- 0.1 0 9
- 0.1 0 10 RATE NORM
VERN
- 0.1 0 11
- 0.1 0 12 JET OPT P
- 0.1 0 13
- 0.1 0 14 CNTR ACCEL

CAP/SL-D/O/BAS

CAP/SL-D/O/BAS

A2

TOP

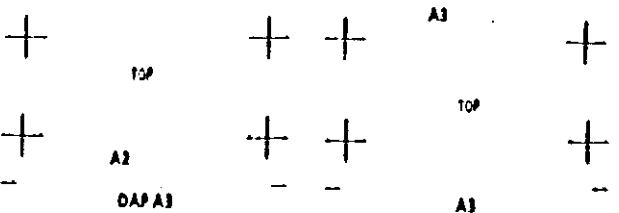


PURPOSE:
PTC

0-1	0	1	TRANSLATION
			PULSE
0-4	0	2	ROTATION
0-2	0	3	DSC RT
0-0	0	4	VERN
0-0	0	5	PULSE
0-0	0	6	VERN
0-0	0	7	COMP
			NORM
			VERN
1-0	0	8	DEADBAND
1-0	0	9	ATT
			NORM
			VERN
0-0	0	10	RATE
0-0	0	11	NORM
			VERN
		12	JET OPT
		13	P
		14	ENTL ACCEL

CAP/51-D/O/BAS

CAP/51-D/O/BAS

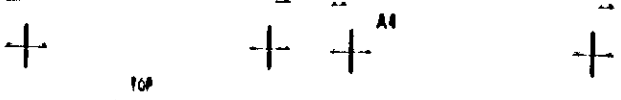


PURPOSE:
PCS HOT PIPE

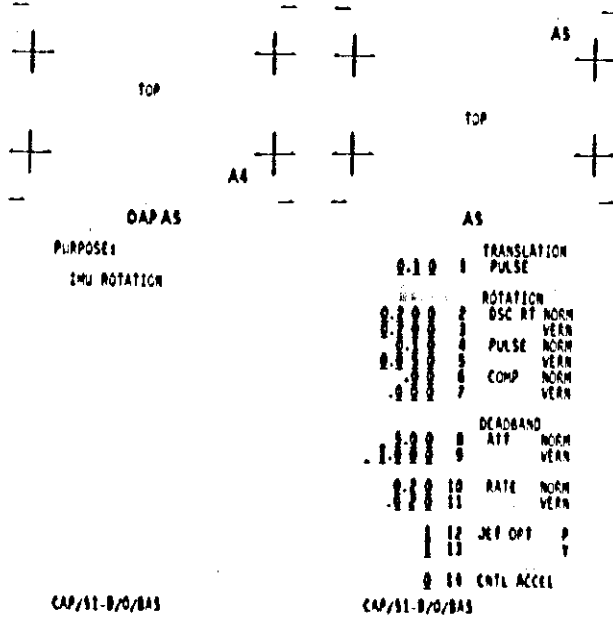
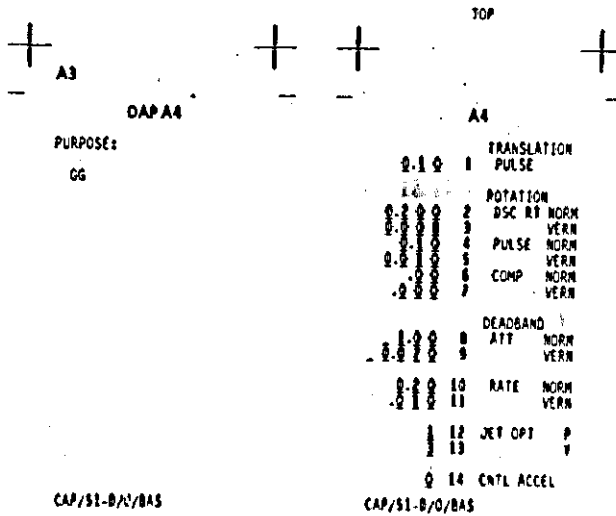
0-1	0	1	TRANSLATION
			PULSE
0-1	0	2	ROTATION
0-1	0	3	DSC RT
0-1	0	4	VERN
0-1	0	5	PULSE
0-1	0	6	VERN
0-1	0	7	COMP
			NORM
			VERN
1-1	0	8	DEADBAND
1-1	0	9	ATT
			NORM
			VERN
0-1	0	10	RATE
0-1	0	11	NORM
			VERN
		12	JET OPT
		13	P
		14	ENTL ACCEL

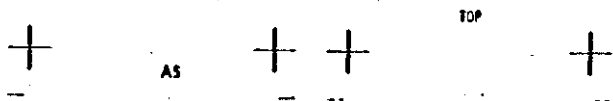
CAP/51-D/O/BAS

CAP/51-D/O/BAS



(reduced copy)





AS

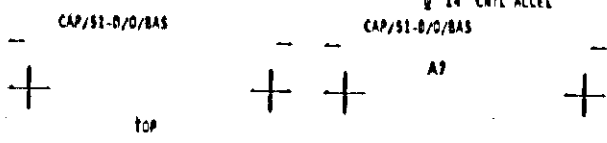
DAPA6

PURPOSE: LOSS OF YERN (TAIL ONLY)

TOP

A6

- 0-1 0 1 TRANSLATION PULSE
- 0-1 0 2 ROTATION DSC RT NORM
- 0-1 0 3 VERN
- 0-1 0 4 PULSE NORM
- 0-1 0 5 VERN
- 0-1 0 6 COMP NORM
- 0-1 0 7 VERN
- 0-1 0 8 DEADBAND ATT NORM
- 0-1 0 9 VERN
- 0-1 0 10 RATE NORM
- 0-1 0 11 VERN
- 0-1 0 12 JET OPT P
- 0-1 0 13 V
- 0-1 0 14 ENTL ACCEL

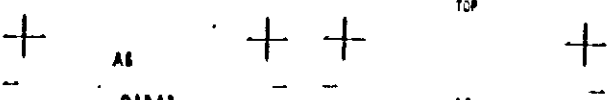


CAP/SI-B/O/BAS

CAP/SI-B/O/BAS

TOP

A7



AS

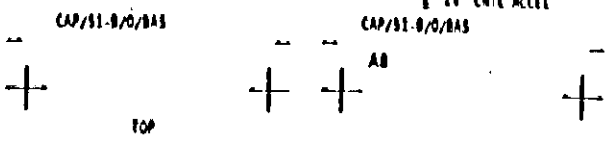
DAPA7

PURPOSE: LDEF RELEASE

TOP

A9

- 0-1 0 1 TRANSLATION PULSE
- 0-1 0 2 ROTATION DSC RT NORM
- 0-1 0 3 VERN
- 0-1 0 4 PULSE NORM
- 0-1 0 5 VERN
- 0-1 0 6 COMP NORM
- 0-1 0 7 VERN
- 0-1 0 8 DEADBAND ATT NORM
- 0-1 0 9 VERN
- 0-1 0 10 RATE NORM
- 0-1 0 11 VERN
- 0-1 0 12 JET OPT P
- 0-1 0 13 V
- 0-1 0 14 ENTL ACCEL



CAP/SI-B/O/BAS

CAP/SI-B/O/BAS

TOP

AS

TOP

A7

OAP AB

PURPOSE:
FRISBEE SEP

AB

0-1 0	0	TRANSLATION PULSE
0-1 0 0	2	ROTATION
0-1 0 0	3	DSC RT NORM
0-1 0 0	4	VERN
0-1 0 0	5	PULSE NORM
0-1 0 0	6	VERN
0-1 0 0	7	COMP NORM
0-1 0 0	8	VERN
0-1 0 0	9	DEADBAND
0-1 0 0	10	ATT NORM
0-1 0 0	11	VERN
0-2 0	10	RATE NORM
0-2 0	11	VERN
	12	JET OPT P
	13	V
0	14	CNTL ACCEL

CAP/SI-B/O/BAS

CAP/SI-B/O/BAS

TOP

A8

OAP A9

PURPOSE:
RENDEZVOUS

A9

0-1 0	1	TRANSLATION PULSE
0-1 0 0	2	ROTATION
0-1 0 0	3	DSC RT NORM
0-1 0 0	4	VERN
0-1 0 0	5	PULSE NORM
0-1 0 0	6	VERN
0-1 0 0	7	COMP NORM
0-1 0 0	8	VERN
0-1 0 0	9	DEADBAND
0-1 0 0	10	ATT NORM
0-1 0 0	11	VERN
0-2 0	10	RATE NORM
0-2 0	11	VERN
	12	JET OPT P
	13	V
0	14	CNTL ACCEL

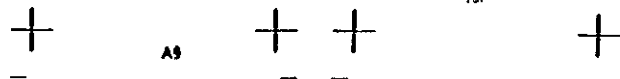
CAP/SI-B/O/BAS

CAP/SI-B/O/BAS

TOP

A10

(reduced copy)



A9

TOP

DAPA10

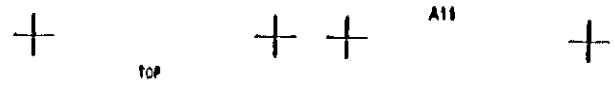
PURPOSE:
PROX OPS

A10

- 0.0 1 TRANSLATION PULSE
- 0.0 2 ROTATION
- 0.0 3 DSC RT NORM
- 0.0 4 PULSE NORM
- 0.0 5 VERN NORM
- 0.0 6 COMP VERN
- 0.0 7 VERN
- 0.0 8 DEADBAND
- 0.0 9 AFT NORM
- 0.0 10 VERN
- 0.0 11 RATE NORM
- 0.0 12 VERN
- 1 12 JET OPT P
- 1 13 V
- 2 14 CNTL ACCEL

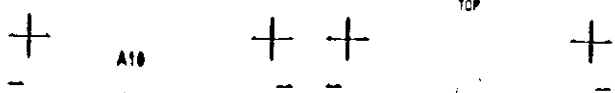
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CAP/ST-B/O/BAS



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A10



A10

DAPA11

PURPOSE: (Blank)

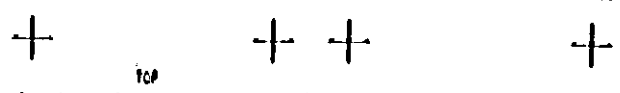
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A10

- 0.0 1 TRANSLATION PULSE
- 0.0 2 ROTATION
- 0.0 3 DSC RT NORM
- 0.0 4 PULSE NORM
- 0.0 5 VERN NORM
- 0.0 6 COMP VERN
- 0.0 7 VERN
- 0.0 8 DEADBAND
- 0.0 9 AFT NORM
- 0.0 10 VERN
- 0.0 11 RATE NORM
- 0.0 12 VERN
- 1 12 JET OPT P
- 1 13 V
- 2 14 CNTL ACCEL

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CAP/ST-B/O/BAS



TOP

(reduced copy)

TOP

A11

DAP PURPOSE

- B1 - NOMINAL
PRCS EMU ALIGN
OMS & RCS BURNS
- B2 - LOSS OF VERN
(TAIL ONLY)
- B3 - LOSS OF VERN;
GG MNVR
- B4 - PAN DEPLOY
FRISBEE DEPLOY
- B5 - COAS CAL
- B6 - RENDEZVOUS
- B7 - PROM OPS
- B8 - LDEP MNVR
- B9 - (BLANK)

CAP/SI-D/O/BAS

CAP/SI-D/O/BAS

TOP

TOP

OAP B1

B1

PURPOSE:
NOMINAL
PRCS EMU ALIGN
OMS & RCS BURNS

TRANSLATION
PULSE 15 0.0 2

POTATION
DSC RT NORM 16
VERN 17
PULSE NORM 18
VERN 19
COMP NORM 20
VERN 21

DEADBAND
ATT NORM 22
VERN 23

RATE NORM 24
VERN 25

JET OPT P 26
V 27

CNTL ACCEL 28 0

CAP/SI-D/O/BAS

CAP/SI-D/O/BAS

TOP

B2

(reduced copy)

TOP

B1

OAP B2

PURPOSE:
LOSS OF VERN
(TAIL ONLY)

B2

TRANSLATION
PULSE 15 0.0 2

ROTATION
BSC RT NORM 16 0.0 0 0
VERN 17 0.0 0 0
PULSE NORM 18 0.0 0 0
VERN 19 0.0 0 0
COMP NORM 20 0.0 0 0
VERN 21 0.0 0 0

DEADBAND
ATT NORM 22 1.0 0 0
VERN 23 1.0 0 0

RATE NORM 24 0.0 0 0
VERN 25 0.0 0 0

JET OPT P 26 1
V 27 1

CHTL ACCEL 28 0
CAP/SI-B/O/BAS

CAP/SI-B/O/BAS

B3

TOP

TOP

B2

OAP B3

PURPOSE:
LOSS OF VERN
(NOSE & TAIL)
GG MNR

B3

TRANSLATION
PULSE 15 0.0 2

ROTATION
BSC RT NORM 16 0.0 0 0
VERN 17 0.0 0 0
PULSE NORM 18 0.0 0 0
VERN 19 0.0 0 0
COMP NORM 20 0.0 0 0
VERN 21 0.0 0 0

DEADBAND
ATT NORM 22 1.0 0 0
VERN 23 1.0 0 0

RATE NORM 24 0.0 0 0
VERN 25 0.0 0 0

JET OPT P 26 1
V 27 1

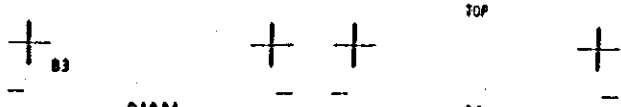
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CAP/SI-B/O/BAS

B4

TOP

(reduced copy)



DAP B4

PURPOSE:
PAM DEPLOY
FRISBEE DEPLOY

TRANSLATION
PULSE 15 0.0 2

ROTATION
DSC RT NORM 16 0.1 0 0
VERN 17 0.1 0 0
PULSE NORM 18 0.1 0 0
VERN 19 0.1 0 0
COMP NORM 20 0.1 0 0
VERN 21 0.1 0 0

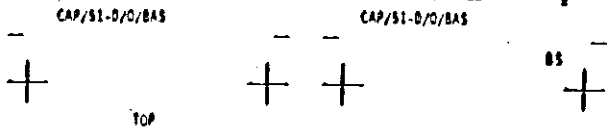
DEADBAND
ATT NORM 22 0.1 0 0
VERN 23 0.1 0 0

RATE NORM 24 0.1 0 0
VERN 25 0.1 0 0

JET OPT P 26 1
V 27 1

CNTL ACCEL 28 0

CAP/SI-D/O/BAS



DAP B5

PURPOSE:
COAS CAL

TRANSLATION
PULSE 15 0.0 2

ROTATION
DSC RT NORM 16 0.1 0 0
VERN 17 0.1 0 0
PULSE NORM 18 0.1 0 0
VERN 19 0.1 0 0
COMP NORM 20 0.1 0 0
VERN 21 0.1 0 0

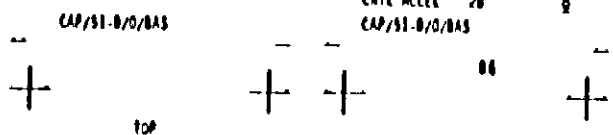
DEADBAND
ATT NORM 22 0.1 0 0
VERN 23 0.1 0 0

RATE NORM 24 0.1 0 0
VERN 25 0.1 0 0

JET OPT P 26 1
V 27 1

CNTL ACCEL 28 0

CAP/SI-D/O/BAS



+ + +

85

DAP 86

PURPOSE:
RENDEZVOUS

CAP/ST-B/O/BAS

+ + +

TOP

+ + +

86

DAP 87

PURPOSE:
PROC OPS

CAP/ST-B/O/BAS

+ + +

TOP

TOP

86

TRANSLATION			
PULSE	15	0.0	1
ROTATION			
BSC RT	NORM 16	0.0	0
	VERN 17	0.0	0
PULSE	NORM 18	0.0	0
	VERN 19	0.0	0
COMP	NORM 20	0.0	0
	VERN 21	0.0	0
DEADBAND			
ATT	NORM 22	2.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.2	0
	VERN 25	0.2	0
JET OPT	P 26		1
	V 27		
ENTL ACCEL	28		0
CAP/ST-B/O/BAS			

87

TOP

87

TRANSLATION			
PULSE	15	0.0	1
ROTATION			
BSC RT	NORM 16	0.0	0
	VERN 17	0.0	0
PULSE	NORM 18	0.0	0
	VERN 19	0.0	0
COMP	NORM 20	0.0	0
	VERN 21	0.0	0
DEADBAND			
ATT	NORM 22	2.0	0
	VERN 23	1.0	0
RATE	NORM 24	0.2	0
	VERN 25	0.2	0
JET OPT	P 26		1
	V 27		
ENTL ACCEL	28		0
CAP/ST-B/O/BAS			

88

+

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TOP

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DAP 08

08

PURPOSE:
LDEF MNR

TRANSLATION
PULSE 15 0-0 2

ROTATION
DSC RT NORM 16 0.1 0 0
VERN 17 0.1 0 0
PULSE NORM 18 0.0 0 0
VERN 19 0.0 0 0
COMP NORM 20 0.0 0 0
VERN 21 0.0 0 0

DEADBAND
ATT NORM 22 1.0 0 0
VERN 23 1.0 0 0

RATE NORM 24 0.2 0 0
VERN 25 0.1 0 0

JET OPS P 26 1
V 27 1

CNTL ACCEL 28 2

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CAP/51-0/0/BAS

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DAP 09

09

PURPOSE: (BLANK)

TRANSLATION
PULSE 15

ROTATION
DSC RT NORM 16
VERN 17
PULSE NORM 18
VERN 19
COMP NORM 20
VERN 21

DEADBAND
ATT NORM 22
VERN 23

RATE NORM 24
VERN 25

JET OPS P 26
V 27

CNTL ACCEL 28
CAP/51-0/0/BAS

CAP/51-0/0/BAS

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TOP



89

CAP/SI-B/O/BAS



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TOP
BACK COVER "CAP BOOK"



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VELCRO

CAP/SI-B/O/BAS



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PRELIMINARY

Flight Data File Crew Activity Plan

STS 51-D

Mission Operations Directorate
Operations Division

Preliminary
July 18, 1984

EVENT:	CST		
Launch	19:33	Mon	March 18
SYNCOM Deploy	21:44	Tue	March 19
LDEF Retrieval	20:25	Thu	March 21
Crew Press Conf	13:45	Fri	March 22
KSC Landing	16:22	Sun	March 24



National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE

STS 51-D CREW ACTIVITY PLAN

PRELIMINARY
July 18, 1984

PREPARED BY:

Thomas L. Vollrath

Thomas L. Vollrath
Book Manager

APPROVED BY:

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Head, Flight Activity Planning
Section 2

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Chief, Flight Activity Branch

John W. O'Neill
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ACKNOWLEDGMENTS

The following individuals contributed significantly to preparing the STS 51-D Crew Activity Plan:

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Word Processing (Omniplan)	B. Evans D. Prange J. Roberts P. Romero T. Walker	483-3810

CONTENTS

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STS 51-D OVERVIEW..... 1-1
SUMMARY TIMELINE..... 2-1

INTRODUCTION

The STS 51-D Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, Descent Prep, and Entry checklists. The STS 51-D Rendezvous book contains all RMS procedures which are to be conducted during the rendezvous operational timelines. All other RMS procedures are in the PDRS OPS Checklist. For continuity, the entire flight is shown in the summary level timeline.

The section entitled 'Crew Activity Plan Notes (constraints and guidelines)', included in CAPs for previous flights, has been published as a generic document (not in individual CAPs).

This on-orbit timeline satisfied the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-D Flight Requirements Document.

The flight profile used for this Crew Activity Plan is for a launch date of March 19, 1985, at 01:33 GMT.

51-D
OVERVIEW

OVERVIEW

FLIGHT		515 91-0		EDITION PRELIMINARY		PUB. DATE 7/10/84			
FD1				PRESENT	POST INSERTION	HEAL	ONE C/P	PRE SLEEP ACT	SLEEP
FD2	SLEEP	POST SLEEP ACT		HEAL	NODE VIB	STIMULI (UP)	DP1 PWR	PRE SLEEP ACT	SLEEP
FD3	SLEEP	POST SLEEP ACT		HEAL	NODE VIB	STIMULI (UP)	DP1 PWR	PRE SLEEP ACT	SLEEP
FD4	SLEEP	POST SLEEP ACT	HEAL	DEF RETRIEVAL	TO	EXAMPLE	PRE SLEEP ACT	SLEEP	
FD5	SLEEP	POST SLEEP ACT	HEAL	FCS C/P			PRE SLEEP ACT	SLEEP	
FD6	SLEEP	POST SLEEP ACT	HEAL	CHIN STIM			PRE SLEEP ACT	SLEEP	
FD7	SLEEP	POST SLEEP ACT	DEORBIT PWR						

SUMMARY
TIMELINE

SUMMARY TIMELINE

COMP	TYPE	NO.	DATE	TIME	FROM	TO	FLIGHT	POSITION	PUB. DATE
UNIT	NO.	DATE	TIME	FROM	TO	FLIGHT	POSITION	PUB. DATE	
STS									
PL									
NOTES:									

UNIT	OFFICE	REF	CLASS	ED/DTY	REFR	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z

UNIT	OFFICE	REF	CLASS	ED/DTY	REFR	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z

UNIT	OFFICE	REF	CLASS	ED/DTY	REFR	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z
575	REC	21	22	20	1	●	APR 19, 1964	575-000	HOUSTON	210000Z

NOTES:

CLASS	GROUP	UNIT	DESIGNATION	STATUS	DESIGNATION	ED. DEPT.	REF. NO.	MOON	HOUSTON DATE	FLIGHT	EJECTION	PUB. DATE
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
S/S												
PL												
<p>25 FEB 1968</p> <p>26 FEB 1968</p> <p>27 FEB 1968</p> <p>28 FEB 1968</p> <p>29 FEB 1968</p> <p>30 FEB 1968</p> <p>31 FEB 1968</p>												
<p>NOTES:</p> <p>① - 25 FEB 1968 in PC PAGES 1070-1072</p> <p>② - PC PAGES 1070-1072</p> <p>③ - 1070-1072</p>												

COMP	ISSUE	CSP	ADP	REF	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
						0007 20 1968	SPS 41-0	REF. INTRODUCTION	0101000
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
SPS								SLEEP	
PL									
32	33	34	35	36	37	38	39		
SEARCH									
CROSSING									
FROM									
TO									
NOTES:									

NO.	DATE	TIME	FROM	TO	TYPE	STATUS	REMARKS
575	1966	17	17	17	17	17	17
PL							
ESPION	59	56	57	58	59	60	61
CRASH							
NOTES							

COMP	INSTRUMENT	SEAT	CST	LOT/NO	APR	BOY	REFR	MOON	MOUSTON DATE	FLIGHT	EDITION	PIIS. DATE
575									MARCH 22, 1999	575 41-D		
PL												
58700												
COCKPIT												
NOTES:												

DATE	FROM	TO	CITY	ITEMS	NO. OF	RE	ROOM	ADDITION DATE	FLIGHT	EDITION	PUB. DATE
20 1000	8	9	10	11	12	13	14	15	16	17	18
DATE	FROM	TO	CITY	ITEMS	NO. OF	RE	ROOM	ADDITION DATE	FLIGHT	EDITION	PUB. DATE
21 1000	8	9	10	11	12	13	14	15	16	17	18
575				1 2 3 4 5 6 7 8 9 10 11 12 13 14 15					MR		CARD 575
PL											
DATE	70	71	72	73	74	75	76	77			
55700											
COURSE											
TIME											
NOTES:											

END
DATE
FILMED

APR 7

19 7