

#473

HELIOS 1 & 2
HOURLY AVG. FLUXED PROTONS
74-097A-08B
76-003A-08B

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC
INFORMATION SYSTEM:

<http://nssdc.gsfc.nasa.gov/nmc/>

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

- a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
<http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/>

- b. Core Catalog Materials

HELIOS-A & B

HOURLY AVERAGED FLUXES OF PROTONS

74-097A-08B SPHE-00690

76-003A-08B SPHE-00501

THESE DATA SETS HAVE BEEN RESTORED. ORIGINALLY EACH DATA SET CONTAINED ONE 9-TRACK, 1600 BPI TAPE WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE FOR EACH DATA SET. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 360 COMPUTER AND WERE RESTORED ON AN IBM 9021 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

HELIOS-A 74-097A-08B

DR#	DS#	D#	FILES	TIME SPAN
DR005305	DS005305	D066088	1	12/15/74 - 02/12/84

HELIOS-B 76-003A-08B

DR#	DS#	D#	FILES	TIME SPAN
DR005303	DS005303	D043188	1	01/18/76 - 03/07/80

REQ. AGENT

DEW

RSH

SAR

RAND NO.

V0081

V0289

ACQ. AGENT

HKH

HKH

HELIOS 1 & 2

HOURLY AVG. FLUXED PROTONS

74-097A-08B

76-003A-08B

This data set catalog consists of Helios 1 & 2 data. There is one tape to each data set. All tapes are Binary, 1600 BPI, 9-track, with one file of data. The tapes were created on an IBM 360 computer. The D and C numbers along with the time spans are as follows:

HELIOS 1 74-097A-08B

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-66088	C-23937	12/15/74 - 02/12/84

HELIOS 2 76-003A-08B

D-43188	C-21474	01/18/76 - 03/07/80
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** These tapes are replaced every year.

October 17, 1980

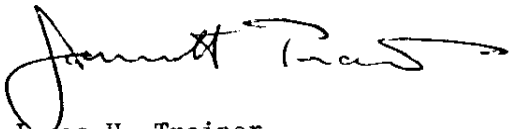
TO: 601/Director, National Space Science Data Center
FROM: 660/Associate Chief, Laboratory for High Energy Astrophysics
SUBJECT: Helios E7 Data Distribution to the NSSDC

I have just learned that while Dr. Van Hollebeke wrote up a plan for the Helios E7 data to be put in the NSSDC, no letter was ever written to you. The result is that the plan outlined below is now well along to completion.

Two types of data with documentation will be sent to you. In addition, Xeroxed copies (8 1/2 x 11) of the orbit/attitude data will be furnished in a binder totaling ~3" thickness for each spacecraft.

The first type of data consist of magnetic tapes containing hourly averaged fluxes of protons in three energy bins from ~5 to 21.6 MeV, 21.6 to 57 MeV and >57 MeV. The period covered ranges from turn-on to January 1, 1980. This data will be delivered by November 3, 1980.

The second type consist of microfilm (35 mm) plots of the sectorized X-ray data for the same period. A reel of film will cover 6 months from one spacecraft. Deliveries will begin ~ November 3, 1980, and be completed by May 1, 1981. These deliveries are paced by the availability of the 4060 machine.



James H. Trainor

cc: F.B. McDonald/660
H.Domchick/664

CSC COMPUTER SCIENCES CORPORATION

INTEROFFICE CORRESPONDENCE

to R. Post, Manager of NSDC from Dr. E. Ronish

date Nov. 11, 1980

subject Helios-A/-B Sectored X-Ray Plot Description

The Sectored X-Ray Plot contains counts per second on an every readout basis. Each frame covers a five hour timespan and each point is an average of one set of eight sectors. On the bottom of the plot is a ranking table. With the three most intense directions indicated such that the most intense sector is placed on top. The time on the plot consists of the space craft event time associated with the readout of the first sector. The second time is a correction for one way light time to the sun and represents the event time at the sun. The space craft position in ecliptic coordinates is given at the top of each frame. The name of the spacecraft is also given at the top of the frame.

For further information pertaining to the above, please contact me at GSFC on extension 7794.

When working with the Helios tapes, I found two problems with the format:

First, the order of the halfwords in word 1 is switched. The number of physical quantities comes first, followed by the number of hourly intervals.

Second, the format states that there are 6 132-character lines (792 characters) between word 2 and word 201. Only 528 of those bytes are characters, the rest (264) are binary fill (hex 77).

Dave G.
7/12/93

November 7, 1980

TO: 601/Director, National Space Science Data Center

FROM: 660/Associate Chief, Laboratory for High Energy Astrophysics

SUBJECT: Helios Experiment 7 Data Record Description

A data record contains hourly averaged data for no more than five days. In fact, except for a few instances, data records cover exactly 5 days.

Each data record contains a count of the number of hourly intervals in the record, as well as information as to how many physical quantities are contained within the record. This number is always 3 on the tapes being submitted.

Structure of a data record is as follows:

Word 1, Halfword 1: Number of hourly intervals in the record (N)
Halfword 2: Number of physical quantities (3)

Word 2: Spare

Words 3-200: Six 132-character lines identifying the physical quantities contained in the record

Words 201-N: N entries of the form described below:

Word 1, Halfword 1: 2-digit year
Halfword 2: Month of year

Word 2, Halfword 1: Day of month
Halfword 2: Hour of day

Word 3, Halfword 1: Minute of hour (always 0)
Halfword 2: Second of minute (always 0)

Word 4: Floating point
Value of xxx-xxx MeV yyyy flux

Word 5: Statistical error associated with xxx-xxx MeV
yyyy flux

Word 6: Value of xxx-xxx MeV yyyy flux

Word 7: Statistical error associated with xxx-xxx MeV
yyyy flux

Word 8: Value of xxx-xxx MeV yyyy flux

Word 9: Statistical error associated with xxx-xxx MeV
yyyy flux

Thus, the size of a record (in words) is given by: $N = 200 + 9N$.

These tapes were generated on IBM System 360. Halfword 1 refers to the high-order 16 bits of the 32-bit word, and Halfword 2 is the low-order half. Flux and error are stored as IBM single precision floating point numbers.

The (33*6)-word legend area identifies the quantities contained in the data record. This data is, therefore, the same for every record.

There is one tape for Helios-A and one for Helios-B, each tape ranging from the launch of the spacecraft to January 1, 1980, hour zero. The IBM 360 data control block (DCB) parameters used to create these tapes are RECFM=U and BLKSIZE=7294. The three physical quantities contained in each data record (previously described) are three unsectored rates divided by the geometry factor of their respective detector stack. These are defined as follows:

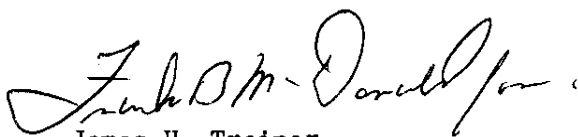
RATE MNEMONIC	DETECTOR STACK (RATE)	TELESCOPE	GEOMETRY FACTOR
R1	$(A2.K1+A1.C1).B.\overline{C3}$	High Energy	.27 cm ² sr
R3A	A2.B.C3	High Energy	.44 cm ² sr
R12A	D1.D2.E1. $\overline{F}$	Low Energy	.15 cm ² sr

R1 responds mainly to protons from 21.6-57.0 MeV.

R3A responds to energetic particles above 57.0 MeV.

R12A responds to particles between 3.3 and 21.6 MeV.

For additional information, contact either Mr. John Broomhall on X6539 or Dr. Nand Lal on X7824.


James H. Trainor

9th, 1600, 1 file

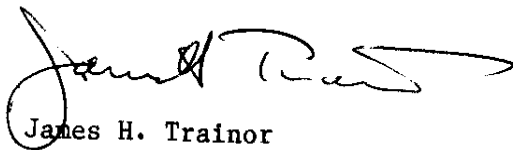
October 31, 1980

TO: NSSDA Users
FROM: 660/Helios E7 Principal Investigator
SUBJECT: Helios-1 Orbit Attitude Data

74-097A-00E?
Not a complete set of
ephemeris

This book of printouts contains the Helios-1 orbit attitude data from December 11, 1974 to December 31, 1979. Hourly listings are given for the following quantities:

Helios Ecliptic Longitude
Helios Ecliptic Latitude
Sun-Helios Distance (AU)
Earth-Helios Distance (AU)
Earth-Helios-Sun Angle
Helios-Sun-Earth Angle
Helios Heliographic Latitude
Helios Velocity--Radial Component
Helios Velocity--Normal Component


James H. Trainor

Hal Domchick
634 63382

Dr. Trainor thinks we perhaps
this came from 74-097A-00E;
almost certain! PPA to ephemeris
6 Aug 80

JCBNAME-

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SSSSSSSSSS 00000000 HH HH EEEEEEEEEEE LL
SSSSSSSSSS 00000000 HH HH EEEEEEEEEEE LL
SS 00 00 HH HH EE
SS 00 00 HH HH EE
SSSSSSSS 00 00 HH HH EE
SSSSSSSS 00 00 HHHHHHHHHH EEEEEEE LL
SSSSSSSS 00 00 HHHHHHHHHH EEEEEEE LL
SS 00 00 HH HH EE
SS 00 00 HH HH EE
SSSSSSSSSS 00000000 HH HH EEEEEEEEEEE LL
SSSSSSSSSS 00000000 HH HH EEEEEEEEEEE LL

```

BOX-

```

8888888888 FFFFFFFF 33333333
8888888888 FFFFFFFF 33333333
88 88 FF 33
88 88 FF 33
88 88 FF 33
8888888888 FFFFFFFF 33333
8888888888 FFFFFFFF 33333
88 88 FF 33
88 88 FF 33
88 88 FF 33
8888888888 FF 33333333
8888888888 FF 33333333

```

SACC 360/75

READER NUMBER-P0179

CLASS-

```

AA
AA
AAAA
AAAA
AA AA
AA AA
AA AA
AAAAAA
AAAAAA
AA AA
AA
AA

```

ORA 13
10/31/75-12/31/75

00000160
00000170
00000180
00000190
00000200

```

1EF2371 1 ALLLOC. FROM SCH LOAS GO
1EF2371 323 ALLOCATED TO SYS1 LG
1EF2371 330 ALLOCATED TO
1EF2371 481 ALLOCATED TO
1EF2371 481 ALLOCATED TO
1EF2371 244 ALLOCATED TO
1EF2371 244 ALLOCATED TO
1EF2371 244 ALLOCATED TO
1EF2371 323 ALLOCATED TO SYS1 LG
1EF2371 452 ALLOCATED TO SYS1 LG
1EF2371 452 ALLOCATED TO FT05FC01
1EF2371 452 ALLOCATED TO FT05FC01
1EF2371 450 ALLOCATED TO FT05FC01
1EF2371 133 ALLOCATED TO SYS1 LG
1EF2371 212 ALLOCATED TO SYSPRINT
1EF2371 232 ALLOCATED TO SYSPRINT
1EF2371 452 ALLOCATED TO SYSTEM
1EF2371 450 ALLOCATED TO SYSUCUM
1EF2371 201 ALLOCATED TO GENTAS

```

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~~OPTIONS USED - PRINT, MAP, NO LIST, CALL, FILE, NO TERM, SIZE = 149224, NAME = **00~~
EP=JNBIT

[illegible]

TOTAL LENGTH 9540
ENTRY ADDRESS 142810

7409701 076 SATIO HELIOS-A SECURITY TAPE 44-69411 75 274 000000 304 000000 5015 01 760515 015 01 01 E7 X

HELICS-A YEAR 1975. LAUNCH TIME 23462130. 0.

	DATE				HEL IUS	HEL IUS	SUN-HEL IUS	EARTH-HEL IUS	EARTH-HEL IUS	HEL IUS-SUN	HEL IUS	HEL IUS-V(A.U./DAY)	
	YY	DD	HH	MM	ECLIPSE	ECLIPSE	SIGMA(A.U.)	SIGMA(A.U.)	SUN(DEG)	EARTH(DEG)	HEL IUS(SEC)	RADIAL	NORMAL
21	10	0	0	0	0	0	0.00	0.00	109.19	50.32	-2.00	0.011	0.03
11	10	1	0	59	59	0	0.07	0.81	109.35	50.15	-1.97	0.011	0.03
01	10	2	0	59	59	0	0.13	0.79	112.83	46.54	-1.47	0.012	0.03
6	10	3	0	59	59	0	0.19	0.79	112.98	46.39	-1.45	0.012	0.03
6	10	4	0	59	59	0	0.25	0.75	116.25	43.04	-0.97	0.012	0.03
6	10	5	0	59	59	0	0.31	0.75	116.33	42.90	-0.95	0.012	0.03
6	10	6	0	59	59	0	0.37	0.74	119.44	39.81	-0.49	0.012	0.03
6	10	7	0	59	59	0	0.43	0.73	119.57	39.64	-0.47	0.012	0.03
6	10	8	0	59	59	0	0.49	0.71	122.43	36.84	-0.04	0.013	0.03
6	10	9	0	59	59	0	0.55	0.71	122.55	36.72	-0.02	0.013	0.03
6	10	10	0	59	59	0	0.61	0.69	125.22	34.59	0.39	0.013	0.03
6	10	11	0	59	59	0	0.67	0.69	125.33	32.96	0.41	0.013	0.03

10	7	0	0	0	328.43	0.37	C.45	0.66	127.33	31.57	0.79	0.013	0.03
10	7	0	0	0	328.44	0.37	C.45	0.66	127.34	31.57	0.81	0.013	0.03
10	8	0	0	0	330.76	0.33	C.46	0.64	130.28	29.24	1.17	0.013	0.03
10	8	0	0	0	330.85	0.33	C.46	0.64	130.35	29.15	1.18	0.013	0.03
10	9	0	0	0	332.99	0.28	C.47	0.62	132.88	27.13	1.32	0.013	0.03
10	10	0	0	0	334.83	0.25	C.48	0.60	134.71	25.12	1.53	0.013	0.03
10	10	0	0	0	334.90	0.25	C.47	0.60	134.79	25.05	1.54	0.013	0.03
10	11	0	0	0	336.69	0.21	C.50	0.58	136.71	23.31	1.88	0.013	0.03
10	11	0	0	0	336.77	0.21	C.50	0.58	136.80	23.23	1.86	0.013	0.03
10	12	0	0	0	338.37	0.17	C.51	0.56	138.63	21.63	2.44	0.013	0.02
10	12	0	0	0	338.44	0.17	C.51	0.56	138.67	21.57	2.45	0.013	0.02
10	13	0	0	0	339.71	0.14	C.52	0.54	140.36	20.00	2.70	0.013	0.02
10	13	0	0	0	339.77	0.14	C.52	0.54	140.43	20.03	2.71	0.013	0.02
10	15	0	0	0	342.64	0.07	C.55	0.50	142.01	18.67	2.95	0.013	0.02
10	15	0	0	0	342.69	0.07	C.55	0.50	142.07	18.52	2.90	0.013	0.02
10	16	0	0	0	343.84	0.04	C.56	0.48	143.55	17.36	3.18	0.013	0.02
10	16	0	0	0	343.89	0.04	C.56	0.48	143.61	17.21	3.19	0.013	0.02
10	17	0	0	0	344.99	0.01	C.57	0.47	145.00	16.16	3.40	0.012	0.02
10	17	0	0	0	344.99	0.01	C.57	0.47	145.06	16.11	3.41	0.012	0.02
10	18	0	0	0	345.97	-0.02	C.59	0.45	146.43	15.00	3.60	0.012	0.02
10	18	0	0	0	345.97	-0.02	C.59	0.45	146.40	15.01	3.61	0.012	0.02
10	19	0	0	0	346.91	-0.04	C.60	0.44	147.61	14.03	3.80	0.012	0.02
10	19	0	0	0	346.95	-0.04	C.60	0.44	147.66	13.99	3.80	0.012	0.02
10	20	0	0	0	347.77	-0.07	C.61	0.42	148.74	13.04	3.97	0.012	0.02
10	20	0	0	0	347.80	-0.07	C.61	0.42	148.82	12.96	3.98	0.012	0.02
10	21	0	0	0	348.59	-0.09	C.62	0.41	149.89	12.23	4.14	0.012	0.02
10	21	0	0	0	348.59	-0.09	C.62	0.41	149.91	12.20	4.15	0.012	0.02
10	22	0	0	0	349.29	-0.12	C.63	0.39	150.87	11.44	4.30	0.012	0.02
10	22	0	0	0	349.31	-0.12	C.63	0.39	150.91	11.41	4.30	0.012	0.02
10	23	0	0	0	349.99	-0.14	C.64	0.38	151.79	10.72	4.44	0.011	0.02
10	23	0	0	0	349.99	-0.14	C.64	0.38	151.82	10.69	4.45	0.011	0.02
10	24	0	0	0	350.53	-0.15	C.66	0.36	152.63	10.06	4.58	0.011	0.02
10	24	0	0	0	350.53	-0.15	C.66	0.36	152.69	10.03	4.59	0.011	0.02
10	25	0	0	0	351.14	-0.14	C.67	0.35	153.39	9.43	4.71	0.011	0.02
10	25	0	0	0	351.13	-0.14	C.67	0.35	153.42	9.42	4.72	0.011	0.02
10	26	0	0	0	351.61	-0.20	C.68	0.34	154.97	8.43	4.83	0.011	0.02
10	26	0	0	0	351.61	-0.20	C.68	0.34	154.10	8.67	4.84	0.011	0.02
10	27	0	0	0	351.63	-0.21	C.69	0.33	154.97	7.39	4.95	0.011	0.02
10	27	0	0	0	352.07	-0.23	C.69	0.33	154.70	7.37	4.95	0.011	0.02
10	27	0	0	0	352.07	-0.23	C.69	0.33	155.20	7.93	5.06	0.010	0.02
10	28	0	0	0	352.48	-0.24	C.70	0.31	155.21	7.22	5.26	0.010	0.02
10	28	0	0	0	352.49	-0.24	C.70	0.31	155.63	7.52	5.16	0.010	0.02
10	29	0	0	0	352.89	-0.26	C.71	0.30	156.65	7.61	5.16	0.010	0.02
10	29	0	0	0	352.89	-0.26	C.71	0.30	156.99	7.43	5.25	0.010	0.02
10	30	0	0	0	353.18	-0.28	C.72	0.29	158.00	7.14	5.26	0.010	0.02
10	30	0	0	0	353.18	-0.28	C.72	0.29	158.26	6.42	5.35	0.010	0.02
10	31	0	0	0	353.19	-0.28	C.72	0.29	158.27	6.81	5.35	0.010	0.02
10	31	0	0	0	353.47	-0.30	C.73	0.28	159.44	6.53	5.43	0.010	0.02

END OF FILE ON DIBIT TAPE

REF1421 - STEP WAS EXECUTED - CLND CODE 0000

REF2851	42.28 TIC. SC002. LCAD	KEPT	DDNAME=SYSLIB -1	0 EXCPS
REF2851	VOL SER NOS= DISK15.			
REF2851	SYSLIB NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -2	17 EXCPS
REF2851	VOL SER NOS= K2SYS2.			
REF2851	SYSLIB NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -3	85 EXCPS
REF2851	VOL SER NOS= K3ITL0.			
REF2851	SYSLIB NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -4	0 EXCPS
REF2851	VOL SER NOS= K3ITL0.			
REF2851	SYSLIB NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -5	0 EXCPS
REF2851	VOL SER NOS= K3ITL0.			
REF2851	SYSLIB NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -6	0 EXCPS
REF2851	VOL SER NOS= K3ITL0.			
REF2851	SYSLIB NOS= K3ITL0.	SYSCUT	DDNAME=SYSLIB -7	1 EXCPS
REF2851	VOL SER NOS= K3ITL0.			
REF2851	42.28 TIC. SC002. LCAD	KEPT	DDNAME=SYSLIB -1	7 EXCPS
REF2851	VOL SER NOS= DISK15.			
REF2851	SYSLIB NOS= K3ITL0.	SYSCUT	DDNAME=FT05F001	2 EXCPS
REF2851	VOL SER NOS= SC001.			
REF2851	SYSLIB NOS= K3ITL0.	DELETED	DDNAME=FT05F001	2 EXCPS
REF2851	VOL SER NOS= SC001.			
REF2851	SYSLIB NOS= K3ITL0.	SYSCUT	DDNAME=FT06F001	2 EXCPS
REF2851	VOL SER NOS= SC001.			
REF2851	SYSLIB NOS= K3ITL0.	DELETED	DDNAME=FT07F001	0 EXCPS
REF2851	VOL SER NOS= SC001.			
REF2851	SYSLIB NOS= K3ITL0.	DELETED	DDNAME=SYSPRINT	0 EXCPS
REF2851	VOL SER NOS= K2SYS2.			

[illegible]

ADDRESS	DATA	DISASSEMBLY	COMMENT
00000000	FFFFFFFF	CALL EBX	
00000001	FFFFFFFF	CALL EBX	
00000002	FFFFFFFF	CALL EBX	
00000003	FFFFFFFF	CALL EBX	
00000004	FFFFFFFF	CALL EBX	
00000005	FFFFFFFF	CALL EBX	
00000006	FFFFFFFF	CALL EBX	
00000007	FFFFFFFF	CALL EBX	
00000008	FFFFFFFF	CALL EBX	
00000009	FFFFFFFF	CALL EBX	
0000000A	FFFFFFFF	CALL EBX	
0000000B	FFFFFFFF	CALL EBX	
0000000C	FFFFFFFF	CALL EBX	
0000000D	FFFFFFFF	CALL EBX	
0000000E	FFFFFFFF	CALL EBX	
0000000F	FFFFFFFF	CALL EBX	
00000010	FFFFFFFF	CALL EBX	
00000011	FFFFFFFF	CALL EBX	
00000012	FFFFFFFF	CALL EBX	
00000013	FFFFFFFF	CALL EBX	
00000014	FFFFFFFF	CALL EBX	
00000015	FFFFFFFF	CALL EBX	
00000016	FFFFFFFF	CALL EBX	
00000017	FFFFFFFF	CALL EBX	
00000018	FFFFFFFF	CALL EBX	
00000019	FFFFFFFF	CALL EBX	
0000001A	FFFFFFFF	CALL EBX	
0000001B	FFFFFFFF	CALL EBX	
0000001C	FFFFFFFF	CALL EBX	
0000001D	FFFFFFFF	CALL EBX	
0000001E	FFFFFFFF	CALL EBX	
0000001F	FFFFFFFF	CALL EBX	
00000020	FFFFFFFF	CALL EBX	
00000021	FFFFFFFF	CALL EBX	
00000022	FFFFFFFF	CALL EBX	
00000023	FFFFFFFF	CALL EBX	
00000024	FFFFFFFF	CALL EBX	
00000025	FFFFFFFF	CALL EBX	
00000026	FFFFFFFF	CALL EBX	
00000027	FFFFFFFF	CALL EBX	
00000028	FFFFFFFF	CALL EBX	
00000029	FFFFFFFF	CALL EBX	
0000002A	FFFFFFFF	CALL EBX	
0000002B	FFFFFFFF	CALL EBX	
0000002C	FFFFFFFF	CALL EBX	
0000002D	FFFFFFFF	CALL EBX	
0000002E	FFFFFFFF	CALL EBX	
0000002F	FFFFFFFF	CALL EBX	
00000030	FFFFFFFF	CALL EBX	
00000031	FFFFFFFF	CALL EBX	
00000032	FFFFFFFF	CALL EBX	
00000033	FFFFFFFF	CALL EBX	
00000034	FFFFFFFF	CALL EBX	
00000035	FFFFFFFF	CALL EBX	
00000036	FFFFFFFF	CALL EBX	
00000037	FFFFFFFF	CALL EBX	
00000038	FFFFFFFF	CALL EBX	
00000039	FFFFFFFF	CALL EBX	
0000003A	FFFFFFFF	CALL EBX	
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00000049	FFFFFFFF	CALL EBX	
0000004A	FFFFFFFF	CALL EBX	
0000004B	FFFFFFFF	CALL EBX	
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0000004E	FFFFFFFF	CALL EBX	
0000004F	FFFFFFFF	CALL EBX	
00000050	FFFFFFFF	CALL EBX	
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0000005C	FFFFFFFF	CALL EBX	
0000005D	FFFFFFFF	CALL EBX	
0000005E	FFFFFFFF	CALL EBX	
0000005F	FFFFFFFF	CALL EBX	
00000			

$$12/11/74 - 12/31/74$$

~~FBI ALLCC. FOR ZEMEDAS GO~~

195271.320 ALLOCATED TO

INSTRUMENT	451	ALLOCATED TO
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1952241	231	ALLOCATED TO
1952241	240	ALLOCATED TO

~~1552271 244 ALLC(47F) 73~~
~~1552271 244 ALLC(47F) 73~~

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11F9371 244 ALLOCATED TO
15F2171 220 ALLOCATED TO

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10-1-1971	220	ALLOCATED TO
10-1-1971	221	ALLOCATED TO

IPF23'1 336 ALLOCATED TO SYSLOW

~~INTERIM 131 ALLOCATED TO SYSTEM~~

IPF2221 335 ALLOCATED TO FTORFO

1042271 335 ALLCATED TO FT06F0
1042271 335 ALLCATED TO FT06F0

17E2271 116 ALLCC4752 70 1X3261

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1EE2371 335 ALLOCATED TO SYSPRI
1EE2371 272 ALLOCATED TO SYSPRI

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15241	235	ALLEGED TO BY OPEN
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1052371	336	ALLOCATED TO SYSTEM
1052371	336	ALLOCATED TO SYSTEM

~~REF2571-165 ALLOCATED TO SYSDISK~~

10F2371 001 ALLOCATED TO GUNTAP

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OPTIONS USED - PRINT,MAP,NOI,ET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
                EP=CP0017
```

~~TOTAL LENGTH 55.00~~
~~ENTRY 40000000 42010~~

HELIOS-A

YEAR 1974.

LAUNCH TIME

2579. 1.

DATE				HELIOS	HELIOS	SUN-HELIOS	EARTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	SC	ECL LONG	ECL LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEG)	EARTH(DEG)	HEL-LAT(DEG)	RADIAL	NORMAL
12	11	0	0	359.78	-0.00	0.98	0.00	90.29	0.22	-0.37	-0.000	0.01
12	11	0	59	359.77	-0.00	0.98	0.00	90.28	0.23	-0.38	-0.000	0.01
12	12	0	0	359.76	-0.00	0.98	0.01	90.28	0.54	-0.86	-0.000	0.01
12	13	0	0	359.14	-0.00	0.98	0.01	90.98	0.86	-0.55	-0.000	0.01
12	14	0	0	358.82	-0.00	0.98	0.02	91.50	1.14	-0.63	-0.001	0.01
12	15	0	0	358.40	-0.00	0.99	0.03	92.15	1.50	-0.72	-0.001	0.01
12	16	0	0	358.19	-0.00	0.98	0.03	92.82	1.82	-0.81	-0.001	0.01
12	17	0	0	357.87	-0.00	0.98	0.04	93.50	2.13	-0.90	-0.001	0.01
12	18	0	0	357.55	-0.00	0.98	0.04	94.19	2.45	-0.68	-0.001	0.01
12	19	0	0	357.24	-0.00	0.99	0.05	94.89	2.76	-1.07	-0.001	0.01
12	20	0	0	356.83	-0.00	0.99	0.05	95.56	3.07	-1.16	-0.002	0.01
12	21	0	0	356.62	-0.00	0.98	0.06	96.31	3.33	-1.25	-0.002	0.01
12	22	0	0	356.31	-0.00	0.97	0.06	97.03	3.69	-1.34	-0.002	0.01
12	23	0	0	356.01	-0.00	0.97	0.07	97.76	3.99	-1.42	-0.002	0.01
12	24	0	0	355.71	-0.00	0.97	0.07	98.50	4.29	-1.51	-0.002	0.01

12 25	0	0	0	355.41	0.00	0.97	0.08	99.25	4.59	-1.60	-.002	0.01
12 26	0	0	0	355.11	0.00	0.97	0.09	100.01	4.87	-1.69	-.003	0.01
12 27	0	0	0	354.82	0.00	0.96	0.09	100.75	5.13	-1.78	-.003	0.01
12 28	0	0	0	354.54	0.00	0.96	0.10	101.47	5.46	-1.87	-.003	0.01
12 29	0	0	0	354.26	0.00	0.95	0.10	102.17	5.72	-1.96	-.003	0.01
12 30	0	0	0	353.98	0.00	0.95	0.11	102.83	6.02	-2.05	-.003	0.01
12 31	0	0	0	353.71	0.00	0.95	0.11	104.00	6.30	-2.14	-.003	0.01

END OF FILE ON ORBIT TAPE

IEC2001 ZPHH0A6 06A01 001 T2=002 T3=003 E3=000 CL=014 N=000 UC=015

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IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2001 M2.ZORTC.00002.LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS
IEF2001 VOL SER NOS= K35K15.
IEF2001 SYS2.DEBLKUNV KEPT DDNAME=SYSLIB -2 17 EXCPS
IEF2001 VOL SER NOS= M2SYS2.
IEF2001 SYD1.FORTLIB KEPT DDNAME=SYSLIB -3 51 EXCPS
IEF2001 VOL SER NOS= K3ITL0.
IEF2001 SYD2.FORTLIB KEPT DDNAME=SYSLIB -4 28 EXCPS
IEF2001 VOL SER NOS= K3JY32.
IEF2001 SYD1.PLILIB KEPT DDNAME=SYSLIB -5 0 EXCPS
IEF2001 VOL SER NOS= K3ITL5.
IEF2001 SYD1.FORT33P KEPT DDNAME=SYSLIB -6 0 EXCPS
IEF2001 VOL SER NOS= K3ITL5.
IEF2001 SYD2.CDBLIB KEPT DDNAME=SYSLIB -7 0 EXCPS
IEF2001 VOL SER NOS= M2SYS1.
IEF2001 SYD1.ALCLIB KEPT DDNAME=SYSLIB -3 0 EXCPS
IEF2001 VOL SER NOS= K3JY32.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000001 SYSLCT DDNAME=SYSLCT 1 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 M2.ZORTC.00002.LOAD KEPT DDNAME=SYSLIB -1 7 EXCPS
IEF2001 VOL SER NOS= K35K15.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000003 SYDIN DDNAME=FT05F001 2 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000006 DELETED DDNAME=FT05F001 2 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000002 SYSLCT DDNAME=FT06F001 1 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000003 DELETED DDNAME=FT07F001 0 EXCPS
IEF2001 VOL SER NOS= K35CR5.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000004 DELETED DDNAME=SYSPRINT 0 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000005 DELETED DDNAME=SYSTEM 0 EXCPS
IEF2001 VOL SER NOS= K35CR5.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000006 DELETED DDNAME=SYSUDUMP 0 EXCPS
IEF2001 VOL SER NOS= K35CR2.
IEF2001 SYD30056.T121552.V000.ZPHH0A6.R0000007 KEPT DDNAME=GENTAP 160 EXCPS
IEF2001 VOL SER NOS= 06A01.

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IEF1200 K 001.06A01 ZPHH0A6.00

IEF1731 STEP /GO / START 60056.1216

IEF1731 STEP /GO / STEP 00056.1223 CPU 0MIN 04.05SEC MAIN 00K LGS OK

- STEP 01 - RETURN CODE = 0000

10 IN SECS. DISK= 11.17, DRUM= .00, TAPE= .00, CELL= .06, I/O= .21

10.00 SECS. DISK= 11.17, DRUM= .00, TAPE= .00, CELL= .06, I/O= .21

10.00 SECS. DISK= 11.17, DRUM= .00, TAPE= .00, CELL= .06, I/O= .21

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10.00 SECS. DISK= 11.17, DRUM= .00, TAPE= .00, CELL= .06, I/O= .21

10.00 SECS. DISK= 11.17, DRUM= .00, TAPE= .00, CELL= .06, I/O= .21

JCEAAME-	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEE	LL	CC	UU	AA
	SSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444

BOX-	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEE	LL	CC	UU	AA
	SSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SS	DD	HH	HH	EE	LL	CC	UU	AA
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444

1975 predict

ORA 04

1/1/75 - 12/31/75

THIS PRINTOUT IS TO BE USED FOR ORBIT DATA FOR JAN. 1975
BECAUSE THE ACTUAL DATA FOR THIS MONTH IS UNAVAILABLE.

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3	70	0	0	0	0	149.80	1.39	21.17	149.80	7.17	0.013	0.03
3	71	0	0	0	0	152.30	1.41	15.23	152.30	7.21	0.013	0.03
3	72	0	0	0	0	154.60	1.43	17.46	154.60	7.23	0.013	0.03
4	4	0	0	0	0	156.72	1.45	15.65	156.72	7.22	0.013	0.02
4	5	0	0	0	0	158.68	1.46	14.38	158.68	7.19	0.013	0.02
4	6	0	0	0	0	160.48	1.43	13.05	160.48	7.14	0.013	0.02
4	7	0	0	0	0	162.14	1.50	11.83	162.14	7.08	0.013	0.02
4	8	0	0	0	0	163.67	1.51	10.73	163.67	7.01	0.013	0.02
4	9	0	0	0	0	165.08	1.53	9.72	165.08	6.94	0.013	0.02
4	10	0	0	0	0	166.38	1.54	8.80	166.38	6.85	0.013	0.02
4	11	0	0	0	0	167.58	1.56	7.97	167.58	6.75	0.012	0.02
4	12	0	0	0	0	168.69	1.57	7.19	168.69	6.66	0.012	0.02
4	13	0	0	0	0	169.71	1.58	6.49	169.71	6.56	0.012	0.02
4	14	0	0	0	0	170.65	1.60	5.86	170.65	6.45	0.012	0.02
4	15	0	0	0	0	171.51	1.61	5.29	171.51	6.34	0.012	0.02
4	16	0	0	0	0	172.31	1.62	4.78	172.31	6.23	0.012	0.02
4	17	0	0	0	0	173.04	1.63	4.27	173.04	6.12	0.011	0.02
4	18	0	0	0	0	173.71	1.65	3.73	173.71	6.01	0.011	0.02
4	19	0	0	0	0	174.33	1.65	3.13	174.33	5.89	0.011	0.02
4	20	0	0	0	0	174.89	1.67	2.57	174.89	5.78	0.011	0.02
4	21	0	0	0	0	175.41	1.69	2.29	175.41	5.66	0.011	0.02
4	22	0	0	0	0	175.84	1.69	2.45	175.84	5.55	0.010	0.02
4	23	0	0	0	0	176.31	1.70	2.18	176.31	5.43	0.010	0.02
4	24	0	0	0	0	176.69	1.71	1.94	176.69	5.32	0.010	0.02
4	25	0	0	0	0	177.04	1.72	1.72	177.04	5.20	0.010	0.02
4	26	0	0	0	0	177.36	1.73	1.53	177.36	5.09	0.010	0.02
4	27	0	0	0	0	177.54	1.74	1.35	177.54	4.97	0.009	0.02
4	28	0	0	0	0	177.49	1.75	1.21	177.49	4.86	0.009	0.02
4	29	0	0	0	0	178.12	1.76	1.22	178.12	4.75	0.009	0.02
4	30	0	0	0	0	178.31	1.77	1.17	178.31	4.63	0.009	0.02
4	31	0	0	0	0	178.43	1.77	1.06	178.43	4.52	0.009	0.02
4	32	0	0	0	0	178.62	1.74	0.97	178.62	4.41	0.009	0.02
5	1	0	0	0	0	178.74	1.73	0.70	178.74	4.30	0.008	0.01
5	2	0	0	0	0	178.84	1.81	0.65	178.84	4.19	0.008	0.01
5	3	0	0	0	0	178.92	1.82	0.70	178.92	4.09	0.008	0.01
5	4	0	0	0	0	178.98	1.82	0.37	178.98	3.98	0.008	0.01
5	5	0	0	0	0	179.02	1.81	0.54	179.02	3.87	0.007	0.01
5	6	0	0	0	0	179.04	1.84	0.63	179.04	3.77	0.007	0.01
5	7	0	0	0	0	179.04	1.85	0.52	179.04	3.66	0.007	0.01
5	8	0	0	0	0	179.33	1.86	0.53	179.33	3.56	0.007	0.01
5	9	0	0	0	0	179.00	1.86	0.54	179.00	3.45	0.007	0.01
5	10	0	0	0	0	179.96	1.87	0.66	179.96	3.35	0.007	0.01
5	11	0	0	0	0	178.91	1.87	0.59	178.91	3.25	0.006	0.01
5	12	0	0	0	0	178.84	1.89	0.62	178.84	3.15	0.006	0.01
5	13	0	0	0	0	178.76	1.89	0.62	178.76	3.05	0.006	0.01
5	14	0	0	0	0	178.67	1.89	0.71	178.67	2.95	0.006	0.01
5	15	0	0	0	0	178.56	1.90	0.74	178.56	2.85	0.006	0.01
5	16	0	0	0	0	178.45	1.91	0.82	178.45	2.75	0.006	0.01
5	17	0	0	0	0	178.33	1.91	0.84	178.33	2.65	0.005	0.01
5	18	0	0	0	0	178.19	1.92	0.95	178.19	2.55	0.005	0.01
5	19	0	0	0	0	178.05	1.92	1.03	178.05	2.46	0.005	0.01
5	20	0	0	0	0	177.90	1.93	1.16	177.90	2.36	0.005	0.01
5	21	0	0	0	0	177.74	1.94	1.12	177.74	2.26	0.005	0.01
5	22	0	0	0	0	177.58	1.94	1.27	177.58	2.17	0.004	0.01
5	23	0	0	0	0	177.40	1.94	1.35	177.40	2.07	0.004	0.01
5	24	0	0	0	0	177.22	1.94	1.44	177.22	1.98	0.004	0.01
5	25	0	0	0	0	177.04	1.95	1.54	177.04	1.89	0.004	0.01
5	26	0	0	0	0	176.85	1.95	1.64	176.85	1.79	0.004	0.01
5	27	0	0	0	0	176.65	1.96	1.74	176.65	1.70	0.004	0.01
5	28	0	0	0	0	176.44	1.96	1.84	176.44	1.61	0.003	0.01
5	29	0	0	0	0	176.21	1.96	1.95	176.21	1.51	0.003	0.01
5	30	0	0	0	0	175.92	1.97	2.05	175.92	1.42	0.003	0.01
5	31	0	0	0	0	175.63	1.97	2.16	175.63	1.33	0.003	0.01
5	32	0	0	0	0	175.35	1.98	2.27	175.35	1.24	0.003	0.01
6	1	0	0	0	0	175.12	1.98	2.38	175.12	1.15	0.003	0.01
6	2	0	0	0	0	174.89	1.99	2.50	174.89	1.06	0.002	0.01
6	3	0	0	0	0	174.65	1.99	2.62	174.65	0.97	0.002	0.01
6	4	0	0	0	0	174.41	1.99	2.74	174.41	0.88	0.002	0.01
6	5	0	0	0	0	174.16	1.99	2.86	174.16	0.79	0.002	0.01
6	6	0	0	0	0	173.92	1.99	2.98	173.92	0.70	0.002	0.01
6	7	0	0	0	0	173.67	1.99	3.10	173.67	0.61	0.002	0.01
6	8	0	0	0	0	173.42	1.99	3.22	173.42	0.52	0.002	0.01
6	9	0	0	0	0	173.17	1.99	3.35	173.17	0.43	0.001	0.01
6	10	0	0	0	0	172.91	1.99	3.48	172.91	0.34	0.001	0.01
6	11	0	0	0	0	172.66	1.99	3.60	172.66	0.25	0.001	0.01
6	12	0	0	0	0	172.40	1.99	3.73	172.40	0.17	0.001	0.01
6	13	0	0	0	0	172.15	1.99	3.87	172.15	0.08	0.001	0.01
6	14	0	0	0	0	171.89	1.99	3.99	171.89	-0.01	0.001	0.01
6	15	0	0	0	0	171.64	2.00	4.12	171.64	-0.10	0.000	0.01
6	16	0	0	0	0	171.39	2.00	4.25	171.39	-0.18	0.000	0.01
6	17	0	0	0	0	171.13	2.00	4.38	171.13	-0.27	0.000	0.01

6	171.12	-0.00	0.99	1.00	4.51	171.12	-0.36	-0.00	0.01
6	170.86	-0.00	0.98	1.00	4.54	170.86	-0.35	-0.00	0.01
6	170.61	-0.00	0.97	1.00	4.57	170.61	-0.33	-0.00	0.01
6	170.35	-0.00	0.96	1.00	4.60	170.35	-0.32	-0.00	0.01
6	170.10	-0.00	0.95	1.00	4.63	170.10	-0.30	-0.00	0.01
6	169.84	-0.00	0.94	1.00	4.66	169.84	-0.29	-0.00	0.01
6	169.59	-0.00	0.93	1.00	4.69	169.59	-0.28	-0.00	0.01
6	169.34	-0.00	0.92	1.00	4.72	169.34	-0.27	-0.00	0.01
6	169.09	-0.00	0.91	1.00	4.75	169.09	-0.26	-0.00	0.01
6	168.85	-0.00	0.90	1.00	4.78	168.85	-0.25	-0.00	0.01
6	168.60	-0.00	0.89	1.00	4.81	168.60	-0.24	-0.00	0.01
6	168.36	-0.00	0.88	1.00	4.84	168.36	-0.23	-0.00	0.01
6	168.12	-0.00	0.87	1.00	4.87	168.12	-0.22	-0.00	0.01
6	167.89	-0.00	0.86	1.00	4.90	167.89	-0.21	-0.00	0.01
6	167.65	-0.00	0.85	1.00	4.93	167.65	-0.20	-0.00	0.01
6	167.42	-0.00	0.84	1.00	4.96	167.42	-0.19	-0.00	0.01
6	167.20	-0.00	0.83	1.00	4.99	167.20	-0.18	-0.00	0.01
6	166.97	-0.00	0.82	1.00	5.02	166.97	-0.17	-0.00	0.01
6	166.75	-0.00	0.81	1.00	5.05	166.75	-0.16	-0.00	0.01
6	166.54	-0.00	0.80	1.00	5.08	166.54	-0.15	-0.00	0.01
6	166.33	-0.00	0.79	1.00	5.11	166.33	-0.14	-0.00	0.01
6	166.13	-0.00	0.78	1.00	5.14	166.13	-0.13	-0.00	0.01
6	165.94	-0.00	0.77	1.00	5.17	165.94	-0.12	-0.00	0.01
6	165.74	-0.00	0.76	1.00	5.20	165.74	-0.11	-0.00	0.01
6	165.56	-0.00	0.75	1.00	5.23	165.56	-0.10	-0.00	0.01
6	165.38	-0.00	0.74	1.00	5.26	165.38	-0.09	-0.00	0.01
6	165.21	-0.00	0.73	1.00	5.29	165.21	-0.08	-0.00	0.01
6	165.04	-0.00	0.72	1.00	5.32	165.04	-0.07	-0.00	0.01
6	164.87	-0.00	0.71	1.00	5.35	164.87	-0.06	-0.00	0.01
6	164.74	-0.00	0.70	1.00	5.38	164.74	-0.05	-0.00	0.01
6	164.59	-0.00	0.69	1.00	5.41	164.59	-0.04	-0.00	0.01
6	164.46	-0.00	0.68	1.00	5.44	164.46	-0.03	-0.00	0.01
6	164.34	-0.00	0.67	1.00	5.47	164.34	-0.02	-0.00	0.01
6	164.23	-0.00	0.66	1.00	5.50	164.23	-0.01	-0.00	0.01
6	164.13	-0.00	0.65	1.00	5.53	164.13	0.00	-0.00	0.01
6	164.04	-0.00	0.64	1.00	5.56	164.04	0.01	-0.00	0.01
6	163.94	-0.00	0.63	1.00	5.59	163.94	0.02	-0.00	0.01
6	163.83	-0.00	0.62	1.00	5.62	163.83	0.03	-0.00	0.01
6	163.74	-0.00	0.61	1.00	5.65	163.74	0.04	-0.00	0.01
6	163.66	-0.00	0.60	1.00	5.68	163.66	0.05	-0.00	0.01
6	163.59	-0.00	0.59	1.00	5.71	163.59	0.06	-0.00	0.01
6	163.52	-0.00	0.58	1.00	5.74	163.52	0.07	-0.00	0.01
6	163.46	-0.00	0.57	1.00	5.77	163.46	0.08	-0.00	0.01
6	163.40	-0.00	0.56	1.00	5.80	163.40	0.09	-0.00	0.01
6	163.34	-0.00	0.55	1.00	5.83	163.34	0.10	-0.00	0.01
6	163.28	-0.00	0.54	1.00	5.86	163.28	0.11	-0.00	0.01
6	163.22	-0.00	0.53	1.00	5.89	163.22	0.12	-0.00	0.01
6	163.16	-0.00	0.52	1.00	5.92	163.16	0.13	-0.00	0.01
6	163.10	-0.00	0.51	1.00	5.95	163.10	0.14	-0.00	0.01
6	163.04	-0.00	0.50	1.00	5.98	163.04	0.15	-0.00	0.01
6	162.98	-0.00	0.49	1.00	6.01	162.98	0.16	-0.00	0.01
6	162.92	-0.00	0.48	1.00	6.04	162.92	0.17	-0.00	0.01
6	162.86	-0.00	0.47	1.00	6.07	162.86	0.18	-0.00	0.01
6	162.80	-0.00	0.46	1.00	6.10	162.80	0.19	-0.00	0.01
6	162.74	-0.00	0.45	1.00	6.13	162.74	0.20	-0.00	0.01
6	162.68	-0.00	0.44	1.00	6.16	162.68	0.21	-0.00	0.01
6	162.62	-0.00	0.43	1.00	6.19	162.62	0.22	-0.00	0.01
6	162.56	-0.00	0.42	1.00	6.22	162.56	0.23	-0.00	0.01
6	162.50	-0.00	0.41	1.00	6.25	162.50	0.24	-0.00	0.01
6	162.44	-0.00	0.40	1.00	6.28	162.44	0.25	-0.00	0.01
6	162.38	-0.00	0.39	1.00	6.31	162.38	0.26	-0.00	0.01
6	162.32	-0.00	0.38	1.00	6.34	162.32	0.27	-0.00	0.01
6	162.26	-0.00	0.37	1.00	6.37	162.26	0.28	-0.00	0.01
6	162.20	-0.00	0.36	1.00	6.40	162.20	0.29	-0.00	0.01
6	162.14	-0.00	0.35	1.00	6.43	162.14	0.30	-0.00	0.01
6	162.08	-0.00	0.34	1.00	6.46	162.08	0.31	-0.00	0.01
6	162.02	-0.00	0.33	1.00	6.49	162.02	0.32	-0.00	0.01
6	161.96	-0.00	0.32	1.00	6.52	161.96	0.33	-0.00	0.01
6	161.90	-0.00	0.31	1.00	6.55	161.90	0.34	-0.00	0.01
6	161.84	-0.00	0.30	1.00	6.58	161.84	0.35	-0.00	0.01
6	161.78	-0.00	0.29	1.00	6.61	161.78	0.36	-0.00	0.01
6	161.72	-0.00	0.28	1.00	6.64	161.72	0.37	-0.00	0.01
6	161.66	-0.00	0.27	1.00	6.67	161.66	0.38	-0.00	0.01
6	161.60	-0.00	0.26	1.00	6.70	161.60	0.39	-0.00	0.01
6	161.54	-0.00	0.25	1.00	6.73	161.54	0.40	-0.00	0.01
6	161.48	-0.00	0.24	1.00	6.76	161.48	0.41	-0.00	0.01
6	161.42	-0.00	0.23	1.00	6.79	161.42	0.42	-0.00	0.01
6	161.36	-0.00	0.22	1.00	6.82	161.36	0.43	-0.00	0.01
6	161.30	-0.00	0.21	1.00	6.85	161.30	0.44	-0.00	0.01
6	161.24	-0.00	0.20	1.00	6.88	161.24	0.45	-0.00	0.01
6	161.18	-0.00	0.19	1.00	6.91	161.18	0.46	-0.00	0.01
6	161.12	-0.00	0.18	1.00	6.94	161.12	0.47	-0.00	0.01
6	161.06	-0.00	0.17	1.00	6.97	161.06	0.48	-0.00	0.01
6	161.00	-0.00	0.16	1.00	7.00	161.00	0.49	-0.00	0.01
6	160.94	-0.00	0.15	1.00	7.03	160.94	0.50	-0.00	0.01
6	160.88	-0.00	0.14	1.00	7.06	160.88	0.51	-0.00	0.01
6	160.82	-0.00	0.13	1.00	7.09	160.82	0.52	-0.00	0.01
6	160.76	-0.00	0.12	1.00	7.12	160.76	0.53	-0.00	0.01
6	160.70	-0.00	0.11	1.00	7.15	160.70	0.54	-0.00	0.01
6	160.64	-0.00	0.10	1.00	7.18	160.64	0.55	-0.00	0.01
6	160.58	-0.00	0.09	1.00	7.21	160.58	0.56	-0.00	0.01
6	160.52	-0.00	0.08	1.00	7.24	160.52	0.57	-0.00	0.01
6	160.46	-0.00	0.07	1.00	7.27	160.46	0.58	-0.00	0.01
6	160.40	-0.00	0.06	1.00	7.30	160.40	0.59	-0.00	0.01
6	160.34	-0.00	0.05	1.00	7.33	160.34	0.60	-0.00	0.01
6	160.28	-0.00	0.04	1.00	7.36	160.28	0.61	-0.00	0.01
6	160.22	-0.00	0.03	1.00	7.39	160.22	0.62	-0.00	0.01
6	160.16	-0.00	0.02	1.00	7.42	160.16	0.63	-0.00	0.01
6	160.10	-0.00	0.01	1.00	7.45	160.10	0.64	-0.00	0.01
6	160.04	-0.00	0.00	1.00	7.48	160.04	0.65	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.51	160.00	0.66	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.54	160.00	0.67	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.57	160.00	0.68	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.60	160.00	0.69	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.63	160.00	0.70	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.66	160.00	0.71	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.69	160.00	0.72	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.72	160.00	0.73	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.75	160.00	0.74	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.78	160.00	0.75	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.81	160.00	0.76	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.84	160.00	0.77	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.87	160.00	0.78	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.90	160.00	0.79	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.93	160.00	0.80	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.96	160.00	0.81	-0.00	0.01
6	160.00	-0.00	0.00	1.00	7.99	160.00	0.82	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.02	160.00	0.83	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.05	160.00	0.84	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.08	160.00	0.85	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.11	160.00	0.86	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.14	160.00	0.87	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.17	160.00	0.88	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.20	160.00	0.89	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.23	160.00	0.90	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.26	160.00	0.91	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.29	160.00	0.92	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.32	160.00	0.93	-0.00	0.01
6	160.00	-0.00	0.00	1.00	8.35	160.00			

103.85	0.002	0.43	1.43	4.70	166.15	-7.06	-0.013	0.03
106.60	0.002	0.42	1.42	11.74	163.40	-6.95	-0.013	0.03
109.35	0.002	0.41	1.41	12.58	160.41	-6.79	-0.012	0.03
112.10	0.002	0.40	1.40	13.42	157.18	-6.59	-0.012	0.03
114.85	0.002	0.39	1.39	14.26	153.67	-6.24	-0.012	0.03
117.60	0.002	0.38	1.38	15.10	149.89	-6.03	-0.011	0.03
120.35	0.002	0.37	1.37	15.94	145.81	-5.66	-0.011	0.03
123.10	0.002	0.36	1.36	16.78	141.43	-5.21	-0.010	0.03
125.85	0.002	0.35	1.35	17.62	136.73	-4.69	-0.009	0.03
128.60	0.002	0.34	1.34	18.46	131.74	-4.10	-0.008	0.04
131.35	0.002	0.33	1.33	19.30	126.45	-3.42	-0.007	0.04
134.10	0.002	0.32	1.32	20.14	120.90	-2.68	-0.005	0.04
136.85	0.002	0.31	1.31	20.98	115.13	-1.88	-0.004	0.04
139.60	0.002	0.30	1.30	21.82	109.23	-1.02	-0.002	0.04
142.35	0.002	0.29	1.29	22.66	103.15	-0.14	-0.001	0.04
145.10	0.002	0.28	1.28	23.50	97.06	0.74	0.001	0.04
147.85	0.002	0.27	1.27	24.34	91.02	1.61	0.002	0.04
150.60	0.002	0.26	1.26	25.18	85.08	2.45	0.004	0.04
153.35	0.002	0.25	1.25	26.02	79.31	3.23	0.005	0.04
156.10	0.002	0.24	1.24	26.86	73.76	3.94	0.007	0.04
158.85	0.002	0.23	1.23	27.70	68.47	4.58	0.008	0.04
161.60	0.002	0.22	1.22	28.54	63.47	5.14	0.009	0.03
164.35	0.002	0.21	1.21	29.38	58.78	5.61	0.010	0.03
167.10	0.002	0.20	1.20	30.22	54.40	6.02	0.011	0.03
169.85	0.002	0.19	1.19	31.06	50.32	6.35	0.011	0.03
172.60	0.002	0.18	1.18	31.90	46.54	6.61	0.012	0.03
175.35	0.002	0.17	1.17	32.74	43.05	6.82	0.012	0.03
178.10	0.002	0.16	1.16	33.58	39.82	6.98	0.012	0.03
180.85	0.002	0.15	1.15	34.42	36.84	7.09	0.013	0.03
183.60	0.002	0.14	1.14	35.26	34.10	7.17	0.013	0.03
186.35	0.002	0.13	1.13	36.10	31.57	7.21	0.013	0.03
189.10	0.002	0.12	1.12	36.94	29.25	7.23	0.013	0.03
191.85	0.002	0.11	1.11	37.78	27.10	7.22	0.013	0.03
194.60	0.002	0.10	1.10	38.62	25.13	7.19	0.013	0.02
197.35	0.002	0.09	1.09	39.46	23.31	7.15	0.013	0.02
200.10	0.002	0.08	1.08	40.30	21.64	7.09	0.013	0.02
202.85	0.002	0.07	1.07	41.14	20.13	7.02	0.013	0.02
205.60	0.002	0.06	1.06	41.98	18.68	6.95	0.013	0.02
208.35	0.002	0.05	1.05	42.82	17.37	6.86	0.013	0.02
211.10	0.002	0.04	1.04	43.66	16.16	6.77	0.012	0.02
213.85	0.002	0.03	1.03	44.50	15.05	6.67	0.012	0.02
216.60	0.002	0.02	1.02	45.34	14.03	6.57	0.012	0.02
219.35	0.002	0.01	1.01	46.18	13.10	6.46	0.012	0.02
222.10	0.002	0.00	1.00	47.02	12.23	6.36	0.012	0.02
224.85	0.002	0.00	0.99	47.86	11.43	6.25	0.012	0.02
227.60	0.002	0.00	0.98	48.70	10.72	6.13	0.011	0.02
230.35	0.002	0.00	0.97	49.54	10.05	6.02	0.011	0.02
233.10	0.002	0.00	0.96	50.38	9.44	5.91	0.011	0.02
235.85	0.002	0.00	0.95	51.22	8.90	5.79	0.011	0.02
238.60	0.002	0.00	0.94	52.06	8.39	5.69	0.011	0.02
241.35	0.002	0.00	0.93	52.90	7.94	5.56	0.010	0.02
244.10	0.002	0.00	0.92	53.74	7.53	5.44	0.010	0.02
246.85	0.002	0.00	0.91	54.58	7.15	5.33	0.010	0.02
249.60	0.002	0.00	0.90	55.42	6.82	5.22	0.010	0.02
252.35	0.002	0.00	0.89	56.26	6.53	5.10	0.010	0.02
255.10	0.002	0.00	0.88	57.10	6.27	4.99	0.009	0.02
257.85	0.002	0.00	0.87	57.94	6.04	4.87	0.009	0.02
260.60	0.002	0.00	0.86	58.78	5.84	4.76	0.009	0.02
263.35	0.002	0.00	0.85	59.62	5.67	4.65	0.009	0.02
266.10	0.002	0.00	0.84	60.46	5.53	4.54	0.009	0.02
268.85	0.002	0.00	0.83	61.30	5.42	4.43	0.008	0.02
271.60	0.002	0.00	0.82	62.14	5.33	4.32	0.008	0.01
274.35	0.002	0.00	0.81	62.98	5.26	4.21	0.008	0.01
277.10	0.002	0.00	0.80	63.82	5.21	4.10	0.008	0.01
279.85	0.002	0.00	0.79	64.66	5.19	3.99	0.008	0.01
282.60	0.002	0.00	0.78	65.50	5.18	3.89	0.008	0.01
285.35	0.002	0.00	0.77	66.34	5.16	3.78	0.007	0.01
288.10	0.002	0.00	0.76	67.18	5.23	3.67	0.007	0.01
290.85	0.002	0.00	0.75	68.02	5.27	3.57	0.007	0.01
293.60	0.002	0.00	0.74	68.86	5.34	3.47	0.007	0.01
296.35	0.002	0.00	0.73	69.70	5.42	3.36	0.007	0.01
299.10	0.002	0.00	0.72	70.54	5.51	3.24	0.006	0.01
301.85	0.002	0.00	0.71	71.38	5.62	3.16	0.006	0.01
304.60	0.002	0.00	0.70	72.22	5.74	3.06	0.006	0.01
307.35	0.002	0.00	0.69	73.06	5.87	2.96	0.006	0.01
310.10	0.002	0.00	0.68	73.90	6.02	2.86	0.006	0.01
312.85	0.002	0.00	0.67	74.74	6.18	2.76	0.006	0.01
315.60	0.002	0.00	0.66	75.58	6.34	2.66	0.005	0.01
318.35	0.002	0.00	0.65	76.42	6.52	2.56	0.005	0.01
321.10	0.002	0.00	0.64	77.26	6.71	2.47	0.005	0.01

JOBNAME-

SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	DDDDDDDDDD	AA	SSSSSSSSSSSS
SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CLC000000000	AA	SSSSSSSSSSSS
SS	SS	DD	DD	HH	HH	CC	AA	SS
SS	SS	DD	DD	HH	HH	CC	AA	SS
SSS	DD	DD	HH	HH	HH	CC	AA	SS
SSSSSSSSSS	DD	DD	HH	HH	HH	CC	AA	SSSSSSSSSSSS
SSSSSSSSSS	DD	DD	HH	HH	HH	CC	AA	SSSSSSSSSSSS
SS	SS	DD	DD	HH	HH	CC	AA	SS
SS	SS	DD	DD	HH	HH	CC	AA	SS
SSSSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CC0000000000	AA	SSSSSSSSSSSS
SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CC0000000000	AA	SSSSSSSSSSSS

BO-

P333333333	FFFFFFFFFFFF	33333333
P333333333	FFFFFFFFFFFF	33333333
04	FF	33
00	FF	33
00	FF	33
00000000	FFFFFFFF	3333
00000000	FFFFFFFF	3333
00	FF	33
00	FF	33
00	FF	33
00000000	FF	33333333
00000000	FF	33333333

SACC 360/75

READER NUMBER-P0062

CLASS-

AA
AA
AAAA
AAAA
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AA
AA
AAAA
AAAA
AA
AA

ORA 18

1/11/75 only

```

IEF6531 SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA),
//X SPACE=(CYL,(0,11),UNIT=(DISK,3)) 00000180
//X SYSTEM DD SYSOUT=JTERMOUT 00000190
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//X SYSOUT DD SYSOUT=A 00000200
//X SYSOUT DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO,GENAP DD INIT=(7TRACK,DEFER),
// VOL=SER=CRTAPE, LABEL=(1,NU,1K), DISP=(OLD,KEEP),
// DCB=(RECFM=U,BLKSIZE=1944,DSN=2)
//DATA5 DD *

```

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IEF2371 ALLOC. FOR SDHELIOAS GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 211 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 235 ALLOCATED TO SYSLIB
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 335 ALLOCATED TO F005F001
IEF2371 237 ALLOCATED TO F006F001
IEF2371 232 ALLOCATED TO F007F001
IEF2371 345 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSTEM
IEF2371 235 ALLOCATED TO SYSOUT
IEF2371 OCT ALLOCATED TO GENAP

```

03/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=134560,NAME=**GO
 EP=CRMTT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR			
CRMTT	SD	A2810	CONVRTCT*	SD	A3670	CONVRT	LR	A3670	DBGEN	SD	A3998	DBFECV	LR	A3858
FREAD	SD	A3060	FREAD	LR	A3F88	FWRITE	LR	A4070	REWIND	LR	A4282	LEAVE	LR	A4366
UNLCAD	LR	A4414	POSN	LR	A4530	MCUNT	LR	A4750	MEMBER	LR	A4932	FTRAP	LR	A4A22
FCIOM	LR	A4440	FCIOM	SD	A4A60	FCIOM	SD	A4A60	FOUNLIST*	SD	A5330	FERN36	SD	A5838
INCNAMF*	SD	A58A0	FRNL*	LR	A59A0	FRNL*	LR	A61A4	INCCOMP*	SD	A6570	IBCOM*	LR	A6670
FOUCS*	LR	A672C	INTSWTCH*	LR	A7536	INCCOMP2*	SD	A7538	SECCASO	LR	A7950	FTF	SD	A7C38
ITINFT*	SD	A7CE8	ITIT	LR	A7CE8	FXFLT	SD	A7D40	FIXFLT	LR	A7D40	TRNSLT*	SD	A7088
TRANS	LR	A7D88	BITST	SD	A7E98	CNTGDATA*	LR	A7E98	DTOUN	SD	A7FC8	INCFVTH*	SD	A8098
ADCON*	LR	A8098	FCVACUTP*	LR	A8142	FCVACUTP*	LR	A8102	FCVZOUTP*	LR	A8322	FCVOUTP*	LR	A86D0
FCVOUTP*	LR	A8092	FCVCCUTP*	LR	A80LC	INTSWTCH*	LR	A8092	INCFICS*	SD	A9238	FIUCS*	LR	A9238
FIUCS*	LR	A9238	INCFICS2*	SD	A9238	INCFERR*	SD	A9590	ERRMON	LR	A9590	INCERRE	LR	A96A8
INCFERR*	SD	A9590	INCFERR*	LR	A96A8	ADJUSTCH*	LR	A8094	INCUOPT*	SD	A9130	INCUATBL*	SD	A94D8
INCUATBL*	SD	A94D8	INCUATBL*	LR	A94D8	ERRTRA	LR	A9B18						

TOTAL LENGTH 9540
 ENTRY ADDRESS A2910

SATIO HELIOS-A ORBIT TAPE #DRA18

7409701-050 74 360 310000-397 000000-3000-01-740328-000-01-01-E7-X

HELIOS-A

YEAR 1975.

LAUNCH TIME 1878540. 1.

MM	DD	HR	MN	SC	HELIOS ECL LONG	HELIOS ECL LAT	SUN-HELIOS DIST (A.U.)	ERTH-HELIOS DIST (A.U.)	EARTH-HELIOS SUN (DEG)	HELIOS-SUN EARTH (DEG)	HELIOS HEL-LET (DEG)	HELIOS-V (A.U./DAY) RADIAL	NORMAL
1	11	0	0	0	251.12	0.01	0.90	0.17	114.14	8.88	3.15	0.05	0.01

END OF FILE ON ORBIT TAPE

```

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.ZRPTC.SD002.LOAD
IEF2851 VOL SER NOS= DISK15
IEF2851 SYS2.DERLUNV
IEF2851 VOL SER NOS= M2SYS2.
IEF2851 SYS1.FORTLIB
IEF2851 VOL SER NOS= K3ITLC.

```

KEPT

DDNAME=SYSLIB -1

0 EXCPS

KEPT

DDNAME=SYSLIB -2

17 EXCPS

KEPT

DDNAME=SYSLIB -3

61 EXCPS

JOBNAME	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222

SAC 366/75 READER NUMBER=PO 117 CLASS-

COX	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	SS	DD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222

ORA 06.

2/1/75 - 6/1/75

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-00000190

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1992-1993

3	17	0	59	59	93.59	-0.00	0.31	1.06	89.28	93.69	1.72	0.003	0.04
3	18	0	0	0	93.34	-0.00	0.31	1.07	89.12	93.34	2.51	0.004	0.04
3	19	0	59	59	97.57	-0.00	0.32	1.09	92.70	97.57	2.54	0.004	0.04
3	15	0	0	0	105.07	-0.01	0.32	1.12	95.79	105.07	3.29	0.006	0.04
3	16	0	59	59	105.31	-0.01	0.32	1.12	95.75	105.31	3.22	0.006	0.04
3	20	0	0	0	110.57	-0.01	0.33	1.15	94.64	110.57	3.99	0.007	0.04
3	20	0	59	59	110.80	-0.01	0.33	1.15	94.86	110.80	4.02	0.007	0.04
3	21	0	0	0	115.81	-0.01	0.33	1.14	95.46	115.81	4.62	0.008	0.04
3	21	0	59	59	116.32	-0.01	0.33	1.13	95.27	116.32	4.65	0.008	0.04
3	22	0	0	0	120.76	-0.01	0.34	1.21	95.16	120.76	5.17	0.009	0.03
3	22	0	59	59	120.79	-0.01	0.34	1.21	94.18	120.76	5.19	0.009	0.03
3	23	0	0	0	125.40	-0.02	0.35	1.23	94.18	125.40	5.64	0.010	0.03
3	23	0	59	59	125.53	-0.02	0.35	1.23	94.02	125.53	5.66	0.010	0.03
3	24	0	0	0	129.73	-0.02	0.36	1.26	97.54	129.73	6.04	0.011	0.03
3	24	0	59	59	129.71	-0.02	0.36	1.26	97.16	129.71	6.05	0.011	0.03
3	25	0	0	0	133.76	-0.02	0.37	1.24	94.13	133.76	6.36	0.011	0.03
3	25	0	59	59	133.92	-0.02	0.37	1.28	94.00	133.92	6.37	0.011	0.03
3	26	0	0	0	137.50	-0.02	0.38	1.31	91.04	137.50	6.62	0.012	0.03
3	26	0	59	59	137.53	-0.02	0.38	1.31	90.72	137.53	6.63	0.012	0.03
3	27	0	0	0	140.95	-0.02	0.40	1.33	92.22	140.95	6.83	0.012	0.03
3	27	0	59	59	141.23	-0.02	0.40	1.33	92.11	141.23	6.83	0.012	0.03
3	28	0	0	0	144.14	-0.02	0.41	1.35	95.07	144.14	6.98	0.013	0.03
3	28	0	59	59	144.27	-0.02	0.41	1.35	95.55	144.27	6.99	0.013	0.03
3	29	0	0	0	147.99	-0.02	0.42	1.37	93.31	147.99	7.09	0.013	0.03
3	29	0	59	59	147.20	-0.02	0.42	1.37	93.21	147.20	7.10	0.013	0.03
3	30	0	0	0	149.40	-0.02	0.43	1.39	91.17	149.40	7.17	0.013	0.03
3	30	0	59	59	149.91	-0.02	0.43	1.39	91.09	149.91	7.17	0.013	0.03
3	31	0	0	0	152.30	-0.02	0.45	1.41	92.23	152.30	7.21	0.013	0.03
3	31	0	59	59	152.40	-0.02	0.45	1.41	92.15	152.40	7.21	0.013	0.03
4	1	0	0	0	154.60	-0.02	0.46	1.43	97.46	154.60	7.23	0.013	0.03
4	1	0	59	59	154.73	-0.02	0.46	1.43	97.75	154.69	7.23	0.013	0.03
4	2	0	0	0	158.72	-0.02	0.47	1.45	95.25	158.72	7.54	0.013	0.02
4	2	0	59	59	158.91	-0.02	0.47	1.45	95.73	158.81	7.54	0.013	0.02

00000160
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00000200

~~OPTICNS USED - PRINT,MAP,NGLET,CALL,FE5,ACTERM,SIZE=180224,NAME***GC~~
~~EP=ORBIT~~

TOTAL LENGTH 9590
ENTRY ADDRESS 226810

~~SAI ID: K-11CS-A~~

CCRB 1-T-TAPE... 4-05A09

409

YF #F 1975.

LAUNCH TIME

8182140. 1.

		DATE		FFL ICS		HELICS		SUN-HELICS		EARTH-HELIOS		EARTH-HELIOS		HELIOS-SUN		HELIOS		HELICS-V(A.L./DAY)	
		MM	DD	HH	MM	SS	ECL	LCNG	ECL	LAT	DIST(A.L)	DIST(A.U)	SUN(CEG)	EARTH(CEG)	EARTH(CEG)	HEL(CEG)	HEL-LET(DEG)	RADIAL	NORMAL
21	U	15	0	0	0	0	81.26	0.00	0.31	1.00	80.75	81.36	-0.07	-0.001	-0.001	0.04			
11	U	15	0	0	0	0	81.61	0.00	0.31	1.00	80.51	81.61	-0.04	-0.001	-0.001	0.04			
11	U	16	0	0	0	0	81.61	0.00	0.31	1.03	75.07	87.42	0.01	0.001	0.001	0.04			
0	U	16	0	0	0	0	87.42	0.00	0.31	1.03	74.23	87.67	0.05	0.001	0.001	0.04			
0	U	16	0	0	0	0	87.67	0.00	0.31	1.06	65.51	93.44	1.66	0.003	0.003	0.04			
0	U	17	0	0	0	0	93.44	0.00	0.31	1.06	69.26	93.69	1.72	0.004	0.004	0.04			
9	U	17	0	0	0	0	93.69	0.00	0.31	1.09	64.12	99.34	2.51	0.004	0.004	0.04			
4	U	18	0	0	0	0	99.34	0.00	0.32	1.09	63.60	99.56	2.59	0.006	0.006	0.04			
9	U	18	0	0	0	0	103.67	-0.01	0.32	1.12	58.56	105.07	3.12	0.006	0.006	0.04			
9	U	19	0	0	0	0	105.31	-0.01	0.32	1.12	58.75	105.31	3.12	0.007	0.007	0.04			
9	U	20	0	0	0	0	110.57	-0.01	0.33	1.15	54.05	110.57	4.02	0.007	0.007	0.04			
9	U	20	0	0	0	0	110.80	-0.01	0.33	1.15	53.56	110.80	4.02	0.007	0.007	0.04			

[illegible]

ENC CF FILE CN GRRIT TAPE

IEF142I - STEP WAS EXECUTED - COND CODE 0000

JCE NAME-	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
AAAAA	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444

ECY-	FFFFFFFFFF	33333333	SACC 360/91	REFCER NUMBER-P0205	CLASS-	AA
EEEEEEEE	FFFFFFFFFF	33333333				AA
EEEEEEEE	FFFFFFFFFF	33333333				AA
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EEEEEEEE	FFFFFFFFFF	33333333				AA
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ORAIØ

7/01/75 - 9/30/75

[illegible]


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IEF22371 361 ALLCC. FOR SDHELOA2 GD
IEF22371 333 ALLCATED TO SYSLIB
IEF22371 320 ALLCATED TO
IEF22371 451 ALLCATED TO
IEF22371 231 ALLCATED TO
IEF22371 244 ALLCATED TO
IEF22371 244 ALLCATED TO
IEF22371 220 ALLCATED TO
IEF22371 231 ALLCATED TO
IEF22371 237 ALLCATED TO SYSLOUT
IEF22371 333 ALLCATED TO SYSLIN
IEF22371 335 ALLCATED TO FT05F001
IEF22371 335 ALLCATED TO FT06F001
IEF22371 335 ALLCATED TO FT07F001
IEF22371 237 ALLCATED TO SYSPRINT
IEF22371 232 ALLCATED TO SYSPRINT
IEF22371 235 ALLCATED TO SYSPRINT
IEF22371 336 ALLCATED TO SYSTEM
IEF22371 335 ALLCATED TO SYSUDUMP
IEF22371 000 ALLCATED TO GENTAP

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OPTICS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=CRBIT

TOTAL LENGTH	5590
ENTRY ADDRESS	A2810

7409701 GFB

HEL 105-A

[illegible]

END OF FILE CN ORBIT TAPE

KEPT
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SYSCUT
KEPT
SYSIN

```
DCNAME=SYSLIB -1 0 EXCPS
DCNAME=SYSLIB -2 17 EXCPS
DCNAME=SYSLIB -3 61 EXCPS
DCNAME=SYSLIB -4 28 EXCPS
DCNAME=SYSLIB -5 0 EXCPS
DCNAME=SYSLIB -6 0 EXCPS
DCNAME=SYSLIB -7 0 EXCPS
DCNAME=SYSLIB -8 0 EXCPS
DCNAME=SYSLCUT 1 EXCPS
DCNAME=SYSLIN -1 7 EXCPS
DCNAME=FTQ5F001 2 EXCPS
```

A 10x10 grid of dots. The dots are arranged to form the number '10'. The '1' is formed by a vertical column of 10 dots. The '0' is formed by a horizontal row of 10 dots, starting from the 7th dot of the '1' column and extending to the right.

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SACC 360/75

READER NUMBER-P0178

CLASS-

ORA 12
1/1/76 - 2/1/76

```

XX          SPACE=(CYL,(0,1)),UNIT=(DISK,3)
XXSYSTEM DD SYSOUT=STERMOUT
//SYSUDUMP DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO, GENTAP DD UNIT=(7TRACK,,DEFER),
// VOL=SCR=ORTAPE,LABEL=(.NL,.IN),DISP=(CLO,KEEP),
// DCB=(RECFM=U,BLKSIZE=1544,DEN=2)
//DATAS DD *
IEF2361 ALLOC. FOR SDHELCA1 GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 335 ALLOCATED TO SYSLOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 335 ALLOCATED TO FT05F001
IEF2371 335 ALLOCATED TO FT06F001
IEF2371 336 ALLOCATED TO FT07F001
IEF2371 335 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 336 ALLOCATED TO SYSTEM
IEF2371 335 ALLOCATED TO SYSUDUMP
IEF2371 0C0 ALLOCATED TO GENTAP

```

00000180
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00000200

CS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	B6810	CNVRTSCT*	SD	B7670	CNVRT	LR	B7670	DBGEN	LR	B7998	DBFEQV	LR	B7B58
FREAD	LR	B7D60	FREAD	LR	B7F8B	FWRITE	LR	B807C	REWIND	LR	B8282	LEAVE	LR	B8366
UNLOAD	LR	B841A	PCSN	LR	B8530	MCUNT	LR	B8750	MEMBER	LR	B8932	FTRAP	LR	B8A22
FALLOW	LR	B8AA0	FUNITABL*	SD	B9A60	FPL1	SD	B9B28	FDDNL1ST*	SD	B9B30	FERMSG	SD	B9B38
INHCNAME*	SD	B9BA0	FRONL*	LR	B9BA0	FWRNL*	LR	BA1A4	INHCCHH*	SD	BA670	IBCCM*	LR	BA670
FIQCS*	LR	BA72C	INTSWTCH*	LR	B8586	IMCCOMH2*	SD	B8508	SEQOASD	LR	B8950	FTF	SD	B8C33
ITISECT	SD	B8CE8	ITI	LR	B8CE8	FXFLT	SD	B8D40	FIXFLT	LR	B8D40	TRNSLTE	SD	B8D88
TRANS	LR	B8D88	BITST	SD	B8E98	CNTGDATA*	LR	B8E98	DTOUN	SD	B8FC8	INHCFCVTH*	SD	8C098
ADCON*	LR	BC098	FCVACOUTP*	LR	BC142	FCVLGOUTP*	LR	BC102	FCVZOUTP*	LR	BC322	FCVIGOUTP*	LR	8C600
FCVACOUTP*	LR	BCB02	FCVCOUTP*	LR	BCDEC	INT6SCH*	LR	B0003	INHCFCIGS*	SD	BD238	FIQCS*	LR	BD238
FIQCSBEP*	SD	BD23E	INHCFCIS2*	SD	BE160	INHCERR*	SD	BE690	ERRMON	LR	BE690	INHCERRE	LR	BE6A8
INHCFCINTH*	SD	BE698	ANITH*	LR	BE698	ACJSWTCH*	LR	BF004	INCUOPT	SD	BF180	INCUATBL*	SD	BF409
INHCFCRCH*	SD	BF010	INCTRCH*	LR	BF010	ERRTRA	LR	BF618						

TOTAL LENGTH 9590
ENTRY ADDRESS B6810

SATIO HELIOS-A 00ORBIT TAPE #ORA12
7409701 ORB 75 366 C00000 B97 000000 0006 01 760522 006 01 01 E7 X

HELIOS-A				YEAR 1976.		LAUNCH TIME 33410950. 04		HELIOS-V(A, U/DAY)		HELIOS-RADIAL		HELIOS-NORMAL	
MM	DD	HR	SC	HELIOS ECL-LONG	HELIOS ECL-LAT	SUN-HELIOS DIST(A, U)	ERTH-HELIOS DIST(A, U)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LETIDEC	HELIOS RADIAL	HELIOS NORMAL	
1	1	0	0	342.66	-0.00	0.98	0.30	17.34	-0.87	-0.01	0.01	0.01	
1	2	0	0	342.35	-0.00	0.98	0.30	17.65	-0.96	-0.01	0.01	0.01	
1	3	0	0	342.03	-0.00	0.98	0.21	17.97	-1.05	-0.01	0.01	0.01	
1	4	0	0	341.72	-0.00	0.98	0.31	18.28	-1.14	-0.02	0.01	0.01	
1	5	0	0	341.41	-0.00	0.98	0.32	18.59	-1.22	-0.02	0.01	0.01	
1	6	0	0	341.10	0.00	0.97	0.32	18.90	-1.31	-0.02	0.01	0.01	
1	7	0	0	340.79	0.00	0.97	0.33	19.21	-1.40	-0.02	0.01	0.01	
1	8	0	0	340.49	0.00	0.97	0.33	19.51	-1.49	-0.02	0.01	0.01	
1	9	0	0	340.19	0.00	0.97	0.34	19.81	-1.58	-0.02	0.01	0.01	
1	10	0	0	339.90	0.00	0.97	0.34	20.10	-1.67	-0.02	0.01	0.01	
1	11	0	0	339.61	0.00	0.96	0.35	20.39	-1.76	-0.03	0.01	0.01	
1	12	0	0	339.32	0.00	0.96	0.35	20.68	-1.84	-0.03	0.01	0.01	
1	13	0	0	339.03	0.00	0.96	0.35	20.97	-1.93	-0.03	0.01	0.01	
1	14	0	0	338.76	0.00	0.95	0.36	21.24	-2.02	-0.03	0.01	0.01	
1	15	0	0	338.48	0.00	0.95	0.36	21.52	-2.11	-0.03	0.01	0.01	
1	16	0	0	338.21	0.00	0.95	0.37	21.79	-2.20	-0.03	0.01	0.01	

1	17	0	0	0	337.95	0.00	0.94	0.37	84.93	22.05	-2.29	-0.04	0.01
1	18	0	0	0	337.49	0.00	0.94	0.37	85.31	22.31	-2.38	-0.04	0.01
1	19	0	0	0	337.44	0.00	0.94	0.38	85.71	22.56	-2.47	-0.04	0.01
1	20	0	0	0	337.20	0.00	0.93	0.38	86.12	22.80	-2.57	-0.04	0.01
1	21	0	0	0	336.96	0.01	0.93	0.39	86.56	23.04	-2.66	-0.04	0.01
1	22	0	0	0	336.73	0.01	0.92	0.39	87.02	23.27	-2.75	-0.04	0.01
1	23	0	0	0	336.51	0.01	0.92	0.39	87.51	23.49	-2.84	-0.05	0.01
1	24	0	0	0	336.30	0.01	0.92	0.40	88.01	23.70	-2.93	-0.05	0.01
1	25	0	0	0	336.09	0.01	0.91	0.40	88.54	23.91	-3.03	-0.05	0.01
1	26	0	0	0	335.90	0.01	0.91	0.40	89.09	24.10	-3.12	-0.05	0.01
1	27	0	0	0	335.71	0.01	0.90	0.41	89.67	24.29	-3.22	-0.05	0.01
1	28	0	0	0	335.54	0.01	0.89	0.41	90.27	24.46	-3.31	-0.05	0.01
1	29	0	0	0	335.37	0.01	0.89	0.41	90.90	24.63	-3.40	-0.06	0.01
1	30	0	0	0	335.22	0.01	0.88	0.41	91.56	24.78	-3.50	-0.06	0.01
1	31	0	0	0	335.07	0.01	0.88	0.42	92.24	24.93	-3.60	-0.06	0.01
2	1	0	0	0	334.94	0.01	0.87	0.42	92.95	25.06	-3.69	-0.06	0.01

END OF FILE ON ORBIT TAPE

```

IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF285I M2.ZBRTC.SD002.LOAD
IEF285I VOL SER NOS= DISK15.
IEF285I SYS2.CEBLKUNV
IEF285I VOL SER NOS= M2SYS2.
IEF285I SYS1.FCRTL1B
IEF285I VOL SER NOS= K3ITL0.
IEF285I SYS2.FORTLIB
IEF285I VOL SER NOS= K3SYS2.
IEF285I SYS1.PL1LIB
IEF285I VOL SER NOS= K3ITL5.
IEF285I SYS1.FORTSSP
IEF285I VOL SER NOS= K3ITL5.
IEF285I SYS2.COBLIB
IEF285I VOL SER NOS= M2SYS1.
IEF285I SYS1.ALGLIB
IEF285I VOL SER NOS= K3SYS2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000001
IEF285I VOL SER NOS= K3SCR2.
IEF285I M2.ZBRTC.SD002.LOAD
IEF285I VOL SER NOS= DISK15.
IEF285I SYS80045.T143833.RV000.SDHLCAL.S0000008
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.RV000.SDHLCAL.S0000008
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000002
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000003
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000004
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000005
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.SV000.SDHLCAL.R0000006
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS80045.T143833.RV000.SDHLCAL.R0000007
IEF285I VOL SER NOS= DPA12
IEF285I K 0C0.CRA12.SDHLCAL.G0
IEF373I STEP /GO / START 80045.1438
IEF374I STEP /GO / STOP 80045.1444 CPU 0MIN 12.59SEC MAIN 200K LCS OK
- STEP 01 - RETURN CODE = 0000
IO IN SECS. DISK= 11.12.DRUM= .00.TAPE= .51 MINS=(CPU= .20.ID= .31)
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CCRE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME= .51 MINS. =
/ EXEC NOTIFYTS
XXDEFAULT PROC MODE=.USRID=.MSG=.USERID=.ID= NOTIFYTS. EAC/21JUN73 00000010
*** SEND BACKGROUND JOB REPORT TO TSC USER 00000020
XXNOTIFYTS EXEC PGM=NOTIFYTS.REGION=20K.CONC=EVEN. 00000038
XX PARM=&MODE.&USRID&SERID&ID.&MSG 00000040
IEF653I SUBSTITUTION JCL - PARM=...
IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF373I STEP /NOTIFYTS/ START 80045.1444
IEF374I STEP /NOTIFYTS/ STOP 80045.1444 CPU 0MIN 00.04SEC MAIN 8K LCS OK
- STEP 02 - RETURN CODE = 0000
IO IN SECS. DISK= .22.DRUM= .00.TAPE= .00 MINS=(CPU= .00.ID= .00)
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CCRE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME=00000.00 MINS. =
IEF375I JOB /SDHLCAL/ START 80045.1438
IEF376I JOB /SDHLCAL/ STOP 80045.1444 CPU 0MIN 12.63SEC
- SYSTEM=REL21.8F (04-01-79) K3
- JOB 0316-
TOTAL TIME = .52 MINS=(CPU= .21.ID= .31)
IO IN SECS. DISK= 11.35.DRUM= .00.TAPE= 7.54.CELL= .00.OTHR= .24

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ZZZZZZZZZZ	BBB333333	JJJJJJ	HH	HH	BB33333333	0000000000	AA	222222222
ZZZZZZZZZZ	BB33333333	JJJJJJ	HH	HH	BB33333333	0000000000	AAA	2222222222
ZZ	BB	CC	JJ	HH	BB	CC	AAA	22
ZZ	BB	CC	JJ	HH	BB	CC	AAA	22
ZZ	BB	CC	JJ	HH	BB	CC	AA	22
ZZ	BB33333333	JJ	HH	HH	BB33333333	0000000000	AA	22
ZZ	BB	CC	JJ	HH	BB	CC	AA	22
ZZ	BB	CC	JJ	HH	BB	CC	AA	22
ZZ	BB	CC	JJ	HH	BB	CC	AA	22
ZZ	BB	CC	JJ	HH	BB	CC	AA	22
ZZZZZZZZZZ	BB33333333	JJJJJJ	HH	HH	BB33333333	0000000000	AA	2222222222
ZZZZZZZZZZ	BB33333333	JJJJJJ	HH	HH	BB33333333	0000000000	AA	2222222222

ADDRESS		DATA	HEX	ASCII
00000000	FFFFFFFF	33333333		AA
00000001	FFFFFFFF	33333333		AA
00000002	FF	33	33	AAAA
00000003	FF		33	AAAA
00000004	FF		33	AA
00000005	FFFFFFFF	333333		AA
00000006	FFFFFFFF	333333		AA
00000007	FF	33	33	AAAAAA
00000008	FF		33	AAAAAA
00000009	FF	33	33	AAAAAA
0000000A	FF	33333333		AA
0000000B	FF	33333333		AA

ORAØ8

2/1/76 - 3/1/76

	DATE	HELIOS	HELIOS	SUN-HELIOS	EARTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
	MM DD YY	EC(L) (A.U.)	EC(L) (A.U.)	DIST (A.U.)	DIST (A.U.)	SUN (DEG)	EARTH (DEG)	HEL-LST (DEG)	RADIAL	NORMAL
21	11 01 00	334.94	0.01	0.47	0.42	92.45	25.06	-3.69	-0.006	0.01
11	11 01 00	334.94	0.01	0.47	0.42	92.70	25.18	-3.79	-0.005	0.01
01	11 01 00	334.72	0.01	0.46	0.42	94.27	25.28	-3.85	-0.007	0.01
11	11 01 00	334.63	0.01	0.45	0.42	95.28	25.37	-3.98	-0.007	0.01
01	11 01 00	334.50	0.01	0.44	0.43	96.12	25.44	-4.08	-0.007	0.01
11	11 01 00	334.50	0.01	0.44	0.43	97.01	25.56	-4.18	-0.007	0.01
01	11 01 00	334.46	0.01	0.43	0.43	97.93	25.54	-4.28	-0.007	0.01
11	11 01 00	334.46	0.01	0.43	0.43	98.44	25.57	-4.38	-0.007	0.01
01	11 01 00	334.43	0.01	0.42	0.43	99.40	25.57	-4.48	-0.008	0.01
11	11 01 00	334.44	0.01	0.41	0.43	100.94	25.56	-4.58	-0.008	0.01
01	11 01 00	334.44	0.01	0.40	0.43	102.74	25.52	-4.68	-0.008	0.01
11	11 01 00	334.53	0.01	0.79	0.44	103.18	25.47	-4.78	-0.008	0.01

[illegible]

AA00000000	FFFFFFFFFFFF	33333233
AA00000000	FFFFFFFFFFFF	3333333333
00	FF	33
00	FF	33
00	FF	33
00	FF	33
AA00000000	FFFFFFFFFF	333333
AA00000000	FFFFFFFFFF	333333
00	FF	33
00	FF	33
00	FF	33
00	FF	33
AA00000000	FFFFFFFFFF	3333333333
AA00000000	FFFFFFFFFF	33333333

5ACC 360/75

READER NUMBER-P0059

CLASS

OR A 15

3/1/76 - 6/30/76

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XXFT07F001 DD SYSDAT=B.DCB=(RECFM=FB, BLKSIZE=7200, LRECL=80) 00000160
XXSYSPRINT DD SYSDAT=COLL.DCB=(BLKSIZE=2048, LRECL=137, RECFM=VBA) 00000170
IEF6531 SUBSTITUTION JCL - SYSDAT=A.DCB=(BLKSIZE=7200, LRECL=137, RECFM=VBA) 00000180
XX  SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000190
XXSYSTEM DD SYSDAT=STERMOUT 00000200
IEF6531 SUBSTITUTION JCL - SYSDAT=A 00000210
//SYSDUMP DD SYSDAT=A 00000220
X//SYSDUMP DD SYSDAT=A,SPACE=(CYL,(0,5)) 00000230
//GO.GENTAP DD UNIT=(7TRACK,DEFER). 00000240
//VOLSER=CHTAPE,LABEL=(.NL.,IN),DISP=(OLD,KEEP). 00000250
// DCB=(RECFM=U, BLKSIZE=1944, DEN=2) 00000260
//DATA5 DD * 00000270
IEF2371 333 ALLOCATED TO SYSLID 00000280
IEF2371 320 ALLOCATED TO 00000290
IEF2371 451 ALLOCATED TO 00000300
IEF2371 231 ALLOCATED TO 00000310
IEF2371 244 ALLOCATED TO 00000320
IEF2371 244 ALLOCATED TO 00000330
IEF2371 220 ALLOCATED TO 00000340
IEF2371 231 ALLOCATED TO 00000350
IEF2371 335 ALLOCATED TO SYSLOUT 00000360
IEF2371 333 ALLOCATED TO SYSLIN 00000370
IEF2371 335 ALLOCATED TO FT05F001 00000380
IEF2371 232 ALLOCATED TO FT06F001 00000390
IEF2371 335 ALLOCATED TO FT07F001 00000400
IEF2371 235 ALLOCATED TO SYSPRINT 00000410
IEF2371 232 ALLOCATED TO SYSPRINT 00000420
IEF2371 237 ALLOCATED TO SYSPRINT 00000430
IEF2371 335 ALLOCATED TO SYSTERM 00000440
IEF2371 336 ALLOCATED TO SYSDUMP 00000450
IEF2371 000 ALLOCATED TO GENTAP 00000460

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OS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERN,SIZE=194560,NAME=**GO
EP=CR3IT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR										
ORBIT	SD	78010	CHVRTSCT*	SD	78E70	CHVRT	*	LR	78E70	OBGEN	*	SD	79198	DBFEQV	*	LR	79358							
PREAD	*	SD	79560	PREADB	*	LR	79780	WRITE	*	LR	79870	REWIND	*	LR	79A82	LEAVE	*	LR	79B66					
UNLOAD	*	LR	79C1A	POSN	*	LR	79D30	MOUNT	*	LR	79F50	MEMBER	*	LR	7A132	FTAP	*	LR	7A222					
FOLLOW	*	LR	7A2A0	FINITABL*	SD	7A260	PL1	*	SD	7B328	FOONLIST*	SD	7B330	FERMSG	*	SD	7B338							
THCNAML*	SD	7B3A0	FRNL*	LR	7B3A0	FRNL*	LR	7B3A4	INCCOMH*	SD	7B570	IBCOM*	*	LR	7B570	IBCOM*	*	LR	7B570					
FOIUCS*	LR	7B570	INTSWCH*	LR	7C030	INCCOMH2*	SD	7C0D8	SEOCASD	LR	7C150	FTF	*	SD	7C438									
ITISCT*	SD	7D4E8	ITI	*	LR	7D4E8	FXFLT	*	SD	7D540	FIXFLT	LR	7D540	TRANSLT*	SD	7D588								
TRANS	LR	7D588	BITST	SD	7D698	CNTGDATA*	LR	7D698	DTOUN	SD	7D7C8	INCFVTH*	SD	7D898										
ADCON*	LR	7D898	FCVADJTP*	LR	7D942	FCVADJTP*	LR	7D9D2	FCVADJTP*	LR	7D9D2	FCVADJTP*	LR	7D9D2	FCVADJTP*	LR	7D9D2							
FCVADJTP*	LR	7E402	FCVADJTP*	LR	7E402	INTSWCH*	LR	7E402	INCEIUS*	SD	7EA38	FIUCS*	LR	7EA38										
FILECHP*	LR	7EA38	INCEIUS2*	SD	7F950	INCEIUS*	SD	7FE90	ERRMUN	LR	7FE90	ERRMUN	LR	7FE90	INCEIUS*	LR	7FE90							
INCEIUS*	SD	80468	ARITH*	LR	80468	ADJ3WCH*	LR	80804	INCUPT	SD	80980	INCUPT	SD	80980	INCUPT	SD	80980							
INCEIUS*	SD	81310	INCEIUS*	LR	81310	ERRTRA	*	LR	81318															
TOTAL LENGTH 9520															ENTRY ADDRESS 78010									

SATID HELIOS-A 00R3IT TAP #0RA15
7409701 OR3 76 061 000000 182 000300 6007 01 740915 007 01 01 E7 X

HELIOS-A YEAR 1976. LAUNCH TIME 38594950. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL	NORMAL
3	1	0	0	0	341.16	0.02	0.61	0.46	135.53	18.84	-6.61	-0.12	0.02
3	2	0	0	0	342.00	0.02	0.60	0.46	138.21	18.00	-6.70	-0.12	0.02
3	3	0	0	0	342.91	0.02	0.59	0.46	143.95	17.09	-6.79	-0.12	0.02
3	4	0	0	0	343.01	0.02	0.58	0.47	143.90	16.09	-6.87	-0.12	0.02
3	5	0	0	0	344.99	0.02	0.56	0.47	146.93	15.01	-6.95	-0.12	0.02
3	6	0	0	0	346.17	0.02	0.55	0.48	150.09	13.83	-7.02	-0.13	0.02
3	7	0	0	0	347.44	0.02	0.54	0.48	153.18	12.56	-7.08	-0.13	0.02
3	8	0	0	0	348.83	0.02	0.53	0.49	156.74	11.17	-7.14	-0.13	0.02
3	9	0	0	0	350.35	0.02	0.51	0.50	160.34	9.66	-7.18	-0.13	0.02
3	10	0	0	0	351.99	0.02	0.50	0.50	164.03	8.01	-7.21	-0.13	0.02
3	11	0	0	0	353.77	0.02	0.49	0.51	167.85	6.23	-7.22	-0.13	0.02

3	355.70	0.02	0.47	0.52	171.81	4.30	-7.22	-0.013	0.02
12	357.81	0.02	0.45	0.53	175.91	2.19	-7.20	-0.013	0.03
11	0.99	0.02	0.45	0.55	179.83	0.09	-7.15	-0.013	0.03
11	2.57	0.02	0.43	0.56	175.43	2.57	-7.07	-0.013	0.03
11	7.27	0.02	0.42	0.49	170.88	5.27	-6.96	-0.013	0.03
11	8.13	0.02	0.41	0.59	166.16	8.19	-6.82	-0.013	0.03
11	11.37	0.02	0.40	0.61	161.29	11.37	-6.62	-0.013	0.03
11	14.83	0.02	0.38	0.63	156.24	14.80	-6.33	-0.012	0.03
11	18.52	0.02	0.37	0.65	151.02	18.52	-6.08	-0.011	0.03
11	22.54	0.02	0.36	0.65	145.62	22.54	-5.72	-0.011	0.03
11	26.85	0.02	0.35	0.70	140.04	26.85	-5.28	-0.010	0.03
11	31.43	0.02	0.34	0.73	134.29	31.43	-4.77	-0.009	0.03
11	36.41	0.02	0.33	0.75	128.37	36.41	-4.19	-0.008	0.04
11	41.64	0.02	0.33	0.78	122.31	41.64	-3.53	-0.007	0.04
11	47.13	0.01	0.32	0.81	116.13	47.13	-2.79	-0.006	0.04
11	52.35	0.01	0.32	0.85	109.87	52.85	-2.00	-0.004	0.04
11	58.75	0.01	0.31	0.89	103.57	58.75	-1.15	-0.003	0.04
11	64.77	0.01	0.31	0.93	97.30	64.77	-0.28	-0.001	0.04
11	70.84	0.00	0.31	0.94	91.10	70.84	0.61	0.001	0.04
11	76.89	0.00	0.31	0.98	85.05	76.89	1.49	0.002	0.04
11	82.84	0.00	0.31	1.01	79.20	82.84	2.33	0.004	0.04
11	88.63	0.01	0.32	1.04	73.59	88.63	3.12	0.005	0.04
11	94.20	0.01	0.32	1.07	68.28	94.20	3.84	0.006	0.04
11	99.52	0.01	0.33	1.10	63.28	99.52	4.49	0.008	0.04
11	104.56	0.01	0.35	1.13	58.61	104.56	5.06	0.009	0.03
11	109.29	0.02	0.36	1.16	54.28	109.29	5.55	0.010	0.03
11	113.72	0.02	0.37	1.19	50.28	113.72	5.96	0.011	0.03
11	117.84	0.02	0.37	1.22	46.61	117.84	6.30	0.011	0.03
11	121.66	0.02	0.39	1.24	43.24	121.66	6.57	0.012	0.03
11	125.20	0.02	0.39	1.27	40.15	125.20	6.79	0.012	0.03
11	128.47	0.02	0.41	1.29	37.34	128.47	6.95	0.013	0.03
11	131.43	0.02	0.42	1.32	34.77	131.43	7.07	0.013	0.03
11	134.27	0.02	0.43	1.34	32.42	134.27	7.16	0.013	0.03
11	136.84	0.02	0.44	1.36	30.28	136.84	7.20	0.013	0.03
11	139.20	0.02	0.46	1.39	28.33	139.20	7.22	0.013	0.03
11	141.38	0.02	0.47	1.40	26.55	141.38	7.22	0.013	0.02
11	143.34	0.02	0.49	1.42	24.42	143.34	7.16	0.013	0.02
11	145.24	0.02	0.50	1.44	22.44	145.24	7.10	0.013	0.02
11	146.95	0.02	0.51	1.46	20.08	146.95	7.03	0.013	0.02
11	148.52	0.02	0.52	1.47	18.84	148.52	6.96	0.013	0.02
11	149.37	0.02	0.53	1.49	17.70	149.37	6.87	0.013	0.02
11	151.31	0.02	0.55	1.51	16.66	151.31	6.78	0.012	0.02
11	152.55	0.02	0.56	1.52	15.71	152.55	6.69	0.012	0.02
11	153.69	0.02	0.57	1.54	14.83	153.69	6.58	0.012	0.02
11	154.74	0.02	0.59	1.55	14.03	154.74	6.48	0.012	0.02
11	155.71	0.02	0.60	1.57	13.30	155.71	6.37	0.012	0.02
11	156.60	0.02	0.61	1.58	12.63	156.60	6.26	0.012	0.02
11	157.43	0.02	0.62	1.60	12.04	157.43	6.16	0.011	0.02
11	158.14	0.02	0.63	1.61	11.52	158.14	6.04	0.011	0.02
11	158.88	0.02	0.64	1.62	11.06	158.88	5.92	0.011	0.02
11	159.52	0.02	0.65	1.64	10.61	159.52	5.81	0.011	0.02
11	160.10	0.02	0.65	1.65	10.23	160.10	5.64	0.011	0.02
11	160.74	0.02	0.66	1.67	9.91	160.74	5.53	0.010	0.02
11	161.33	0.02	0.67	1.68	9.61	161.33	5.46	0.010	0.02
11	161.78	0.02	0.71	1.69	9.31	161.78	5.35	0.010	0.02
11	162.35	0.02	0.72	1.71	9.03	162.35	5.23	0.010	0.02
11	162.69	0.02	0.73	1.72	8.85	162.69	5.12	0.010	0.02
11	162.93	0.02	0.74	1.73	8.65	162.93	5.00	0.009	0.02
11	163.25	0.02	0.75	1.74	8.46	163.25	4.89	0.009	0.02
11	163.49	0.02	0.75	1.75	8.25	163.49	4.78	0.009	0.02
11	163.70	0.02	0.76	1.76	8.04	163.70	4.67	0.009	0.02
11	163.88	0.02	0.77	1.77	7.81	163.88	4.56	0.009	0.02
11	164.04	0.02	0.78	1.77	7.59	164.04	4.44	0.008	0.02
11	164.17	0.02	0.79	1.78	7.39	164.17	4.33	0.008	0.01
11	164.28	0.02	0.80	1.79	7.19	164.28	4.23	0.008	0.01
11	164.37	0.02	0.81	1.80	6.90	164.37	4.12	0.008	0.01

HELIOS-A YEAR 1976 LAUNCH TIME 45251350. 0.

DATE	MM	DD	HR	MN	SC	HELIOS ECL-LONG	HELIOS ECL-LAT	SUN-HELIOS DIST(A.U.)	EARTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U./DAY) RADIAL	NORMAL
5 18	0	0	0	0	0	164.44	-0.02	0.81	1.81	8.63	164.44	4.01	0.008	0.01
5 19	0	0	0	0	0	164.50	-0.02	0.82	1.82	8.57	164.50	3.90	0.008	0.01
5 20	0	0	0	0	0	164.53	-0.02	0.83	1.82	8.51	164.53	3.80	0.007	0.01
5 21	0	0	0	0	0	164.54	-0.02	0.84	1.83	8.47	164.54	3.69	0.007	0.01
5 22	0	0	0	0	0	164.54	-0.02	0.84	1.84	8.44	164.54	3.59	0.007	0.01
5 23	0	0	0	0	0	164.53	-0.02	0.85	1.85	8.42	164.53	3.48	0.007	0.01

5	74	0	0	0	164.50	-0.02	0.46	1.85	8.41	164.50	3.38	0.007	0.01
5	25	0	0	0	164.45	-0.02	0.86	1.86	8.40	164.45	3.28	0.006	0.01
5	26	0	0	0	164.39	-0.01	0.87	1.86	8.41	164.39	3.18	0.006	0.01
5	27	0	0	0	164.32	-0.01	0.88	1.87	8.42	164.32	3.07	0.006	0.01
5	28	0	0	0	164.24	-0.01	0.89	1.87	8.44	164.24	2.97	0.006	0.01
5	29	0	0	0	164.14	-0.01	0.89	1.88	8.46	164.14	2.87	0.006	0.01
5	30	0	0	0	164.04	-0.01	0.89	1.89	8.48	164.04	2.78	0.006	0.01
5	31	0	0	0	163.92	-0.01	0.90	1.89	8.53	163.92	2.68	0.005	0.01
5	32	0	0	0	163.80	-0.01	0.90	1.90	8.57	163.80	2.58	0.005	0.01
5	33	0	0	0	163.66	-0.01	0.91	1.90	8.62	163.66	2.48	0.005	0.01
5	34	0	0	0	163.52	-0.01	0.91	1.91	8.67	163.52	2.39	0.005	0.01
5	35	0	0	0	163.37	-0.01	0.92	1.91	8.73	163.37	2.29	0.005	0.01
5	36	0	0	0	163.21	-0.01	0.92	1.92	8.80	163.21	2.19	0.005	0.01
5	37	0	0	0	163.04	-0.01	0.93	1.92	8.86	163.04	2.10	0.004	0.01
5	38	0	0	0	162.87	-0.01	0.93	1.92	8.94	162.87	2.01	0.004	0.01
5	39	0	0	0	162.69	-0.01	0.94	1.93	9.01	162.69	1.91	0.004	0.01
5	40	0	0	0	162.50	-0.01	0.94	1.93	9.09	162.50	1.82	0.004	0.01
5	41	0	0	0	162.31	-0.01	0.95	1.94	9.17	162.31	1.72	0.004	0.01
5	42	0	0	0	162.11	-0.01	0.95	1.94	9.26	162.11	1.63	0.004	0.01
5	43	0	0	0	161.91	-0.01	0.95	1.94	9.35	161.91	1.54	0.003	0.01
5	44	0	0	0	161.70	-0.01	0.96	1.94	9.44	161.70	1.45	0.003	0.01
5	45	0	0	0	161.47	-0.01	0.96	1.95	9.54	161.47	1.36	0.003	0.01
5	46	0	0	0	161.27	-0.01	0.96	1.95	9.64	161.27	1.27	0.003	0.01
5	47	0	0	0	161.04	-0.01	0.96	1.95	9.74	161.04	1.18	0.003	0.01
5	48	0	0	0	160.82	-0.01	0.96	1.95	9.84	160.82	1.09	0.002	0.01
5	49	0	0	0	160.59	-0.01	0.97	1.96	9.95	160.59	0.99	0.002	0.01
5	50	0	0	0	160.35	-0.01	0.97	1.96	10.05	160.35	0.90	0.002	0.01
5	51	0	0	0	160.12	-0.01	0.97	1.96	10.17	160.12	0.81	0.002	0.01
5	52	0	0	0	159.88	-0.01	0.97	1.96	10.28	159.88	0.72	0.002	0.01
5	53	0	0	0	159.64	-0.01	0.98	1.96	10.39	159.64	0.64	0.002	0.01
5	54	0	0	0	159.39	-0.01	0.98	1.96	10.51	159.39	0.55	0.002	0.01
5	55	0	0	0	159.14	-0.01	0.98	1.96	10.63	159.14	0.46	0.001	0.01
5	56	0	0	0	158.90	-0.01	0.98	1.96	10.75	158.90	0.37	0.001	0.01
5	57	0	0	0	158.65	-0.01	0.98	1.96	10.87	158.65	0.28	0.001	0.01
5	58	0	0	0	158.40	-0.01	0.98	1.96	10.99	158.40	0.19	0.001	0.01
5	59	0	0	0	158.14	-0.01	0.98	1.96	11.12	158.14	0.10	0.001	0.01
5	60	0	0	0	157.89	-0.01	0.98	1.96	11.24	157.89	0.02	0.001	0.01
5	61	0	0	0	157.63	-0.00	0.98	1.96	11.37	157.63	-0.07	0.000	0.01

END OF FILE ON ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - COND CODE 0000	KEPT	DDNAME=SYSLIB	-1	0 EXCPS
IEF2451 M2.ZRRTC.00002.LOAD	KEPT	DDNAME=SYSLIB	-2	17 EXCPS
IEF2451 VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB	-3	61 EXCPS
IEF2451 SYS2.0EHLKUNV	KEPT	DDNAME=SYSLIB	-4	28 EXCPS
IEF2451 VOL SER NOS= M2SY52.	KEPT	DDNAME=SYSLIB	-5	0 EXCPS
IEF2451 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-6	0 EXCPS
IEF2451 VOL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB	-7	0 EXCPS
IEF2451 SYS2.FORTLIB	KEPT	DDNAME=SYSLIB	-8	0 EXCPS
IEF2451 VOL SER NOS= K3SY52.	KEPT	DDNAME=SYSLIB	-9	0 EXCPS
IEF2451 SYS1.PE1LIB	KEPT	DDNAME=SYSLIB	-10	0 EXCPS
IEF2451 VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB	-11	0 EXCPS
IEF2451 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-12	0 EXCPS
IEF2451 VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB	-13	0 EXCPS
IEF2451 SYS2.CORLIB	KEPT	DDNAME=SYSLIB	-14	0 EXCPS
IEF2451 VOL SER NOS= M2SY51.	KEPT	DDNAME=SYSLIB	-15	0 EXCPS
IEF2451 SYS1.ABLLIB	KEPT	DDNAME=SYSLIB	-16	0 EXCPS
IEF2451 VOL SER NOS= K3SY52.	KEPT	DDNAME=SYSLIB	-17	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000015	SYSCUT	DDNAME=SYSLIB	-18	1 EXCPS
IEF2451 VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB	-19	7 EXCPS
IEF2451 M2.ZRRTC.00002.LOAD	KEPT	DDNAME=SYSLIB	-20	2 EXCPS
IEF2451 VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB	-21	2 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000022	SYSCUT	DDNAME=SYSLIB	-22	2 EXCPS
IEF2451 VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB	-23	3 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000016	SYSCUT	DDNAME=SYSLIB	-24	0 EXCPS
IEF2451 VOL SER NOS= K3SCR3.	KEPT	DDNAME=SYSLIB	-25	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000017	SYSCUT	DDNAME=SYSLIB	-26	0 EXCPS
IEF2451 VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB	-27	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000018	SYSCUT	DDNAME=SYSLIB	-28	0 EXCPS
IEF2451 VOL SER NOS= K3SCR6.	KEPT	DDNAME=SYSLIB	-29	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000019	SYSCUT	DDNAME=SYSLIB	-30	0 EXCPS
IEF2451 VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB	-31	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000020	SYSCUT	DDNAME=SYSLIB	-32	0 EXCPS
IEF2451 VOL SER NOS= K3SCR6.	KEPT	DDNAME=SYSLIB	-33	0 EXCPS
IEF2451 SYS2.0045.T110117.SV000.SDMELCA2.R0000021	SYSCUT	DDNAME=SYSLIB	-34	0 EXCPS
IEF2451 VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB	-35	0 EXCPS
IEF2451 K OCC.ORA15 .SDMELCA2.G0	KEPT	DDNAME=SYSLIB	-36	2.911 EXCPS

[illegible]

OR A 16

7	1	76	-	8	31	76
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XX          SPACE=(CYL,(0,1)),UNIT=(DISK,3)
XXSYSTEM DD SYSOUT=ETERMOUT
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SO.GENTAP DD UNIT=(7TRACK,DEFER),
//VOL=SER=ORTAPE,LABEL=(.NL,.IN),DISP=(OLD,KEEP),
//DCB=(RECFM=U,BLKSIZE=1544,DEN=21)
//DATA5 DD *
IEF2371 ALLOC FOR SDHELQ3 GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 235 ALLOCATED TO SYSLOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 335 ALLOCATED TO FT05F001
IEF2371 235 ALLOCATED TO FT06F001
IEF2371 237 ALLOCATED TO FT07F001
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 237 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSTEM
IEF2371 335 ALLOCATED TO SYSUDUMP
IEF2371 001 ALLOCATED TO GENTAP

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00000180
00000190

00000260

05/380 LCADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	B6810	CONVRTSCT	SD	B7670	CONVRT	LR	B7670	DOGEN	SD	B7998	DBFEQV	LR	B7858
FREAD	SD	B7D60	FREAD03	LR	B7F88	FWRITE	LR	B807C	REWIND	LR	B8282	LEAVE	LR	B8366
UNLOAD	LR	B841A	POSN	LR	B8530	MCUNT	LR	B8750	MEMBER	LR	B8932	FTAP	LR	B8A22
FALLQW	LR	B8AA0	FUNITABL	SD	B9A60	FPL	SD	B9B28	FODNLIST	SD	B9B30	FERMSG	SD	B9B38
INCHANEL	SD	B9BA0	FRDNL	LR	B9BA0	FRNL	LR	B9BA4	INCECOMH	SD	BA670	IBCCM	LR	BA670
FTI06CS	LR	BA72C	INTSWTCH	LR	B8586	INCCOMH2	SD	B85D8	SEGOASD	LR	B8950	FTF	SD	B8C38
ITISECT	SD	B8C28	ITI	LR	B8CE8	FXFLT	SD	B8D40	FIXFLT	LR	B8D40	TRNLT	SD	B8D89
TRANS	LR	B8D88	BITST	SD	B8E98	CATGOATA	LR	B8E98	DTOUN	SD	B8FC8	INCFVTH	SD	B8C98
ADCON	LR	BC098	FCVADUTP	LR	BC142	FCVLCUTR	LR	BC102	FCVZOUTP	LR	BC238	FCVIOUPT	LR	BC600
FCVEOUTP	LR	BCBD2	FCVOUTP	LR	BC0EC	INTGSCM	LR	B8D03	INCEFIOS	SD	B8D38	FIDCS	LR	B8D38
FIDCSBP	LR	BD23E	INCFIOS2	SD	BE100	INCERRM	SD	BE690	ERRMON	LR	BE690	INCERRE	LR	BE6A8
INCFINTH	SD	BE6C8	ARITH	LR	BE6C8	ADJSTWCH	LR	BFC04	INCJOPT	SD	BFI80	INCUAL	SD	BF408
INCETRCH	SD	BFU10	INCTRCH	LR	BFBI0	ERRTRA	LR	BFBI8						

TOTAL LENGTH 9590
ENTRY ADDRESS B6810

SAIID HELIOS-A ORBIT TAPE #=ORA16
7409701 ORB 76 183 000000 244 000000 7608 01 741110 608 01 01 E7 X

HELIOS-A				YEAR 1976				LAUNCH TIME 49135750. 04				HELIOS-SUN				HELIOS-HEL				HELIOS-V(A-U/DAY)			
MM	DD	HR	SC	HELIOS ECL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U)	HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS-HEL HEL-LET(DEC)	HELIOS-V(A-U/DAY) RADIAL	NORMAL											
7	1	0	0	157.38	-0.00	0.98	1.56	11.50	157.38	-0.16	0.000	0.01											
7	2	0	0	157.12	-0.00	0.98	1.96	11.63	157.12	-0.25	0.000	0.01											
7	3	0	0	156.86	-0.00	0.98	1.96	11.76	156.86	-0.33	-0.000	0.01											
7	4	0	0	156.61	-0.00	0.98	1.96	11.89	156.61	-0.42	-0.000	0.01											
7	5	0	0	156.35	-0.00	0.98	1.96	12.02	156.35	-0.51	-0.001	0.01											
7	6	0	0	156.10	-0.00	0.98	1.96	12.15	156.10	-0.60	-0.001	0.01											
7	7	0	0	155.84	-0.00	0.98	1.96	12.28	155.84	-0.69	-0.001	0.01											

IHC20B1 IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFA5030D929BC032 . REGISTER CONTAINED FC1177FC00000000

TRACEDBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

68BK 0031 620B746E C00B7673 00000028 000B6A8C

ORBIT 0001AA28 01096910 FF000008 000E7F38

ENTRY POINT= 010B6810

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC208I IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFA5000D920BC032 . REGISTER CONTAINED FA24C24408000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B746E 000B7670 00000028 000B6A8C

OREIT 0001AA28 010B6810 FF000008 000E7F38

ENTRY POINT= 010B6810

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC208I IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFA5000DA20BC032 . REGISTER CONTAINED 7AD652F030000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B746E 000B7670 00000028 000B6A8C

OREIT 0001AA28 010B6810 FF000008 000E7F38

ENTRY POINT= 010B6810

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC208I IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFA5000DA20BC032 . REGISTER CONTAINED 7FB1DDA380000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B746E 000B7670 00000020 000B6A8C

OREIT 0001AA28 010B6810 FF000008 000E7F38

ENTRY POINT= 010B6810

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC208I IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFA5000DA20BC048 . REGISTER CONTAINED 7A3B8D064B000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B746E 000B7670 00000020 000B6A8C

OREIT 0001AA28 010B6810 FF000008 000E7F38

ENTRY POINT= 010B6810

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

STANDARD FIXUP TAKEN . EXECUTION CONTINUING				*****				*****				*****				*****			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	8	0	0	0	0	0	0	155.59	-0.00	0.98	1.95	12.42	155.59	-0.77	-0.001	0.01	0.01		
7	9	0	0	0	0	0	0	155.34	-0.00	0.98	1.95	12.55	155.34	-0.86	-0.001	0.01	0.01		
7	10	0	0	0	0	0	0	155.09	-0.00	0.98	1.95	12.69	155.09	-0.95	-0.001	0.01	0.01		
7	11	0	0	0	0	0	0	154.84	-0.00	0.98	1.95	12.82	154.84	-1.04	-0.001	0.01	0.01		
7	12	0	0	0	0	0	0	154.59	-0.00	0.98	1.95	12.95	154.59	-1.12	-0.001	0.01	0.01		
7	13	0	0	0	0	0	0	154.35	-0.00	0.98	1.98	13.07	154.35	-1.21	-0.002	0.01	0.01		
7	14	0	0	0	0	0	0	154.10	-0.00	0.97	1.94	13.22	154.10	-1.30	-0.002	0.01	0.01		
7	15	0	0	0	0	0	0	153.86	-0.00	0.97	1.94	13.36	153.86	-1.39	-0.002	0.01	0.01		
7	16	0	0	0	0	0	0	153.63	-0.00	0.97	1.93	13.50	153.63	-1.48	-0.002	0.01	0.01		
7	17	0	0	0	0	0	0	153.39	-0.00	0.97	1.93	13.63	153.39	-1.56	-0.002	0.01	0.01		
7	18	0	0	0	0	0	0	153.16	-0.00	0.97	1.93	13.77	153.16	-1.65	-0.002	0.01	0.01		
7	19	0	0	0	0	0	0	152.93	-0.00	0.96	1.92	13.90	152.93	-1.74	-0.003	0.01	0.01		
7	20	0	0	0	0	0	0	152.71	-0.00	0.96	1.92	14.03	152.71	-1.83	-0.003	0.01	0.01		
7	21	0	0	0	0	0	0	152.49	-0.00	0.96	1.92	14.17	152.49	-1.92	-0.003	0.01	0.01		
7	22	0	0	0	0	0	0	152.27	-0.00	0.96	1.91	14.30	152.27	-2.01	-0.003	0.01	0.01		
7	23	0	0	0	0	0	0	152.06	-0.00	0.95	1.91	14.43	152.06	-2.10	-0.003	0.01	0.01		
7	24	0	0	0	0	0	0	151.86	-0.00	0.95	1.91	14.56	151.86	-2.19	-0.003	0.01	0.01		
7	25	0	0	0	0	0	0	151.66	-0.00	0.94	1.90	14.69	151.66	-2.28	-0.004	0.01	0.01		
7	26	0	0	0	0	0	0	151.46	-0.00	0.94	1.90	14.82	151.46	-2.37	-0.004	0.01	0.01		
7	27	0	0	0	0	0	0	151.27	-0.00	0.94	1.89	14.95	151.27	-2.46	-0.004	0.01	0.01		
7	28	0	0	0	0	0	0	151.09	-0.00	0.93	1.87	15.08	151.09	-2.55	-0.004	0.01	0.01		
7	29	0	0	0	0	0	0	150.91	-0.00	0.93	1.85	15.20	150.91	-2.64	-0.004	0.01	0.01		
7	30	0	0	0	0	0	0	150.74	-0.00	0.92	1.83	15.32	150.74	-2.74	-0.004	0.01	0.01		
7	31	0	0	0	0	0	0	150.58	-0.00	0.92	1.87	15.45	150.58	-2.83	-0.005	0.01	0.01		
8	1	0	0	0	0	0	0	150.43	-0.00	0.92	1.87	15.56	150.43	-2.92	-0.005	0.01	0.01		
8	2	0	0	0	0	0	0	150.28	-0.01	0.91	1.86	15.68	150.28	-3.01	-0.005	0.01	0.01		
8	3	0	0	0	0	0	0	150.14	-0.01	0.91	1.86	15.79	150.14	-3.11	-0.005	0.01	0.01		
8	4	0	0	0	0	0	0	150.02	-0.01	0.90	1.85	15.91	150.02	-3.20	-0.005	0.01	0.01		
8	5	0	0	0	0	0	0	149.90	-0.01	0.90	1.84	16.01	149.90	-3.30	-0.005	0.01	0.01		
8	6	0	0	0	0	0	0	149.79	-0.01	0.89	1.84	16.12	149.79	-3.39	-0.006	0.01	0.01		

8	7	0	0	0	149.69	0.01	0.88	1.83	16.22	149.69	-1.49	-0.006	0.01
8	8	0	0	0	149.60	0.01	0.88	1.83	16.32	149.60	-1.58	-0.006	0.01
8	9	0	0	0	149.53	0.01	0.87	1.82	16.41	149.53	-1.68	-0.006	0.01
8	10	0	0	0	149.47	0.01	0.87	1.81	16.50	149.47	-1.78	-0.006	0.01
8	11	0	0	0	149.42	0.01	0.86	1.80	16.58	149.42	-1.87	-0.007	0.01
8	12	0	0	0	149.38	0.01	0.85	1.79	16.66	149.38	-1.97	-0.007	0.01
8	13	0	0	0	149.36	0.01	0.85	1.79	16.73	149.36	-2.07	-0.007	0.01
8	14	0	0	0	149.35	0.01	0.84	1.78	16.80	149.35	-2.17	-0.007	0.01
8	15	0	0	0	149.36	0.01	0.83	1.77	16.86	149.36	-2.27	-0.007	0.01
8	16	0	0	0	149.39	0.01	0.82	1.77	16.91	149.39	-2.37	-0.008	0.01
8	17	0	0	0	149.43	0.01	0.82	1.76	16.96	149.43	-2.47	-0.008	0.01
8	18	0	0	0	149.49	0.01	0.81	1.75	17.00	149.49	-2.57	-0.008	0.01
8	19	0	0	0	149.58	0.01	0.80	1.74	17.02	149.58	-2.67	-0.008	0.01
8	20	0	0	0	149.68	0.01	0.79	1.74	17.04	149.68	-2.77	-0.009	0.02
8	21	0	0	0	149.80	0.01	0.78	1.73	17.05	149.80	-2.87	-0.009	0.02
8	22	0	0	0	149.95	0.01	0.77	1.72	17.05	149.95	-2.97	-0.009	0.02
8	23	0	0	0	150.12	0.01	0.76	1.71	17.03	150.12	-3.08	-0.009	0.02
8	24	0	0	0	150.32	0.01	0.75	1.70	17.01	150.32	-3.18	-0.009	0.02
8	25	0	0	0	150.54	0.01	0.74	1.70	16.96	150.54	-3.28	-0.009	0.02
8	26	0	0	0	150.80	0.01	0.73	1.69	16.91	150.80	-3.39	-0.010	0.02
8	27	0	0	0	151.08	0.01	0.72	1.68	16.83	151.08	-3.49	-0.010	0.02
8	28	0	0	0	151.40	0.01	0.71	1.67	16.74	151.40	-3.60	-0.010	0.02
8	29	0	0	0	151.76	0.02	0.70	1.66	16.62	151.76	-3.70	-0.010	0.02
8	30	0	0	0	152.15	0.02	0.69	1.65	16.49	152.15	-3.80	-0.010	0.02
8	31	0	0	0	152.58	0.02			16.33	152.57	-3.91	-0.010	0.02

END OF FILE ON ORBIT TAPE

SUMMARY OF ERRORS FOR THIS JOB ERROR NUMBER NUMBER OF ERRORS

208 14

IEC2091 SDHELOA3 ORA16 OC1 TR=002.T=000.EG=000.CL=047.N=000.SID=01469

STEP	NAME	CODE	REASON	DDNAME	EXCPS
IEF2851	STEP WAS EXECUTED	CEND CODE=0000	KEPT	DDNAME=SYSLIB -1	0 EXCPS
IEF2851	M2.ZBRTC.SD002.LOAD		KEPT	DDNAME=SYSLIB -2	17 EXCPS
IEF2851	VOL SER NOS= DISK15.		KEPT	DDNAME=SYSLIB -3	61 EXCPS
IEF2851	SYS2.DEBLKUNV		KEPT	DDNAME=SYSLIB -4	28 EXCPS
IEF2851	VOL SER NOS= M2SYS2.		KEPT	DDNAME=SYSLIB -5	0 EXCPS
IEF2851	SYS1.FORTLIB		KEPT	DDNAME=SYSLIB -6	0 EXCPS
IEF2851	VOL SER NOS= K3ITL6.		KEPT	DDNAME=SYSLIB -7	0 EXCPS
IEF2851	SYS2.FORTLIB		KEPT	DDNAME=SYSLIB -8	0 EXCPS
IEF2851	VOL SER NOS= K3SYS2.		KEPT	DDNAME=SYSLIB -9	0 EXCPS
IEF2851	SYS1.PLIB		KEPT	DDNAME=SYSLIB -10	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.		KEPT	DDNAME=SYSLIB -11	0 EXCPS
IEF2851	SYS1.FORTSSP		KEPT	DDNAME=SYSLIB -12	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.		KEPT	DDNAME=SYSLIB -13	0 EXCPS
IEF2851	SYS2.COULIB		KEPT	DDNAME=SYSLIB -14	0 EXCPS
IEF2851	VOL SER NOS= M2SYS1.		KEPT	DDNAME=SYSLIB -15	0 EXCPS
IEF2851	SYS1.ALGLIB		KEPT	DDNAME=SYSLIB -16	0 EXCPS
IEF2851	VOL SER NOS= K3SYS2.		KEPT	DDNAME=SYSLIB -17	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000001		SYSDUT	DDNAME=SYSLIB -18	1 EXCPS
IEF2851	VOL SER NOS= K3SCR6.		KEPT	DDNAME=SYSLIB -19	7 EXCPS
IEF2851	M2.ZBRTC.SD002.LOAD		KEPT	DDNAME=SYSLIB -20	2 EXCPS
IEF2851	VOL SER NOS= DISK15.		KEPT	DDNAME=SYSLIB -21	2 EXCPS
IEF2851	SYS80045.T110249.RV001.SDHELOA3.S0000008		SYSDUT	DDNAME=SYSLIB -22	2 EXCPS
IEF2851	VOL SER NOS= K3SCR2.		KEPT	DDNAME=SYSLIB -23	2 EXCPS
IEF2851	SYS80045.T110249.RV000.SDHELOA3.S0000008		SYSDUT	DDNAME=SYSLIB -24	2 EXCPS
IEF2851	VOL SER NOS= K3SCR2.		KEPT	DDNAME=SYSLIB -25	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000002		SYSDUT	DDNAME=SYSLIB -26	0 EXCPS
IEF2851	VOL SER NOS= K3SCR6.		KEPT	DDNAME=SYSLIB -27	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000003		SYSDUT	DDNAME=SYSLIB -28	0 EXCPS
IEF2851	VOL SER NOS= K3SCR4.		KEPT	DDNAME=SYSLIB -29	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000004		SYSDUT	DDNAME=SYSLIB -30	0 EXCPS
IEF2851	VOL SER NOS= K3SCR6.		KEPT	DDNAME=SYSLIB -31	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000005		SYSDUT	DDNAME=SYSLIB -32	0 EXCPS
IEF2851	VOL SER NOS= K3SCR6.		KEPT	DDNAME=SYSLIB -33	0 EXCPS
IEF2851	SYS80045.T110249.SV000.SDHELOA3.R0000006		SYSDUT	DDNAME=SYSLIB -34	0 EXCPS
IEF2851	VOL SER NOS= K3SCR2.		KEPT	DDNAME=SYSLIB -35	0 EXCPS
IEF2851	SYS80045.T110249.RV000.SDHELOA3.R0000007		SYSDUT	DDNAME=SYSLIB -36	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -37	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -38	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -39	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -40	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -41	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -42	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -43	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -44	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -45	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -46	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -47	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -48	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -49	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -50	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -51	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -52	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -53	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -54	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -55	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -56	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -57	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -58	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -59	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -60	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -61	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -62	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -63	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -64	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -65	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -66	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -67	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -68	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -69	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -70	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -71	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -72	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -73	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -74	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -75	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -76	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -77	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -78	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -79	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -80	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -81	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -82	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -83	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -84	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -85	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -86	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -87	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -88	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -89	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -90	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -91	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -92	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -93	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -94	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -95	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -96	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -97	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -98	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -99	0 EXCPS
IEF2851	VOL SER NOS= ORA16.		KEPT	DDNAME=SYSLIB -100	0 EXCPS

IEF280E K OC1.ORA16.SDHELOA3.GD
 IEF3731 STEP /GO / START 80045.1102
 IEF3741 STEP /GO / STOP 80045.1105 CPU 0MIN 21.57SEC MAIN 200K LCS OK
 STEP-01 RETURN CODE = C030 10 IN SECS. DISK= 11.07.DRUM= .00.TAPE= 14.85.CELL= .00.OTHR= .16
 SURCHARGES=(DRIVES ALOC=000.TAPE MCUNTS=000.CORE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME= .79 MINS.

// EXEC NOTIFYTS
 XXDEFAULT PROC MODE=.USRID=.MSG=.USERID=.ID= NOTIFYTS. EAC/21JUN73 00000010

[illegible]

~~CLASS-~~

OR A20.

9/1/76 - 9/30/76

```

XX          SPACE=(CYL,(0,1)),UNIT=(DISK,2)
XXSYSTEM DD SYSOUT=STERMOUT
IEF653I SUBSTITUTION JCL - SYSCUT=A
//SYSDUMP DD SYSOUT=A
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO GENTAP DD UNIT=(7TRACK,DEFER)
// VCL=SER=ORTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP).
// DCB=(RECFM=U,BLKSIZE=1544,DEN=2)
//DATA5 DD *
IEF236I ALLOC FOR ZBJHBCA2 GO
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 220 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 335 ALLOCATED TO SYSLOUT
IEF237I 335 ALLOCATED TO SYSLIN
IEF237I 333 ALLOCATED TO FT05F001
IEF237I 335 ALLOCATED TO FT06F001
IEF237I 335 ALLOCATED TO FT07F001
IEF237I 335 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 335 ALLOCATED TO SYSTEM
IEF237I 335 ALLOCATED TO SYSDUMP
IEF237I 000 ALLOCATED TO GENTAP

```

00000180
00000190

00000200

CS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	AC810	CNVRTSCT*	SD	AD670	CNVRT	LR	AD670	DSGEN	SD	AD998	DBFEQY	LR	AD858
FREAD	SD	ADD60	FREADB	LR	ADF88	WRITE	LR	AE07C	REWIND	LR	AE282	LEAVE	LR	AE366
UNLOAD	LR	AE41A	POSN	LR	AE530	MCUNT	LR	AE750	MEMBER	LR	AE932	TRAP	LR	AEA22
FALLOW	LR	AEAA0	FUNITAB*	SD	AFA60	FPL1	SD	AFB28	FDONLIST*	SD	AFB30	FERMSG	SD	AFB38
INCHNAME*	SD	AFBA0	FRCNL*	LR	AFBA0	FWRNL*	LR	BD1A4	INCECONH*	SD	B0670	IBCCM*	LR	B0670
FDIGCS*	LR	B072G	INTSWTCH*	LR	B1586	SEODASD*	SD	B1508	SEODASD*	SD	B1950	FTF	SD	B1C38
ITISECT	SD	B1CE8	IT1	SD	B1CE8	FXFLT	SD	B1D40	FIXFLT	LR	B1D40	TRNSLSE	SD	B1D88
TRANS	LR	B1D88	BITST	SD	B1E98	CNTGDATA*	LR	B1E98	OTDUN	SD	B1FC8	INCFVTH*	SD	B2098
ADCCN*	LR	B2C08	FCVACUTP*	LR	B2142	FCVLCUTP*	LR	B2102	FCVZOUTP*	LR	B2322	FCVLCUTP*	LR	B2600
FCVLCUTP*	LR	B2B02	FCVLCUTP*	LR	B2DEC	INT6SWCH*	LR	B30D3	INCFIDS*	SD	B3238	FIUCS*	LR	B3238
FIUCSREP*	LR	B323E	INCFIDS*	SD	B4100	INCFERR*	SD	B4690	ERRMON	LR	B4690	INCFERR*	LR	B46A8
INCFENH*	SD	B4C68	ARITH*	LR	B4C68	ADJSWYCH*	LR	B5004	INCUATBL*	SD	B51B0	INCUATBL*	SD	B54D8
INCETRCH*	SD	B5D10	INCETRCH*	LR	B5B10	ERRTRA	LR	B5B18						

TOTAL LENGTH 9590
ENTRY ADDRESS AC810

SATID HELIOS-A ORBIT TAPE #CRA20
7409701 DRB 76 245 000000 274 000000 7639 01 761129 609 01 01 E7 X

HELIOS-A

YEAR 1976.

LAUNCH TIME 54492550. 0.

WM	DD	HR	MIN	SC	HELIOS ECL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U.)	ERTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS- HEL-LET(JGG)	HELIOS-V(A.U./DAY)	NORMAL
9	1	0	0	0	153.05	0.02	0.68	1.64	16.15	153.05	-6.01	-0.011	0.02
9	2	0	0	0	153.56	0.02	0.67	1.64	15.94	153.56	-6.11	-0.011	0.02
9	3	0	0	0	154.13	0.02	0.66	1.63	15.70	154.13	-6.21	-0.011	0.02
9	4	0	0	0	154.75	0.02	0.65	1.62	15.42	154.75	-6.31	-0.011	0.02
9	5	0	0	0	155.42	0.02	0.64	1.61	15.11	155.42	-6.41	-0.012	0.02
9	6	0	0	0	156.15	0.02	0.63	1.60	14.76	156.15	-6.51	-0.012	0.02
9	7	0	0	0	156.94	0.02	0.61	1.59	14.37	156.94	-6.60	-0.012	0.02
9	8	0	0	0	157.80	0.02	0.60	1.58	13.93	157.80	-6.69	-0.012	0.02
9	9	0	0	0	158.74	0.02	0.59	1.57	13.44	158.74	-6.78	-0.012	0.02
9	10	0	0	0	159.75	0.02	0.58	1.56	12.89	159.75	-6.86	-0.012	0.02
9	11	0	0	0	160.85	0.02	0.57	1.55	12.28	160.85	-6.94	-0.012	0.02
9	12	0	0	0	162.05	0.02	0.55	1.54	11.61	162.05	-7.01	-0.013	0.02
9	13	0	0	0	163.34	0.02	0.54	1.53	10.86	163.34	-7.07	-0.013	0.02
9	14	0	0	0	164.74	0.02	0.53	1.52	10.02	164.74	-7.13	-0.013	0.02
9	15	0	0	0	166.26	0.02	0.51	1.51	9.10	166.26	-7.17	-0.013	0.02
9	16	0	0	0	167.91	0.02	0.50	1.50	8.07	167.91	-7.21	-0.013	0.02

9 17	0	0	0	169.69	0.00	0.49	1.49	6.94	169.69	-7.22	-0.013	0.02
9 18	0	0	0	171.61	0.00	0.48	1.48	5.68	171.63	-7.22	-0.013	0.02
9 19	0	0	0	173.73	0.00	0.46	1.46	4.30	173.73	-7.20	-0.013	0.03
9 20	0	0	0	176.01	0.00	0.45	1.45	2.76	176.01	-7.16	-0.013	0.03
9 21	0	0	0	179.48	0.00	0.44	1.44	1.06	178.48	-7.09	-0.013	0.03
9 22	0	0	0	181.16	0.00	0.42	1.43	0.82	178.84	-6.98	-0.013	0.03
9 23	0	0	0	184.07	0.00	0.41	1.41	2.89	175.53	-6.84	-0.013	0.03
9 24	0	0	0	187.23	0.00	0.40	1.40	5.17	172.77	-6.65	-0.012	0.03
9 25	0	0	0	190.64	0.00	0.39	1.38	7.69	169.36	-6.42	-0.011	0.03
9 26	0	0	0	194.33	0.00	0.37	1.37	10.45	165.67	-6.13	-0.011	0.03
9 27	0	0	0	198.32	0.00	0.36	1.35	12.47	161.68	-5.77	-0.010	0.03
9 28	0	0	0	202.61	0.00	0.35	1.33	16.77	157.39	-5.35	-0.009	0.03
9 29	0	0	0	207.20	0.00	0.34	1.32	20.35	152.80	-4.95	-0.008	0.04
9 30	0	0	0	212.10	0.00	0.33	1.30	24.22	147.90	-4.27	-0.008	0.04

END OF FILE ON ORBIT TAPE

```

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2-ZBRTC-SD002-LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -2 17 EXCPS
IEF2851 SYS2-DEBLKUNV KEPT DDNAME=SYSLIB -3 61 EXCPS
IEF2851 VOL SER NOS= M2SYS2. KEPT DDNAME=SYSLIB -4 28 EXCPS
IEF2851 SYS1-FORTLIB KEPT DDNAME=SYSLIB -5 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -6 0 EXCPS
IEF2851 SYS2-FORTLIB KEPT DDNAME=SYSLIB -7 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -8 0 EXCPS
IEF2851 SYS1-PL1LIB KEPT DDNAME=SYSLIB -9 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -10 0 EXCPS
IEF2851 SYS1-FORTSSP KEPT DDNAME=SYSLIB -11 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -12 0 EXCPS
IEF2851 SYS2-COBLIB KEPT DDNAME=SYSLIB -13 0 EXCPS
IEF2851 VOL SER NOS= M2SYS1. KEPT DDNAME=SYSLIB -14 0 EXCPS
IEF2851 SYS1-ALGLIB KEPT DDNAME=SYSLIB -15 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -16 0 EXCPS
IEF2851 SYS80042-T152208-SV000-ZBJHBCA2-R0000090 SYSOUT DDNAME=SYSLOUT 1 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -17 7 EXCPS
IEF2851 M2-ZBRTC-SD002-LOAD KEPT DDNAME=SYSLIB -18 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -19 0 EXCPS
IEF2851 SYS80042-T152208-RV000-ZBJHBCA2-S0000097 SYSIN DDNAME=FT05F001 2 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT05F001 2 EXCPS
IEF2851 SYS80042-T152208-RV000-ZBJHBCA2-S0000097 DELETED DDNAME=FT05F001 2 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT05F001 1 EXCPS
IEF2851 SYS80042-T152208-SV000-ZBJHBCA2-R0000091 SYSOUT DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. DELETED DDNAME=FT07F001 0 EXCPS
IEF2851 SYS80042-T152208-SV000-ZBJHBCA2-R0000092 DELETED DDNAME=SYSPPRINT 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. DELETED DDNAME=SYSTEM 0 EXCPS
IEF2851 SYS80042-T152208-SV000-ZBJHBCA2-R0000094 DELETED DDNAME=SYSTEM 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. DELETED DDNAME=SYSTEM 0 EXCPS
IEF2851 SYS80042-T152208-SV000-ZBJHBCA2-R0000095 DELETED DDNAME=SYSTEM 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=GENTAP 702 EXCPS
IEF2851 SYS80042-T152208-RV000-ZBJHBCA2-R0000096 KEPT DDNAME=GENTAP 702 EXCPS
IEF2851 VOL SER NOS= ORA20.
IEF2851 K 000-ORA20-ZBJHBCA2-GC
IEF3731 STEP /GO / START 80042.1603
IEF3741 STEP /GO / STOP 80042.1611 CPU 0MIN 11.17SEC MAIN 200K LCS OK
- STEP 01 - RETURN CODE = 0000 STEP TIME = .48 MINS=(CPU=.18,IC=.30)
IO IN SECS. DISK= 11.07,DRUM=.00,TAPE= 7.06,CELL=.00,CTHR=.15
- SURCHARGES=(DRIVES ALCC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=00000)SECS. TOTAL STP TIME=.48 MINS.

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// EXEC NOTIFYTS.ID=SDMEL
XNDEFULT PROC MODE=,USRID=,MSG=,USERID=,ID=,NOTIFYTS. EAC/21JUN73 00000010
*** SEND BACKGROUND JOB REPORT TO TSC USER 00000020
XNDEFULT EXEC PGM=NOTIFYTS.FIGION=20K,COND=EVEN. 00000030
XX PARM=EMODE,USRID=,MSG=, 00000040
IEF6531 SUBSTITUTION JCL - PARM=,SDMEL.
IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF3731 STEP /NOTIFYTS/ START 80042.1611
IEF3741 STEP /NOTIFYTS/ STOP 80042.1611 CPU 0MIN 00.03SEC MAIN 8K LCS OK
- STEP 02 - RETURN CODE = 0000 STEP TIME = .00 MINS=(CPU=.00,IC=.00)
IO IN SECS. DISK= .22,DRUM=.00,TAPE= .00,CELL=.00,CTHR=.00
- SURCHARGES=(DRIVES ALCC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=00000)SECS. TOTAL STP TIME=00000.00 MINS.
IEF3751 JOB /ZBJHBCA2/ START 80042.1603
IEF3761 JOB /ZBJHBCA2/ STOP 80042.1611 CPU 0MIN 11.22SEC
- SYSTEM-REL21-8F-(04-01-79)-K3
- JOB 0440-
TOTAL TIME = .48 MINS=(CPU=.18,IC=.30)
IO IN SECS. DISK= 11.30,DRUM=.00,TAPE= 7.06,CELL=.00,CTHR=.22
- SURCHARGES=(DRIVES ALCC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=00000)SECS. TOTAL JOB TIME=.48 MINS.
THERE WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.

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JOBNAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	DDDDDDDDDD	AA	11
SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LL	DDDDDDDDDD	AA	1111
SS	SS	DD	DD	HH	HH	DD	AA	11
SS	SS	DD	DD	HH	HH	DD	AA	11
SS	SS	DD	DD	HH	HH	DD	AA	11
SSSSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEEEE	LL	DD	AA	11
SSSSSSSSSS	DD	DD	HHHHHHHHHH	EEEEEEEE	LL	DD	AA	11
SS	SS	DD	DD	HH	HH	DD	AA	11
SS	SS	DD	DD	HH	HH	DD	AA	11
SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	DDDDDDDDDD	AA	111111
SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	DDDDDDDDDD	AA	111111

BOX-

BBBBBBBBBB	FFFFFFFFFFFF	33333333	SACC 360/75	READER NUMBER-P0200	CLASS-	AA
BBBBBBBBBB	FFFFFFFFFFFF	33333333				AA
BB	BB	FF	33			AAAA
BB	BB	FF	33			AAAA
BB	BB	FF	33			AA
BBBBBBBBBB	FFFFFFFF	33333				AA
BBBBBBBBBB	FFFFFFFF	33333				AAAA
BB	BB	FF	33			AAAA
BB	BB	FF	33			AAAA
BB	BB	FF	33			AAAA
BBBBBBBBBB	EE	33333333				AA
BBBBBBBBBB	FF	33333333				AA

ORA24

10/1/76 - 10/31/76


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IEF6531 SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA),
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0.5))
//GO,GENAP DD UNIT=(7TRACK,DEFER),
//VOL=SER=ORTAPE,LABEL=(,AL,IN),DISP=(OLD,KEEP),
//DCB=(RECFM=U,BLKSIZE=1944,DSN=2)
//DATAS.DD

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IEF2371 ALLOC. FOR SDHELOA1 GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 336 ALLOCATED TO SYSLOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 232 ALLOCATED TO F105F001
IEF2371 336 ALLOCATED TO F106F001
IEF2371 335 ALLOCATED TO F107F001
IEF2371 336 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 335 ALLOCATED TO SYSTEM
IEF2371 336 ALLOCATED TO SYSDUMP
IEF2371 0C1 ALLOCATED TO GENAP

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CS/380 LADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	A3810	CONVRTSCT*	SD	A4670	CONVRT	LR	A4670	DBGEN	SD	A4998	DBFBOV	LR	A4858
EREAD	SD	A4060	EREAD	LR	A4688	WRITE	LR	A507C	REWIND	LR	A5282	LEAVE	LR	A5366
UNLOAD	LR	A541A	POSN	LR	A5530	MCUNT	SD	A5750	MEMBER	LR	A5932	FTAP	LR	A5A22
FALLOW	LR	A5AA0	FUNITABL*	SD	A6A60	FPL1	SD	A6828	FDDNLIST*	SD	A6830	FERNMSG	SD	A6838
PRCNAMCL*	SD	A69A0	PRCNCL*	LR	A6EA0	PRCNCL*	LR	A71A4	INCCCMH2*	SD	A7670	INCCCM*	LR	A7670
FDIOCS*	LR	A772C	INTSWTCH*	LR	A8586	INCCCMH2*	SD	A8538	SECDASD	LR	A8550	FTF	SD	A8C38
ITISECT	SD	A8CE8	ITI	LR	A8CE8	FXFLT	SD	A8D40	FIXFLT	LR	A8D40	TRANSLTE	SD	A8D88
TRANS	LR	A8D88	BITST	SD	A8E98	CNTGDATA*	LR	A8E98	DTDUN	SD	A8FC8	INCFVTH*	SD	A9098
ADCGN*	LR	A9098	FCVAVOUTP*	LR	A91A2	FCVLCUTR*	LR	A91D2	FCVZOUTP*	LR	A9322	FCVIOUTR*	LR	A96D0
FCVAVOUTP*	LR	A9BD2	FCVAVOUTP*	LR	A9DEC	INTGSWCH*	LR	AA0D3	INCEFCIS*	SD	AA238	FIUCS*	LR	AA238
FIUCSBE*	LR	AA23E	INCFIOS2*	SD	AB160	INCEFCIS*	SD	AB690	ERRMON	LR	AB690	INCEFCIS*	LR	AB6A8
INCEFCIS*	SD	ABC68	ARITH*	LR	ABC68	ADJSTCH*	LR	AC004	INCUPT	SD	AC180	INCUPT	SD	AC4D8
INCEFCIS*	SD	ACB10	INCEFCIS*	LR	ACB10	ERRTRA	LR	ACB10						

TOTAL LENGTH 9590
ENTRY ADDRESS A3810

SATID HELIOS-A ORBIT TAPE #CRA24
7405701 ORB 76 275 000000 305 000000 7613 01 770805 613 01 01 E7 X

HELIOS-A YEAR 1976. LAUNCH TIME 57084550. 04

MM	DD	HR	MM	SC	HELIOS ECL LONG	HELIOS ECL LAT	SUN-HELIOS DIST(AU)	ERTH-HELIOS DIST(AU)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LS(DEC)	HELIOS-V(A.U/DAY)	RADIAL	NORMAL
10	1	0	0	0	217.30	0.02	0.33	1.28	28.37	142.70	-3.62	-0.07	0.04	
10	2	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	2	0	30	0	222.88	0.01	0.32	1.25	32.87	137.12	-2.88	-0.06	0.04	
10	3	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	4	0	20	0	234.44	0.01	0.31	1.21	42.32	125.56	-1.26	-0.03	0.04	
10	5	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	5	0	50	0	240.58	0.01	0.31	1.18	47.39	119.42	-0.37	-0.01	0.04	
10	6	0	10	0	246.48	0.00	0.31	1.16	52.30	113.52	-0.50	-0.00	0.04	
10	7	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	7	0	40	0	252.66	0.00	0.31	1.13	57.47	107.24	1.39	0.00	0.04	
10	8	0	0	0	258.46	0.00	0.31	1.11	62.34	101.64	2.22	0.00	0.04	
10	9	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	9	0	30	0	264.40	-0.01	0.32	1.08	67.33	95.60	3.03	0.00	0.04	
10	10	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	11	0	20	0	275.31	-0.01	0.33	1.02	76.54	84.69	4.42	0.00	0.04	

10 12	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 12	0 50 0	280.48	-0.01	0.34	0.00	80.91	79.52	5.01	0.009	0.03		
10 13	0 10 0	285.12	-0.01	0.35	0.97	84.82	74.28	5.49	0.010	0.03		
10 14	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 14	0 40 0	289.67	-0.02	0.36	0.98	88.66	78.25	5.92	0.010	0.03		
10 15	0 0 0	293.70	-0.02	0.37	0.91	92.06	66.30	6.26	0.011	0.03		
10 16	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 16	0 30 0	297.63	-0.02	0.38	0.89	95.25	62.37	6.55	0.012	0.03		
10 17	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 18	0 20 0	304.46	-0.02	0.40	0.88	101.03	55.54	6.94	0.012	0.03		
10 19	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 19	0 50 0	307.56	-0.02	0.42	0.81	103.58	52.44	7.07	0.013	0.03		
10 20	0 10 0	310.27	-0.02	0.43	0.79	102.79	49.73	7.15	0.013	0.03		
10 21	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 21	0 40 0	312.90	-0.02	0.44	0.77	107.91	47.10	7.20	0.013	0.03		
10 22	0 0 0	315.21	-0.02	0.45	0.74	108.74	44.79	7.22	0.013	0.03		
10 23	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 23	0 30 0	317.44	-0.02	0.47	0.72	111.48	42.56	7.22	0.013	0.03		
10 24	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 24	0 20 0	321.28	-0.02	0.49	0.68	114.38	38.72	7.16	0.013	0.02		
10 26	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 26	0 50 0	323.02	-0.02	0.51	0.66	115.63	36.98	7.11	0.013	0.02		
10 27	0 10 0	324.54	-0.02	0.52	0.65	116.68	35.46	7.04	0.013	0.02		
10 28	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 28	0 40 0	325.02	-0.02	0.53	0.63	117.65	33.98	6.97	0.013	0.02		
10 29	0 0 0	327.31	-0.02	0.55	0.61	118.45	32.69	6.89	0.013	0.02		
10 30	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10 30	0 30 0	328.56	-0.02	0.56	0.59	119.17	31.44	6.79	0.012	0.02		
10 31	0 0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

END OF FILE ON ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - COND CODE 0000

IEF2851	COMMAND	KEPT	DDNAME=SYSLIB	EXCPS
IEF2851	M2.ZBRTC.SD002.LOAD	KEPT	-1	0 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	-2	17 EXCPS
IEF2851	SYS2.DEBLKUNV	KEPT	-3	61 EXCPS
IEF2851	VOL SER NOS= M2SYS2.	KEPT	-4	28 EXCPS
IEF2851	SYS1.FORTLIB	KEPT	-5	0 EXCPS
IEF2851	VOL SER NOS= K3ITL0.	KEPT	-6	0 EXCPS
IEF2851	SYS2.FORTLIB	KEPT	-7	0 EXCPS
IEF2851	VOL SER NOS= K3SYS2.	KEPT	-8	0 EXCPS
IEF2851	SYS1.PL1LIB	KEPT	-9	0 EXCPS
IEF2851	VOL SER NOS= K3ITL3.	KEPT	-10	0 EXCPS
IEF2851	SYS1.FORTSSP	KEPT	-11	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.	KEPT	-12	0 EXCPS
IEF2851	SYS2.COBLY3	KEPT	-13	0 EXCPS
IEF2851	VOL SER NOS= M2SYS1.	KEPT	-14	0 EXCPS
IEF2851	SYS1.ALGLIB	KEPT	-15	0 EXCPS
IEF2851	VOL SER NOS= K3SYS3.	KEPT	-16	0 EXCPS
IEF2851	SYS80037.T163839.SV000.SDHELCA1.R0000001	SYSOUT	-17	1 EXCPS
IEF2851	VOL SER NOS= K3SCR5.	KEPT	-18	7 EXCPS
IEF2851	M2.ZBRTC.SD002.LOAD	KEPT	-19	2 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	-20	2 EXCPS
IEF2851	SYS80037.T163839.RV000.SDHELCA1.S0000008	SYSIN	-21	2 EXCPS
IEF2851	VOL SER NOS= K3SCR2.	DELETED	-22	1 EXCPS
IEF2851	SYS80037.T153839.RV000.SDHELCA1.S0000008	SYSOUT	-23	1 EXCPS
IEF2851	VOL SER NOS= K3SCR3.	DELETED	-24	0 EXCPS
IEF2851	SYS80037.T163839.SVC00.SDHELCA1.R0000002	DELETED	-25	0 EXCPS
IEF2851	VOL SER NOS= K3SCR5.	DELETED	-26	0 EXCPS
IEF2851	SYS80037.T163839.SV000.SDHELCA1.R0000003	DELETED	-27	0 EXCPS
IEF2851	VOL SER NOS= K3SCR2.	DELETED	-28	0 EXCPS
IEF2851	SYS80037.T163839.SV000.SDHELCA1.R0000004	DELETED	-29	0 EXCPS
IEF2851	VOL SER NOS= K3SCR5.	DELETED	-30	0 EXCPS
IEF2851	SYS80037.T163839.SV000.SDHELCA1.R0000005	DELETED	-31	0 EXCPS
IEF2851	VOL SER NOS= K3SCR2.	DELETED	-32	0 EXCPS
IEF2851	SYS90037.T163839.SV000.SDHELCA1.R0000006	DELETED	-33	0 EXCPS
IEF2851	VOL SER NOS= K3SCR5.	DELETED	-34	0 EXCPS
IEF2851	SYS80037.T163839.RV000.SDHELCA1.R0000007	KEPT	-35	1.035 EXCPS
IEF2851	VOL SER NOS= OFA24.	KEPT	-36	0 EXCPS

IEF280E K 0C1.ORA24.SDHELCA1.SD

IEF3731 STEP /GO / START 80037.1639

IEF3741 STEP /GO / STOP 80037.1643 CPU DMIN 13.84SEC MAIN 200K LCS OK

- STEP 01 - RETURN CODE = 0000

IO IN SECS. DISK= 11.07.DRUM= .00.TAPE= .58 MINS=(CPU= .23.IC= .35)

XXDEFALT PROC MODE=USRID=MSG=USERID=ID= NCTIFYTS. EAC/21JUN73 00000010

444 SEND BACKGROUND JOB REPORT TO TSD USER 00000020

XXNOTIFYTS EXEC RGM=NOTIFYTS.REGION=20K.CONC=EVEN. 00000030

***** 32 *****

JCRNAME-	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	2222222222
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	2222222222
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SSSSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CC	AA	22
	SSSSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCC	AA	2222222222
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCC	AA	2222222222

BOX-	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	2222222222
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	2222222222
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SSSSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CC	AA	22
	SSSSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SS	DD	HH	HH	EE	LL	CC	AA	22
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCC	AA	2222222222
	SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCC	AA	2222222222

ORA25

11/1/76-12/1/76

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XXFT07F001 DD SYSOUT=*,DCB=(RECFM=FB,BLKSIZE=7290,LRECL=80) C0000160
XXSYSPRINT DD SYSOUT=*,DCB=(BLKSIZE=5,BLKSIZE=LRECL=137,RECFM=VBA), 00000170
IEF6531 SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA),
XX SPACE=(CYL,(0,1)),UNIT=(DISK,3) C0000180
XXSYSTEM DD SYSOUT=*,TERM=
IEF6531 SUBSTITUTION JCL - SYSOUT=A 00000190
//SYSDUMP DD SYSOUT=A
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0,5)) C0000200
//GO.GENTAP DC UNIT=(7TRACK,,DEFER),
// VCL=SER=CREATE,LABEL=(,NL,,IN),DISP=(OLD,KEEP),
// DCB=(RECFM=U,BLKSIZE=1944,DEN=2)
//DATA5 DD *
IEF2371 ALLCC FOR SOMELOA2-GO
IEF2371 333 ALLCCATED TO SYSLIB
IEF2371 320 ALLCCATED TO
IEF2371 451 ALLCCATED TO
IEF2371 231 ALLCCATED TO
IEF2371 244 ALLCCATED TO
IEF2371 244 ALLCCATED TO
IEF2371 220 ALLCCATED TO
IEF2371 231 ALLCCATED TO
IEF2371 232 ALLCCATED TO SYSLCUT
IEF2371 333 ALLCCATED TO SYSLIN
IEF2371 232 ALLCCATED TO FT05F001
IEF2371 235 ALLCCATED TO FT06F001
IEF2371 336 ALLCCATED TO FT07F001
IEF2371 232 ALLCCATED TO SYSPRINT
IEF2371 235 ALLCCATED TO SYSPRINT
IEF2371 237 ALLCCATED TO SYSPRINT
IEF2371 336 ALLCCATED TO SYSTEM
IEF2371 335 ALLCCATED TO SYSDUMP
IEF2371 001 ALLCCATED TO GENTAP

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05/36C LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=154560,NAME=**GO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
CRBIT	SD	63810	CNVRTSCT*	SD	64670	CNVRT	LR	64670	DBGEN	SD	64998	DBFECV	LR	64E58
FREAD	SD	64740	FREAD	LR	64740	FWRITE	LR	64740	RE*IND	LR	65282	LEAVE	LR	65360
UNLOAD	LR	6541A	PCSN	LR	65530	MCLNT	LR	65750	MEMBER	LR	65732	FTAP	LR	65A22
FALLC*	LR	65AA0	FINITABL*	SD	66A60	FPL1	SD	66B28	FDUALIST*	SD	66330	FERMSG	SD	66E38
INCRAPL*	SD	669A0	PRONC*	LR	668A0	FWRNL*	LR	67124	INCECUPH*	SD	67670	IBCON*	LR	67E70
F10C5*	LR	6772C	INTSWTCH*	LR	68586	IFCCCMH2*	SD	68508	SEODASD	LR	68350	FTF	SD	68C38
IT15CT*	SD	69C58	ITI	LR	69C58	FXFLT	SD	69040	FXFLT	LR	69040	TRN3LIE	SD	68C88
TRANS	LR	68DR8	JITBT	SD	68E98	CATGDATA*	LR	68E98	DTOUN	SD	68FC8	INCFVTH*	SD	69C98
ADCON*	LR	65098	PCVAC/TP*	LR	65142	PCVOUTP*	LR	65102	PCVOUTP*	LR	69322	FCVICUTP*	LR	69ED0
FCVOUTP*	LR	69082	PCVOUTP*	LR	69082	INT333G*	LR	6A003	INCEP106*	SD	6A238	F10C5*	LR	6A238
F10C5RER*	LR	6A23E	INCFIC32*	SD	6E160	INCERR4	SD	6E620	ERRMGN	LR	68530	INCERRE	LR	6E6A8
F10C5FNTH*	SD	6EC68	ARITH*	LR	6EC68	ADJ3WCH*	LR	6C004	INCUCPT	SD	6C180	INCUCATBL*	SD	6C4D8
INCETRN*	SD	6CB10	INCTRCH*	LR	6CB10	ERRTRA	LR	6CB10						

IQJAL LENGTH 9592
ENTRY ADDRESS 63810

SATID HELIOS-A 0CRBIT TAPE #=ORA25
7409701 CFB 76 306 000000 336 000000 7614 01 770805 614 01 01 E7 X

HELIOS-A YEAR 1976. LAUNCH TIME 55762959. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	EARTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DC	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	MEL-LET(DEC)	RACIAL	NORMAL
11	1	0	0	0	330.70	-0.02	0.58	0.58	120.23	29.30	6.60	0.012	0.02
11	2	0	0	0	331.65	-0.02	0.59	0.55	120.80	28.33	6.49	0.012	0.02
11	3	0	0	0	332.53	-0.02	0.61	0.53	120.87	27.47	6.39	0.012	0.02
11	4	0	0	0	333.33	-0.02	0.62	0.42	121.05	26.67	6.28	0.012	0.02
11	5	0	0	0	334.06	-0.02	0.63	0.31	121.12	25.94	6.17	0.011	0.02
11	6	0	0	0	334.74	-0.02	0.64	0.49	121.11	25.26	6.05	0.011	0.02
11	7	0	0	0	335.25	-0.03	0.65	0.48	121.01	24.65	5.94	0.011	0.03
11	8	0	0	0	335.91	-0.02	0.66	0.47	120.81	24.09	5.82	0.011	0.02
11	9	0	0	0	336.42	-0.02	0.67	0.46	120.54	23.58	5.71	0.011	0.02
11	10	0	0	0	336.85	-0.02	0.68	0.45	120.16	23.12	5.59	0.010	0.02
11	11	0	0	0	337.30	-0.02	0.69	0.44	119.74	22.70	5.48	0.010	0.02

11	12	0	0	0	337.67	-0.02	0.71	0.43	119.23	22.33	5.36	0.010	0.02
11	13	0	0	0	338.01	-0.02	0.72	0.42	118.64	21.99	5.25	0.010	0.02
11	14	0	0	0	338.31	-0.02	0.72	0.41	117.98	21.69	5.13	0.010	0.02
11	15	0	0	0	338.57	-0.02	0.73	0.41	117.26	21.43	5.02	0.009	0.02
11	16	0	0	0	339.00	-0.02	0.74	0.40	116.47	21.20	4.91	0.009	0.02
11	17	0	0	0	339.17	-0.02	0.75	0.39	115.61	21.00	4.79	0.009	0.02
11	18	0	0	0	339.31	-0.02	0.76	0.39	114.70	20.83	4.68	0.009	0.02
11	19	0	0	0	339.43	-0.02	0.77	0.38	113.74	20.69	4.57	0.009	0.02
11	20	0	0	0	339.52	-0.02	0.78	0.37	112.73	20.57	4.46	0.009	0.02
11	21	0	0	0	339.58	-0.02	0.79	0.37	111.68	20.48	4.35	0.008	0.02
11	22	0	0	0	339.63	-0.02	0.80	0.36	110.55	20.42	4.24	0.008	0.01
11	23	0	0	0	339.66	-0.02	0.81	0.36	109.34	20.37	4.13	0.008	0.01
11	24	0	0	0	339.66	-0.02	0.82	0.36	108.13	20.36	4.02	0.008	0.01
11	25	0	0	0	339.64	-0.02	0.83	0.36	106.93	20.34	3.92	0.008	0.01
11	26	0	0	0	339.61	-0.02	0.84	0.36	105.73	20.33	3.81	0.007	0.01
11	27	0	0	0	339.56	-0.02	0.85	0.35	104.51	20.33	3.70	0.007	0.01
11	28	0	0	0	339.50	-0.02	0.86	0.35	103.30	20.44	3.60	0.007	0.01
11	29	0	0	0	339.41	-0.02	0.86	0.35	102.08	20.50	3.50	0.007	0.01
11	30	0	0	0	339.32	-0.02	0.86	0.35	101.08	20.59	3.39	0.007	0.01
12	1	0	0	0					99.87	20.68	3.29	0.006	0.01

END OF FILE CN ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - CCND CODE 0000

IEF2851 M2.ZBRTC.S0002.LCA2	KEPT	DDNAME=SYSLIB	-1	0 EXCPS
IEF2851 VCL SER NOS= DISK15.				
IEF2851 SYS2.DEBLKUNV	KEPT	DDNAME=SYSLIB	-2	17 EXCPS
IEF2851 VCL SER NOS= M2SYS2.				
IEF2851 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-3	61 EXCPS
IEF2851 VCL SER NOS= K3ITL0.				
IEF2851 SYS2.FORTLIB	KEPT	DDNAME=SYSLIB	-4	28 EXCPS
IEF2851 VCL SER NOS= K3SYS2.				
IEF2851 SYS1.PLILIB	KEPT	DDNAME=SYSLIB	-5	0 EXCPS
IEF2851 VCL SER NOS= K3ITL5.				
IEF2851 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-6	0 EXCPS
IEF2851 VCL SER NOS= K3ITL5.				
IEF2851 SYS2.COBLIB	KEPT	DDNAME=SYSLIB	-7	0 EXCPS
IEF2851 VCL SER NOS= M2SYS1.				
IEF2851 SYS1.ALGLIB	KEPT	DDNAME=SYSLIB	-8	0 EXCPS
IEF2851 VCL SER NOS= K3SYS2.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000013	SYSCLT	DDNAME=SYSLIB	-9	1 EXCPS
IEF2851 VCL SER NOS= K3SCR3.				
IEF2851 M2.ZBRTC.S0002.LCA2	KEPT	DDNAME=SYSLIB	-1	7 EXCPS
IEF2851 VCL SER NOS= DISK15.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.S0000020	SYSIN	DDNAME=FT05F001		2 EXCPS
IEF2851 VCL SER NOS= K3SCR3.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.S0000020	DELETED	DDNAME=FT05F001		2 EXCPS
IEF2851 VCL SER NOS= K3SCR6.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000014	SYSCLT	DDNAME=FT06F001		1 EXCPS
IEF2851 VCL SER NOS= K3SCR5.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000015	DELETED	DDNAME=FT07F001		0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000016	DELETED	DDNAME=SYSPRINT		0 EXCPS
IEF2851 VCL SER NOS= K3SCR3.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000017	DELETED	DDNAME=SYSTEM		0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000018	DELETED	DDNAME=SYSLDUMP		0 EXCPS
IEF2851 VCL SER NOS= K3SCR2.				
IEF2851 SYS80037.T164359.SV000.SDHLEDA2.R0000019	KEPT	DDNAME=CENTAP		906 EXCPS
IEF2851 VCL SER NOS= CRA25.				

IEF2851 K 0C1.DRA25.SDHLEDA2.CO

IEF3731 STEP /GO / START 80037.1651

IEF3741 STEP /GO / STCP 80037.1658 CPU

- STEP 01 - RETURN CODE = 0000

SURCHARGE=(DRIVES ALOC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=C0000)SECS. STEP TIME = .55 MINS=(CPJ= .22,IO= .33)
 EXEC NOTIFYTS=10=SDHLEDA2
 XDEFALLT PRCC MODE=,USRID=,MSG=,USERID=,IO= NOTIFYTS, EAC/21JUN73
 *** SEND BACKGROUND JOB REPORT TO TSD USER
 XNOTIFYTS EXEC PGM=NOTIFYTS,REGION=20K,COND=EVEN,
 XX PARM=,MODE=,USRID=,MSG=,IO=,MSG=

IEF6531 SUBSTITUTION JCL - PARM=,SDHLEDA2
 IEF1421 - STEP WAS EXECUTED - CCND CODE 0000
 IEF3731 STEP /NOTIFYTS/ START 80037.1658
 IEF3741 STEP /NOTIFYTS/ STOP 80037.1659 CPU
 - STEP 02 - RETURN CODE = 0000

SURCHARGE=(DRIVES ALOC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=C0000)SECS. STEP TIME = .00 MINS=(CPJ= .00,IO= .00)
 IEF3751 JOB /SDHLEDA2/ START 80037.1651
 TOTAL STP TIME=000000.00 MINS.

JCBNAME-

SSSSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SS	SS	DD	DD	HH	HH	CC	CC	33
SS	SS	DD	DD	HH	HH	CC	CC	33
SS	SS	DD	DD	HH	HH	CC	CC	33
SSSSSSSSSS	DD	DD	DD	HHHHHHHHHH	EEEEEEEE	LL	LL	33333
SSSSSSSSSS	DD	DD	DD	HHHHHHHHHH	EEEEEEEE	LL	LL	33333
SSSSSSSSSS	DD	DD	DD	HHHHHHHHHH	EEEEEEEE	LL	LL	33333
SS	SS	DD	DD	HH	HH	CC	CC	33
SS	SS	DD	DD	HH	HH	CC	CC	33
SSSSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LLLLLLLLLLLL	CCCCCCCCCCCC	AA	33333333

BOX-

BBB888888	FFFFFFFFFFFF	33333333	AA
BBB888888	FFFFFFFFFFFF	33333333	AA
BB	BB	FF	33
BB	BB	FF	33
BB	BB	FF	33
BBB888888	FFFFFFFF	33333	AA
BBB888888	FFFFFFFF	33333	AA
BB	BB	FF	33
BB	BB	FF	33
BB	BB	FF	33
BBB888888	FF	33333333	AA
BBB888888	FF	33333333	AA

SACC 36075

READER NUMBER-P0235

CLASS-

ORA26

12/1/76-12/31/76

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XXFT07F001 DD SYSOUT=B.DCB=(RECFM=FH,BLKSIZE=7260,LRECL=80) 00000160
XXSYSPRINT DD SYSOUT=ADOUT.DCB=(BLKSIZE=7260,LRECL=137,RECFM=VBA) 00000170
IEF6531 SUBSTITUTION JCL - SYSOUT=A.DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000180
//SYSTERN DD SYSOUT=SYSOUT=A 00000190
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSLUMP DD SYSOUT=A 00000200
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO.GENTAP DD UNIT=(7TRACK,,DEFER).
//VOL=SER=CRTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP).
//DCB=(RECFM=,BLKSIZE=1944,DSN=2)
//DATA5 DD *
IEF2371 ALLOC. FOR SDHELOA3 GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 335 ALLOCATED TO SYSLOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 232 ALLOCATED TO FT05F001
IEF2371 336 ALLOCATED TO FT06F001
IEF2371 232 ALLOCATED TO FT07F001
IEF2371 335 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 336 ALLOCATED TO SYSTEM
IEF2371 335 ALLOCATED TO SYSDUMP
IEF2371 001 ALLOCATED TO GENTAP

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OS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	B5010	CNVRTGCT*	SD	B5E70	CNVRT	*	LR B5E70	DBGEN	*	SD B6195	DBFE0V	*	LR B6358
FREAD	*	SD B6540	FREAD	*	LR B6700	WRITE	*	LR B6870	REWIND	*	LR B6980	LEAVE	*	LR B6E66
UNLOAD	*	LR B6C1A	PO3N	*	LR B6D30	MCUNT	*	LR B6F50	MEMBER	*	LR B7132	FTAP	*	LR B7222
FALLCW	*	LR B72A0	FINITABL*	SD	B8260	FPL1	*	SD B8328	FDDMLIST*	SD	B8330	FERMSG	*	SD B8338
INCCAMEL*	SD	B83A0	FRONC*	LR	B83A0	FWRNL*	LR	B85A4	INCECCRH*	SD	B8E70	IBCCN*	*	LR B8E70
FDICCS*	LR	B8F2C	INTSWCH*	LR	B90B6	IFCCOMH2*	SD	B90D8	SECOASD*	LR	BAL53	FTF	*	SD EA438
ITISECT*	SD	BA4E8	ITI	*	LR BA4E8	FXFLT	*	SD BA5A0	FIXFLT	*	LR BA5A0	TRNSLTE*	SD	EA588
TRAN3	*	LR BA588	BITST	*	SD BA678	CNTGDATA*	LR	BA698	DTOLN	*	SD BA7C3	INCFVTH*	SD	EA598
ADCON*	LR	BA998	FCVACUTP*	LR	BA942	FCVLQUTP*	LR	BA9D2	FCVZOUTP*	LR	BAJ22	FCVICUTP*	LR	EA5D0
FCVACUTP*	LR	BE392	FCVGGUTP*	LR	BE3EC	INTGASH*	LR	BH803	INCEP105*	SD	BB438	FIDCS*	*	LR BE438
FIDCSHED*	LR	BEA3E	INCFIC32*	SD	BC060	IFCERRM	*	SD BCE50	ERRMON	*	LR BCE90	INCCERRE	*	LR BCEA8
INCFENH*	SD	BD468	ARITH*	LR	BD468	ADJ5WCH*	LR	BD804	INCUPT	*	SD BD950	INCUATBL*	SD	BD008
INCETRCH*	SD	BE310	INCETRCH*	LR	BE310	ERRTRA	*	LR BE319						

TOTAL LENGTH 9590
ENTRY ADDRESS B5010

SATID HELIOS-A ORBIT TAPE #=ORA26
7409701 CFB 76 336 000000 366 000000 7615 01 770908 615 01 01 E7 X

HELIOS-A YEAR 1976. LAUNCH TIME 22354950. 0.

DATE				HELIOS	HELIOS	SUN HELIOS	ERTH HELIOS	ERTH HELIOS	HELIOS SUN	HELIOS	HELIOS V(A.U./DAY)	
MM	DD	HR	MIN	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RACIAL	NORMAL
12	1	0	0	339.32	-0.02	0.86	0.35	55.87	20.68	3.29	0.006	0.01
12	2	0	0	339.21	-0.02	0.87	0.35	55.88	20.79	3.19	0.006	0.01
12	3	0	0	339.09	-0.02	0.87	0.35	57.50	20.91	3.09	0.006	0.01
12	4	0	0	338.95	-0.01	0.88	0.36	56.34	21.05	2.99	0.006	0.01
12	5	0	0	338.80	-0.01	0.89	0.36	56.26	21.20	2.89	0.006	0.01
12	6	0	0	338.64	-0.01	0.89	0.36	54.09	21.36	2.79	0.006	0.01
12	7	0	0	338.47	-0.01	0.90	0.36	53.00	21.53	2.69	0.005	0.01
12	8	0	0	338.29	-0.01	0.90	0.36	51.95	21.71	2.59	0.005	0.01
12	9	0	0	338.10	-0.01	0.91	0.37	50.92	21.90	2.50	0.005	0.01
12	10	0	0	337.95	-0.01	0.91	0.37	49.93	22.10	2.40	0.005	0.01
12	11	0	0	337.69	-0.01	0.92	0.37	48.97	22.31	2.30	0.005	0.01

[illegible]

8888888888	FFFFFFFFFFFF	33333333	AA
8888888888	FFFFFFFFFFFF	33333333	AA
88 88	FF	33 33	AAAA
88 88	FF	33 33	AAAA
88 88	FF	33 33	AA AA
8888888888	FFFFFFFF	33333	AA AA
8888888888	FFFFFFFF	33333	AA AA
88 88	FF	33 33	XXXXXXXX
88 88	FF	33 33	AAAAAAAAAA
88 33	FF	33 33	AA
8888888888	FF	33333333	AA AA
8888888888	FF	33333333	AA AA

ORA2T

1/1/77 - 1/31/77

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**XFT07F001 DD SYSOUT=E,DCE=(RECFM=FB, BLKSIZE=7280, LRECL=PC)          00000160
**XSYSPRINT DD SYSOUT=JCL,DCB=(BLKSIZE=2048, LRECL=137, RECFM=VBA),        00000170
IEF6531 SUBSTITUTION JCL - SYSOUT=A,CCE=(BLKSIZE=7265, LRECL=137, RECFM=VBA),
**X          SPACE=(CYL,(0,1)),UNIT=(DISK,3)                                00000180
**SYSTEM DD SYSOUT=JCL,DCB=(BLKSIZE=7265, LRECL=137, RECFM=VBA),          00000190
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSDUMP DD SYSOUT=A
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO, GENTAP DC UNIT=(7TRACK,,DEFER),
//          VCL=SER=CRTAPE, LABEL=(,NL,,IN),DISP=(OLD,KEEP),
//          DCB=(RECFM=U, BLKSIZE=1944, DEN=2)
//DATA DD *
IEF2371 ALLOC FOR SOMELOA* GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 336 ALLOCATED TO SYSLCUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 232 ALLOCATED TO FT05F001
IEF2371 336 ALLOCATED TO FT06F001
IEF2371 336 ALLOCATED TO FT07F001
IEF2371 336 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 336 ALLOCATED TO SYSTEM
IEF2371 336 ALLOCATED TO SYSDUMP
IEF2371 OCT ALLOCATED TO GENTAP

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OS/360 LOADER

OPTIONS USED - PRINT,MAP,NCLET,CALL,RES,NOTERM,SIZE=154560,NAME=**GO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	7C810	CONVTSCT*	SD	7D670	CONVRT *	LR	7D670	DBGEN *	SD	7D998	DBFECV *	LR	7CE58
READ	SD	7D660	READ	SD	7D660	WRITE *	LR	7D670	REWIN *	LR	7D670	LEAVE *	LR	7E360
UNLOAD *	LR	7E41A	POSN *	LR	7E530	MOUNT *	LR	7E750	MEMBER *	LR	7E932	FRAP *	SD	7E422
FALLCN *	LR	7EAA0	FUNITABL *	SD	7FA60	FPL1 *	SD	7FB28	FDONLIST *	SD	7F330	FRMSG *	SD	7FE38
THCNWEL *	SD	7FBA0	FRONL *	LR	7FBA0	FRNCL *	LR	8C1A4	INCCOMH *	SD	8D670	IBCCV *	LR	8CE70
FICCS *	LR	8C72C	INTSWTCH *	LR	81586	INCCOMH2 *	SD	81508	SEQCASD *	LR	81950	FTF *	SD	81C38
IIISCT *	SD	81C6B	ITI *	LR	81C6B	EXFLT *	SD	81D40	FIXFLT *	LR	81J40	TRNSLT *	SD	81C88
TRANS *	LR	81D8A	RITST *	SD	81E98	CONTCATA *	LR	81E98	DTOUN *	SD	81FC3	INCFVTH *	SD	82C98
ADCCN *	LR	82098	FCVACJTP *	LR	82142	FCVLCUTP *	LR	821D2	FCVZCUTP *	LR	82322	FCVICJTP *	LR	82C0G
FCVCCJTP *	LR	82802	FCVCCJTP *	LR	82802	INTCSCH *	LR	82803	INCFICCS *	SD	83233	FIGES *	LR	83338
FICCSREP *	LR	8323E	INCFICCS *	SD	84160	INCERRN *	SD	84690	ERRNCON *	LR	84690	INCERRE *	LR	846A8
INCFENTH *	SD	84C68	ARITH *	LR	84C68	ADJSWCH *	LR	85004	INCLOPT *	SD	85180	INCUATBL *	SD	85408
INCFTRCH *	SD	85B10	INCFTRCH *	LR	85B10	ERRTRA *	LR	85B18						

TOTAL LENGTH 5590
ENTRY ADDRESS 7C810

SATID HELICS-A 0CRBIT TAPE #ORA27
74C9701 CFB 76 367 000000 397 00000C 77C1 C1 77C803 701 C1 01 E7 X

HELICS-A YEAR 1977. LAUNCH TIME 65033J50. 0.

DATE	MM	DD	HR	MM	SC	HELICS	HELICS	SUN-HELICS	EARTH-HELICS	EARTH-HELICS	HELICS-SUN	HELICS	HELICS-V(A.U./DAY)
						ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SLN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RACIAL
1	1	0	0	0	0	331.91	-0.01	0.98	0.48	76.36	28.09	0.38	0.001
1	2	0	0	0	0	331.59	-0.01	0.98	0.48	76.06	28.41	0.29	0.001
1	3	0	0	0	0	331.27	-0.01	0.98	0.49	75.78	28.73	0.20	0.001
1	4	0	0	0	0	330.95	-0.01	0.99	0.49	75.52	29.04	0.12	0.001
1	5	0	0	0	0	330.64	-0.01	0.99	0.50	75.28	29.36	0.03	0.001
1	6	0	0	0	0	330.32	-0.01	0.98	0.50	75.07	29.68	-0.06	0.000
1	7	0	0	0	0	330.00	-0.01	0.98	0.51	74.87	30.00	-0.16	0.000
1	8	0	0	0	0	329.68	-0.00	0.99	0.51	74.65	30.32	-0.24	0.000
1	9	0	0	0	0	329.35	-0.00	0.99	0.52	74.43	30.65	-0.32	-0.000
1	10	0	0	0	0	329.03	-0.00	0.98	0.53	74.26	30.97	-0.41	-0.000
1	11	0	0	0	0	328.71	-0.00	0.99	0.53	74.26	31.29	-0.50	-0.000

1	12	0	0	0	328.39	-0.00	0.98	0.54	74.15	31.61	-0.59	-0.000	0.01
1	13	0	0	0	328.07	-0.00	0.98	0.54	74.05	31.93	-0.67	-0.001	0.01
1	14	0	0	0	327.75	-0.00	0.98	0.55	73.97	32.25	-0.76	-0.001	0.01
1	15	0	0	0	327.43	-0.00	0.98	0.55	73.91	32.57	-0.85	-0.001	0.01
1	16	0	0	0	327.12	-0.00	0.98	0.56	73.86	32.88	-0.94	-0.001	0.01
1	17	0	0	0	326.80	-0.00	0.98	0.56	73.83	33.20	-1.02	-0.001	0.01
1	18	0	0	0	326.49	-0.00	0.98	0.57	73.81	33.51	-1.11	-0.001	0.01
1	19	0	0	0	326.18	-0.00	0.98	0.57	73.80	33.82	-1.20	-0.002	0.01
1	20	0	0	0	325.87	-0.00	0.97	0.57	73.81	34.13	-1.29	-0.002	0.01
1	21	0	0	0	325.57	-0.00	0.97	0.58	73.82	34.43	-1.38	-0.002	0.01
1	22	0	0	0	325.27	-0.00	0.97	0.58	73.87	34.73	-1.45	-0.002	0.01
1	23	0	0	0	324.97	-0.00	0.97	0.59	73.93	35.03	-1.55	-0.002	0.01
1	24	0	0	0	324.67	-0.00	0.97	0.59	73.99	35.33	-1.64	-0.002	0.01
1	25	0	0	0	324.37	0.00	0.96	0.60	74.07	35.62	-1.73	-0.003	0.01
1	26	0	0	0	324.10	0.00	0.96	0.60	74.17	35.91	-1.82	-0.003	0.01
1	27	0	0	0	323.81	0.00	0.96	0.60	74.28	36.19	-1.91	-0.003	0.01
1	28	0	0	0	323.54	0.00	0.96	0.61	74.40	36.46	-2.00	-0.003	0.01
1	29	0	0	0	323.26	0.00	0.95	0.61	74.54	36.74	-2.09	-0.003	0.01
1	30	0	0	0	323.00	0.00	0.95	0.61	74.65	37.00	-2.18	-0.003	0.01
1	31	0	0	0	322.73	0.00	0.95	0.62	74.66	37.27	-2.27	-0.004	0.01

END OF FILE ON ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - COND CODE 0000	KEPT	DDNAME=SYSLIB	-1	0 EXCPS
IEF2851 M2.ZBRTC.S0002.LOAD	KEPT	DDNAME=SYSLIB	-2	17 EXCPS
IEF2851 VCL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB	-3	61 EXCPS
IEF2851 SYS2.FORTLIB	KEPT	DDNAME=SYSLIB	-4	28 EXCPS
IEF2851 VCL SER NOS= M2SY32.	KEPT	DDNAME=SYSLIB	-5	0 EXCPS
IEF2851 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-6	0 EXCPS
IEF2851 VCL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB	-7	0 EXCPS
IEF2851 SYS2.FORTLIB	KEPT	DDNAME=SYSLIB	-8	0 EXCPS
IEF2851 VCL SER NOS= K3SYS2.	KEPT	DDNAME=SYSLIB	-9	0 EXCPS
IEF2851 SYS1.PL1LIB	KEPT	DDNAME=SYSLIB	-10	0 EXCPS
IEF2851 VCL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB	-11	0 EXCPS
IEF2851 SYS1.FORTLIB	KEPT	DDNAME=SYSLIB	-12	0 EXCPS
IEF2851 VCL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB	-13	0 EXCPS
IEF2851 SYS2.COBLIB	KEPT	DDNAME=SYSLIB	-14	0 EXCPS
IEF2851 VCL SER NOS= M2SY31.	KEPT	DDNAME=SYSLIB	-15	0 EXCPS
IEF2851 SYS1.ALGLIB	KEPT	DDNAME=SYSLIB	-16	0 EXCPS
IEF2851 VCL SER NOS= K3SYS2.	SYSGUT	DDNAME=SYSLIB	-17	1 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000044	DELETED	DDNAME=SYSLIB	-18	7 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-19	2 EXCPS
IEF2851 M2.ZBRTC.S0002.LOAD	DELETED	DDNAME=SYSLIB	-20	2 EXCPS
IEF2851 VCL SER NOS= DISK15.	DELETED	DDNAME=SYSLIB	-21	1 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.S0000051	DELETED	DDNAME=SYSLIB	-22	0 EXCPS
IEF2851 VCL SER NOS= K3SCR3.	DELETED	DDNAME=SYSLIB	-23	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.S0000051	DELETED	DDNAME=SYSLIB	-24	0 EXCPS
IEF2851 VCL SER NOS= K3SCR3.	DELETED	DDNAME=SYSLIB	-25	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000045	DELETED	DDNAME=SYSLIB	-26	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-27	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000046	DELETED	DDNAME=SYSLIB	-28	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-29	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000047	DELETED	DDNAME=SYSLIB	-30	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-31	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000048	DELETED	DDNAME=SYSLIB	-32	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-33	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000049	DELETED	DDNAME=SYSLIB	-34	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-35	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-36	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-37	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-38	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-39	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-40	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-41	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-42	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-43	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-44	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-45	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-46	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-47	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-48	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-49	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-50	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-51	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-52	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-53	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-54	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-55	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-56	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-57	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-58	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-59	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-60	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-61	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-62	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-63	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-64	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-65	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-66	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-67	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-68	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-69	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-70	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-71	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-72	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-73	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-74	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-75	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-76	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-77	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-78	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-79	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-80	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-81	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-82	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-83	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-84	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-85	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-86	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-87	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-88	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-89	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-90	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-91	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-92	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-93	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-94	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-95	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-96	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-97	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-98	0 EXCPS
IEF2851 VCL SER NOS= K3SCR5.	DELETED	DDNAME=SYSLIB	-99	0 EXCPS
IEF2851 SYS80037.T165129.SV000.SCHELOA4.R0000050	DELETED	DDNAME=SYSLIB	-100	0 EXCPS

IEF3731 STEP /GO / START 80037.1658
 IEF3741 STEP /GO / STOP 80037.1701 CPU 04IN 12.62SEC MAIN 200K LCS OK
 - STEP 01 - RETURN CODE = 0000
 IO IN SECS. DISK= 11.12. DRUM= .00. TAPE= .54. MINS=(CPU= .21. IO= .33)
 SURCHARGES=(DRIVES ALCC=000. TAPE MCUNT=300. CORE=000. PAPER=000. PRIORITY=C0000) SECS. TOTAL STP TIME= .54 MINS. -
 *** EXEC NOTIFYTS, IC=SCHEL
 XKDEFALT PRIC MODE=.USRID=.MSG=.USERID=.ID= NOTIFYTS. EAC/21JUN73 00000010
 *** READ BACKGROUND JOB REPORT TO TSO USER 00000020
 XNOTIFYTS EXEC PGM=NOTIFYTS. RTGICN=20K. COND=EVEN. 00000030
 ** PARM=MODE,USRID=USERID,MSG 00000040
 IEF6531 SUBSTITUTION JCL - PARM=SCHEL
 IEF1421 - STEP WAS EXECUTED - COND CODE 0000
 IEF3731 STEP /NOTIFYTS/ START 80037.1701
 IEF3741 STEP /NOTIFYTS/ STOP 80037.1702 CPU 04IN 00.07SEC MAIN 200K LCS OK
 - STEP 02 - RETURN CODE = 0000
 IO IN SECS. DISK= .22. DRUM= .00. TAPE= .00. MINS=(CPU= .00. IO= .00)
 SURCHARGES=(DRIVES ALCC=000. TAPE MCUNT=000. CORE=000. PAPER=000. PRIORITY=C0000) SECS. TOTAL STP TIME=00000.00 MINS. -
 IEF3751 JOB /SCHELOA4/ START 80037.1653

[illegible]

A	8888888888	FFFFFFFFFFFF	33333333
	8888888888	FFFFFFFFFFFF	33333333
	88 88	FF	33
	88 88	FF	
	88 88	FF	3
	8888888888	FFFFFFFF	333333
	8888888888	FFFFFFFF	333333
	88 88	FF	3
	88 88	FF	
	88 88	FF	33
	8888888888	FFFFFFFF	33333333
	8888888888	FF	33333333

SACC 360/75

READER NUMBER-PC061

CLASS-

ORAIT

2/1/77-2/28/77

```

XX          SPACE=(CYL,(0,1)),UNIT=(DISK,3)
//SYSDUMP DD SYSOUT=SIERNOUT
IEF653I SUBSTITUTION JCL - SYSCLT=A
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(0,1))
//GO.GENTAP DD UNIT=(7TRACK,DEFER).
//      VOL=SER=OPTAPE,LABEL=(.AL,.IN),DISP=(OLD,KEEP).
//      DCB=(RECFM=J,BLKSIZE=1544,DSN=2)
//DATA5 DD *

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00000168
00000199

00000200

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IEF236I ALLOC. FOR SDHELOA4 SC
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 223 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 232 ALLOCATED TO SYSLOUT
IEF237I 333 ALLOCATED TO SYSLIN
IEF237I 335 ALLOCATED TO FT05F001
IEF237I 237 ALLOCATED TO FT06F001
IEF237I 232 ALLOCATED TO FT07F001
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 237 ALLOCATED TO SYSPRINT
IEF237I 335 ALLOCATED TO SYSTEM
IEF237I 335 ALLOCATED TO SYSDUMP
IEF237I 060 ALLOCATED TO GENTAP

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CS/360 LCADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=***GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR								
ORBIT	SD	70810	CONVRTSCT*	SD	71670	CAVRT	*	LR	71670	DBGEN	*	SD	71998	DBFEQV	*	LR	71858		
FREAD	*	SD	71060	FREACB	*	LR	71060	FWRITE	*	LR	72070	KEWIND	*	LR	72282	LEAVE	*	LR	72366
UNLOAD	*	LR	7241A	POSN	*	LR	72530	MCUNT	*	LR	72750	MEMBER	*	LR	72932	FTRAP	*	LR	72A22
FOLLOW	*	LR	72AA0	FUNITABL*	SD	73A60	FPL1	*	SD	73B28	FODNLIST*	SD	73B30	FERMSG	*	SD	73B38		
INCNAMBL*	SD	730A0	FRONL*	LR	73BA0	FWRNL*	LR	741A4	INCECOMH*	SD	74670	IBCCM*	*	LR	74670	IBCCM*	*	LR	74670
FTIUCS*	LR	74720	INTS*FCH*	LR	75580	INCCOMH2*	SD	75508	SEODASD	*	LR	75950	FTF	*	SD	75C38			
ITISECT	SD	75C88	ITI	*	LR	75CE8	FXFLT	*	SD	750A0	FIXFLT	*	LR	750A0	TRANSLTE	*	SD	75098	
TRANS	LR	75088	BITST	*	SD	75E98	CATGDATA*	LR	75E98	DTJUN	*	SD	75FC8	INCFVTH*	SD	76098			
ADCDN*	LR	76098	FCVACUTP*	LR	76142	FCVLCUTP*	LR	76102	FCVZOUTP*	LR	76322	FCVIOUTP*	LR	76600	FCVIOUTP*	LR	76600		
FCVACUTP*	LR	760D2	FCVCCUTP*	LR	76DEC	INTGSWCH*	LR	77003	INCEFIOS*	SD	77238	FIOS*	*	LR	77238				
FIOS*	LR	77238	INCFIOS2*	SD	78160	INCCRR4*	SD	78690	ERRMON	*	LR	78690	INCERRE	*	LR	786A8			
INCFFNTH*	SD	78C68	ARITH*	*	LR	78C68	ADJSWTCH*	LR	79004	INCHOPT	*	SD	79180	INCUATSL*	SD	79408			
INCHTRCH*	SD	79810	INCHTRCH*	LR	79810	ERRTRA	*	LR	79818										

TOTAL LENGTH 9590
ENTRY ADDRESS 70810

SATID HELIOS-A ORBIT TYPE =CRA17
7409701 ORB 77 032 000000 059 000000 7026 01 770414 026 01 01 E7 X

HELIOS-A YEAR 1977. LAUNCH TIME 67711750. 0.

DATE	MM	DD	MM	SC	HELIOS ECL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U.)	EARTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U./DAY)	RADIAL	NORMAL
2	1	0	0	0	322.48	0.00	0.94	0.62	75.04	37.52	-2.36	-.004	0.01	
2	2	0	0	0	322.23	0.00	0.94	0.62	75.24	37.77	-2.45	-.004	0.01	
2	3	0	0	0	321.99	0.00	0.93	0.63	75.46	38.01	-2.54	-.004	0.01	
2	4	0	0	0	321.75	0.00	0.93	0.63	75.69	38.26	-2.63	-.004	0.01	
2	5	0	0	0	321.53	0.00	0.93	0.63	75.94	38.50	-2.72	-.004	0.01	
2	6	0	0	0	321.31	0.00	0.92	0.63	76.21	38.77	-2.82	-.005	0.01	
2	7	0	0	0	321.09	0.00	0.92	0.64	76.49	39.01	-2.91	-.005	0.01	
2	8	0	0	0	320.89	0.00	0.91	0.64	76.79	39.11	-3.00	-.005	0.01	
2	9	0	0	0	320.70	0.00	0.91	0.64	77.11	39.30	-3.10	-.005	0.01	
2	10	0	0	0	320.51	0.01	0.90	0.64	77.45	39.49	-3.19	-.005	0.01	
2	11	0	0	0	320.34	0.01	0.90	0.64	77.81	39.66	-3.28	-.005	0.01	
2	12	0	0	0	320.18	0.01	0.89	0.65	78.19	39.82	-3.38	-.006	0.01	
2	13	0	0	0	320.02	0.01	0.88	0.65	78.59	39.98	-3.47	-.006	0.01	
2	14	0	0	0	319.88	0.01	0.88	0.65	79.01	40.12	-3.57	-.006	0.01	
2	15	0	0	0	319.75	0.01	0.87	0.65	79.46	40.25	-3.67	-.006	0.01	
2	16	0	0	0	319.64	0.01	0.87	0.65	79.93	40.36	-3.76	-.006	0.01	

NN	17	0	0	0	319.54	0.01	0.86	0.65	80.42	40.46	-3.86	-0.007	0.01
NN	18	0	0	0	319.55	0.01	0.85	0.65	80.94	40.55	-3.96	-0.007	0.01
NN	19	0	0	0	319.37	0.01	0.85	0.65	81.49	40.63	-4.06	-0.007	0.01
NN	20	0	0	0	319.32	0.01	0.84	0.65	82.07	40.68	-4.15	-0.007	0.01
NN	21	0	0	0	319.28	0.01	0.83	0.65	82.67	40.72	-4.25	-0.007	0.01
NN	22	0	0	0	319.25	0.01	0.83	0.65	83.31	40.75	-4.35	-0.007	0.01
NN	23	0	0	0	319.25	0.01	0.82	0.65	83.98	40.79	-4.45	-0.008	0.01
NN	24	0	0	0	319.26	0.01	0.81	0.65	84.64	40.74	-4.55	-0.008	0.01
NN	25	0	0	0	319.30	0.01	0.80	0.65	85.43	40.70	-4.65	-0.008	0.01
NN	26	0	0	0	319.36	0.01	0.79	0.65	86.21	40.64	-4.76	-0.008	0.01
NN	27	0	0	0	319.44	0.01	0.79	0.64	87.04	40.57	-4.86	-0.008	0.02
NN	28	0	0	0	319.54	0.01	0.78	0.64	87.90	40.46	-4.96	-0.009	0.02

END OF FILE ON CRBIT TAPE

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IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.ZBRTC.S0002.LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -2 17 EXCPS
IEF2851 SYS2.DEBLKUNV KEPT DDNAME=SYSLIB -3 61 EXCPS
IEF2851 VOL SER NOS= M2SYS2. KEPT DDNAME=SYSLIB -4 28 EXCPS
IEF2851 SYS1.FORTLIB KEPT DDNAME=SYSLIB -5 0 EXCPS
IEF2851 VOL SER NOS= K3ITL0. KEPT DDNAME=SYSLIB -6 0 EXCPS
IEF2851 SYS2.FORTLIB KEPT DDNAME=SYSLIB -7 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -8 0 EXCPS
IEF2851 SYS1.PLILIB KEPT DDNAME=SYSLIB -9 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -10 0 EXCPS
IEF2851 SYS1.FORTSSD KEPT DDNAME=SYSLIB -11 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -12 0 EXCPS
IEF2851 SYS2.CCCLIB KEPT DDNAME=SYSLIB -13 0 EXCPS
IEF2851 VOL SER NOS= M2SYS1. KEPT DDNAME=SYSLIB -14 1 EXCPS
IEF2851 SYS1.ALGLIB KEPT DDNAME=SYSLIB -15 7 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -16 2 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLEDA4.R0000001 KEPT DDNAME=SYSLIB -17 2 EXCPS
IEF2851 VOL SER NOS= K3SCR3. KEPT DDNAME=SYSLIB -18 1 EXCPS
IEF2851 M2.ZBRTC.S0002.LOAD KEPT DDNAME=SYSLIB -19 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -20 0 EXCPS
IEF2851 SYS80045.T110414.RV000.SDHLECA4.S0000008 KEPT DDNAME=SYSLIB -21 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -22 0 EXCPS
IEF2851 SYS80045.T110414.RV000.SDHLECA4.S0000008 KEPT DDNAME=SYSLIB -23 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -24 0 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLEDA4.R0000002 KEPT DDNAME=SYSLIB -25 0 EXCPS
IEF2851 VOL SER NOS= K3SCR4. KEPT DDNAME=SYSLIB -26 0 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLECA4.R0000003 KEPT DDNAME=SYSLIB -27 0 EXCPS
IEF2851 VOL SER NOS= K3SCR5. KEPT DDNAME=SYSLIB -28 0 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLEDA4.R0000004 KEPT DDNAME=SYSLIB -29 0 EXCPS
IEF2851 VOL SER NOS= K3SCR6. KEPT DDNAME=SYSLIB -30 0 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLEDA4.R0000005 KEPT DDNAME=SYSLIB -31 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -32 0 EXCPS
IEF2851 SYS80045.T110414.SV000.SDHLECA4.R0000006 KEPT DDNAME=SYSLIB -33 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -34 0 EXCPS
IEF2851 SYS80045.T110414.RV000.SDHLEDA4.R0000007 KEPT DDNAME=SYSLIB -35 654 EXCPS
IEF2851 VOL SER NOS= GRA17. KEPT DDNAME=SYSLIB -36 0 EXCPS
IEF240E K 000.GRA17.SDHLEDA4.GD
IEF3731 STEP /GO / START 80045.1104 CPU 0MIN 10.85SEC MAIN 200K LCS OK
IEF3741 STEP /GO / STOP 80045.1107 CPU 0MIN 10.85SEC MAIN 200K LCS OK
- STEP 01 - RETURN CODE = 0000
ID IN SECS. DISK= 10.97.DRUM= .00.TAPE= .00.
SURCHARGES=(DRIVES ALOC=000.TAPE MCOUNTS=000.CCCE=000.PAPER=000.PRIORITY=00000)SECS.
// EXEC NOTIFYTS
XXDEFAULT PROC BACKGROUN JOB REPORT TO TSC USER 00000010
*** SEND BACKGROUND JOB REPORT TO TSC USER 00000020
XXNCTIFYTS EXEC PGM=NOTIFYTS.REGION=20K.COND=EVEN. 00000030
XX PARM='EMODE,ELSRID,ELSERID,ELMSG' 00000040
IEF6531 SUBSTITUTION JCL - PARM='...'
IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF3731 STEP /NOTIFYTS/ START 80045.1107 CPU 0MIN 10.85SEC MAIN 200K LCS OK
IEF3741 STEP /NOTIFYTS/ STOP 80045.1107 CPU 0MIN 10.85SEC MAIN 200K LCS OK
- STEP 02 - RETURN CODE = 0000
ID IN SECS. DISK= .22.DRUM= .00.TAPE= .00.
SURCHARGES=(DRIVES ALOC=000.TAPE MCOUNTS=000.CCCE=000.PAPER=000.PRIORITY=00000)SECS.
IEF3751 JOB /SDHLECA4/ START 80045.1104 TIME=11.07.28.15 DATE=02-14-80.
IEF3761 JOB /SDHLECA4/ STOP 80045.1107 CPU 0MIN 10.90SEC TOTAL TIME = .47 MINS=(CPU= .18.IC= .29)
- SYSTEM=REL21.BF (04-01-79) K3 TOTAL JOB TIME= .47 MINS.
- JOB 0121- ID IN SECS. DISK= 11.20.DRUM= .00.TAPE= .00.
SURCHARGES=(DRIVES ALOC=000.TAPE MCOUNTS=000.CCCE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL JOB TIME= .47 MINS.
THERE WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MCUNT CHARGE WAS 00.0 MINUTES.

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JCBNAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	COOOGOOO	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	COOOGOOO	AA	SSSSSSSSSS
SS	DD	HH	HH	EE	LL	CO	AAAA	SS
SS	DD	HH	HH	EE	LL	CO	AAAA	SS
SS	DD	HH	HH	EE	LL	CO	AA AA	SS
SSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CO	AA AA	SSSSSSSSSS
SSSSSSSS	DD	HH	HH	EEEEEEEE	LL	CO	AA AA	SSSSSSSSSS
SS	DD	HH	HH	EE	LL	CO	AAAAAAA	SS
SS	DD	HH	HH	EE	LL	CO	AAAAAAA	SS
SS	DD	HH	HH	EE	LL	CO	AAAAAAA	SS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	COOOGOOO	AA AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LLLLLLLLLLLL	COOOGOOO	AA AA	SSSSSSSSSS

BOX-

88888888	FFFFFFFF	33333333
88888888	FFFFFFFF	33333333
88	FF	33
88	FF	33
88	FF	33
88888888	FFFFFFFF	333333
88888888	FFFFFFFF	333333
88	FF	33
88	FF	33
88	FF	33
88888888	FFFFFFFF	33333333
88888888	FFFFFFFF	33333333

SACC 360/75

READER NUMBER-P0228

CLASS-

AA
AA
AAAA
AAAA
AA AA
AA AA
AA AA
AAAAAAA
AAAAAAA
AA AA
AA AA

ORA23

3/1/77-3/31/77

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XXFT07F001 DD SYSOUT=9.DCB=(RECFM=FB,BLKSIZE=7260,LRECL=80) 000CC160
XXSYSPRINT DD SYSOUT=EQUT.DCB=(BLKSIZE=80,RECFM=VBA). 000CC170
IEF6531 SUBSTITUTION JCL - SYSOUT=A.DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA).
XX SPACE=(CYL,(0.1)),UNIT=(DISK,3) 00000180
XXSYSTERM DD SYSOUT=6TERMOU 00000190
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSDUMP DD SYSOUT=A
//GO.GENTAP DD UNIT=(7TRACK,,DEFER). 00000200
//VOL=SER=CRTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP).
//DCB=(RECFM=U,BLKSIZE=1944,DEN=2)
//DATA5 DD *
IEF2371 ALLOC. FOR SOMELOAS-GO
IEF2371 333 ALLOCATED TO SYSLIB
IEF2371 320 ALLOCATED TO
IEF2371 450 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 235 ALLOCATED TO SYSLOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 336 ALLOCATED TO FTC5F001
IEF2371 336 ALLOCATED TO FTC6F001
IEF2371 237 ALLOCATED TO FT07F001
IEF2371 336 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 335 ALLOCATED TO SYSTEM
IEF2371 336 ALLOCATED TO SYSDUMP
IEF2371 0C1 ALLOCATED TO GENTAP

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05/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR					
CRBIT	SD	CE010	CNVRTSCT*	SD	CEE70	CNVRT	*	LR	CEE70	DBGEN	*	SD	CF198	DBFE0V	*	LR	CF358		
FREAD	*	SD	CF560	FREADB	*	LR	CF788	FWRITE	*	LR	CF87C	REWIND	*	LR	CF832	LEAVE	*	LR	CF866
UNLOAD	*	LR	CF01A	POSN	*	LR	CF030	MOUNT	*	LR	CF550	MEMBER	*	LR	D0132	FTAP	*	LR	D0222
FALLCW	*	LR	D02A0	FUNITABL*	SD	D1260	FPL1	*	SD	D1328	FDDMLIST*	SD	D1330	FERNMSG	*	SD	D1338		
THCNAMXL*	SD	D13A0	FRONL*	LR	D13A0	FWRL*	LR	D19A4	INCECONH*	SD	D1E70	ISCON*	*	LR	D1E70				
FDICCS*	LR	D1F2C	INTSWTCH*	LR	D2086	INCCMH2*	SD	D20D9	SECDASD	LR	D3150	FTF	*	SD	D3438				
ITISECT	SD	D34E8	ITT	*	LR	D34E8	FXFLT	*	SD	D3540	FIXFLT	*	LR	D3540	TRNSLTE	*	SD	D3538	
TRANS	*	LR	D3588	BITST	*	SD	D3698	CNTGDATA*	LR	D3698	OTDLN	*	SD	D37C8	INCFVTH*	SD	D3698		
ADCON*	LR	D3898	FCVACUTP*	LR	D3642	FCVLQUTP*	LR	D3902	FCVZOUTP*	LR	D3322	FCVIOUPT*	LR	D3E00					
FCVCCUTP*	LR	D4302	FCVCCUTP*	LR	D456C	INT6SWCH*	LR	D48D3	INCEFIOS*	SD	D4A38	FIOCS*	*	LR	D4A38				
FIOCBREP*	LR	D4A38	INCFIOS2*	SD	D5950	INCERRM	*	SD	D5E90	ERRMON	*	LR	D5E90	INCERRE	LR	D5EA8			
INCEFNTH*	SD	D6468	ARITH*	*	LR	D6468	ADJ5WTCH*	LR	D6804	INCUOPT	*	SD	D6980	INCUATBL*	SD	D6C08			
INCETRCH*	SD	D7310	INCTRCH	*	LR	D7310	ERRTRA	*	LR	D7318									

TOTAL LENGTH 5590
ENTRY ADDRESS CE010

SATID HELIOS-A 0CRBIT TAPE #=ORA23
7409701 QFD 77 060 000000 090 000000 7004 01 770511 004 01 01 E7 X

HELIOS-A YEAR 1977. LAUNCH TIME 76130950. 0.

DATE				HELIOS		HELIOS		SUN-HELIOS		ERTH-HELIOS		EARTH-HELIOS		HELIOS-SUN		HELIOS		HELIOS-V(A.U./DAY)	
MM	DD	HR	MIN	SC	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HELIOS-LET(DEC)	RADIAL	NORMAL						
3	1	0	0	0	319.67	0.01	0.77	0.64	88.82	40.33	-5.06	-0.09	0.02						
3	2	0	0	0	319.82	0.01	0.76	0.64	89.78	40.18	-5.17	-0.09	0.02						
3	3	0	0	0	320.01	0.01	0.75	0.64	90.75	39.99	-5.27	-0.09	0.02						
3	4	0	0	0	320.22	0.01	0.74	0.63	91.66	39.76	-5.37	-0.09	0.02						
3	5	0	0	0	320.46	0.01	0.73	0.63	92.99	39.54	-5.48	-0.10	0.02						
3	6	0	0	0	320.74	0.01	0.72	0.63	94.18	39.26	-5.58	-0.10	0.02						
3	7	0	0	0	321.06	0.01	0.71	0.63	95.44	38.94	-5.69	-0.10	0.02						
3	8	0	0	0	321.41	0.02	0.70	0.62	96.76	38.59	-5.79	-0.10	0.02						
3	9	0	0	0	321.80	0.02	0.69	0.62	98.16	38.20	-5.89	-0.10	0.02						
3	10	0	0	0	322.23	0.02	0.68	0.62	99.64	37.77	-6.00	-0.11	0.02						
3	11	0	0	0	322.71	0.02	0.67	0.61	101.21	37.29	-6.10	-0.11	0.02						

3	12	0	0	0	323.24	0.02	0.66	0.61	102.87	36.76	-6.20	-.011	0.02
3	13	0	0	0	323.82	0.02	0.65	0.61	104.62	36.18	-6.30	-.011	0.02
3	14	0	0	0	324.46	0.02	0.64	0.60	102.48	35.54	-6.40	-.011	0.02
3	15	0	0	0	325.15	0.02	0.63	0.60	108.45	34.85	-6.49	-.012	0.02
3	16	0	0	0	325.91	0.02	0.62	0.59	110.53	34.09	-6.59	-.012	0.02
3	17	0	0	0	326.74	0.02	0.60	0.59	112.74	33.26	-6.68	-.012	0.02
3	18	0	0	0	327.64	0.02	0.59	0.58	115.09	32.36	-6.77	-.012	0.02
3	19	0	0	0	328.62	0.02	0.58	0.58	117.58	31.38	-6.85	-.012	0.02
3	20	0	0	0	329.68	0.02	0.57	0.58	120.22	30.32	-6.93	-.012	0.02
3	21	0	0	0	330.84	0.02	0.55	0.58	123.03	29.16	-7.00	-.013	0.02
3	22	0	0	0	332.10	0.02	0.53	0.57	126.00	27.90	-7.07	-.013	0.02
3	23	0	0	0	333.47	0.02	0.53	0.57	129.16	26.53	-7.12	-.013	0.02
3	24	0	0	0	334.95	0.02	0.52	0.57	132.51	25.05	-7.17	-.013	0.02
3	25	0	0	0	336.56	0.02	0.50	0.57	136.06	23.44	-7.20	-.013	0.02
3	26	0	0	0	338.31	0.02	0.49	0.57	139.83	21.69	-7.22	-.013	0.02
3	27	0	0	0	340.21	0.02	0.48	0.57	143.81	19.79	-7.23	-.013	0.02
3	28	0	0	0	342.28	0.02	0.46	0.57	147.02	17.72	-7.21	-.013	0.02
3	29	0	0	0	344.52	0.02	0.45	0.58	150.46	15.46	-7.17	-.013	0.02
3	30	0	0	0	346.95	0.02	0.44	0.58	154.14	13.05	-7.10	-.013	0.02
3	31	0	0	0	349.59	0.02	0.43	0.59	157.06	10.41	-7.00	-.013	0.02

END OF FILE ON ORBIT TAPE

```

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.ZBRTC.SD002.LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -2 17 EXCPS
IEF2851 SYS2.DEBLKUNV KEPT DDNAME=SYSLIB -3 61 EXCPS
IEF2851 VOL SER NOS= M2SYS2. KEPT DDNAME=SYSLIB -4 28 EXCPS
IEF2851 SYS1.FORTLIB KEPT DDNAME=SYSLIB -5 0 EXCPS
IEF2851 VOL SER NOS= K3ITL0. KEPT DDNAME=SYSLIB -6 0 EXCPS
IEF2851 SYS2.FORTLIB KEPT DDNAME=SYSLIB -7 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -8 0 EXCPS
IEF2851 SYS1.PL1LIB KEPT DDNAME=SYSLIB -9 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -10 0 EXCPS
IEF2851 SYS1.FORT3SP KEPT DDNAME=SYSLIB -11 0 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -12 0 EXCPS
IEF2851 SYS2.COBLIB KEPT DDNAME=SYSLIB -13 0 EXCPS
IEF2851 VOL SER NOS= M2SYS1. KEPT DDNAME=SYSLIB -14 0 EXCPS
IEF2851 SYS1.ALGLIB KEPT DDNAME=SYSLIB -15 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -16 0 EXCPS
IEF2851 SYS80042.T155339.SV000.SDHELOA5.R0000027 SYSOUT DDNAME=SYSLIB -17 1 EXCPS
IEF2851 VOL SER NOS= K3SCR6. KEPT DDNAME=SYSLIB -18 7 EXCPS
IEF2851 M2.ZBRTC.SD002.LOAD KEPT DDNAME=SYSLIB -19 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -20 2 EXCPS
IEF2851 SYS80042.T155339.RV000.SDHELOA5.S0000034 SYSIN DDNAME=FT05F001 2 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT05F001 2 EXCPS
IEF2851 SYS80042.T155339.RV000.SDHELOA5.S0000034 DELETED DDNAME=FT06F001 1 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.SV000.SDHELOA5.R0000028 DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.BV000.SDHELOA5.R0000029 DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR4. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.SV000.SDHELOA5.R0000030 DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.SV000.SDHELOA5.R0000031 DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.SV000.SDHELOA5.R0000032 DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 VOL SER NOS= K3SCR5. DELETED DDNAME=FT06F001 0 EXCPS
IEF2851 SYS80042.T155339.RV000.SDHELOA5.R0000033 KEPT DDNAME=FT06F001 726 EXCPS
IEF2851 VOL SER NOS= ORA23.
IEF2851 K OC1.ORA23.SDHELOA5.GG
IEF3731 STEP /GO / START 80042.1704
IEF3741 STEP /GO / STOP 80042.1706 CPU 0MIN 11.72SEC MAIN 200K LCS 0K
- STEP 01 - RETURN CODE = 0000
IO IN SECS. DISK= 11.02.DRUM= .00.TAPE= .00.CTHR= .16
TOTAL STP TIME= .49 MINS.
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CORE=000.PAPER=000.PRIORITY=00000)SECS.
// EXEC NOTIFYS
XXDEFAULT PRCC MODE=,USRID=,MSG=,USERID=,ID= NOTIFYS. EAC/21JUN73 00000010
** SEND BACKGROUND JOB REPORT TO TSO USER 00000020
XXNOTIFYS EXEC PGM=NOTIFYS,REGION=20K,COND=EVEN, 00000030
** PARM=,E,MODE,USRID,USERID,IO,MSG 00000040
IEF6531 SUBSTITUTION JCL - PARM=,
IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF3731 STEP /NOTIFYS/ START 80042.1706
IEF3741 STEP /NOTIFYS/ STOP 80042.1706 CPU 0MIN 00.09SEC MAIN 8K LCS 0K
- STEP 02 - RETURN CODE = 0000
IO IN SECS. DISK= .22.DRUM= .00.TAPE= .00.CTHR= .00
TOTAL STP TIME=000000.00 MINS.
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CORE=000.PAPER=000.PRIORITY=00000)SECS.
IEF3751 JOB /SDHELOA5/ START 80042.1704

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JCBNAME-
SSSSSSSSSS DD000000 HH HH EEEEEEEEEEE LL C000000000 AA SSSSSSSSSSS
SSSSSSSSSS SS DD000000 HH HH EEEEEEEEEEE LL CC000000000 AA SSSSSSSSSSS
SS SS DD DD HH HH EE LL CC DD AA AA SSS
SS SS DD DD HH HH EE LL CC DD AA AA SSS
SSSSSSSSSS DD DD FFFFFFFF EEEEEEE LL CC DD AA AA SSS
SSSSSSSSSS DD DD FFFFFFFF EEEEEEE LL CC DD AA AA SSS
SS SS DD DD HH HH EE LL CC DD AA AA SSS
SS SS DD DD HH HH EE LL CC DD AA AA SSS
SS SS DD DD HH HH EE LL CC DD AA AA SSS
SSSSSSSSSS DD000000 HH HH EEEEEEEEEEE LLLLLLLLLLLL CC000000000 AA AA SSSSSSSSSSS
SSSSSSSSSS DD000000 HH HH EEEEEEEEEEE LLLLLLLLLLLL CC000000000 AA AA SSSSSSSSSSS

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BOX-
BBB000000 FFFFFFFF 33333333
BBB000000 FFFFFFFF 33333333
BB BB FF 33
BB BB FF 33
BB BB FF 33
BBB000000 FFFFFFFF 33333
BBB000000 FFFFFFFF 33333
BB BB FF 33
BB BB FF 33
BB BB FF 33
BBB000000 FF 33333333
BBB000000 FF 33333333

```

CLASS-
AA
AA
AAAA
AAAA
AA AA
AA AA
AAAA
AAAA
AA AA
AA

ORA28

4/1/77-7/18/77

```

//XFTC7F001 DD SYSOUT=B,DCB=(RECFM=FB,BLKSIZE=7280,LRECL=80) 00000160
//XSYSPRINT DD SYSOUT=OUT,DCB=(BLKSIZE=8,BLKSIZE=137,RECFM=VBA), 00000170
IEF6531 SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA), 00000180
//X SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000190
//XSYSTERN DD SYSOUT=STERMOUT 00000200
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A,SPACE=(CYL,(0,5)) 00000210
//GO,GENTAP DC UNIT=(7TRACK,DEFER),
// VCL=SER=CRTAPE,LABEL=(,NL,,IN),DISP=(OLC,KEEP),
// DCR=(RECFM=U,BLKSIZE=1944,DEB=2)
//DATA DD *
IEF2271 ALLOC FOR SOMELOGS-GO
IEF2271 333 ALLCCATED TO SYSLIB
IEF2271 320 ALLCCATED TO
IEF2271 451 ALLCCATED TO
IEF2271 231 ALLCCATED TO
IEF2271 244 ALLCCATED TO
IEF2271 244 ALLCCATED TO
IEF2271 220 ALLCCATED TO
IEF2271 231 ALLCCATED TO
IEF2271 336 ALLCCATED TO SYSLCUT
IEF2271 333 ALLCCATED TO SYSLIN
IEF2271 232 ALLCCATED TO FT05F001
IEF2271 336 ALLCCATED TO FT05F001
IEF2271 237 ALLCCATED TO FT07F001
IEF2271 335 ALLCCATED TO SYSPRINT
IEF2271 232 ALLCCATED TO SYSPRINT
IEF2271 235 ALLCCATED TO SYSPRINT
IEF2271 336 ALLCCATED TO SYSTEM
IEF2271 335 ALLCCATED TO SYSUDUMP
IEF2271 001 ALLCCATED TO GENTAP

```

OS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERN,SIZE=194560,NAME=**GO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR					
CRBIT	SD	B5010	CNVRTSCT*	SD	B5E70	CNVRT	*	LR	B5E70	CRGEN	*	SD	B6198	DBFECV	*	LR	B6358		
FREAD	*	SD	B6560	FREAD	*	LR	B6570	WRITE	*	LR	B6570	NEWIND	*	LR	B6A0E	LEAVE	*	LR	B6E06
UNLOAD	*	LR	B6C1A	PO3N	*	LR	B6D30	MOUNT	*	LR	B6F50	MEMBER	*	LR	B7132	FTAP	*	LR	B7222
FALLOW	*	LR	B72A0	FUNITAB*	SD	B8250	FPL1	*	SD	B8328	FDDNLIST*	SD	B8330	FERMSG	*	SD	B8338		
INCKAMEL*	SD	B83A0	FRONL*	LR	B83A0	FRONL*	LR	B83A0	FRONL*	LR	B83A0	THCECCH*	SD	B8E70	IBCCM*	*	LR	B8E7C	
FTIGCS*	LR	B8F2C	INTSWTCH*	LR	B9D86	INCCOMH2*	SD	B9C08	SEQCASD	*	LR	B8150	FTF	*	SD	EA438			
ITISECT	*	SD	B8A58	ITI	*	LR	B14E8	EXFLT	*	SD	B8A50	FIXFLT	*	LR	B834J	TRNSLIE	*	SD	EA588
TRANS	*	LR	B8588	BITST	*	SD	B8698	CNTGDATA*	LR	B8658	DTOUN	*	SD	B87C8	INCFVTH*	SD	EA898		
ADCON*	LR	B8B98	FCVADUTP*	LR	B8A92	FCVADUTP*	LR	B8A92	FCVADUTP*	LR	B8A92	FCVADUTP*	LR	B8A92	FCVADUTP*	LR	EAEDC		
FCVADUTP*	LR	B8302	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	EA438		
FTIGCS*	LR	B8A5E	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	B858C	INCFVTH*	LR	EA438		
INCFVTH*	SD	B8A68	ARITH*	LR	B0468	ADJWCH*	LR	B0804	ERRTRA	*	LR	B0318	INCUOPT	*	SD	B07B0	INCUATBL*	SD	B0C08
INCFVTH*	SD	B8310	INCFVTH*	LR	B8310	ERRTRA	*	LR	B0318										

TOTAL LENGTH 5590
ENTRY ADDRESS B5010

SATID HELIOS-A 0CRBIT TAPE #=ORA28
7409701 CRB 77 091 000000 212 000000 7253 01 770910 253 01 01 E7 X

HELIOS-A YEAR 1977. LAUNCH TIME 72805350. 0.

DATE	HELIOS	HELIOS	SUN HELIOS	ENTH HELIOS	EARTH HELIOS	HELIOS-SUN	HELIOS	HELIOS-VIA(UBAY)	
MM DD HR MN SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RADIAL	NORMAL
4 1 0 0 0	352.46	0.02	0.41	0.59	167.22	7.54	-6.86	-0.013	0.03
4 2 0 0 0	355.57	0.02	0.40	0.60	172.03	4.43	-6.68	-0.012	0.03

INCH2CBI IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSN IS FF05000A200A848. REGISTER CONTAINED 7D70000000000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

289K 0031 6208EC6E 00085E70 00000000 0008528C

ORBIT 0001A28 C10E5010 FF000000 C00E6738

ENTRY POINT= 010B5010

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC2081 IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFD500CDA20BA832 . REGISTER CONTAINED 7CBF714340000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B5C6E 00CE5E70 C0C0C0C0 C00B528C

ORBIT 0001AA28 01CB5010 FFC0C0C0 C00E6738

ENTRY POINT= 010B5010

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC2081 IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFD500CDA20BA832 . REGISTER CONTAINED 7ECCE5FEC0000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B5C6E 00CE5E70 C0C0C0C0 C00B528C

ORBIT 0001AA28 01CB5010 FFC0C0C0 C00E6738

ENTRY POINT= 010B5010

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

IHC2081 IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFD500CD920BA832 . REGISTER CONTAINED FD45E3D000000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B5C6E 00CE5E70 C0C0C0C0 C00B528C

ORBIT 0001AA28 01CB5010 FFC0C0C0 C00E6738

ENTRY POINT= 010B5010

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

4 3 0 0 0 358.95 0.02 0.39 0.61 178.28 1.05 -6.45 -.012 0.03

IHC2081 IBCCM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS FFD500CDA20BA832 . REGISTER CONTAINED 7C10350780000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

66BK 0031 620B5C6E 00CE5E70 C0C0C0C0 C00B528C

ORBIT 0001AA28 01CB5010 FFC0C0C0 C00E6738

ENTRY POINT= 010B5010

STANDARD FIXUP TAKEN . EXECUTION CONTINUING

4 4 0 0 0	2.60	0.02	0.38	0.62	175.84	2.60	-6.17	-.011	0.03
4 5 0 0 0	6.54	0.02	0.37	0.64	165.74	6.54	-5.82	-.011	0.03
4 6 0 0 0	10.78	0.02	0.36	0.66	163.42	10.78	-5.41	-.011	0.03
4 7 0 0 0	15.33	0.02	0.34	0.67	156.91	15.33	-4.92	-.009	0.03
4 8 0 0 0	20.19	0.02	0.34	0.70	150.22	20.19	-4.36	-.008	0.04
4 9 0 0 0	25.38	0.02	0.33	0.72	143.35	25.38	-3.72	-.006	0.04
4 10 0 0 0	30.77	0.02	0.32	0.74	136.45	30.77	-3.00	-.005	0.04
4 11 0 0 0	36.45	0.01	0.32	0.77	129.45	36.45	-2.22	-.003	0.04
4 12 0 0 0	42.31	0.01	0.31	0.80	122.43	42.31	-1.39	-.002	0.04
4 13 0 0 0	48.32	0.01	0.31	0.83	115.47	48.32	-0.52	-.002	0.04
4 14 0 0 0	54.39	0.00	0.31	0.86	108.61	54.39	0.37	0.000	0.04
4 15 0 0 0	60.46	0.00	0.31	0.89	101.53	60.46	1.25	0.002	0.04
4 16 0 0 0	66.45	-0.00	0.31	0.92	95.47	66.45	2.10	0.003	0.04
4 17 0 0 0	72.30	-0.00	0.32	0.96	89.30	72.30	2.91	0.003	0.04
4 18 0 0 0	77.94	-0.01	0.32	0.99	83.46	77.94	3.65	0.006	0.04
4 19 0 0 0	83.35	-0.01	0.33	1.02	77.96	83.35	4.32	0.007	0.04
4 20 0 0 0	88.47	-0.01	0.34	1.05	72.84	88.47	4.91	0.008	0.04
4 21 0 0 0	93.30	-0.01	0.35	1.08	68.08	93.30	5.42	0.009	0.03
4 22 0 0 0	97.82	-0.02	0.36	1.11	63.66	97.82	5.85	0.010	0.03
4 23 0 0 0	102.03	-0.02	0.37	1.14	59.64	102.03	6.21	0.011	0.03
4 24 0 0 0	105.94	-0.02	0.38	1.17	55.93	105.94	6.51	0.012	0.03
4 25 0 0 0	109.57	-0.02	0.39	1.19	52.54	109.57	6.74	0.012	0.03
4 26 0 0 0	112.72	-0.02	0.40	1.22	49.43	112.72	6.92	0.012	0.03
4 27 0 0 0	116.01	-0.02	0.41	1.25	46.60	116.01	7.05	0.013	0.03
4 28 0 0 0	118.86	-0.02	0.43	1.27	44.01	118.86	7.14	0.013	0.03
4 29 0 0 0	121.50	-0.02	0.44	1.29	41.64	121.50	7.20	0.013	0.03
4 30 0 0 0	123.02	-0.02	0.45	1.31	39.47	123.02	7.22	0.013	0.03
5 1 0 0 0	126.16	-0.02	0.47	1.34	37.50	126.16	7.22	0.013	0.03
5 2 0 0 0	128.22	-0.02	0.48	1.36	35.09	128.22	7.21	0.013	0.02

130.12	-0.02	0.49	1.38	34.03	130.12	7.17	0.013	0.02
131.87	-0.02	0.50	1.40	32.51	131.87	7.12	0.013	0.02
133.49	-0.02	0.52	1.42	31.12	133.49	7.05	0.013	0.02
134.98	-0.02	0.53	1.43	29.84	134.98	6.99	0.013	0.02
136.35	-0.02	0.54	1.45	28.67	136.35	6.90	0.013	0.02
137.63	-0.02	0.56	1.47	27.59	137.63	6.81	0.013	0.02
138.81	-0.02	0.57	1.49	26.59	138.81	6.71	0.012	0.02
139.89	-0.02	0.58	1.50	25.68	139.89	6.61	0.012	0.02
140.89	-0.02	0.59	1.52	24.84	140.89	6.51	0.012	0.02
141.81	-0.02	0.60	1.53	24.06	141.81	6.40	0.012	0.02
142.66	-0.02	0.62	1.55	23.35	142.66	6.29	0.012	0.02
143.44	-0.02	0.63	1.56	22.68	143.44	6.18	0.011	0.02
144.16	-0.02	0.64	1.57	22.06	144.16	6.07	0.011	0.02
144.82	-0.02	0.65	1.59	21.53	144.82	5.96	0.011	0.02
145.43	-0.02	0.66	1.60	21.01	145.43	5.84	0.011	0.02
145.98	-0.02	0.67	1.61	20.53	145.98	5.73	0.011	0.02
146.49	-0.02	0.68	1.63	20.10	146.49	5.61	0.011	0.02
146.96	-0.02	0.69	1.65	19.65	146.96	5.50	0.010	0.02
147.38	-0.02	0.70	1.66	19.32	147.38	5.38	0.010	0.02
147.76	-0.02	0.71	1.68	18.98	147.76	5.27	0.010	0.02
148.11	-0.02	0.72	1.69	18.67	148.11	5.15	0.010	0.02
148.43	-0.02	0.73	1.70	18.38	148.43	5.04	0.010	0.02
148.71	-0.02	0.74	1.71	18.12	148.71	4.92	0.009	0.02
148.96	-0.02	0.75	1.72	17.87	148.96	4.81	0.009	0.02
149.18	-0.02	0.76	1.73	17.66	149.18	4.70	0.009	0.02
149.33	-0.02	0.77	1.74	17.46	149.33	4.59	0.009	0.02
149.55	-0.02	0.78	1.75	17.27	149.55	4.48	0.008	0.02
149.69	-0.02	0.79	1.76	17.11	149.69	4.37	0.008	0.02
149.81	-0.02	0.80	1.77	16.96	149.81	4.26	0.008	0.02
149.92	-0.02	0.81	1.78	16.83	149.92	4.15	0.008	0.02
150.00	-0.02	0.82	1.79	16.71	150.00	4.04	0.008	0.02
150.06	-0.02	0.83	1.80	16.61	150.06	3.93	0.007	0.02
150.10	-0.02	0.84	1.81	16.51	150.10	3.83	0.007	0.02
150.13	-0.02	0.85	1.82	16.43	150.13	3.72	0.007	0.02
150.14	-0.02	0.86	1.83	16.37	150.14	3.62	0.007	0.02
150.16	-0.02	0.87	1.84	16.31	150.16	3.51	0.007	0.02
150.17	-0.02	0.88	1.85	16.26	150.17	3.41	0.007	0.02
150.18	-0.02	0.89	1.86	16.23	150.18	3.31	0.006	0.02
150.19	-0.02	0.90	1.87	16.20	150.19	3.20	0.006	0.02
150.20	-0.02	0.91	1.88	16.18	150.20	3.10	0.006	0.02
150.21	-0.02	0.92	1.89	16.17	150.21	3.00	0.006	0.02
150.22	-0.02	0.93	1.90	16.16	150.22	2.90	0.006	0.02
150.23	-0.02	0.94	1.91	16.17	150.23	2.80	0.006	0.02
150.24	-0.02	0.95	1.92	16.18	150.24	2.70	0.006	0.02
150.25	-0.02	0.96	1.93	16.19	150.25	2.60	0.006	0.02
150.26	-0.02	0.97	1.94	16.20	150.26	2.50	0.006	0.02
150.27	-0.02	0.98	1.95	16.21	150.27	2.40	0.006	0.02
150.28	-0.02	0.99	1.96	16.22	150.28	2.30	0.006	0.02
150.29	-0.02	1.00	1.97	16.23	150.29	2.20	0.006	0.02
150.30	-0.02	1.01	1.98	16.24	150.30	2.10	0.006	0.02
150.31	-0.02	1.02	1.99	16.25	150.31	2.00	0.006	0.02
150.32	-0.02	1.03	2.00	16.26	150.32	1.90	0.006	0.02
150.33	-0.02	1.04	2.01	16.27	150.33	1.80	0.006	0.02
150.34	-0.02	1.05	2.02	16.28	150.34	1.70	0.006	0.02
150.35	-0.02	1.06	2.03	16.29	150.35	1.60	0.006	0.02
150.36	-0.02	1.07	2.04	16.30	150.36	1.50	0.006	0.02
150.37	-0.02	1.08	2.05	16.31	150.37	1.40	0.006	0.02
150.38	-0.02	1.09	2.06	16.32	150.38	1.30	0.006	0.02
150.39	-0.02	1.10	2.07	16.33	150.39	1.20	0.006	0.02
150.40	-0.02	1.11	2.08	16.34	150.40	1.10	0.006	0.02
150.41	-0.02	1.12	2.09	16.35	150.41	1.00	0.006	0.02
150.42	-0.02	1.13	2.10	16.36	150.42	0.90	0.006	0.02
150.43	-0.02	1.14	2.11	16.37	150.43	0.80	0.006	0.02
150.44	-0.02	1.15	2.12	16.38	150.44	0.70	0.006	0.02
150.45	-0.02	1.16	2.13	16.39	150.45	0.60	0.006	0.02
150.46	-0.02	1.17	2.14	16.40	150.46	0.50	0.006	0.02
150.47	-0.02	1.18	2.15	16.41	150.47	0.40	0.006	0.02
150.48	-0.02	1.19	2.16	16.42	150.48	0.30	0.006	0.02
150.49	-0.02	1.20	2.17	16.43	150.49	0.20	0.006	0.02
150.50	-0.02	1.21	2.18	16.44	150.50	0.10	0.006	0.02
150.51	-0.02	1.22	2.19	16.45	150.51	0.00	0.006	0.02
150.52	-0.02	1.23	2.20	16.46	150.52	0.00	0.006	0.02
150.53	-0.02	1.24	2.21	16.47	150.53	0.00	0.006	0.02
150.54	-0.02	1.25	2.22	16.48	150.54	0.00	0.006	0.02
150.55	-0.02	1.26	2.23	16.49	150.55	0.00	0.006	0.02
150.56	-0.02	1.27	2.24	16.50	150.56	0.00	0.006	0.02
150.57	-0.02	1.28	2.25	16.51	150.57	0.00	0.006	0.02
150.58	-0.02	1.29	2.26	16.52	150.58	0.00	0.006	0.02
150.59	-0.02	1.30	2.27	16.53	150.59	0.00	0.006	0.02
150.60	-0.02	1.31	2.28	16.54	150.60	0.00	0.006	0.02
150.61	-0.02	1.32	2.29	16.55	150.61	0.00	0.006	0.02
150.62	-0.02	1.33	2.30	16.56	150.62	0.00	0.006	0.02
150.63	-0.02	1.34	2.31	16.57	150.63	0.00	0.006	0.02
150.64	-0.02	1.35	2.32	16.58	150.64	0.00	0.006	0.02
150.65	-0.02	1.36	2.33	16.59	150.65	0.00	0.006	0.02
150.66	-0.02	1.37	2.34	16.60	150.66	0.00	0.006	0.02
150.67	-0.02	1.38	2.35	16.61	150.67	0.00	0.006	0.02
150.68	-0.02	1.39	2.36	16.62	150.68	0.00	0.006	0.02
150.69	-0.02	1.40	2.37	16.63	150.69	0.00	0.006	0.02
150.70	-0.02	1.41	2.38	16.64	150.70	0.00	0.006	0.02
150.71	-0.02	1.42	2.39	16.65	150.71	0.00	0.006	0.02
150.72	-0.02	1.43	2.40	16.66	150.72	0.00	0.006	0.02
150.73	-0.02	1.44	2.41	16.67	150.73	0.00	0.006	0.02
150.74	-0.02	1.45	2.42	16.68	150.74	0.00	0.006	0.02
150.75	-0.02	1.46	2.43	16.69	150.75	0.00	0.006	0.02
150.76	-0.02	1.47	2.44	16.70	150.76	0.00	0.006	0.02
150.77	-0.02	1.48	2.45	16.71	150.77	0.00	0.006	0.02
150.78	-0.02	1.49	2.46	16.72	150.78	0.00	0.006	0.02
150.79	-0.02	1.50	2.47	16.73	150.79	0.00	0.006	0.02
150.80	-0.02	1.51	2.48	16.74	150.80	0.00	0.006	0.02
150.81	-0.02	1.52	2.49	16.75	150.81	0.00	0.006	0.02
150.82	-0.02	1.53	2.50	16.76	150.82	0.00	0.006	0.02
150.83	-0.02	1.54	2.51	16.77	150.83	0.00	0.006	0.02
150.84	-0.02	1.55	2.52	16.78	150.84	0.00	0.006	0.02
150.85	-0.02	1.56	2.53	16.79	150.85	0.00	0.006	0.02
150.86	-0.02	1.57	2.54	16.80	150.86	0.00	0.006	0.02
150.87	-0.02	1.58	2.55	16.81	150.87	0.00	0.006	0.02
150.88	-0.02	1.59	2.56	16.82	150.88	0.00	0.006	0.02
150.89	-0.02	1.60	2.57	16.83	150.89	0.00	0.006	0.02
150.90	-0.02	1.61	2.58	16.84	150.90	0.00	0.006	0.02
150.91	-0.02	1.62	2.59	16.85	150.91	0.00	0.006	0.02
150.92	-0.02	1.63	2.60	16.86	150.92	0.00	0.006	0.02
150.93	-0.02	1.64	2.61	16.87	150.93	0.00	0.006	0.02
150.94	-0.02	1.65	2.62	16.88	150.94	0.00	0.006	0.02
150.95	-0.02	1.66	2.63	16.89	150.95	0.00	0.006	0.02
150.96	-0.02	1.67	2.64	16.90	150.96	0.00	0.006	0.02
150.97	-0.02	1.68	2.65	16.91	150.97	0.00	0.006	0.02
150.98	-0.02	1.69	2.66	16.92	150.98	0.00	0.006	0.02
150.99	-0.02	1.70	2.67	16.93	150.99	0.00	0.006	0.02
151.00	-0.02	1.71	2.68	16.94	151.00	0.00	0.006	0.02
151.01	-0.02	1.72	2.69	16.95	151.01	0.00	0.006	0.02
151.02	-0.02	1.73	2.70	16.96	151.02	0.00	0.006	0.02
151.03	-0.02	1.74	2.71	16.97	151.03	0.00	0.006	0.02
151.04	-0.02	1.75	2.72	16.98	151.04	0.00	0.006	0.02
151.05	-0.02	1.76	2.73	16.99	151.05	0.00	0.006	0.02
151.06	-0.02	1.77	2.74	17.00	151.06	0.00	0.006	0.02
151.07	-0.02	1.78	2.75	17.01	151.07	0.00	0.006	0.02
151.08	-0.02	1.79	2.76	17.02	151.08	0.00	0.006	0.02
151.09	-0.02	1.80	2.77	17.03	151.09	0.00	0.006	0.02
151.10	-0.02	1.81	2.78	17.04	151.10	0.00	0.006	0.02
151.11	-0.02	1.82	2.79	17.05	151.11	0.00	0.006	0.02
151.12	-0.02	1.83	2.80	17.06	151.12	0.00	0.006	0.02
151.13	-0.02	1.84	2.81	17.07	151.13	0.00	0.006	0.02
151.14	-0.02	1.85	2.82	17.08	151.14	0.00	0.006	0.02
151.15	-0.02	1.8						

[illegible]

READER NUMBER-P0075

CLASS-

ORA 30
8/1/77 - 12/31/77

OR

IHCNVEL* SD 558A0
 FIOCS* SD 5672C
 ITI* SD 57CE8
 TRANS* LR 57088
 ADCON* LR 58098
 FCVOUTP* LR 58302
 FCVOUTP* LR 58302
 IHCENP* SD 5823E
 IHCENP* SD 5823E
 IHCENP* SD 5823E
 IHCENP* SD 5823E

FRONL* LR 558A0
 INTSWTCH* LR 57596
 ITI* LR 57CE8
 BITST* LR 57E98
 FCVOUTP* LR 58142
 FCVOUTP* LR 58142
 IHCENP* LR 58142
 IHCENP* LR 58142
 IHCENP* LR 58142
 IHCENP* LR 58142

F*LR 561A4
 IHCENP* SD 57503
 EXFLT* SD 57D40
 CNTGDATA* LR 57E98
 FCVOUTP* LR 58102
 INTSWTCH* LR 58003
 IHCENP* SD 58100
 ADJSTCH* LR 58004
 ERNTRA* LR 58B18

IHCENP* SD 56670
 SEDASD* LR 57950
 EXFLT* LR 57D40
 DTDJN* SD 57FC8
 FCVOUTP* LR 58322
 IHCENP* SD 58238
 ERNTRA* LR 58100
 IHCENP* SD 58100

IBCOM* LR 56670
 FTF* SD 57C38
 TRNSLTE* SD 57D88
 IHCENP* SD 58C98
 FCVOUTP* LR 58C98
 FIOCS* LR 58C98
 IHCENP* LR 58C98
 IHCENP* LR 58C98

TOTAL LENGTH 5590
 ENTRY ADDRESS 52910

SATID HELIOS-A ORBIT TAPE #02A30
 7409701 ORB 77 213 000000 365 000300 5129 01 780712 129 01 01 E7 X

HELIOS-A

YEAR 1977.

LA INCH TIME .83350152. 0.

DATE	MM	DD	HR	MM	SC	HELIOS ECL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U.)	ERTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U./DAY) RADIAL	NORMAL
00	00	00	00	00	00	139.10	-0.00	0.97	1.86	20.94	139.10	-1.49	-0.002	0.01
00	00	00	00	00	00	138.86	-0.00	0.97	1.86	21.09	138.86	-1.58	-0.002	0.01
00	00	00	00	00	00	138.63	-0.00	0.96	1.85	21.23	138.63	-1.67	-0.003	0.01
00	00	00	00	00	00	138.41	0.00	0.96	1.85	21.38	138.41	-1.76	-0.003	0.01
00	00	00	00	00	00	138.18	0.00	0.96	1.84	21.52	138.18	-1.85	-0.003	0.01
00	00	00	00	00	00	137.96	0.00	0.96	1.84	21.67	137.96	-1.94	-0.003	0.01
00	00	00	00	00	00	137.75	0.00	0.95	1.83	21.82	137.75	-2.03	-0.003	0.01
00	00	00	00	00	00	137.53	0.00	0.95	1.83	21.96	137.53	-2.12	-0.003	0.01
00	00	00	00	00	00	137.33	0.00	0.95	1.83	22.11	137.33	-2.21	-0.004	0.01
00	00	00	00	00	00	137.13	0.00	0.94	1.82	22.25	137.13	-2.30	-0.004	0.01
00	00	00	00	00	00	136.93	0.00	0.94	1.82	22.40	136.93	-2.39	-0.004	0.01
00	00	00	00	00	00	136.74	0.00	0.93	1.81	22.54	136.74	-2.48	-0.004	0.01
00	00	00	00	00	00	136.56	0.00	0.93	1.81	22.69	136.56	-2.57	-0.004	0.01
00	00	00	00	00	00	136.39	0.00	0.93	1.80	22.83	136.39	-2.67	-0.004	0.01
00	00	00	00	00	00	136.22	0.00	0.92	1.80	22.97	136.22	-2.76	-0.005	0.01
00	00	00	00	00	00	136.06	0.00	0.92	1.79	23.12	136.06	-2.85	-0.005	0.01
00	00	00	00	00	00	135.90	0.00	0.91	1.78	23.26	135.90	-2.94	-0.005	0.01
00	00	00	00	00	00	135.76	0.00	0.91	1.78	23.39	135.76	-3.04	-0.005	0.01
00	00	00	00	00	00	135.62	0.00	0.90	1.77	23.53	135.62	-3.13	-0.005	0.01
00	00	00	00	00	00	135.50	0.01	0.90	1.77	23.66	135.50	-3.23	-0.005	0.01
00	00	00	00	00	00	135.38	0.01	0.89	1.76	23.80	135.38	-3.32	-0.006	0.01
00	00	00	00	00	00	135.27	0.01	0.88	1.76	23.93	135.27	-3.42	-0.006	0.01
00	00	00	00	00	00	135.18	0.01	0.88	1.75	24.05	135.18	-3.51	-0.006	0.01
00	00	00	00	00	00	135.09	0.01	0.87	1.74	24.18	135.09	-3.61	-0.006	0.01
00	00	00	00	00	00	135.02	0.01	0.87	1.74	24.30	135.02	-3.71	-0.006	0.01
00	00	00	00	00	00	134.96	0.01	0.86	1.73	24.41	134.96	-3.80	-0.006	0.01
00	00	00	00	00	00	134.92	0.01	0.85	1.72	24.53	134.92	-3.90	-0.007	0.01
00	00	00	00	00	00	134.87	0.01	0.84	1.71	24.64	134.87	-4.00	-0.007	0.01
00	00	00	00	00	00	134.87	0.01	0.83	1.70	24.74	134.87	-4.10	-0.007	0.01
00	00	00	00	00	00	134.88	0.01	0.83	1.70	24.84	134.88	-4.20	-0.007	0.01
00	00	00	00	00	00	134.91	0.01	0.82	1.69	24.93	134.91	-4.30	-0.007	0.01
00	00	00	00	00	00	134.96	0.01	0.81	1.69	25.02	134.96	-4.40	-0.008	0.01
00	00	00	00	00	00	135.03	0.01	0.80	1.68	25.10	135.03	-4.50	-0.008	0.01
00	00	00	00	00	00	135.12	0.01	0.80	1.67	25.17	135.12	-4.60	-0.008	0.01
00	00	00	00	00	00	135.23	0.01	0.79	1.66	25.23	135.23	-4.70	-0.008	0.01
00	00	00	00	00	00	135.37	0.01	0.78	1.66	25.29	135.37	-4.81	-0.008	0.01
00	00	00	00	00	00	135.53	0.01	0.77	1.65	25.33	135.53	-4.91	-0.009	0.02
00	00	00	00	00	00	135.71	0.01	0.76	1.64	25.37	135.71	-5.01	-0.009	0.02
00	00	00	00	00	00	135.92	0.01	0.75	1.63	25.40	135.92	-5.12	-0.009	0.02
00	00	00	00	00	00	136.16	0.01	0.74	1.63	25.46	136.16	-5.22	-0.009	0.02
00	00	00	00	00	00	136.43	0.01	0.73	1.62	25.51	136.43	-5.32	-0.010	0.02
00	00	00	00	00	00	136.73	0.01	0.72	1.61	25.54	136.73	-5.43	-0.010	0.02
00	00	00	00	00	00	137.06	0.01	0.71	1.60	25.59	137.06	-5.53	-0.010	0.02
00	00	00	00	00	00	137.43	0.02	0.70	1.60	25.62	137.43	-5.64	-0.010	0.02
00	00	00	00	00	00	137.84	0.02	0.69	1.59	25.67	137.84	-5.74	-0.010	0.02
00	00	00	00	00	00	138.29	0.02	0.68	1.58	25.72	138.29	-5.85	-0.011	0.02
00	00	00	00	00	00	138.79	0.02	0.67	1.57	25.76	138.79	-5.95	-0.011	0.02
00	00	00	00	00	00	139.33	0.02	0.66	1.57	25.81	139.33	-6.06	-0.011	0.02
00	00	00	00	00	00	140.93	0.02	0.65	1.56	25.86	140.93	-6.16	-0.011	0.02
00	00	00	00	00	00	142.57	0.02	0.64	1.55	25.90	142.57	-6.26	-0.011	0.02
00	00	00	00	00	00	144.28	0.02	0.63	1.55	25.95	144.28	-6.36	-0.011	0.02
00	00	00	00	00	00	146.04	0.02	0.62	1.54	26.00	146.04	-6.46	-0.011	0.02
00	00	00	00	00	00	147.88	0.02	0.61	1.53	26.04	147.88	-6.56	-0.012	0.02
00	00	00	00	00	00	149.74	0.02	0.60	1.52	26.09	149.74	-6.66	-0.012	0.02
00	00	00	00	00	00	151.76	0.02	0.59	1.51	26.13	151.76	-6.74	-0.012	0.02
00	00	00	00	00	00	153.93	0.02	0.58	1.50	26.18	153.93	-6.82	-0.012	0.02
00	00	00	00	00	00	156.23	0.02	0.57	1.49	26.22	156.23	-6.90	-0.012	0.02
00	00	00	00	00	00	158.69	0.02	0.56	1.48	26.26	158.69	-6.98	-0.012	0.02

10 00	0	0	0	143.24	0.00	0.54	1.49	20.70	148.24	-7.05	-0.013	0.02
10 01	0	0	0	149.60	0.00	0.53	1.49	19.97	149.60	-7.11	-0.013	0.02
10 02	0	0	0	151.07	0.00	0.52	1.49	19.15	151.07	-7.16	-0.013	0.02
10 03	0	0	0	152.67	0.00	0.51	1.47	18.24	152.67	-7.19	-0.013	0.02
10 04	0	0	0	154.41	0.00	0.49	1.46	17.22	154.41	-7.22	-0.013	0.02
10 05	0	0	0	156.29	0.00	0.43	1.45	16.08	156.29	-7.23	-0.013	0.02
10 06	0	0	0	158.33	0.00	0.47	1.44	14.82	158.33	-7.22	-0.013	0.03
10 07	0	0	0	160.55	0.00	0.45	1.44	13.42	160.55	-7.19	-0.013	0.03
10 08	0	0	0	162.95	0.00	0.44	1.43	11.96	162.95	-7.12	-0.013	0.03
10 09	0	0	0	165.56	0.00	0.43	1.42	10.13	165.56	-7.03	-0.013	0.03
10 10	0	0	0	168.39	0.00	0.41	1.41	8.21	168.39	-6.90	-0.013	0.03
10 11	0	0	0	171.46	0.00	0.40	1.40	6.00	171.46	-6.73	-0.012	0.03
10 12	0	0	0	174.79	0.00	0.39	1.39	3.75	174.79	-6.52	-0.012	0.03
10 13	0	0	0	178.39	0.00	0.38	1.38	1.17	178.39	-6.24	-0.012	0.03
10 14	0	0	0	182.27	0.00	0.37	1.36	0.66	177.73	-5.91	-0.011	0.03
10 15	0	0	0	186.46	0.00	0.36	1.35	4.76	173.54	-5.51	-0.010	0.03
10 16	0	0	0	190.96	0.00	0.35	1.34	8.14	169.04	-5.04	-0.009	0.03
10 17	0	0	0	195.76	0.00	0.34	1.32	11.79	164.24	-4.49	-0.009	0.03
10 18	0	0	0	200.46	0.00	0.33	1.31	15.72	159.14	-3.87	-0.007	0.04
10 19	0	0	0	206.23	0.00	0.32	1.29	19.91	153.77	-3.17	-0.006	0.04

HELIOS-A

YEAR 1977.

LAUNCH TIME 93006552. 0.

DATE	HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U/DAY)	NORMAL
YR MO HR MN SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RADIAL	
10 18 00 00 00	211.86	0.01	0.32	1.23	24.33	148.14	-2.40	-0.005	0.04
10 19 00 00 00	217.69	0.01	0.32	1.26	28.94	142.31	-1.57	-0.003	0.04
10 20 00 00 00	223.66	0.01	0.31	1.24	33.70	136.34	-0.71	-0.002	0.04
10 21 00 00 00	229.71	0.01	0.31	1.22	38.54	130.23	0.18	-0.000	0.04
10 22 00 00 00	235.77	0.00	0.31	1.20	43.40	124.23	1.06	0.001	0.04
10 23 00 00 00	241.76	0.00	0.31	1.19	48.22	118.24	1.92	0.003	0.04
10 24 00 00 00	247.62	0.00	0.32	1.15	52.93	112.38	2.74	0.005	0.04
10 25 00 00 00	253.27	0.01	0.33	1.13	57.47	106.72	3.49	0.006	0.04
10 26 00 00 00	258.71	0.01	0.34	1.11	61.81	101.23	4.18	0.007	0.04
10 27 00 00 00	263.86	0.01	0.34	1.09	65.90	96.14	4.79	0.008	0.04
10 28 00 00 00	268.71	0.01	0.35	1.06	69.73	91.23	5.31	0.009	0.03
10 29 00 00 00	273.26	0.02	0.35	1.04	73.29	86.74	5.76	0.010	0.03
10 30 00 00 00	277.50	0.02	0.36	1.01	76.57	82.50	6.13	0.011	0.03
10 31 00 00 00	281.43	0.02	0.38	0.99	79.57	78.57	6.44	0.011	0.03
11 01 00 00 00	285.08	0.02	0.39	0.97	82.31	74.92	6.69	0.012	0.03
11 02 00 00 00	288.44	0.02	0.40	0.95	84.74	71.56	6.98	0.013	0.03
11 03 00 00 00	291.55	0.02	0.41	0.92	87.04	68.45	7.02	0.013	0.03
11 04 00 00 00	294.41	0.02	0.42	0.90	89.05	65.59	7.12	0.013	0.03
11 05 00 00 00	297.05	0.02	0.44	0.88	90.55	62.95	7.18	0.013	0.03
11 06 00 00 00	299.47	0.02	0.45	0.86	92.46	60.53	7.22	0.013	0.03
11 07 00 00 00	301.71	0.02	0.46	0.85	93.87	58.29	7.23	0.013	0.02
11 08 00 00 00	303.76	0.02	0.48	0.83	95.12	56.24	7.21	0.013	0.02
11 09 00 00 00	305.65	0.02	0.49	0.81	96.20	54.35	7.18	0.013	0.02
11 10 00 00 00	307.39	0.02	0.50	0.81	97.13	52.61	7.14	0.013	0.02
11 11 00 00 00	308.93	0.02	0.52	0.79	97.93	51.01	7.08	0.013	0.02
11 12 00 00 00	310.47	0.02	0.53	0.78	98.59	49.53	7.01	0.013	0.02
11 13 00 00 00	311.83	0.02	0.54	0.75	99.13	48.17	6.93	0.013	0.02
11 14 00 00 00	313.07	0.02	0.55	0.73	99.56	46.93	6.84	0.013	0.02
11 15 00 00 00	314.22	0.02	0.57	0.72	99.87	45.78	6.75	0.012	0.02
11 16 00 00 00	315.28	0.02	0.58	0.71	100.09	44.72	6.65	0.012	0.02
11 17 00 00 00	316.25	0.02	0.59	0.69	100.22	43.75	6.55	0.012	0.02
11 18 00 00 00	317.14	0.02	0.60	0.64	100.26	42.86	6.44	0.012	0.02
11 19 00 00 00	317.95	0.02	0.61	0.67	100.21	42.05	6.33	0.012	0.02
11 20 00 00 00	318.70	0.02	0.63	0.66	100.09	41.30	6.22	0.011	0.02
11 21 00 00 00	319.39	0.02	0.64	0.65	99.90	40.61	6.11	0.011	0.02
11 22 00 00 00	320.01	0.02	0.65	0.64	99.64	39.99	6.00	0.011	0.02
11 23 00 00 00	320.58	0.02	0.66	0.64	99.32	39.42	5.89	0.011	0.02
11 24 00 00 00	321.10	0.02	0.67	0.63	98.94	38.90	5.77	0.011	0.02
11 25 00 00 00	321.57	0.02	0.69	0.62	98.51	38.43	5.65	0.010	0.02
11 26 00 00 00	322.37	0.02	0.69	0.61	98.03	38.01	5.43	0.010	0.02
11 27 00 00 00	322.71	0.02	0.70	0.61	97.51	37.63	5.32	0.010	0.02
11 28 00 00 00	323.01	0.02	0.71	0.60	96.94	37.29	5.20	0.010	0.02
11 29 00 00 00	323.28	0.02	0.72	0.60	96.34	36.92	5.09	0.010	0.02
11 30 00 00 00	323.52	0.02	0.73	0.59	95.71	36.72	4.98	0.009	0.02
12 01 00 00 00	323.72	0.02	0.74	0.59	95.04	36.48	4.86	0.009	0.02
12 02 00 00 00	323.89	0.02	0.75	0.59	94.35	36.28	4.75	0.009	0.02
12 03 00 00 00	324.04	0.02	0.76	0.58	93.64	36.11	4.64	0.009	0.02
12 04 00 00 00	324.16	0.02	0.77	0.58	92.92	35.96	4.53	0.009	0.02
12 05 00 00 00	324.25	0.02	0.78	0.59	92.17	35.84	4.42	0.008	0.02
12 06 00 00 00	324.32	0.02	0.79	0.58	91.42	35.75	4.31	0.008	0.01
12 07 00 00 00	324.37	0.02	0.79	0.57	90.65	35.64	4.20	0.008	0.01
12 08 00 00 00	324.39	0.02	0.80	0.57	89.88	35.63	4.10	0.008	0.01
12 09 00 00 00	324.40	0.02	0.81	0.57	89.11	35.61	3.99	0.008	0.01
12 10 00 00 00	324.40	0.02	0.82	0.57	88.33	35.60			

12	11	0	0	0	324.38	-0.02	0.82	0.57	87.55	35.62	3.88	0.007	0.01
12	12	0	0	0	324.35	-0.02	0.83	0.57	86.78	35.63	3.78	0.007	0.01
12	13	0	0	0	324.30	-0.02	0.84	0.58	85.02	35.70	3.67	0.007	0.01
12	14	0	0	0	324.24	-0.02	0.85	0.58	85.26	35.76	3.57	0.007	0.01
12	15	0	0	0	324.16	-0.02	0.85	0.59	84.51	35.84	3.47	0.007	0.01
12	16	0	0	0	324.06	-0.02	0.86	0.59	82.77	35.94	3.37	0.007	0.01
12	17	0	0	0	323.95	-0.02	0.87	0.59	83.04	36.05	3.26	0.006	0.01
12	18	0	0	0	323.83	-0.02	0.87	0.59	82.33	36.31	3.16	0.006	0.01
12	19	0	0	0	323.69	-0.02	0.88	0.59	81.62	36.46	3.06	0.006	0.01
12	20	0	0	0	323.54	-0.01	0.89	0.60	80.94	36.61	2.96	0.006	0.01
12	21	0	0	0	323.37	-0.01	0.89	0.60	80.27	36.78	2.86	0.006	0.01
12	22	0	0	0	323.22	-0.01	0.90	0.60	79.61	36.96	2.77	0.005	0.01
12	23	0	0	0	323.05	-0.01	0.91	0.61	78.97	37.16	2.67	0.005	0.01
12	24	0	0	0	322.85	-0.01	0.91	0.61	78.35	37.35	2.57	0.005	0.01
12	25	0	0	0	322.65	-0.01	0.92	0.61	77.75	37.56	2.47	0.005	0.01
12	26	0	0	0	322.44	-0.01	0.92	0.62	77.16	37.78	2.38	0.005	0.01
12	27	0	0	0	322.22	-0.01	0.93	0.62	76.59	38.00	2.28	0.004	0.01
12	28	0	0	0	322.00	-0.01	0.93	0.63	76.04	38.24	2.19	0.004	0.01
12	29	0	0	0	321.76	-0.01	0.93	0.63	75.50	38.48	2.09	0.004	0.01
12	30	0	0	0	321.52	-0.01	0.93	0.64	74.99	38.72	2.00	0.004	0.01
12	31	0	0	0	321.28	-0.01	0.94				1.91	0.004	0.01

END OF FILE ON ORBIT TAPE

```

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.ZBRTC.SD002.LOAD KEPT DCNAME=SYSLIB -1 0 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DCNAME=SYSLIB -2 17 EXCPS
IEF2851 SYS2.DEBLKUNV KEPT DCNAME=SYSLIB -3 61 EXCPS
IEF2851 VOL SER NOS= M2SYS2. KEPT DCNAME=SYSLIB -4 28 EXCPS
IEF2851 SYS1.FJRTL1B KEPT DCNAME=SYSLIB -5 0 EXCPS
IEF2851 VOL SER NOS= K3ITL0. KEPT DCNAME=SYSLIB -6 0 EXCPS
IEF2851 SYS2.FORTL1B KEPT DCNAME=SYSLIB -7 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. KEPT DCNAME=SYSLIB -8 0 EXCPS
IEF2851 SYS1.PL111B KEPT DCNAME=SYSLIB -9 1 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DCNAME=SYSLIB -10 7 EXCPS
IEF2851 SYS1.FORTSSP KEPT DCNAME=SYSLIB -11 2 EXCPS
IEF2851 VOL SER NOS= K3ITL5. KEPT DCNAME=SYSLIB -12 2 EXCPS
IEF2851 SYS2.COBLLB KEPT DCNAME=SYSLIB -13 3 EXCPS
IEF2851 VOL SER NOS= M2SYS1. KEPT DCNAME=SYSLIB -14 0 EXCPS
IEF2851 SYS1.ALGLIB KEPT DCNAME=SYSLIB -15 0 EXCPS
IEF2851 VOL SER NOS= K3SYS2. SYSCUT DCNAME=SYSLIB -16 1 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000001 KEPT DCNAME=SYSLIB -17 7 EXCPS
IEF2851 VOL SER NOS= K3SCR4. KEPT DCNAME=SYSLIB -18 2 EXCPS
IEF2851 M2.ZBRTC.SD002.LOAD KEPT DCNAME=SYSLIB -19 2 EXCPS
IEF2851 VOL SER NOS= DISK15. KEPT DCNAME=SYSLIB -20 2 EXCPS
IEF2851 SYS80032.T114539.RV000.SDHLOA2.S0000008 KEPT DCNAME=SYSLIB -21 3 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DCNAME=SYSLIB -22 0 EXCPS
IEF2851 SYS80032.T114539.RV000.SDHLOA2.S0000008 KEPT DCNAME=SYSLIB -23 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DCNAME=SYSLIB -24 0 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000002 KEPT DCNAME=SYSLIB -25 0 EXCPS
IEF2851 VOL SER NOS= K3SCR3. KEPT DCNAME=SYSLIB -26 0 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000003 KEPT DCNAME=SYSLIB -27 0 EXCPS
IEF2851 VOL SER NOS= K3SCR6. KEPT DCNAME=SYSLIB -28 0 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000004 KEPT DCNAME=SYSLIB -29 0 EXCPS
IEF2851 VOL SER NOS= K3SCR4. KEPT DCNAME=SYSLIB -30 0 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000005 KEPT DCNAME=SYSLIB -31 0 EXCPS
IEF2851 VOL SER NOS= K3SCR2. KEPT DCNAME=SYSLIB -32 0 EXCPS
IEF2851 SYS80032.T114539.SV000.SDHLOA2.R0000006 KEPT DCNAME=SYSLIB -33 0 EXCPS
IEF2851 VOL SER NOS= K3SCR5. KEPT DCNAME=SYSLIB -34 0 EXCPS
IEF2851 SYS80032.T114539.RV000.SDHLOA2.R0000007 KEPT DCNAME=SYSLIB -35 3.654 EXCPS
IEF2851 VOL SER NOS= URA30. KEPT DCNAME=SYSLIB -36 0 EXCPS
IEF280E K OCL.ORA30.SDHLOA2.GO
IEF3731 STEP /GO / START 80032.1148
IEF3741 STEP /GO / STOP 80032.1200 CPU 0MIN 53.09SEC MAIN 200K LCS. OK
- STEP 01 - RETURN CODE = 0000 IO IN SECS. DISK= 11.17. DRUM= .00. TAPE= 36.59. CELL= .00. OTHR= .16
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CORE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME= 1.67 MINS.
// EXEC NOTIFYTS.ID=SDHLO
XXDEFALT PRC MODE=,ISRID=,MSG=,LSEID=,ID= NOTIFYTS. EAC/21JUN73 .00000010
*** SEND BACKGROUND JOB REPORT TO TSO USER .00000020
XXNOTIFYTS EXEC PGM=NOTIFYTS.REGION=20K.COND=EVEN. .00000030
XX PARM=,MODE=,CURRID=,SERID=,ID=,MSG= .00000040
IEF6531 SUBSTITUTION JCL - PARM=,SUPEL,
IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF3731 STEP /NOTIFYTS/ START 80032.1200
IEF3741 STEP /NOTIFYTS/ STOP 80032.1200 CPU 0MIN 00.07SEC MAIN 8K LCS. OK
- STEP 02 - RETURN CODE = 0000 IO IN SECS. DISK= .22. DRUM= .00. TAPE= .00. CELL= .00. OTHR= .06
- SURCHARGES=(DRIVES ALOC=000.TAPE MOUNTS=000.CORE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME=00000.00 MINS.

```

Line	Address	Hex	ASCII	Comment
0000	00000000	00 00 00 00 00 00 00 00		
0001	00000001	00 00 00 00 00 00 00 00		
0002	00000002	00 00 00 00 00 00 00 00		
0003	00000003	00 00 00 00 00 00 00 00		
0004	00000004	00 00 00 00 00 00 00 00		
0005	00000005	00 00 00 00 00 00 00 00		
0006	00000006	00 00 00 00 00 00 00 00		
0007	00000007	00 00 00 00 00 00 00 00		
0008	00000008	00 00 00 00 00 00 00 00		
0009	00000009	00 00 00 00 00 00 00 00		
0010	0000000A	00 00 00 00 00 00 00 00		
0011	0000000B	00 00 00 00 00 00 00 00		
0012	0000000C	00 00 00 00 00 00 00 00		
0013	0000000D	00 00 00 00 00 00 00 00		
0014	0000000E	00 00 00 00 00 00 00 00		
0015	0000000F	00 00 00 00 00 00 00 00		
0016	00000010	00 00 00 00 00 00 00 00		
0017	00000011	00 00 00 00 00 00 00 00		
0018	00000012	00 00 00 00 00 00 00 00		
0019	00000013	00 00 00 00 00 00 00 00		
0020	00000014	00 00 00 00 00 00 00 00		
0021	00000015	00 00 00 00 00 00 00 00		
0022	00000016	00 00 00 00 00 00 00 00		
0023	00000017	00 00 00 00 00 00 00 00		
0024	00000018	00 00 00 00 00 00 00 00		
0025	00000019	00 00 00 00 00 00 00 00		
0026	0000001A	00 00 00 00 00 00 00 00		
0027	0000001B	00 00 00 00 00 00 00 00		
0028	0000001C	00 00 00 00 00 00 00 00		
0029	0000001D	00 00 00 00 00 00 00 00		
0030	0000001E	00 00 00 00 00 00 00 00		
0031	0000001F	00 00 00 00 00 00 00 00		
0032	00000020	00 00 00 00 00 00 00 00		
0033	00000021	00 00 00 00 00 00 00 00		
0034	00000022	00 00 00 00 00 00 00 00		
0035	00000023	00 00 00 00 00 00 00 00		
0036	00000024	00 00 00 00 00 00 00 00		
0037	00000025	00 00 00 00 00 00 00 00		
0038	00000026	00 00 00 00 00 00 00 00		
0039	00000027	00 00 00 00 00 00 00 00		
0040	00000028	00 00 00 00 00 00 00 00		
0041	00000029	00 00 00 00 00 00 00 00		
0042	0000002A	00 00 00 00 00 00 00 00		
0043	0000002B	00 00 00 00 00 00 00 00		
0044	0000002C	00 00 00 00 00 00 00 00		
0045	0000002D	00 00 00 00 00 00 00 00		
0046	0000002E	00 00 00 00 00 00 00 00		
0047	0000002F	00 00 00 00 00 00 00 00		
0048	00000030	00 00 00 00 00 00 00 00		
0049	00000031	00 00 00 00 00 00 00 00		
0050	00000032	00 00 00 00 00 00 00 00		
0051	00000033	00 00 00 00 00 00 00 00		
0052	00000034	00 00 00 00 00 00 00 00		
0053	00000035	00 00 00 00 00 00 00 00		
0054	00000036	00 00 00 00 00 00 00 00		
0055	00000037	00 00 00 00 00 00 00 00		
0056	00000038	00 00 00 00 00 00 00 00		
0057	00000039	00 00 00 00 00 00 0		

X		SACC 360/75		READER NUMBER-P0080		CLASS	
00000000	FFFFFFFF	33333333				AA	AA
00000000	FFFFFFFF	33333333				AA	AA
00 00	FF	33				AAAA	AAAA
00 00	FF		33			AAAA	AAAA
00 00	FF		33			AA	AA
00000000	FFFFFF	3333				AA	AA
00000000	FFFFFF	3333				AAAAAAAA	AAAAAAAA
00 00	FF		33			AAAAAAAA	AAAAAAAA
00 00	FF		33			AA	AA
00 00	FF	33				AA	AA
00000000	FF	33333333				AA	AA
00000000	FF	33333333				AA	AA

READER NUMBER-P0080

CLASS-

OR A32
1/1/78 - 6/30/78

TOTAL LENGTH 9590
ENTRY ADDRESS 52810

7495701 ORB

YEAR 1978.

LAUNCH TIME 96569352. 0.

MM	DD	DATE	HR	IN	SC	HELIOS ECLIPSE	HELIOS ECLIPSE	SUN-HELIOS DIST(A.U.)	ERTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS EARTH(DEC)	HELIOS-VIAL(A.U./DAY)	NORMAL
1	1	1	0	0	0	320.02	-0.01	0.64	0.64	74.00	38.52	1.31	0.004	0.01
1	1	1	0	0	0	320.76	-0.01	0.65	0.65	73.54	39.22	1.72	0.004	0.01
1	1	1	0	0	0	320.50	-0.01	0.65	0.65	73.09	39.50	1.63	0.003	0.01
1	1	1	0	0	0	320.23	-0.01	0.65	0.66	72.66	40.05	1.54	0.003	0.01
1	1	1	0	0	0	319.95	-0.01	0.66	0.66	72.24	40.33	1.44	0.003	0.01
1	1	1	0	0	0	319.67	-0.01	0.66	0.67	71.84	40.61	1.35	0.003	0.01
1	1	1	0	0	0	319.39	-0.01	0.66	0.67	71.46	40.90	1.26	0.003	0.01
1	1	1	0	0	0	319.10	-0.01	0.66	0.68	71.09	41.20	1.17	0.003	0.01
1	1	1	0	0	0	318.80	-0.01	0.67	0.69	70.73	41.49	1.03	0.002	0.01
1	1	1	0	0	0	318.51	-0.01	0.67	0.69	70.39	41.79	0.99	0.002	0.01
1	1	1	0	0	0	318.21	-0.01	0.67	0.70	70.06	42.10	0.90	0.002	0.01
1	1	1	0	0	0	317.90	-0.01	0.67	0.70	69.75	42.40	0.81	0.002	0.01
1	1	1	0	0	0	317.60	-0.01	0.67	0.71	69.46	42.71	0.72	0.002	0.01
1	1	1	0	0	0	317.29	-0.01	0.68	0.71	69.17	43.02	0.63	0.001	0.01
1	1	1	0	0	0	316.98	-0.01	0.68	0.72	68.90	43.34	0.55	0.001	0.01
1	1	1	0	0	0	316.66	-0.01	0.69	0.72	68.64	43.65	0.46	0.001	0.01
1	1	1	0	0	0	316.35	-0.01	0.69	0.73	68.40	43.96	0.37	0.001	0.01
1	1	1	0	0	0	316.04	-0.01	0.68	0.74	68.17	44.28	0.28	0.001	0.01
1	1	1	0	0	0	315.72	-0.01	0.68	0.74	67.95	44.60	0.19	0.001	0.01
1	1	1	0	0	0	315.40	-0.01	0.68	0.75	67.74	44.92	0.10	0.001	0.01
1	1	1	0	0	0	315.08	-0.01	0.68	0.75	67.53	45.24	0.02	0.000	0.01
1	1	1	0	0	0	314.76	-0.01	0.68	0.76	67.36	45.56	-0.07	0.000	0.01
1	1	1	0	0	0	314.44	-0.01	0.69	0.76	67.19	45.88	-0.16	0.000	0.01
1	1	1	0	0	0	314.13	-0.01	0.68	0.77	67.03	46.19	-0.25	0.000	0.01
1	1	1	0	0	0	313.81	-0.01	0.68	0.77	66.88	46.51	-0.31	0.000	0.01
1	1	1	0	0	0	313.49	-0.00	0.69	0.78	66.75	46.83	-0.37	0.000	0.01
1	1	1	0	0	0	313.17	-0.00	0.69	0.78	66.62	47.15	-0.42	0.000	0.01
1	1	1	0	0	0	312.85	-0.00	0.69	0.79	66.50	47.46	-0.46	0.001	0.01
1	1	1	0	0	0	312.54	-0.00	0.69	0.79	66.40	47.78	-0.49	0.001	0.01
1	1	1	0	0	0	312.22	-0.00	0.69	0.80	66.31	48.09	-0.51	0.001	0.01
1	1	1	0	0	0	311.91	-0.00	0.69	0.80	66.22	48.40			

304.52	0.01	0.87	0.87	69.42	55.48	-3.69	-0.06	0.01
304.53	0.01	0.86	0.87	69.76	55.57	-3.79	-0.06	0.01
304.54	0.01	0.86	0.87	70.12	55.66	-3.89	-0.07	0.01
304.55	0.01	0.85	0.87	70.50	55.73	-3.98	-0.07	0.01
304.56	0.01	0.85	0.87	70.91	55.79	-4.08	-0.07	0.01
304.57	0.01	0.83	0.87	71.34	55.82	-4.18	-0.07	0.01
304.58	0.01	0.83	0.86	71.80	55.85	-4.28	-0.07	0.01
304.59	0.01	0.82	0.86	72.28	55.85	-4.38	-0.08	0.01
304.60	0.01	0.81	0.86	72.79	55.83	-4.48	-0.08	0.01
304.61	0.01	0.80	0.86	73.33	55.80	-4.58	-0.08	0.01
304.62	0.01	0.80	0.86	73.90	55.74	-4.69	-0.08	0.01
304.63	0.01	0.79	0.85	74.51	55.66	-4.79	-0.08	0.01
304.64	0.01	0.78	0.85	75.14	55.56	-4.89	-0.09	0.02
304.65	0.01	0.77	0.84	75.82	55.43	-5.00	-0.09	0.02
304.66	0.01	0.76	0.84	76.54	55.28	-5.10	-0.09	0.02
304.67	0.01	0.75	0.84	77.29	55.09	-5.20	-0.09	0.02
304.68	0.01	0.74	0.83	78.09	54.88	-5.31	-0.09	0.02

HELIOS-A YEAR 1978. LAUNCH TIME 103225752. 0.

DATE	HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)
MM DD HH MN SC	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HELI-LET(DEC)	RADIAL
00 00 00 00 00	305.36	0.01	0.74	0.83	78.04	54.64	-5.41	-0.09
00 01 00 00 00	305.64	0.01	0.73	0.82	79.84	54.36	-5.52	-0.10
00 02 00 00 00	305.95	0.01	0.72	0.82	80.79	54.05	-5.62	-0.10
00 03 00 00 00	306.29	0.02	0.71	0.81	81.80	53.71	-5.73	-0.10
00 04 00 00 00	306.68	0.02	0.70	0.81	82.87	53.32	-5.83	-0.10
00 05 00 00 00	307.11	0.02	0.69	0.80	84.01	52.89	-5.94	-0.10
00 06 00 00 00	307.58	0.02	0.67	0.79	85.22	52.42	-6.04	-0.11
00 07 00 00 00	308.10	0.02	0.66	0.79	86.50	51.90	-6.14	-0.11
00 08 00 00 00	308.67	0.02	0.65	0.78	87.86	51.33	-6.24	-0.11
00 09 00 00 00	309.30	0.02	0.64	0.77	89.31	50.70	-6.34	-0.11
00 10 00 00 00	309.98	0.02	0.63	0.77	90.85	50.02	-6.44	-0.11
00 11 00 00 00	310.73	0.02	0.62	0.76	92.50	49.27	-6.54	-0.12
00 12 00 00 00	311.54	0.02	0.61	0.75	94.25	48.46	-6.63	-0.12
00 13 00 00 00	312.43	0.02	0.60	0.74	96.13	47.57	-6.72	-0.12
00 14 00 00 00	313.39	0.02	0.59	0.73	98.13	46.61	-6.81	-0.12
00 15 00 00 00	314.44	0.02	0.57	0.73	100.27	45.56	-6.89	-0.12
00 16 00 00 00	315.58	0.02	0.56	0.72	102.56	44.42	-6.97	-0.12
00 17 00 00 00	316.81	0.02	0.55	0.71	105.01	43.19	-7.04	-0.13
00 18 00 00 00	318.15	0.02	0.53	0.70	107.64	41.85	-7.10	-0.13
00 19 00 00 00	319.60	0.02	0.52	0.69	110.46	40.40	-7.15	-0.13
00 20 00 00 00	321.18	0.02	0.51	0.68	113.49	38.82	-7.19	-0.13
00 21 00 00 00	322.89	0.02	0.49	0.68	116.73	37.11	-7.22	-0.13
00 22 00 00 00	324.75	0.02	0.48	0.67	120.22	35.25	-7.23	-0.13
00 23 00 00 00	326.77	0.02	0.47	0.66	123.97	33.23	-7.22	-0.13
00 24 00 00 00	328.96	0.02	0.46	0.66	127.99	31.04	-7.19	-0.13
00 25 00 00 00	331.34	0.02	0.44	0.65	132.30	28.66	-7.13	-0.13
00 26 00 00 00	333.92	0.02	0.43	0.65	136.92	26.08	-7.05	-0.13
00 27 00 00 00	336.72	0.02	0.42	0.64	141.87	23.28	-6.93	-0.13
00 28 00 00 00	339.76	0.02	0.40	0.64	147.15	20.24	-6.76	-0.12
00 29 00 00 00	343.06	0.02	0.39	0.64	152.77	16.94	-6.55	-0.12
00 30 00 00 00	346.62	0.02	0.38	0.64	158.73	13.38	-6.29	-0.12
00 31 00 00 00	350.47	0.02	0.37	0.64	165.04	9.53	-5.97	-0.11
00 32 00 00 00	354.63	0.02	0.36	0.65	171.67	5.37	-5.58	-0.10
00 33 00 00 00	359.09	0.02	0.35	0.66	178.60	0.91	-5.12	-0.10
00 34 00 00 00	1.85	0.02	0.34	0.67	184.76	3.85	-4.59	-0.09
00 35 00 00 00	8.92	0.02	0.33	0.68	189.19	8.92	-3.97	-0.08
00 36 00 00 00	14.28	0.02	0.32	0.72	192.15	14.28	-3.28	-0.06
00 37 00 00 00	19.88	0.01	0.32	0.72	191.43	19.88	-2.53	-0.05
00 38 00 00 00	25.70	0.01	0.31	0.74	143.66	25.70	-1.71	-0.04
00 39 00 00 00	31.67	0.01	0.31	0.76	134.93	31.67	-0.85	-0.02
00 40 00 00 00	37.74	0.01	0.31	0.79	124.30	37.74	0.03	-0.00
00 41 00 00 00	43.82	0.00	0.31	0.81	120.86	43.82	0.92	0.001
00 42 00 00 00	49.85	0.00	0.31	0.84	113.67	49.85	1.78	0.003
00 43 00 00 00	55.76	0.00	0.31	0.87	106.80	55.76	2.61	0.004
00 44 00 00 00	61.49	0.01	0.32	0.90	100.29	61.49	3.37	0.006
00 45 00 00 00	66.98	0.01	0.33	0.93	94.16	66.98	4.07	0.007
00 46 00 00 00	72.20	0.01	0.33	0.96	88.44	72.20	4.69	0.008
00 47 00 00 00	77.13	0.01	0.34	0.99	83.13	77.13	5.23	0.009
00 48 00 00 00	81.76	0.01	0.35	1.02	78.23	81.76	5.69	0.010
00 49 00 00 00	86.08	0.02	0.36	1.05	73.72	86.08	6.08	0.011
00 50 00 00 00	90.09	0.02	0.37	1.08	69.50	90.09	6.39	0.011
00 51 00 00 00	93.82	0.02	0.39	1.10	65.80	93.82	6.65	0.012
00 52 00 00 00	97.26	0.02	0.40	1.13	62.33	97.26	6.85	0.012
00 53 00 00 00	100.44	0.02	0.41	1.16	59.16	100.44	7.00	0.013
00 54 00 00 00	103.38	0.02	0.42	1.18	56.26	103.38	7.10	0.013
00 55 00 00 00	106.08	0.02	0.44	1.21	53.61	106.08	7.17	0.013

119	0	0	0	0	108.58	-0.00	0.45	1.23	51.19	168.58	7.21	0.013	0.03
119	0	0	0	0	110.88	-0.00	0.46	1.23	51.97	110.88	7.23	0.013	0.03
119	0	0	0	0	113.01	-0.00	0.47	1.23	46.94	113.01	7.22	0.013	0.02
119	0	0	0	0	114.97	-0.00	0.49	1.30	45.07	114.97	7.19	0.013	0.02
119	0	0	0	0	116.77	-0.00	0.50	1.33	43.36	116.77	7.14	0.013	0.02
119	0	0	0	0	118.44	-0.00	0.51	1.34	41.79	118.44	7.09	0.013	0.02
119	0	0	0	0	119.98	-0.00	0.53	1.35	40.34	119.98	7.02	0.013	0.02
119	0	0	0	0	121.40	-0.00	0.54	1.37	39.01	121.40	6.94	0.013	0.02
119	0	0	0	0	122.71	-0.00	0.55	1.39	37.78	122.71	6.85	0.013	0.02
119	0	0	0	0	123.92	-0.00	0.56	1.41	36.65	123.92	6.76	0.012	0.02
119	0	0	0	0	125.03	-0.00	0.58	1.42	35.60	125.03	6.67	0.012	0.02
119	0	0	0	0	126.07	-0.00	0.59	1.44	34.64	126.07	6.56	0.012	0.02
119	0	0	0	0	127.02	-0.00	0.60	1.46	33.75	127.02	6.46	0.012	0.02
119	0	0	0	0	127.89	-0.00	0.61	1.47	32.92	127.89	6.35	0.012	0.02
119	0	0	0	0	128.70	-0.00	0.62	1.49	32.16	128.70	6.24	0.012	0.02
119	0	0	0	0	129.43	-0.00	0.64	1.50	31.45	129.43	6.13	0.011	0.02
119	0	0	0	0	130.13	-0.00	0.65	1.51	30.80	130.13	6.02	0.011	0.02
119	0	0	0	0	130.76	-0.00	0.66	1.53	30.19	130.76	5.91	0.011	0.02
119	0	0	0	0	131.34	-0.00	0.67	1.54	29.63	131.34	5.79	0.011	0.02
119	0	0	0	0	131.87	-0.00	0.68	1.55	29.11	131.87	5.68	0.010	0.02
119	0	0	0	0	132.35	-0.00	0.69	1.56	28.63	132.35	5.56	0.010	0.02
119	0	0	0	0	132.79	-0.00	0.70	1.58	28.18	132.79	5.45	0.010	0.02
119	0	0	0	0	133.20	-0.00	0.71	1.59	27.77	133.20	5.34	0.010	0.02
119	0	0	0	0	133.56	-0.00	0.72	1.60	27.38	133.56	5.22	0.010	0.02
119	0	0	0	0	133.89	-0.00	0.73	1.61	27.03	133.89	5.11	0.009	0.02
119	0	0	0	0	134.19	-0.00	0.74	1.62	26.70	134.19	5.00	0.009	0.02
119	0	0	0	0	134.45	-0.00	0.75	1.63	26.40	134.45	4.88	0.009	0.02
119	0	0	0	0	134.69	-0.00	0.76	1.64	26.12	134.69	4.77	0.009	0.02
119	0	0	0	0	134.89	-0.00	0.77	1.65	25.87	134.89	4.66	0.009	0.02
119	0	0	0	0	135.07	-0.00	0.78	1.66	25.63	135.07	4.55	0.008	0.02
119	0	0	0	0	135.22	-0.00	0.78	1.67	25.42	135.22	4.44	0.008	0.01
119	0	0	0	0	135.37	-0.00	0.79	1.67	25.22	135.37	4.33	0.008	0.01
119	0	0	0	0	135.48	-0.00	0.80	1.68	25.04	135.48	4.22	0.008	0.01
119	0	0	0	0	135.57	-0.00	0.81	1.69	24.88	135.57	4.12	0.008	0.01
119	0	0	0	0	135.64	-0.00	0.82	1.70	24.73	135.64	4.01	0.007	0.01
119	0	0	0	0	135.69	-0.00	0.82	1.71	24.59	135.69	3.90	0.007	0.01
119	0	0	0	0	135.72	-0.00	0.83	1.71	24.47	135.72	3.80	0.007	0.01
119	0	0	0	0	135.74	-0.00	0.84	1.72	24.36	135.74	3.69	0.007	0.01
119	0	0	0	0	135.74	-0.00	0.85	1.73	24.27	135.74	3.59	0.007	0.01
119	0	0	0	0	135.73	-0.00	0.85	1.73	24.18	135.73	3.49	0.007	0.01
119	0	0	0	0	135.70	-0.00	0.86	1.74	24.11	135.70	3.38	0.006	0.01
119	0	0	0	0	135.65	-0.00	0.87	1.74	24.05	135.65	3.28	0.006	0.01
119	0	0	0	0	135.60	-0.00	0.87	1.75	24.00	135.60	3.18	0.006	0.01
119	0	0	0	0	135.53	-0.00	0.88	1.75	23.95	135.53	3.08	0.006	0.01
119	0	0	0	0	135.45	-0.00	0.88	1.76	23.92	135.45	2.98	0.006	0.01
119	0	0	0	0	135.35	-0.01	0.89	1.76	23.89	135.35	2.88	0.006	0.01
119	0	0	0	0	135.25	-0.01	0.89	1.77	23.88	135.25	2.78	0.005	0.01

END OF FILE ON ORBIT TAPE

1EF1431	STEP WAS EXECUTED - COND CODE 0000	KEPT	DDNAME=SYSLIB -1	0 EXCPS
1EF2851	M2.ZBRTC.SD002.LOAD	KEPT	DDNAME=SYSLIB -2	17 EXCPS
1EF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -3	61 EXCPS
1EF2851	SYS2.DEBLKUNV	KEPT	DDNAME=SYSLIB -4	28 EXCPS
1EF2851	VOL SER NOS= M2SYS2.	KEPT	DDNAME=SYSLIB -5	0 EXCPS
1EF2851	SYS1.FORTLIB	KEPT	DDNAME=SYSLIB -6	0 EXCPS
1EF2851	VOL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -7	0 EXCPS
1EF2851	SYS2.FORTLIB	KEPT	DDNAME=SYSLIB -8	0 EXCPS
1EF2851	VOL SER NOS= K3SYS2.	KEPT	DDNAME=SYSLIB -9	0 EXCPS
1EF2851	SYS1.PL1LIB	KEPT	DDNAME=SYSLIB -10	0 EXCPS
1EF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -11	0 EXCPS
1EF2851	SYS1.FORTSCP	KEPT	DDNAME=SYSLIB -12	0 EXCPS
1EF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -13	0 EXCPS
1EF2851	SYS2.COBLIB	KEPT	DDNAME=SYSLIB -14	0 EXCPS
1EF2851	VOL SER NOS= M2SYS1.	KEPT	DDNAME=SYSLIB -15	0 EXCPS
1EF2851	SYS1.ALGLIB	KEPT	DDNAME=SYSLIB -16	0 EXCPS
1EF2851	VOL SER NOS= K3SYS2.	KEPT	DDNAME=SYSLIB -17	0 EXCPS
1EF2851	SYS80032.T114956.SV000.SDHLC04.R00000C1	SYSOUT	DDNAME=SYSLIB -18	0 EXCPS
1EF2851	VOL SER NOS= K3SCR5.	KEPT	DDNAME=SYSLIB -19	0 EXCPS
1EF2851	M2.ZBRTC.SD002.LOAD	KEPT	DDNAME=SYSLIB -20	0 EXCPS
1EF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -21	0 EXCPS
1EF2851	SYS80032.T114956.RV000.SDHLC04.S00000C8	SYSIN	DDNAME=SYSLIB -22	0 EXCPS
1EF2851	VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB -23	0 EXCPS
1EF2851	SYS80032.T114956.RV000.SDHLC04.S00000C8	DELETED	DDNAME=SYSLIB -24	0 EXCPS
1EF2851	VOL SER NOS= K3SCR2.	KEPT	DDNAME=SYSLIB -25	0 EXCPS
1EF2851	SYS80032.T114956.SV000.SDHLC04.R00000C2	SYSOUT	DDNAME=SYSLIB -26	0 EXCPS
1EF2851	VOL SER NOS= K3SCR5.	KEPT	DDNAME=SYSLIB -27	0 EXCPS
1EF2851	SYS80032.T114956.SV000.SDHLC04.R00000C3	DELETED	DDNAME=SYSLIB -28	0 EXCPS
1EF2851	VOL SER NOS= K3SCR5.	KEPT	DDNAME=SYSLIB -29	0 EXCPS
1EF2851	SYS80032.T114956.SV000.SDHLC04.R00000C3	DELETED	DDNAME=SYSLIB -30	0 EXCPS
1EF2851	VOL SER NOS= K3SCR5.	KEPT	DDNAME=SYSLIB -31	0 EXCPS

JOBNAME-	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333

DOX-	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333
SSSSSSSSSS	SSSSSSSSSS	DDDDDDDDDD	HH	HH	EEEEEEEEEEEE	LL	CCCCCCCCCCCC	AA	33333333

ORA 36

7/1/78-8/31/78

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X/SYSLIB DD DSN=SYS1.DUMMY,DISP=SHR 00000030
// DD DSN=SYS2.OEBLKUNV,DISP=SHR 00000040
// DD DSN=SYS1.DUMMY,DISP=SHR 00000050
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000060
XX DD DSN=SYS2.FORTLIB,DISP=SHR 00000070
XX DD DSN=SYS1.PLILIB,DISP=SHR 00000080
XX DD DSN=SYS1.FORTSSP,DISP=SHR 00000090
XX DD DSN=SYS2.COBLLIB,DISP=SHR 00000100
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000110
XXSYSLOUT DD SYSOUT=OUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=42.ZBRTC,SD002,LOAD(ORBIT),DISP=SHR 00000120
X/SYSLIN DD DSN=408JMOD,DISP=OLD,DELETE 00000130
XX DD DDNAME=OBJECT 00000140
XXFT05F001 DD DDNAME=DATA5 00000150
XXFT06F001 DD SYSOUT=OUT,DCB=(BLKSIZE=BLKSIZE,LRECL=137,RECFM=VBA)
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XXFT07F001 DD SYSOUT=B,DCB=(RECFM=FB,BLKSIZE=7260,LRECL=80) 00000160
XXSYSPRINT DD SYSOUT=OUT,DCB=(BLKSIZE=BLKSIZE,LRECL=137,RECFM=VBA) 00000170
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1),UNIT=(DISK,3)) 00000180
XXSYSTERM DD SYSOUT=STERMOUT 00000190
IEF653I SUBSTITUTION JCL - SYSOUT=A
//SYSDUMP DD SYSOUT=A 00000200
//GO, GENTAP DD UNIT=(7TRACK,,DEFER).
// VCL=SER=CRTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP).
// OCB=(RECFM=U,BLKSIZE=1944,DEN=2)
//DATA5 DD
IEF236I ALLOC. FOR SOMELOA3 GO
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 220 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 232 ALLOCATED TO SYSLOUT
IEF237I 333 ALLOCATED TO SYSLIN
IEF237I 335 ALLOCATED TO FT05F001
IEF237I 235 ALLOCATED TO FT06F001
IEF237I 335 ALLOCATED TO FT07F001
IEF237I 237 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSDPRINT
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 336 ALLOCATED TO SYSTERM
IEF237I 335 ALLOCATED TO SYSDUMP
IEF237I 0C0 ALLOCATED TO GENTAP

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DS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR						
ORBIT	SD	98810	CNVRTSCT*	SD	99670	CNVRT	*	LR	99670	DBGEN	*	SD	99998				
FREAD	*	SD	99560	FREADB	*	LR	99588	FWRPTE	*	LR	9A07C	REWIND	*	LR	9A232		
UNLOAD	*	LR	9A41A	POSN	*	LR	9A530	MCUNT	*	LR	9A750	MEMBER	*	LR	9A932		
FALLOW	*	LR	9AA0A	FUNITABL*	SD	9BA60	FPL1	*	SD	9B228	PDDMLIST*	SD	9B330	FERNMSG	*	SD	9B838
INCHAMEL*	SD	9B3A0	FRONL*	LR	9BDA0	FWRNL*	*	LR	9C1A4	INCECONH*	SD	9C670	ISCOM*	*	LR	9C670	
FIOCS*	LR	9C72C	INTSWTCH*	LR	9C5B6	INCCOMH2*	SD	9C5D8	SEODAS*	LR	9C750	FTF	*	SD	9C038		
ITRECT	*	SD	9CCE8	ITI	*	LR	9CCE8	FIXFLT	*	LR	9D340	TRNSLTE	*	SD	9D088		
TRANS	*	LR	9DD98	BITST	*	SD	9DE98	CNTGOATA*	SD	9DE98	DTOUN	*	SD	9DFC3			
ADCON*	LR	9E008	ECVAQUTP*	LR	9E1A2	FCVLOUTP*	LR	9E1D2	FCVLOUTP*	LR	9E322	INCFVTH*	SD	9E098			
FCVEOUTP*	LR	9F0D2	FCVCOUTP*	LR	9EDEC	INT63ACH*	LR	9F0D3	INCFIOS*	SD	9F238	FIOCS*	*	LR	9F238		
FIOCSREP*	LP	9F23E	INCFIOS2*	SD	A0160	INCFERR*	SD	AC690	ERRMON	*	LR	A0690	INCCRRE	*	LR	A06A8	
INCFINTH*	SD	A0C68	ARITH*	*	LR	A0C68	ADJ3NTCH*	LR	A1004	INCLOPT	*	SD	A1130	INCUATBL*	SD	A1405	
INCETRCH*	SD	A1B10	INCETRCH	*	LR	A1B10	ERRTRA	*	LR	A1018							

TOTAL LENGTH 5590
ENTRY ADDRESS 98810

HELIOS-A

YEAR 1978.

LAUNCH TIME 112207752. 0.

DATE				HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	RADIAL	NORMAL
MM	DD	HR	MIN	SEC	ECL-LONG	ECL-LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-ET(DEC)		
7	1	0	0	0	135.13	-0.01	0.90	1.77	23.87	135.13	2.68	0.005	0.01
7	2	0	0	0	135.01	-0.01	0.91	1.78	23.87	135.01	2.59	0.005	0.01
7	3	0	0	0	134.93	-0.01	0.91	1.78	23.97	134.88	2.49	0.005	0.01
7	4	0	0	0	134.73	-0.01	0.92	1.78	23.88	134.73	2.39	0.005	0.01
7	5	0	0	0	134.56	-0.01	0.92	1.79	23.90	134.58	2.30	0.005	0.01
7	6	0	0	0	134.43	-0.01	0.92	1.79	23.93	134.43	2.20	0.004	0.01
7	7	0	0	0	134.26	-0.01	0.93	1.73	23.96	134.26	2.11	0.004	0.01
7	8	0	0	0	134.00	-0.01	0.93	1.80	24.00	134.00	2.02	0.004	0.01
7	9	0	0	0	133.90	-0.01	0.94	1.80	24.04	133.90	1.92	0.004	0.01
7	10	0	0	0	133.72	-0.01	0.94	1.80	24.09	133.72	1.83	0.004	0.01
7	11	0	0	0	133.53	-0.01	0.94	1.80	24.14	133.53	1.74	0.004	0.01
7	12	0	0	0	133.33	-0.01	0.95	1.80	24.20	133.33	1.64	0.003	0.01
7	13	0	0	0	133.12	-0.01	0.95	1.81	24.26	133.12	1.55	0.003	0.01
7	14	0	0	0	132.91	-0.01	0.95	1.81	24.32	132.91	1.46	0.003	0.01
7	15	0	0	0	132.70	-0.01	0.96	1.81	24.39	132.70	1.37	0.003	0.01
7	16	0	0	0	132.48	-0.01	0.96	1.81	24.47	132.48	1.28	0.003	0.01
7	17	0	0	0	132.26	-0.01	0.96	1.81	24.55	132.26	1.19	0.003	0.01
7	18	0	0	0	132.03	-0.01	0.97	1.81	24.63	132.03	1.10	0.002	0.01
7	19	0	0	0	131.80	-0.01	0.97	1.81	24.72	131.80	1.01	0.002	0.01
7	20	0	0	0	131.56	-0.01	0.97	1.81	24.81	131.56	0.92	0.002	0.01
7	21	0	0	0	131.33	-0.01	0.97	1.81	24.90	131.33	0.83	0.002	0.01
7	22	0	0	0	131.09	-0.01	0.97	1.81	25.00	131.09	0.74	0.002	0.01
7	23	0	0	0	130.84	-0.01	0.98	1.81	25.10	130.84	0.65	0.002	0.01
7	24	0	0	0	130.60	-0.01	0.98	1.81	25.20	130.60	0.56	0.001	0.01
7	25	0	0	0	130.35	-0.01	0.98	1.81	25.31	130.35	0.47	0.001	0.01
7	26	0	0	0	130.10	-0.01	0.98	1.81	25.42	130.10	0.38	0.001	0.01
7	27	0	0	0	129.84	-0.01	0.98	1.81	25.53	129.84	0.30	0.001	0.01
7	28	0	0	0	129.59	-0.01	0.98	1.81	25.65	129.59	0.21	0.001	0.01
7	29	0	0	0	129.33	-0.01	0.98	1.81	25.77	129.33	0.12	0.001	0.01
7	30	0	0	0	129.09	-0.01	0.98	1.81	25.89	129.09	0.03	0.001	0.01
7	31	0	0	0	128.82	-0.01	0.98	1.80	26.01	128.82	-0.06	0.000	0.01
8	1	0	0	0	128.56	-0.01	0.98	1.80	26.14	128.56	-0.14	0.000	0.01
8	2	0	0	0	128.30	-0.01	0.98	1.80	26.27	128.30	-0.23	0.000	0.01
8	3	0	0	0	128.04	-0.00	0.98	1.80	26.40	128.04	-0.32	0.000	0.01
8	4	0	0	0	127.78	-0.00	0.98	1.80	26.53	127.78	-0.41	0.000	0.01
8	5	0	0	0	127.52	-0.00	0.98	1.79	26.67	127.52	-0.49	0.000	0.01
8	6	0	0	0	127.26	-0.00	0.98	1.79	26.80	127.26	-0.58	0.001	0.01
8	7	0	0	0	127.00	-0.00	0.98	1.77	26.94	127.00	-0.67	0.001	0.01
8	8	0	0	0	126.74	-0.00	0.98	1.78	27.08	126.74	-0.76	0.001	0.01
8	9	0	0	0	126.48	-0.00	0.98	1.78	27.23	126.48	-0.85	0.001	0.01
8	10	0	0	0	126.23	-0.00	0.98	1.78	27.37	126.23	-0.93	0.001	0.01
8	11	0	0	0	125.98	-0.00	0.98	1.77	27.52	125.98	-1.02	0.002	0.01
8	12	0	0	0	125.72	-0.00	0.98	1.77	27.67	125.72	-1.11	0.002	0.01
8	13	0	0	0	125.47	-0.00	0.98	1.76	27.82	125.47	-1.20	0.002	0.01
8	14	0	0	0	125.22	-0.00	0.97	1.76	27.97	125.22	-1.29	0.002	0.01
8	15	0	0	0	124.98	-0.00	0.97	1.76	28.12	124.98	-1.37	0.002	0.01
8	16	0	0	0	124.74	-0.00	0.97	1.75	28.28	124.74	-1.46	0.002	0.01
8	17	0	0	0	124.49	-0.00	0.97	1.75	28.43	124.49	-1.55	0.002	0.01
8	18	0	0	0	124.24	-0.00	0.97	1.75	28.59	124.24	-1.64	0.003	0.01
8	19	0	0	0	124.02	-0.00	0.96	1.74	28.75	124.02	-1.73	0.003	0.01
8	20	0	0	0	123.79	-0.00	0.96	1.74	28.91	123.79	-1.82	0.003	0.01
8	21	0	0	0	123.57	-0.00	0.96	1.73	29.07	123.57	-1.91	0.003	0.01
8	22	0	0	0	123.35	-0.00	0.95	1.73	29.23	123.35	-2.00	0.003	0.01
8	23	0	0	0	123.13	-0.00	0.95	1.73	29.39	123.13	-2.09	0.003	0.01
8	24	0	0	0	122.92	-0.00	0.95	1.72	29.56	122.92	-2.18	0.003	0.01
8	25	0	0	0	122.71	-0.00	0.94	1.72	29.72	122.71	-2.27	0.004	0.01
8	26	0	0	0	122.51	-0.00	0.94	1.71	29.89	122.51	-2.36	0.004	0.01
8	27	0	0	0	122.31	-0.00	0.94	1.71	30.05	122.31	-2.45	0.004	0.01
8	28	0	0	0	122.12	-0.00	0.93	1.70	30.22	122.12	-2.54	0.004	0.01
8	29	0	0	0	121.94	-0.00	0.93	1.69	30.38	121.94	-2.63	0.004	0.01
8	30	0	0	0	121.76	-0.00	0.92	1.69	30.55	121.76	-2.73	0.005	0.01
8	31	0	0	0	121.59	-0.00	0.92	1.68	30.71	121.59	-2.82	0.005	0.01

END OF FILE ON ORBIT TAPE

IEC2091 SDHELOA3 ORA36 OC0 TR=011.TW=000.EG=000.CL=015.N=000.SIO=01468
 IEF1421 - STEP WAS EXECUTED - COND CODE 0000
 IEF2851 M2.ZDRTC.SD000.LOAD
 IEF2851 VOL SER NOS= DISK15.
 IEF2451 SY52.DGRKUNV
 IEF2851 VOL SER NOS= M2SYS2.
 IEF2851 SY51.FORTLIB
 IEF2851 VOL SER NOS= K31TL0.

KEPT DCHNAME=SYSLIB -1 0 EXCPS
 KEPT DCHNAME=SYSLIB -2 17 EXCPS
 KEPT DCHNAME=SYSLIB -3 61 EXCPS

JCENAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	444
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA	4444
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AAAA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AAAA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AAAA	4444444444
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AAAA	4444444444
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	CCCCCCCC	AA AA	44 44

BOX-

BBBBBBBB	FFFFFFFF	33333333
BBBBBBBB	FFFFFFFF	33333333
BB BB	FF 33	33
BB BB	FF 33	33
BB BB	FF 33	33
BBBBBB	FFFFFF	33333
BBBBBB	FFFFFF	33333
BB BB	FF 33	33
BB BB	FF 33	33
BB BB	FF 33	33
BBBBBB	FFFFFF	33333333
BBBBBB	FFFFFF	33333333

SACC 360/75

READER NUMBER-P0149

CLASS-

AA
AA
AAAA
AAAA
AA AA
AA AA
AA AA
AAAA
AAAA
AAAA
AA AA
AA AA

ORA37

9/1/78-10/31/78

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X/SYSLIB DD DSN=SYS1.DUMMY,DISP=SHR 00000030
// DD DSN=SYS2.DEBKUNV,DISP=SHR 00000040
X/ DD DSN=SYS1.DUMMY,DISP=SHR 00000050
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000060
XX DD DSN=SYS2.FORTLIB,DISP=SHR 00000070
XX DD DSN=SYS1.PLIB,DISP=SHR 00000080
XX DD DSN=SYS1.FORTSP,DISP=SHR 00000090
XX DD DSN=SYS2.COBLIB,DISP=SHR 00000100
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000110
XXSYSLOUT DD SYSOUT=OUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=M2.ZDRTC.S0002.LOAD(ORBIT),DISP=SHR 00000120
X/SYSLIN DD DSN=JOBMOD,DISP=(OLD,DELETE) 00000130
XX DD DNAME=OBJECT 00000140
XXFT05F001 DD DNAME=DATA5 00000150
XXFT06F001 DD SYSOUT=OUT,DCB=(BLKSIZE=80,RECFM=VBA) 00000160
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XXFT07F001 DD SYSOUT=B,DCB=(RECFM=FB,BLKSIZE=7265,LRECL=137,RECFM=VBA) 00000170
XXSYSPRINT DD SYSOUT=OUT,DCB=(BLKSIZE=80,RECFM=VBA) 00000180
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000190
XXSYSTEM DD SYSOUT=CTERMOUT
IEF653I SUBSTITUTION JCL - SYSOUT=A
//SYSUDUMP DD SYSOUT=A 00000200
X/SYSUDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GO.GENTAP DD UNIT=(7TRACK,DEFER),
VOL=SER=CRTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP),
CCB=(RECFM=U,BLKSIZE=1944,DEN=2)
//DATA5 DD *
IEF237I ALLCC. FOR SOMELOA4 GO
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 220 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 335 ALLOCATED TO SYSLOUT
IEF237I 333 ALLOCATED TO SYSLIN
IEF237I 335 ALLOCATED TO FT05F001
IEF237I 237 ALLOCATED TO FT06F001
IEF237I 336 ALLOCATED TO FT07F001
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 237 ALLOCATED TO SYSPRINT
IEF237I 335 ALLOCATED TO SYSTEM
IEF237I 335 ALLOCATED TO SYSUDUMP
IEF237I 0C0 ALLOCATED TO GENTAP

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05/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	40810	ENVRCT	SD	46670	ENVRCT	SD	46670	DBGEN	SD	46090
FREAD	SD	4E060	FWRITE	LR	4F07C	REWINO	LR	4F282	DBFEQV	LR	4E050
UNLOAD	LR	4F41A	MCUNT	LR	4F750	MEMBER	LR	4F332	LEAVE	LR	4F366
FOLLOW	LR	4FAA0	FPL1	SD	50825	FDDM1ST	SD	50330	FTTRAP	SD	4FA22
INCHAMEL	SD	508A0	FWRNL	LR	511A4	INCECOM	SD	51370	FERMSC	SD	50838
FIICCS	SD	5172C	INCCOMH2	SD	525D8	SEODASD	LR	52450	IBCOM	LR	51670
ITISECT	SD	52CE8	FXFLT	SD	52040	FIXFLT	LR	52040	FTF	SD	52C38
TRANS	SD	52D88	INTSWCH	LR	52E98	DTDUN	SD	52FC8	TRNSLTE	SD	52088
ADCON	LR	53048	ITIST	SD	53102	FCVLOUTP	LR	53322	INCFVTH	SD	53C98
FCVLOUTP	LR	530D2	FCVLOUTP	LR	53102	FCVLOUTP	LR	53322	FCVLOUTP	LR	53600
FIICCSBP	LR	5423E	FCVLOUTP	LR	53102	INT55CH	LR	54003	FIOCS	SD	54238
INCFNTH	SD	55C68	INT55CH	LR	54003	INCEIOS	SD	55690	INCERRE	LR	556A8
INCETRCH	SD	56010	INCEIOS	SD	55690	ERRMON	LR	56130	INCERRE	LR	556A8
			ARITH	LR	55C68	INCUOPT	SD	56130	INCERRE	LR	556A8
			INCTRCH	LR	56010	ADJ5WCH	LR	56004	INCERRE	LR	556A8
						ERRTRA	LR	56R18	INCERRE	LR	556A8

TOTAL LENGTH 5590
ENTRY ADDRESS 40810

HELIOS-A

YEAR 1979.

LAUNCH TIME 117564552. 0.

DATE		HELIOS		HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)
MM	DD	MM	CC	ECL-LONG	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL(DEC)	RADIAL
9	1	0	0	121.43	0.91	1.63	30.8E	121.43	-2.91	-0.005
9	2	0	0	121.27	0.91	1.67	31.04	121.27	-3.01	-0.005
9	3	0	0	121.13	0.90	1.67	31.21	121.13	-3.10	-0.005
9	4	0	0	120.99	0.90	1.66	31.37	120.99	-3.19	-0.005
9	5	0	0	120.87	0.90	1.65	31.52	120.87	-3.29	-0.006
9	6	0	0	120.75	0.89	1.65	31.66	120.75	-3.38	-0.006
9	7	0	0	120.64	0.88	1.64	31.80	120.64	-3.48	-0.006
9	8	0	0	120.55	0.88	1.64	31.91	120.55	-3.58	-0.006
9	9	0	0	120.47	0.87	1.63	32.04	120.47	-3.67	-0.006
9	10	0	0	120.40	0.86	1.62	32.17	120.40	-3.77	-0.005
9	11	0	0	120.34	0.86	1.62	32.32	120.34	-3.87	-0.007
9	12	0	0	120.29	0.85	1.61	32.47	120.29	-3.97	-0.007
9	13	0	0	120.27	0.84	1.61	32.62	120.27	-4.07	-0.007
9	14	0	0	120.25	0.84	1.60	32.77	120.25	-4.16	-0.007
9	15	0	0	120.25	0.83	1.59	32.91	120.25	-4.25	-0.007
9	16	0	0	120.27	0.82	1.58	33.04	120.27	-4.37	-0.008
9	17	0	0	120.31	0.81	1.57	33.17	120.31	-4.47	-0.008
9	18	0	0	120.37	0.81	1.57	33.30	120.37	-4.57	-0.008
9	19	0	0	120.44	0.80	1.57	33.42	120.44	-4.67	-0.008
9	20	0	0	120.54	0.79	1.56	33.53	120.54	-4.77	-0.008
9	21	0	0	120.66	0.78	1.56	33.64	120.66	-4.88	-0.009
9	22	0	0	120.80	0.77	1.55	33.73	120.80	-4.98	-0.009
9	23	0	0	120.97	0.76	1.54	33.82	120.97	-5.09	-0.009
9	24	0	0	121.16	0.75	1.54	33.90	121.16	-5.19	-0.009
9	25	0	0	121.38	0.74	1.53	34.02	121.38	-5.29	-0.009
9	26	0	0	121.63	0.73	1.52	34.09	121.63	-5.40	-0.009
9	27	0	0	121.92	0.72	1.51	34.11	121.92	-5.50	-0.010
9	28	0	0	122.23	0.71	1.51	34.11	122.23	-5.61	-0.010
9	29	0	0	122.57	0.70	1.50	34.07	122.57	-5.71	-0.010
9	30	0	0	123.40	0.69	1.49	34.03	123.40	-5.81	-0.010
10	1	0	0	123.87	0.68	1.48	33.97	123.87	-5.92	-0.010
10	2	0	0	124.33	0.67	1.48	33.85	124.33	-6.02	-0.011
10	3	0	0	124.96	0.65	1.47	33.73	124.96	-6.12	-0.011
10	4	0	0	125.58	0.64	1.47	33.58	125.58	-6.23	-0.011
10	5	0	0	126.26	0.63	1.47	33.43	126.26	-6.33	-0.011
10	6	0	0	126.99	0.62	1.46	33.28	126.99	-6.43	-0.011
10	7	0	0	127.80	0.61	1.45	33.13	127.80	-6.52	-0.012
10	8	0	0	128.67	0.60	1.45	32.98	128.67	-6.62	-0.012
10	9	0	0	129.62	0.59	1.44	32.83	129.62	-6.71	-0.012
10	10	0	0	130.65	0.57	1.44	32.68	130.65	-6.80	-0.012
10	11	0	0	131.77	0.56	1.43	32.53	131.77	-6.88	-0.012
10	12	0	0	132.98	0.55	1.43	32.38	132.98	-6.95	-0.012
10	13	0	0	134.29	0.54	1.42	32.23	134.29	-7.02	-0.013
10	14	0	0	135.72	0.52	1.42	32.08	135.72	-7.09	-0.013
10	15	0	0	137.27	0.51	1.41	31.93	137.27	-7.14	-0.013
10	16	0	0	138.95	0.50	1.41	31.78	138.95	-7.18	-0.013
10	17	0	0	140.78	0.48	1.40	31.63	140.78	-7.21	-0.013
10	18	0	0	142.75	0.47	1.40	31.48	142.75	-7.22	-0.013
10	19	0	0	144.90	0.46	1.40	31.33	144.90	-7.22	-0.013
10	20	0	0	147.24	0.45	1.39	31.18	147.24	-7.20	-0.013
10	21	0	0	149.77	0.43	1.39	31.03	149.77	-7.14	-0.013
10	22	0	0	152.52	0.42	1.38	30.88	152.52	-7.06	-0.013
10	23	0	0	155.50	0.41	1.37	30.73	155.50	-6.95	-0.013
10	24	0	0	158.73	0.39	1.37	30.58	158.73	-6.79	-0.012
10	25	0	0	162.23	0.38	1.36	30.43	162.23	-6.59	-0.012
10	26	0	0	165.01	0.37	1.36	30.28	165.01	-6.34	-0.012
10	27	0	0	170.09	0.36	1.35	30.13	170.09	-6.03	-0.011
10	28	0	0	174.48	0.35	1.34	29.98	174.48	-5.65	-0.011
10	29	0	0	179.17	0.34	1.33	29.83	179.17	-5.20	-0.010
10	30	0	0	184.16	0.33	1.32	29.68	184.16	-4.68	-0.009
10	31	0	0				29.53	175.84	-4.08	-0.008

END OF FILE ON ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.7BRTC.SD002.LOAD
IEF2851 VOL SER NOS= DISK15.
IEF2851 SYS2.OEPLK/INV
IEF2851 VOL SER NOS= M2SYS2.
IEF2851 SYS1.FOPLIB
IEF2851 VOL SER NOS= K3ITL0.
IEF2851 SYS2.FOPLIB
IEF2851 VOL SER NOS= K3SYS2.
IEF2851 SYS1.PL1LIB

KEPT

DCNAME=SYSLIB -1

0 EXCPS

KEPT

DCNAME=SYSLIB -2

17 EXCPS

KEPT

DCNAME=SYSLIB -3

61 EXCPS

KEPT

DCNAME=SYSLIB -4

28 EXCPS

KEPT

DCNAME=SYSLIB -5

0 EXCPS

JOBNAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEEE	LL	00000000	AA	SSSSSSSSSS

BOX-

BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA
BBBBBBBB	FFFFFFFF	33333333	AA

SACC 360/75

READER NUMBER-P0151

CLASS-

DRA38

11/1/78 - 11/30/78

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XX DD DSN=SYS1.DUMMY,DISP=SHR 00000040
XX DD DSN=SYS1.FCELIB,DISP=SHR 00000050
XX DD DSN=SYS2.FCELIB,DISP=SHR 00000060
XX DD DSN=SYS1.PCLLIB,DISP=SHR 00000070
XX DD DSN=SYS1.FCELIB,DISP=SHR 00000080
XX DD DSN=SYS2.CCBLIB,DISP=SHR 00000090
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000100
XX DD DSN=SYS1.CCBLIB,DISP=SHR 00000110
XXSYSLUT DD SYSDUT=CCUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=M2.299TC,SD002,LOAD(CRUIT),DISP=SHR 00000120
X/SYSLIN DD DSN=66JMOD,DISP=(OLD,DELETE) 00000130
XX DD DDNAME=IBJECT 00000140
XXFT07F001 DD DDNAME=DATA5 00000150
XXFT06F001 DD SYSLUT=CCUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA) 00000160
//SYSLIN DD SYSLUT=A,DCB=(BLKSIZE=7295,LRECL=137,RECFM=VBA) 00000170
XXFT07F001 DD SYSDUT=A,DCB=(RECFM=FB,BLKSIZE=7295,LRECL=137,RECFM=VBA) 00000180
XXSYSPRINT DD SYSDUT=CCUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA) 00000190
ICF0511 SUBSTITUTION JCL - SYSDUT=A,DCB=(BLKSIZE=7295,LRECL=137,RECFM=VBA) 00000200
XX SPACE=(CYL,(0,1),UNIT=(DISK,3)) 00000210
XXSYSTERM DD SYSDUT=BTTERMOUT 00000220
//SYSDUT DD SYSDUT=A 00000230
X/SYSDUMP DD SYSDUT=A,SPACE=(CYL,(0,5)) 00000240
//GC.GENTAP DD UNIT=(7TRACK,DEFER) 00000250
//VOL=DEF=DEF.TAPE,LADELE=(NL,IN),DISP=(OLD,KEEP) 00000260
//DCB=(RECFM=U,BLKSIZE=1544,DCN=2) 00000270
//DATA5 DD *
IEF2361 ALLOC. FOR SDHLOAS GO
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 323 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 232 ALLOCATED TO SYSLUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 333 ALLOCATED TO FT05F001
IEF2371 333 ALLOCATED TO FT06F001
IEF2371 335 ALLOCATED TO FT07F001
IEF2371 335 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 336 ALLOCATED TO SYSTERM
IEF2371 335 ALLOCATED TO SYSDUMP
IEF2371 000 ALLOCATED TO GENTAP

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CS/360 LEADER

OPTIONS USED - PRINT,MAP,NODET,CALL,RES,NCTERM,SIZE=104840,NAME=AAJO
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	50010	CNVRTSCT*	SD	50070	CNVRT	LR	50070	DBFE0V	LR	51358
FREAD	SD	51560	FREADS	LR	51708	FWRITE	LR	51870	LEAVE	LR	51866
UNLOAD	LR	5101A	PCSN	LR	51030	MCUNT	LR	51F50	FTKAP	LR	52222
FALLON	LR	52240	PCSN	SD	53300	FPL1	SD	53428	PERKSC	SD	53338
INCHNAME	SD	533A0	PCSN	LR	533A0	FPL1	LR	534A4	IBCCM	LR	53E70
FDIUCS*	LR	53520	INTS*TC*	LR	54006	INCCOMH2*	SD	54008	FTF	SD	55438
ITISCT*	SD	55428	ITIT	LR	55428	FXFLT	SD	55740	TKNS TB	SD	55598
TRANS	LR	55589	STTST	SD	55698	CNTGDATA*	LR	55698	INCFVTH*	SD	55899
ADCCN*	LR	55899	FCVACUTP*	LR	55942	FCVLCUTP*	LR	55902	FCVLCUTP*	LR	55900
FCVLCUTP*	LR	56302	FCVLCUTP*	LR	56540	INT65CH*	SD	56503	FIQCS*	LR	56A38
FIQCS*	LR	56A38	INCFID52*	SD	57960	INCFID5*	SD	57990	INCFID5*	LR	57E90
INCFID5*	SD	58448	ALITH*	LR	58448	ADJG*TC*	LR	58504	INCFID5*	SD	58C08
INCFID5*	SD	59210	INCFID5*	LR	59210	ERRTRA	LR	59218			

TOTAL LENGTH 9590
ENTRY ADDRESS 50010

SATID HELIOS-A OORBIT TAPE #0RA39
7409701 OR3 78 305 000000 334 000000 833A C1 790111 33A C1 01 E7 X

HELIOS-A YCAN 1978 LAUNCH TIME 122834952.04

MM	DD	HR	MIN	SEC	HELIOS ECL LONG	HELIOS ECL LAT	SUN-HELIOS DIST(A.U.)	EARTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U./DAY)	RADIAL	NORMAL
11	1	0	0	0	189.44	0.02	0.32	1.31	7.12	170.56	-3.40	-0.007	0.04	0.04
11	2	0	0	0	194.98	0.01	0.32	1.20	11.36	165.02	-2.66	-0.005	0.04	0.04
11	3	0	0	0	200.74	0.01	0.31	1.20	15.80	150.26	-1.85	-0.004	0.04	0.04
11	4	0	0	0	206.66	0.01	0.31	1.23	20.39	152.34	-1.00	-0.002	0.04	0.04
11	5	0	0	0	212.69	0.01	0.31	1.26	25.08	147.31	-0.12	-0.001	0.04	0.04
11	6	0	0	0	218.74	0.00	0.31	1.25	29.80	141.26	0.77	0.001	0.04	0.04
11	7	0	0	0	224.75	0.00	0.31	1.23	34.50	135.25	1.64	0.003	0.04	0.04
11	8	0	0	0	230.65	-0.00	0.31	1.22	39.04	129.35	2.47	0.004	0.04	0.04
11	9	0	0	0	236.38	-0.01	0.32	1.19	43.54	123.62	3.25	0.005	0.04	0.04
11	10	0	0	0	241.88	-0.01	0.33	1.16	47.78	118.12	3.96	0.007	0.04	0.04
11	11	0	0	0	247.11	-0.01	0.33	1.14	51.78	112.90	4.59	0.008	0.04	0.04
11	12	0	0	0	252.05	-0.01	0.34	1.12	55.53	107.95	5.15	0.009	0.03	0.03
11	13	0	0	0	256.69	-0.01	0.35	1.09	58.99	103.31	5.52	0.010	0.03	0.03
11	14	0	0	0	261.02	-0.02	0.36	1.07	62.18	98.98	5.82	0.011	0.03	0.03
11	15	0	0	0	265.05	-0.02	0.37	1.05	65.09	94.95	6.03	0.011	0.03	0.03
11	16	0	0	0	268.78	-0.02	0.38	1.03	67.73	91.22	6.21	0.012	0.03	0.03
11	17	0	0	0	272.23	-0.02	0.40	1.01	70.12	87.77	6.36	0.012	0.03	0.03
11	18	0	0	0	275.41	-0.02	0.41	1.00	72.26	84.59	6.47	0.012	0.03	0.03
11	19	0	0	0	278.34	-0.02	0.42	1.00	74.17	81.66	6.50	0.013	0.03	0.03
11	20	0	0	0	281.04	-0.02	0.43	1.00	75.87	78.96	6.46	0.013	0.03	0.03
11	21	0	0	0	283.53	-0.02	0.45	0.98	77.36	76.47	6.31	0.013	0.03	0.03
11	22	0	0	0	285.82	-0.02	0.46	0.97	78.68	74.18	6.07	0.013	0.03	0.03
11	23	0	0	0	287.92	-0.02	0.47	0.95	79.82	72.08	5.74	0.013	0.02	0.02
11	24	0	0	0	289.86	-0.02	0.48	0.94	80.81	70.14	5.33	0.013	0.02	0.02
11	25	0	0	0	291.64	-0.02	0.50	0.93	81.65	68.36	4.85	0.013	0.02	0.02
11	26	0	0	0	293.28	-0.02	0.51	0.91	82.37	66.72	4.31	0.013	0.02	0.02
11	27	0	0	0	294.79	-0.02	0.52	0.90	82.95	65.21	3.64	0.013	0.02	0.02
11	28	0	0	0	296.18	-0.02	0.54	0.87	83.43	63.82	2.85	0.013	0.02	0.02
11	29	0	0	0	297.45	-0.02	0.55	0.83	83.80	62.55	1.96	0.013	0.02	0.02
11	30	0	0	0	298.63	-0.02	0.56	0.87	84.07	61.37	0.98	0.012	0.02	0.02

END OF FILE ON ORBIT TAPE

1EF2091 SDHEL045 ORA38 000 TR=001.TW=000.BG=000.CL=019.N=000.SID=00700

1EF1421 STEP WAS EXCLUDED COND CODE 0000

1EF2851 M2Z3BTC.S0002.LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS

1EF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -2 17 EXCPS

1EF2851 SYS2.OEBLKUNV. KEPT DDNAME=SYSLIB -3 61 EXCPS

1EF2851 VOL SER NOS= M2SYS2. KEPT DDNAME=SYSLIB -4 28 EXCPS

1EF2851 SYS1.FORTLIB. KEPT DDNAME=SYSLIB -5 0 EXCPS

1EF2851 VOL SER NOS= K3SYSP. KEPT DDNAME=SYSLIB -6 0 EXCPS

1EF2851 SYS1.PLIB. KEPT DDNAME=SYSLIB -7 0 EXCPS

1EF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -8 0 EXCPS

1EF2851 SYS1.FORTISSP. KEPT DDNAME=SYSLIB -9 0 EXCPS

1EF2851 VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -10 0 EXCPS

1EF2851 SYS2.COOLIB. KEPT DDNAME=SYSLIB -11 0 EXCPS

1EF2851 VOL SER NOS= M2SYS1. KEPT DDNAME=SYSLIB -12 0 EXCPS

1EF2851 SYS1.ALGLIB. KEPT DDNAME=SYSLIB -13 0 EXCPS

1EF2851 VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -14 0 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000001 SYSDUT DDNAME=SYSLIB -15 1 EXCPS

1EF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSLIB -16 7 EXCPS

1EF2851 M2Z3BTC.S0002.LOAD KEPT DDNAME=SYSLIB -17 7 EXCPS

1EF2851 VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -18 7 EXCPS

1EF2851 SYS80030.T133346.FV000.SDHELCA5.S0000008 SYSIN DDNAME=FT05F001 2 EXCPS

1EF2851 VOL SER NOS= K3SCR1. KEPT DDNAME=FT05F001 2 EXCPS

1EF2851 SYS80030.T133346.FV000.SDHELCA5.S0000008 DELETED DDNAME=FT05F001 2 EXCPS

1EF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=FT06F001 1 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000002 SYSDUT DDNAME=FT06F001 1 EXCPS

1EF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=FT07F001 0 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000003 DELETED DDNAME=FT07F001 0 EXCPS

1EF2851 VOL SER NOS= K3SCR6. KEPT DDNAME=FT07F001 0 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000004 DELETED DDNAME=SYSPRINT 0 EXCPS

1EF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSPRINT 0 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000005 DELETED DDNAME=SYSTEM 0 EXCPS

1EF2851 VOL SER NOS= K3SCR5. KEPT DDNAME=SYSTEM 0 EXCPS

1EF2851 SYS80030.T133346.SV000.SDHELCA5.R0000006 DELETED DDNAME=SYSTEM 0 EXCPS

1EF2851 VOL SER NOS= K3SCR2. KEPT DDNAME=SYSTEM 0 EXCPS

1EF2851 SYS80030.T133346.FV000.SDHELCA5.R0000007 KEPT DDNAME=SYSTEM 0 EXCPS

1EF2851 VOL SER NOS= ORA38. KEPT DDNAME=SYSTEM 706 EXCPS

1EF2808 K 000.ORA38.SDHELCA5.GD

1EF3731 STEP /GO / START 80030.1334

1EF3741 STEP /GO / STOP 80030.1340 CPU 0MIN 11.60SEC.MAIN 200K LCS 0K

STEP 01 - RETURN CODE = 0000

TO IN SECS. DISK= 11:12:DRUM= 00:TAPE= 7:10:CELL= 00:GTHR= 00:00

.49 MINS=(CPU= .19:IO= .30):

[illegible]

SACC 360/75		READER NUMBER-PC061		CLASS-	
BBB58308	FFFFFFFF	33333333		AA	AA
BBB58308	FFFFFFFF	33333333		AA	AA
BB	FF	33	33	AAAA	AAAA
BB	FF	33	33	AAAA	AAAA
BB	FF	33	33	AA	AA
BBB58308	FFFFFFFF	333333		AA	AA
BBB58308	FFFFFFFF	333333		AA	AA
BB	FF	33	33	AAAAAAAA	AAAAAAAA
BB	FF	33	33	AAAAAAAA	AAAAAAAA
BB	FF	33	33	AA	AA
BBB58308	FFFFFFFF	33333333		AA	AA
BBB58308	FFFFFFFF	33333333		AA	AA

ORA 39

$$12/1/78 - 12/31/78$$


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XX DD DSN=SYS1.DUMVY,DISP=SHR 0000004C
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000060
XX DD DSN=SYS2.FORTLIB,DISP=SHR 00000066
XX DD DSN=SYS1.PLIB,DISP=SHR 00000070
XX DD DSN=SYS1.FGTSSP,DISP=SHR 00000080
XX DD DSN=SYS2.COELLIB,DISP=SHR 00000090
XX DD DSN=SYS1.ALCLIB,DISP=SHR 00000100
XX DD DSN=SYS1.FGTSSP,DISP=SHR 00000110
XXSYSCOUT DD SYSCOUT=SCOUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=M2.ZBRIC,SDCC2,LCAD(LEBIT),DISP=SHR 00000120
X/SYSLIN DD DSN=60EJMC0,DISP=(CLD,DELETE) 00000130
XX DD DNAME=OBJCT 00000140
XXFT055001 DD DNAME=DATA5 00000150
XXFT06F001 DD SYSCUT=SCUT,DCB=(BLKSIZE=8BLKSIZE,LRECL=137,RECFM=VBA) 00000150
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7255,LRECL=137,RECFM=VBA) 00000150
XXFT07F001 DD SYSCUT=B,DCB=(RECFM=FB,BLKSIZE=7255,LRECL=30) 00000160
XXSYSPRINT DD SYSCUT=SCUT,DCB=(BLKSIZE=8BLKSIZE,LRECL=137,RECFM=VBA) 00000170
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7255,LRECL=137,RECFM=VBA) 00000180
XX SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000190
XXSYSTEM DD SYSCUT=SCUT,DCB=(BLKSIZE=8BLKSIZE,LRECL=137,RECFM=VBA) 00000190
IEF6531 SUBSTITUTION JCL - SYSCUT=A
//SYSDUMP DD SYSCUT=A 00000200
//SYSDUMP DD SYSCUT=A,SPACE=(CYL,(0,5)) 00000200
//SC.GENTAP DD UNIT=(7TRACK,DEFER)
//VOL=SER=BTAP,LABEL=(,NL,,IN),DISP=(CLD,KEEP)
//DCB=(RECFM=U,BLKSIZE=1344,DSN=2)
//DATA5 DD *
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 211 ALLOCATED TO
IEF2371 237 ALLOCATED TO SYSCOUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 335 ALLOCATED TO FT05F001
IEF2371 237 ALLOCATED TO FT06F001
IEF2371 335 ALLOCATED TO FT07F001
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 237 ALLOCATED TO SYSPRINT
IEF2371 334 ALLOCATED TO SYSTAP
IEF2371 335 ALLOCATED TO SYSDUMP
IEF2371 001 ALLOCATED TO GENTAP

```

CS/360 LOADER

OPTIONS USED PRINT,MAP,NOLET,CALL,YES,NOTENR,SIZE=1945,0,NAME=**G
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR								
ORBIT	SD	77810	CNVRTSCI*	SD	73670	CNVRT	*	LR	73670	DEGEN	*	SD	74998	DEFDOV	*	LR	74858		
FREAD	*	SD	78060	FREADB	*	LR	74858	FWRITE	*	LR	74970	REWIND	*	LR	74982	LEAVE	*	LR	74366
UNLOAD	*	LR	7941A	POSH	*	LR	74930	VCUNT	*	LR	74970	MEMBER	*	LR	74932	FTRAP	*	LR	74A22
FALLOW	*	LR	74A40	FUNITAB*	SD	74A40	SEL1	*	SD	74A28	FUNITAB*	SD	74A30	FCM33	*	SD	74A38		
INCHNAME	*	SD	74A40	FFCNL*	*	LR	74A40	FAFALA	*	LR	74A44	INCCOMH*	SD	74B70	ISCC4*	*	LR	73670	
PDIGCS*	LR	7872C	INTSMATCH*	LR	7C586	FXFLT	*	SD	7C540	FIXFLT	*	LR	7C040	FTF	*	SD	7CC38		
ITISECT	*	SD	7CCE8	ITI	*	LR	7CE98	CATGDATA*	LR	7CE98	DTOUN	*	SD	7CFC8	THNGLT*	*	SD	7C988	
TRANS	*	LR	7CD88	DITST	*	SD	7CD12	FCVZOUTP*	LR	7D102	FCVZOUTP*	LR	7D322	FCVZOUTP*	LR	7D322	FCVZOUTP*	LR	7D322
ADCON*	LR	7D098	FCVADUTP*	LR	7D098	FCVADUTP*	LR	7D098	INTGACH*	LR	7D098	INCFIOS*	SD	7E238	FI0GSA	*	LR	7E238	
FCVZOUTP*	LR	7D098	FCVZOUTP*	LR	7D098	FCVZOUTP*	LR	7D098	INCFIOS2*	SD	7F160	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690		
FCVZOUTP*	LR	7E238	INCFIOS2*	SD	7F160	INCFIOS2*	SD	7F160	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690		
FCVZOUTP*	SD	7F690	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690	INCFIOS*	LR	7F690		
INCFIOS*	SD	80010	INCFIOS*	LR	80010	INCFIOS*	LR	80010	INCFIOS*	LR	80010	INCFIOS*	LR	80010	INCFIOS*	LR	80010		

TOTAL LENGTH 7590
ENTRY ADDRESS 77810

SATID HELIOS-A ORBIT TAPE #0RA39
7404701-000 78 335 000000 365 000000 3365 01 740217 366 01 01 57 X

HELIOS-A

YEAR 1978.

LAUNCH TIME 12542695Z. C.

MM	DD	HH	MM	SC	HELIOS ECL. LONG	HELIOS ECL. LAT	SUN-HELIOS DIST(A.U)	ERTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U/DAY) RADIAL	NORMAL
12	1	0	0	0	299.71	-0.02	0.57	0.86	84.26	80.29	6.68	0.012	0.02
12	2	0	0	0	300.70	-0.02	0.59	0.85	84.37	59.30	6.58	0.012	0.02
12	3	0	0	0	301.61	-0.02	0.60	0.84	84.40	58.29	6.48	0.012	0.02
12	4	0	0	0	302.44	-0.02	0.61	0.84	84.37	57.56	6.37	0.012	0.02
12	5	0	0	0	303.21	-0.02	0.62	0.83	84.27	56.79	6.26	0.012	0.02
12	6	0	0	0	303.91	-0.02	0.63	0.82	84.12	56.09	6.15	0.011	0.02
12	7	0	0	0	304.54	-0.02	0.65	0.82	83.91	55.46	6.04	0.011	0.02
12	8	0	0	0	305.13	-0.02	0.66	0.81	83.66	54.87	5.91	0.011	0.02
12	9	0	0	0	305.65	-0.02	0.67	0.81	83.37	54.34	5.81	0.011	0.02
12	10	0	0	0	306.13	-0.02	0.68	0.80	83.03	53.87	5.70	0.011	0.02
12	11	0	0	0	306.57	-0.02	0.69	0.80	82.67	53.43	5.58	0.010	0.02
12	12	0	0	0	306.96	-0.02	0.70	0.79	82.27	53.04	5.47	0.010	0.02
12	13	0	0	0	307.31	-0.02	0.71	0.79	81.85	52.69	5.36	0.010	0.02
12	14	0	0	0	307.62	-0.02	0.72	0.79	81.46	52.38	5.24	0.010	0.02
12	15	0	0	0	307.89	-0.02	0.73	0.79	81.03	52.11	5.13	0.010	0.02
12	16	0	0	0	308.13	-0.02	0.74	0.78	80.45	51.67	5.02	0.009	0.02
12	17	0	0	0	308.34	-0.02	0.75	0.78	79.95	51.66	4.90	0.009	0.02
12	18	0	0	0	308.52	-0.02	0.76	0.78	79.43	51.48	4.79	0.009	0.02
12	19	0	0	0	308.67	-0.02	0.77	0.78	78.91	51.3	4.68	0.009	0.02
12	20	0	0	0	308.80	-0.02	0.77	0.78	78.38	51.10	4.57	0.009	0.02
12	21	0	0	0	308.90	-0.02	0.78	0.78	77.84	51.0	4.46	0.008	0.02
12	22	0	0	0	309.02	-0.02	0.80	0.79	77.30	51.13	4.35	0.008	0.01
12	23	0	0	0	309.08	-0.02	0.81	0.79	76.76	50.88	4.24	0.008	0.01
12	24	0	0	0	309.25	-0.02	0.81	0.79	76.21	50.55	4.13	0.008	0.01
12	25	0	0	0	309.36	-0.02	0.81	0.79	75.67	50.24	4.03	0.008	0.01
12	26	0	0	0	309.05	-0.02	0.82	0.79	75.12	50.05	3.92	0.008	0.01
12	27	0	0	0	309.02	-0.02	0.83	0.79	74.58	50.58	3.82	0.007	0.01
12	28	0	0	0	308.98	-0.02	0.84	0.79	74.05	51.02	3.71	0.007	0.01
12	29	0	0	0	308.92	-0.02	0.84	0.80	73.51	51.19	3.61	0.007	0.01
12	30	0	0	0	308.84	-0.02	0.85	0.80	72.99	51.16	3.50	0.007	0.01
12	31	0	0	0	308.74	-0.02	0.86	0.80	72.47	51.26	3.40	0.007	0.01

END OF FILE ON ORBIT TAPE

IEF1421 - STEP WAS EXECUTED - COND CODE 0000

IEF2851 M2-ZBRTC.SD002.LOAD

IEF2851 VOL SER NOS= DISK15.

IEF2851 SYS2.DEBLKUNV

IEF2851 VOL SER NOS= M2SYS2.

IEF2851 SYS1.FORTLIB

IEF2851 VOL SER NOS= K3ITL0.

IEF2851 SYS2.FORTLIB

IEF2851 VOL SER NOS= K3SYS2.

IEF2851 SYS1.PLILIB

IEF2851 VOL SER NOS= K3ITL5.

IEF2851 SYS1.FORTSP

IEF2851 VOL SER NOS= K3ITL5.

IEF2851 SYS2.COBLIB

IEF2851 VOL SER NOS= M2SYS1.

IEF2851 SYS1.ALGLIB

IEF2851 VOL SER NOS= K3SYS2.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000028

IEF2851 VOL SER NOS= K3SC04.

IEF2851 M2-ZBRTC.SD002.LOAD

IEF2851 VOL SER NOS= DISK15.

IEF2851 SYS80025.T113403.RVC00.SDHCLCA1.S0000035

IEF2851 VOL SER NOS= K3SC02.

IEF2851 SYS80025.T113403.RVC00.SDHCLCA1.S0000035

IEF2851 VOL SER NOS= K3SC02.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000025

IEF2851 VOL SER NOS= K3SC04.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000030

IEF2851 VOL SER NOS= K3SC02.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000031

IEF2851 VOL SER NOS= K3SC02.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000032

IEF2851 VOL SER NOS= K3SC05.

IEF2851 SYS80025.T113403.SVC00.SDHCLCA1.R0000033

IEF2851 VOL SER NOS= K3SC02.

IEF2851 SYS80025.T113403.RVC00.SDHCLCA1.R0000034

IEF2851 VOL SER NOS= GRA39.

IEF2800 K 001.DRA39.SDHCLCA1.G0

IEF3731 STEP /GO / START 80025.1212

IEF3741 STEP /GO / STOP 80025.1218 CPU 0MIN 13.79SEC MAIN 200K LCS OK

- STEP 01 - RETURN CODE = 0000

- SUPCHARGES=(DRIVES ALLOC=000.TAPE MOUNTS=000.CCPE=000.PAPER=000.PRIORITY=000001SECS. ID IN SECS. DISK= 11.17.DRIVE= .00.TAPE= 7.30.CELL= .00.01P= .16

STPP TIME = .52 MINS=(CPU= .22,IC= .30) TOTAL STP TIME= .52 MINS.

[illegible][illegible]

READER NUMBER-P0063

CLASS-

ORA 40

1/1/79 - 2/28/79

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15 F23371 ALLOC FOR SHELDA2 GO
16 F23371 330 ALLOCATED TO SYSLIB
17 F23371 330 ALLOCATED TO
18 F23371 331 ALLOCATED TO
19 F23371 331 ALLOCATED TO
20 F23371 331 ALLOCATED TO
21 F23371 344 ALLOCATED TO
22 F23371 344 ALLOCATED TO
23 F23371 344 ALLOCATED TO
24 F23371 336 ALLOCATED TO SYSLIB
25 F23371 333 ALLOCATED TO SYSLIN
26 F23371 335 ALLOCATED TO SYSTO5
27 F23371 336 ALLOCATED TO FTCTFO
28 F23371 336 ALLOCATED TO FTCTFO
29 F23371 336 ALLOCATED TO SYSPRI
30 F23371 336 ALLOCATED TO SYSPRI
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97 F23371 335 ALLOCATED TO SYSPRI
98 F23371 335 ALLOCATED TO SYSPRI
99 F23371 335 ALLOCATED TO SYSPRI
100 F23371 335 ALLOCATED TO SYSPRI

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OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTLRM,SIZE=194560,NAME=**CO
                  EP=ORBIT
```

TOTAL LENGTH..... 9590
ENTRY ADDRESS 78010

JOBNAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEEE	LL	CCCCCCCC	AA	22222222

NOX-

EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		
EEEEEEEE	FFFFFFFF	33333333		

SACC 360/75

READER NUMBER-P0063

CLASS-

ORA45

3/1/79-3/31/79

NUMRER

80 ON 00F-ZMBMGIT/822 K3NLB596/173 ZBBLPTST/BF3 SCHELOA1/BF3 SCHELOA2/BF3

AT 12.28.42 FRI 25 JAN 80

291.53	0.93	58.36	68.47	-2.55	-1.004	3.31
291.31	0.92	58.44	68.69	-2.60	-1.003	3.31
291.09	0.92	58.53	68.91	-2.65	-1.002	3.31
290.89	0.91	58.63	69.11	-2.70	-1.001	3.31
290.69	0.91	58.75	69.31	-2.75	-1.000	3.31
290.51	0.90	58.87	69.50	-2.80	-1.000	3.31
290.33	0.90	58.91	69.67	-2.85	-1.000	3.31
290.17	0.89	59.07	69.83	-2.90	-1.000	3.31
290.01	0.89	59.17	69.99	-2.95	-1.000	3.31
289.85	0.89	59.23	70.14	-3.00	-1.000	3.31
289.73	0.88	59.31	70.27	-3.05	-1.000	3.31
289.51	0.88	59.42	70.39	-3.10	-1.000	3.31
289.33	0.87	59.51	70.50	-3.15	-1.000	3.31
289.17	0.86	59.65	70.69	-3.20	-1.000	3.31
289.01	0.86	60.05	70.88	-3.25	-1.000	3.31
288.85	0.85	60.33	70.74	-3.30	-1.000	3.31
288.69	0.84	61.23	70.79	-3.40	-1.000	3.31
288.51	0.84	61.55	70.83	-3.45	-1.000	3.31
288.33	0.83	61.89	70.85	-3.50	-1.000	3.31
288.17	0.82	62.75	70.85	-3.55	-1.000	3.31
288.01	0.82	63.64	70.85	-3.60	-1.000	3.31
287.85	0.81	63.95	70.79	-3.65	-1.000	3.31
287.69	0.81	63.95	70.74	-3.70	-1.000	3.31
287.51	0.80	63.95	70.66	-3.75	-1.000	3.31
287.33	0.79	64.44	70.55	-3.80	-1.000	3.31
287.17	0.78	64.97	70.43	-3.85	-1.000	3.31
287.01	0.77			-3.90	-1.000	3.31

IEF1421	STFP WAS EXECUTED = COND CODE 0000	KEPT	DDNAME=SYSLIB -1	1 EXCPS
IEF2851	M2.ZBRTC.SDD02.LOAD	KEPT	DDNAME=SYSLIB -2	17 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -3	89 EXCPS
IEF2851	SYS2.DBLKJNV	KEPT	DDNAME=SYSLIB -4	2 EXCPS
IEF2851	VOL SER NOS= M2SYS2.	KEPT	DDNAME=SYSLIB -5	0 EXCPS
IEF2851	SYS1.FCRTLIB	KEPT	DDNAME=SYSLIB -6	0 EXCPS
IEF2851	VOL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -7	7 EXCPS
IEF2851	SYS2.FCRTLIB	KEPT	DDNAME=SYSLIB -8	2 EXCPS
IEF2851	VOL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -9	0 EXCPS
IEF2851	SYS1.PLIB	KEPT	DDNAME=SYSLIB -10	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -11	7 EXCPS
IEF2851	SYS1.FCRTSEP	KEPT	DDNAME=SYSLIB -12	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -13	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.R0000001	DELETED	DDNAME=SYSLIB -14	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -15	7 EXCPS
IEF2851	M2.ZBRTC.SDD02.LOAD	KEPT	DDNAME=SYSLIB -16	0 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -17	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000001	DELETED	DDNAME=SYSLIB -18	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -19	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000002	DELETED	DDNAME=SYSLIB -20	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -21	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000003	DELETED	DDNAME=SYSLIB -22	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -23	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000004	DELETED	DDNAME=SYSLIB -24	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -25	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000005	DELETED	DDNAME=SYSLIB -26	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -27	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000006	DELETED	DDNAME=SYSLIB -28	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -29	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000007	DELETED	DDNAME=SYSLIB -30	0 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -31	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000008	DELETED	DDNAME=SYSLIB -32	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -33	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000009	DELETED	DDNAME=SYSLIB -34	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -35	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000010	DELETED	DDNAME=SYSLIB -36	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -37	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000011	DELETED	DDNAME=SYSLIB -38	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -39	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000012	DELETED	DDNAME=SYSLIB -40	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -41	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000013	DELETED	DDNAME=SYSLIB -42	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -43	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000014	DELETED	DDNAME=SYSLIB -44	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -45	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000015	DELETED	DDNAME=SYSLIB -46	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -47	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000016	DELETED	DDNAME=SYSLIB -48	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -49	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000017	DELETED	DDNAME=SYSLIB -50	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -51	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000018	DELETED	DDNAME=SYSLIB -52	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -53	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000019	DELETED	DDNAME=SYSLIB -54	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -55	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000020	DELETED	DDNAME=SYSLIB -56	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -57	0 EXCPS
IEF2851	SYS80023.T152523.SV000.SDHFL0A2.S0000021	DELETED	DDNAME=SYSLIB -58	0 EXCPS
IEF2851	VOL SER NOS= SCR000.	KEPT	DDNAME=SYSLIB -59	0 EXCPS
IEF2851	SYS			

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IFB653I SUBSTITUTION JCL - PARMS=...
IFB142I - STEP WAS EXECUTED - COND CODE 0000
IFB373I STEP /NDTIFYTS/ START 800230.1844
IFB374I STEP /NDTIFYTS/ STOP 800231.1844 CPU CMIN CLC:23LC MAIN BK LCS OK
- STEP 02 - RETURN CODE = 0000
STEP TIME = :C: MINS=(CPU= :CC:IO= :00)
TIME IN DAYS= :DD: HOURS= :HH: MINUTES= :MM: SECONDS= :SS: TYPE= :CT: CELL= :CO: OTHER= :04

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[illegible][illegible]

4/1/79 — 4/30/79

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X/ DD DSN=SYS1.DUMMY,DISP=SHR 00000040
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000050
XX DD DSN=SYS2.FORTLIB,DISP=SHR 00000060
XX DD DSN=SYS1.PL1LIB,DISP=SHR 00000070
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000080
XX DD DSN=SYS2.COBLIB,DISP=SHR 00000090
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000100
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000110
XXSYSLDUT DD SYSCUT=ECUT,DCB=(RECFM=FBSA,LFRECL=121,BLKSIZE=3509)
IEF653I SUBSTITUTION JCL - SYSCUT=A,DCB=(RECFM=FBSA,LFRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=42.ZSRTC,SD002,LCAD(CRBIT),DISP=SHR
X/SYSLIN DD DSN=60BJHGD,DISP=(LLD,DELETE) 00000120
XX DD DDNAME=OBJECT 00000130
XXFT06F001 DD DDNAME=DATA5 00000140
XXFT06F001 DD SYSCUT=ECUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA) 00000150
IEF653I SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7205,LRECL=137,RECFM=VBA)
XXFT07F001 DD SYSCUT=0,DCB=(RECFM=PD,BLKSIZE=7205,LRECL=80) 00000160
XXSYSPRINT DD SYSCUT=ECUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA), 00000170
IEF653I SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7205,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1)),UNIT=(DISK,3) 00000180
XXSYSTEM DD SYSCUT=CTERMOUT 00000190
IEF653I SUBSTITUTION JCL - SYSCUT=A
//SYSDUMP DD SYSCUT=A 00000200
X/SYSDUMP DD SYSCUT=A,SPACE=(CYL,(0,5))
//GC.GENTAP DD UNIT=(7TRACK,DEFER),
// VOL=SER=CTAPE,LABEL=(,NL,,IN),DISP=(CLD,KEEP),
// DCB=(RECFM=U,BLKSIZE=1544,DSN=2)
//DATA5 DD *
IEF237I ALLCC FOR ZBJHGD4 GO
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 220 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 336 ALLOCATED TO SYSLDUT
IEF237I 333 ALLOCATED TO SYSLIN
IEF237I 335 ALLOCATED TO FT06F001
IEF237I 335 ALLOCATED TO FT06F001
IEF237I 237 ALLOCATED TO FT07F001
IEF237I 336 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 336 ALLOCATED TO SYSTEM
IEF237I 336 ALLOCATED TO SYSDUMP
IEF237I 001 ALLOCATED TO GENTAP

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CS/360 LEADER

OPTIONS USED PRINT,MAP,INLET,CALL,RES,NGTERM,SI,ZE=104560,NAME=**C
EP=CRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR								
ORBIT	SD	4E010	CNVRTCT*	SD	4E270	CNVRT	*	LR	4E270	DGEN	*	SD	4F198	DBFEQV	*	LR	4F358		
FREAD	*	SD	4F560	FFFA0B	*	LR	4F708	FWRITE	*	LR	4F87C	RLWIND	*	LR	4F8B2	LEAVE	*	LR	4F8B6
UNLOAD	*	LR	4FC1A	POSN	*	LR	4FD30	MOUT	*	LR	4FE50	MEMBER	*	LR	50132	FTRAP	*	LR	50222
FALLOW	*	LR	502A0	FUNITAGL	SD	512A0	FRL	*	SD	5132A	FOUNLIST*	SD	51330	FCR453	*	SD	51338		
INCMAMEL*	SD	513A0	FRML*	LR	513A0	FRL*	LR	519A4	INCECONH*	SD	51C70	IBCCM*	*	LR	51E70				
FCICCS*	LR	51F2C	INTSATCH*	LR	520B0	INCCOMH2*	SD	52108	SGDASD	*	LR	53150	FTF	*	SD	53438			
ITISFCT	SD	534E8	ITI	*	LR	534E8	FXFLT	*	SD	5354C	FXFLT	*	LR	53540	TRNSLIC	*	SD	53598	
TRANS	*	LR	53588	BITST	SD	53698	CNTGDATA*	LR	53698	DTOUN	*	SD	537C8	INCFVTH*	SD	53898			
ADCON*	LR	53898	FCVADUTP*	LR	53942	FCVLCUTP*	LR	53902	FCVZOUTP*	LR	53922	FCV10UTP*	LR	53E3C					
FCV5OUTP*	LR	54102	FCV5OUTP*	LR	5450C	INTG5SCH*	LR	54H03	INCEFIUS*	SD	54A38	FIOL5*	*	LR	54A38				
FIOL5BEP*	LR	54A3E	INCFI032*	SD	55960	INCEFR4	*	SD	55970	ERR40N	*	LR	55L90	INCERR*	LR	55E48			
INCEFNTH*	SD	56468	ARITH*	LR	56468	ADJUSTCHA	LR	56804	INCHRT	*	SD	56960	INCHRT3I	*	SD	56C03			
INCETRCH*	SD	57210	INCHTRCH	*	LR	57210	ERRTRA	*	LR	57218									

TOTAL LENGTH 9590
ENTRY ADDRESS 4E010

SATID HELIOS-A CCKBIT TAPE #0RA42
7405791 ORB 76 061 000000 120 000000 0172 01 700702 172 01 01 E7 X

HELICS-A YEAR 1979 LAUNCH TIME 135831464 C4

MM	DD	HR	MIN	SEC	MELIOS ECL-LONG	MELIOS ECL-LAT	SUN-MELIOS DIST(A.U.)	IRTH-MELIOS DIST(A.U.)	EARTH-MELIOS SUN(DLG)	MELIOS-SUN EARTH(DEG)	MELIOS HEL-LAT(DEG)	MELIOS-VIA U/DAY RADIAL	NORMAL
4	1	0	0	0	289.73	0.01	0.77	1.03	65.52	70.27	-3.06	-0.009	0.02
4	2	0	0	0	289.91	0.01	0.76	1.03	66.11	70.09	-3.17	-0.009	0.02
4	3	0	0	0	290.12	0.01	0.76	1.03	66.74	69.88	-3.27	-0.009	0.02
4	4	0	0	0	290.36	0.01	0.74	1.02	67.40	69.64	-3.38	-0.009	0.02
4	5	0	0	0	290.63	0.01	0.73	1.01	68.11	69.37	-3.48	-0.010	0.02
4	6	0	0	0	290.94	0.01	0.72	1.00	68.86	69.06	-3.59	-0.010	0.02
4	7	0	0	0	291.28	0.01	0.71	0.99	69.66	68.72	-3.69	-0.010	0.02
4	8	0	0	0	291.66	0.02	0.70	0.99	70.51	68.34	-3.80	-0.010	0.02
4	9	0	0	0	292.09	0.02	0.69	0.98	71.42	67.91	-3.90	-0.011	0.02
4	10	0	0	0	292.55	0.02	0.68	0.97	72.38	67.45	-4.00	-0.011	0.02
4	11	0	0	0	293.03	0.02	0.67	0.96	73.41	66.93	-4.11	-0.011	0.02
4	12	0	0	0	293.53	0.02	0.66	0.95	74.50	66.37	-4.21	-0.011	0.02
4	13	0	0	0	294.02	0.02	0.65	0.94	75.67	65.76	-4.31	-0.011	0.02
4	14	0	0	0	294.52	0.02	0.63	0.93	76.91	65.08	-4.41	-0.011	0.02
4	15	0	0	0	295.06	0.02	0.62	0.92	78.24	64.34	-4.51	-0.012	0.02
4	16	0	0	0	295.66	0.02	0.61	0.91	79.66	63.54	-4.60	-0.012	0.02
4	17	0	0	0	296.33	0.02	0.60	0.90	81.18	62.67	-4.69	-0.012	0.02
4	18	0	0	0	297.07	0.02	0.59	0.89	82.81	61.73	-4.78	-0.012	0.02
4	19	0	0	0	297.87	0.02	0.57	0.88	84.57	60.72	-4.86	-0.012	0.02
4	20	0	0	0	298.73	0.02	0.56	0.87	86.43	59.59	-4.94	-0.012	0.02
4	21	0	0	0	300.41	0.02	0.55	0.86	88.45	58.38	-5.01	-0.013	0.02
4	22	0	0	0	302.03	0.02	0.54	0.85	90.61	57.07	-5.08	-0.013	0.02
4	23	0	0	0	304.36	0.02	0.52	0.83	92.95	55.64	-5.13	-0.013	0.02
4	24	0	0	0	305.90	0.02	0.51	0.82	95.47	54.10	-5.18	-0.013	0.02
4	25	0	0	0	307.58	0.02	0.50	0.81	98.18	52.42	-5.21	-0.013	0.02
4	26	0	0	0	309.40	0.02	0.49	0.80	101.12	50.60	-5.22	-0.013	0.02
4	27	0	0	0	311.37	0.02	0.47	0.78	104.29	48.63	-5.22	-0.013	0.02
4	28	0	0	0	313.51	0.02	0.46	0.77	107.73	46.49	-5.23	-0.013	0.03
4	29	0	0	0	315.83	0.02	0.45	0.75	111.45	44.17	-5.15	-0.013	0.03
4	30	0	0	0	318.35	0.02	0.43	0.74	115.48	41.65	-4.98	-0.013	0.03

END OF FILE ON ORBIT TAPE

```

IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF2851 M2.ZBRTC.S0002.LOAD
IEF2851 VOL SER NOS= DISK15.
IEF2851 SYS2.DEBLKUNV
IEF2851 VOL SER NOS= M2SYS2.
IEF2851 SYS1.FORTLIB
IEF2851 VOL SER NOS= K3ITL0.
IEF2851 SYS2.FORTLIB
IEF2851 VOL SER NOS= K3SY02.
IEF2851 SYS1.PLILIB
IEF2851 VOL SER NOS= K3ITL5.
IEF2851 SYS1.FORTLIB
IEF2851 VOL SER NOS= K3ITL5.
IEF2851 SYS2.COBLIB
IEF2851 VOL SER NOS= M2SYS1.
IEF2851 SYS1.ALGLIB
IEF2851 VOL SER NOS= K3SY02.
IEF2851 SYS40025.T115444.SV000.ZBJHBCA4.R0000001
IEF2851 VOL SER NOS= K3SCR5.
IEF2851 M2.ZBRTC.S0002.LOAD
IEF2851 VOL SER NOS= DISK15.
IEF2851 SYS80025.T115444.RV000.ZBJHBCA4.S0000008
IEF2851 VOL SER NOS= K3SCR2.
IEF2851 SYS80025.T115444.RV000.ZBJHBCA4.S0000008
IEF2851 SYS80025.T115444.SV000.ZBJHBCA4.R0000002
IEF2851 VOL SER NOS= K3SCR2.
IEF2851 SYS80025.T115444.SV000.ZBJHBCA4.R0000003
IEF2851 VOL SER NOS= K3SCR4.
IEF2851 SYS80025.T115444.SV000.ZBJHBCA4.R0000004
IEF2851 VOL SER NOS= K3SCR5.
IEF2851 SYS80025.T115444.SV000.ZBJHBCA4.R0000005
IEF2851 VOL SER NOS= K3SCR2.
IEF2851 SYS80025.T115444.SV000.ZBJHBCA4.R0000006
IEF2851 VOL SER NOS= K3SCR5.
IEF2851 SYS80025.T115444.RV000.ZBJHBCA4.R0000007
IEF2851 VOL SER NOS= CFA42.
IEF280C K OCL.GRA42.ZBJHBCA4.SJ
IEF3731 STEP /GC / START 80025.1221
IEF3741 STEP /GC / STOP 80025.1226 CPU 0MIN 11.14SEC MAIN 200K LGS OK
- STEP 01 - RETURN CODE = 0000

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IO IN SECS. DISK= 11.12, DRUM= .00, TAPE= .00, CELL= .00, CTR= .16
 SJRCHARGES= (DRIVES=ALOC=000, TAPE MCUNTS=000, CUPS=000, PAPER=000, PRIORITY=00000) SECS. TOTAL STP TIME= .48 MINS.

JOYNAME-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333

BCX-

SACC 360/75

READER NUMBER-PC68

CLASS-

SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333
SSSSSSSSSS	DDDDDDDD	HH	HH	EEEEEEEE	LL	CCCCCCCC	AA	33333333

ORA 41

5/1/79-5/31/79

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// DD DSN=SYS2.DEDLKUNV.DISP=SHR
// DD DSN=SYS1.DUMMY.DISP=SHR
XX DD DSN=SYS1.FORTLIB.DISP=SHR
XX DD DSN=SYS2.FORTLIB.DISP=SHR
XX DD DSN=SYS1.DL1LIB.DISP=SHR
XX DD DSN=SYS1.FORTSSP.DISP=SHR
XX DD DSN=SYS2.COELL3.DISP=SHR
XX DD DSN=SYS1.ALGLIB.DISP=SHR
XXSYSLOUT DD SYSOUT=OUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
IEF653I SUBSTITUTION JCL - SYSCLT=A,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=M2.ZBRTC.S0002.LOAD(CRBIT),DISP=SHR
X/SYSLIN DD DSN=000JMOD.DISP=(CLD,DELETE)
XX DD DNAME=JECT
XXFT06F001 DD DNAME=DATAS
XXFT06F001 DD SYSOUT=OUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA)
IEF653I SUBSTITUTION JCL - SYSCLT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XXFT07F001 DD SYSOUT=OUT,DCB=(RECFM=FBSA,BLKSIZE=7265,LRECL=80)
XXSYSPRINT DD SYSOUT=OUT,DCB=(BLKSIZE=6BLKSIZE,LRECL=137,RECFM=VBA)
IEF653I SUBSTITUTION JCL - SYSCLT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1)),UNIT=(DISK,5)
XXSYSTEM DD SYSOUT=STERMOUT
IEF653I SUBSTITUTION JCL - SYSCLT=A
//SYSUDUMP DD SYSOUT=A
X/SYSUDUMP DD SYSOUT=A,SPACE=(CYL,(0,5))
//GC.GENTAP DD UNIT=(7TRACK,DEFER)
// VOL=SER=URTAPE,LABEL=(,NL,,IN),DISP=(CLD,KEEP)
// DCB=(RECFM=U,BLKSIZE=1544,DEN=2)
//DATAS DD *
IEF236I ALLOC FOR COMELCA2 GO
IEF237I 333 ALLOCATED TO SYSLIB
IEF237I 320 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 220 ALLOCATED TO
IEF237I 231 ALLOCATED TO
IEF237I 237 ALLOCATED TO SYSLOUT
IEF237I 333 ALLOCATED TO SYSLIN
IEF237I 335 ALLOCATED TO FT06F001
IEF237I 335 ALLOCATED TO FT06F001
IEF237I 232 ALLOCATED TO FT07F001
IEF237I 335 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 235 ALLOCATED TO SYSPRINT
IEF237I 236 ALLOCATED TO SYSTEM
IEF237I 335 ALLOCATED TO SYSUDUMP
IEF237I 001 ALLOCATED TO GENTAP

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CS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194560,NAME=**GD
EP=DRBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
CRBIT	* SD	7F810	CONVTSCT*	SD	80670	CONVRT	* LR	80670	DGEN	* SD	80798
FREAD	* SD	80C60	FREADB	* LR	80F88	FWRITE	* LR	9107C	REWIND	* LR	81282
UNLOAD	* LR	91A7A	PGEN	* LR	81530	MCUNT	* LR	81750	MEMEN	* LR	81932
FALL	* LR	91AA0	FUNITABL*	SD	82A60	FPL1	* SD	82B28	FONLIST*	SD	82D30
INCHAMEL*	SD	82BA0	FRONLP*	LR	82BA0	FWRNL*	* LR	831A4	INCECOMH*	SD	83670
FI0CS*	LR	8372C	INTSWTCH*	LR	84506	INCCCVH2*	SD	84508	STODASD*	LR	84950
ITISECT*	SD	84CE8	ITI	* LR	84CE8	FXFLT	* SD	84D40	FIXFLT	* LR	84D40
TRANS	* LR	84D88	9ITST	* SL	84E98	CNTGDATA*	LR	84E98	DTJUN	* SD	84FC8
ADCON*	* LR	85098	FCVACUTP*	LR	85142	FCVLCUTP*	LR	85102	FCVZOUTP*	LR	85322
FCVOUTP*	LR	850D2	FCVOUTP*	LR	850EC	INTG5CH*	LR	86003	INCEFIUS*	SD	86238
INCESEB*	LR	8623E	INCEFIUS2*	SD	87100	INCEFRM*	SD	87400	INCEFRM*	LR	876A8
INCEFNTH*	SD	87C68	ARITH*	* LR	87C68	ADJ5*CH*	LR	88034	INCUDPT	* SD	88120
INCELRCH*	SD	88B10	INCTPCH	* LR	88B10	ERRTRA	* LR	88B18	INCUATBL*	SD	884D8
TOTAL LENGTH 9590											
ENTRY ADDRESS 7F810											

SATID HELIOS-A CORBIT TAPE #00001
7409701 ORB 79 121 000000 151 000000 9170 01 740621 170 01 01 E7 X

HELIOS-A YEAR 1979. LAUNCH TIME 138473464. C.

DATE						HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELICS-V(A.U./DAY)	NORMAL
MM	DD	HR	MN	SC	ECL:LONG	ECL:LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL		
5	1	0	0	0	321.09	0.02	3.42	0.73	119.85	14.91	-6.97	-0.013	0.03	
5	2	0	0	0	324.05	0.02	3.42	0.72	124.57	35.95	-6.82	-0.012	0.03	
5	3	0	0	0	327.27	0.02	3.40	0.71	129.68	12.73	-6.63	-0.012	0.03	
5	4	0	0	0	330.75	0.02	3.38	0.70	135.19	29.25	-6.38	-0.012	0.03	
5	5	0	0	0	334.52	0.02	3.37	0.69	141.11	35.48	-6.08	-0.011	0.03	
5	6	0	0	0	338.58	0.02	3.36	0.69	147.47	21.42	-5.72	-0.011	0.03	
5	7	0	0	0	342.94	0.02	3.35	0.68	154.24	17.06	-5.28	-0.010	0.03	
5	8	0	0	0	347.61	0.02	3.34	0.68	161.42	12.39	-4.77	-0.009	0.04	
5	9	0	0	0	352.59	0.02	3.33	0.68	168.97	7.41	-4.18	-0.008	0.04	
5	10	0	0	0	357.86	0.02	3.33	0.68	176.84	2.14	-3.52	-0.007	0.04	
5	11	0	0	0	3.39	0.01	3.32	0.69	175.04	3.39	-2.74	-0.005	0.04	
5	12	0	0	0	7.15	0.01	3.31	0.70	166.75	9.15	-1.99	-0.004	0.04	
5	13	0	0	0	15.09	0.01	3.31	0.71	158.39	15.09	-1.14	-0.003	0.04	
5	14	0	0	0	21.14	0.01	3.31	0.73	150.06	21.14	-0.26	-0.001	0.04	
5	15	0	0	0	27.23	0.00	3.31	0.75	141.86	27.23	0.03	0.002	0.04	
5	16	0	0	0	33.29	-0.00	3.31	0.77	133.89	33.29	1.30	0.004	0.04	
5	17	0	0	0	39.25	-0.00	3.31	0.79	126.23	39.25	2.34	0.005	0.04	
5	18	0	0	0	45.05	-0.00	3.32	0.82	118.94	45.05	3.13	0.007	0.04	
5	19	0	0	0	50.62	-0.01	3.32	0.84	112.07	50.62	3.85	0.008	0.04	
5	20	0	0	0	55.45	-0.01	3.33	0.87	105.64	55.45	4.49	0.009	0.03	
5	21	0	0	0	60.99	-0.01	3.34	0.90	99.66	60.99	5.06	0.010	0.03	
5	22	0	0	0	65.72	-0.01	3.35	0.93	94.14	65.72	5.56	0.011	0.03	
5	23	0	0	0	70.15	-0.01	3.36	0.96	89.06	70.15	6.00	0.011	0.03	
5	24	0	0	0	74.27	-0.01	3.37	0.99	84.39	74.27	6.39	0.012	0.03	
5	25	0	0	0	78.09	-0.01	3.39	1.01	80.11	78.09	6.79	0.012	0.03	
5	26	0	0	0	81.63	-0.02	3.39	1.03	76.20	81.63	7.15	0.012	0.03	
5	27	0	0	0	84.90	-0.02	3.41	1.06	72.62	84.90	7.47	0.013	0.03	
5	28	0	0	0	87.92	-0.02	3.42	1.08	69.34	87.92	7.71	0.013	0.03	
5	29	0	0	0	90.71	-0.02	3.43	1.11	66.35	90.71	7.88	0.013	0.03	
5	30	0	0	0	93.28	-0.02	3.44	1.13	63.61	93.28	7.99	0.013	0.03	
5	31	0	0	0	95.65	-0.02	3.46	1.15	61.09	95.65	7.22	0.013	0.03	

END OF FILE ON ORBIT TAPE

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IEF142I - STEP WAS EXECUTED - COND CODE 0000
IEF235I M2.ZBRIC.SJ002.LOAD KEPT DDNAME=SYSLIB -1 0 EXCPS
IEF285I VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -2 17 EXCPS
IEF285I SYS2.DEBLKUNV KEPT DDNAME=SYSLIB -3 61 EXCPS
IEF285I VOL SER NOS= M2SYS2. KEPT DDNAME=SYSLIB -4 28 EXCPS
IEF285I SYS1.FORTLIB KEPT DDNAME=SYSLIB -5 0 EXCPS
IEF285I VOL SER NOS= K3ITL0. KEPT DDNAME=SYSLIB -6 0 EXCPS
IEF285I SYS2.FORTLIB KEPT DDNAME=SYSLIB -7 0 EXCPS
IEF285I VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -8 0 EXCPS
IEF285I SYS1.PLILIB KEPT DDNAME=SYSLIB -9 0 EXCPS
IEF285I VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -10 0 EXCPS
IEF285I SYS1.FORTLIB KEPT DDNAME=SYSLIB -11 0 EXCPS
IEF285I VOL SER NOS= K3ITL5. KEPT DDNAME=SYSLIB -12 0 EXCPS
IEF285I SYS2.CCBLIB KEPT DDNAME=SYSLIB -13 0 EXCPS
IEF285I VOL SER NOS= M2SYS1. KEPT DDNAME=SYSLIB -14 0 EXCPS
IEF285I SYS1.ALGLIB KEPT DDNAME=SYSLIB -15 0 EXCPS
IEF285I VOL SER NOS= K3SYS2. KEPT DDNAME=SYSLIB -16 0 EXCPS
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000032 SYSCUT DDNAME=SYSLIB -17 0 EXCPS
IEF285I VOL SER NOS= K3SCF4. KEPT DDNAME=SYSLIB -18 2 EXCPS
IEF285I M2.ZBRIC.SJ002.LOAD KEPT DDNAME=SYSLIB -19 0 EXCPS
IEF285I VOL SER NOS= DISK15. KEPT DDNAME=SYSLIB -20 0 EXCPS
IEF285I SYS80025.T114626.SV000.SDHLCAL3.S0000039 SYSIN DDNAME=FT05F001 2 EXCPS
IEF285I VOL SER NOS= K3SCF2. DELETED DDNAME=FT06F001 1 EXCPS
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000033 SYSCUT DDNAME=FT07F001 0 EXCPS
IEF285I VOL SER NOS= K3SCF2. DELETED DDNAME=SYSPRINT 0 EXCPS
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000034 DELETED DDNAME=SYSTEM 0 EXCPS
IEF285I VOL SER NOS= K3SCF4. DELETED DDNAME=SYSDUMP 0 EXCPS
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000035 DELETED DDNAME=GENTAP 726 EXCPS
IEF285I VOL SER NOS= K3SCF2. KEPT
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000036 DELETED
IEF285I VOL SER NOS= K3SCF4. DELETED
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000037 DELETED
IEF285I VOL SER NOS= K3SCF2. KEPT
IEF285I SYS80025.T114626.SV000.SDHLCAL3.R0000038 KEPT
IEF285I VOL SER NOS= ORA41.
IEF285I VOL SER NOS= ORA41.SDHLCAL3.GO
IEF285I K OCL.ORA41.SDHLCAL3.GO
IEF285I STEP /GO / START 80025.1221
IEF285I STEP /GO / STOP 80025.1222 CPU CMIN 11.79SEC MAIN 200K LCS OK
IEF285I STEP /GO / RETURN CODE = 0000 STEP TIME = .44 MINS=(CPU=.19,IC=.30)
- STEP 01 - TOTAL STP TIME= .49 MINS.

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- SURCHARGES=(DPIVES ALCC=000.TAPE MOUNTS=000.CCDE=000.PAPER=000.PRIORITY=000001)SECS.

JOBNAME-

ZZZZZZZZZZ	BBBEBBEC	JJJJJJ	HH	HH	BBBEBBEC	CCCCCCCC	AA	SSSSSSSSSS
ZZZZZZZZZZ	BBBEBBEC	JJJJJJ	HH	HH	BBBEBBEC	CCCCCCCC	AA	SSSSSSSSSS
ZZ	BB	JJ	HH	HH	BB	CC	AAAA	SS
ZZ	BB	JJ	HH	HH	BB	CC	AAAA	SS
ZZ	BB	JJ	HH	HH	BB	CC	AA AA	SS
ZZ	BBBEBBEC	JJ	HH	HH	BBBEBBEC	CC	AA AA	SSSSSSSSSS
ZZ	BBBEBBEC	JJ	HH	HH	BBBEBBEC	CC	AA AA	SSSSSSSSSS
ZZ	BB	JJ	HH	HH	BB	CC	AAAAAAAA	SS
ZZ	BB	JJ	HH	HH	BB	CC	AAAAAAAA	SS
ZZ	BB	JJ	HH	HH	BB	CC	AA AA	SS
ZZZZZZZZZZ	BBBEBBEC	JJJJJJ	HH	HH	BBBEBBEC	CCCCCCCC	AA	SSSSSSSSSS
ZZZZZZZZZZ	BBBEBBEC	JJJJJJ	HH	HH	BBBEBBEC	CCCCCCCC	AA	SSSSSSSSSS

BUX	BBBEBBEC	FFFFFFFF	333333	SACC 360/75	READER NUMBER-P0076	CLASS-	AA
BBBEBBEC	BBBEBBEC	FFFFFFFF	333333				AA
BB	BB	FF	333333				AAAA
BB	BB	FF	333333				AAAA
BB	BB	FF	333333				AA AA
BB	BB	FF	333333				AA AA
BB	BB	FF	333333				AA AA
BB	BB	FF	333333				AAAAAAAA
BB	BB	FF	333333				AAAAAAAA
BB	BB	FF	333333				AA AA
BB	BB	FF	333333				AA AA
BB	BB	FF	333333				AA AA

DRA43

6/1/79-6/30/79

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XX DD DSN=SYS1.DUMMY,DISP=SHR 00000040
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000050
XX DD DSN=SYS2.FORTLIB,DISP=SHR 00000060
XX DD DSN=SYS1.PL1LIB,DISP=SHR 00000070
XX DD DSN=SYS1.FORTLIB,DISP=SHR 00000080
XX DD DSN=SYS2.COBOL,DISP=SHR 00000090
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000100
XX DD DSN=SYS1.ALGLIB,DISP=SHR 00000110
XXSYSLJOUT DD SYSCUT=CCUT,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(RECFM=FBSA,LRECL=121,BLKSIZE=3509)
//SYSLIN DD DSN=H2.ZURTC.SL002.LCAG(CRUIT),DISP=SHR 00000120
X/SYSLIN DD DSN=CCUJMD,DISP=(CLD,DELETE) 00000130
XX DD DDNAME=DEJECT 00000140
XXFT06F001 DD DDNAME=DATA 00000150
XXFT06F001 DD SYSCUT=CCUT,DCB=(BLKSIZE=8BLKSIZE,LRECL=137,RECFM=VBA)
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XXFT07F001 DD SYSCUT=3,DCB=(RECFM=FB,BLKSIZE=7265,LRECL=80) 00000160
XXSYSPRINT DD SYSCUT=CCUT,DCB=(BLKSIZE=8BLKSIZE,LRECL=137,RECFM=VBA) 00000170
IEF6531 SUBSTITUTION JCL - SYSCUT=A,DCB=(BLKSIZE=7265,LRECL=137,RECFM=VBA)
XX SPACE=(CYL,(0,1)),UNIT=(DISK,2) 00000180
XXSYSTEM DD SYSCUT=CTERMOUT 00000190
IEF6531 SUBSTITUTION JCL - SYSCUT=A
//SYSDUMP DD SYSCUT=A 00000200
X/SYSDUMP DD UNIT=(7TRACK,DEFER)
//GC.GENTAP DD UNIT=(7TRACK,DEFER)
//VOL=SER=ORTAPE, LABEL=(,NL,,IN),DISP=(CLD,KEEP),
// DCB=(RECFM=U,BLKSIZE=1999,DSN=2)
//DATA DD *
IEF2371 357 ALLOCATED TO SYSLIN
IEF2371 320 ALLOCATED TO
IEF2371 451 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 244 ALLOCATED TO
IEF2371 220 ALLOCATED TO
IEF2371 231 ALLOCATED TO
IEF2371 217 ALLOCATED TO SYSCUT
IEF2371 333 ALLOCATED TO SYSLIN
IEF2371 335 ALLOCATED TO FT06F001
IEF2371 232 ALLOCATED TO FT06F001
IEF2371 235 ALLOCATED TO FT07F001
IEF2371 237 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 235 ALLOCATED TO SYSPRINT
IEF2371 234 ALLOCATED TO SYSDUMP
IEF2371 235 ALLOCATED TO SYSDUMP
IEF2371 002 ALLOCATED TO GENTAP

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CS/J60 LCADER

OPTIONS USED - PRINT,MAP,DELETE,CALL,RES,NOTERM,SIZE=13456,NAME=**SU
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR					
ORBIT	SD	9D010	CONVRTCT*	SD	9D070	CAVFT	*	LR	9D070	DBGEN	*	SD	9E158	DBFEUV	*	LR	9E358		
FREAD	*	SD	9E560	FREAD	*	LR	9E708	FRITE	*	LR	9E87C	REWIND	*	LR	9E802	LEAVE	*	LR	9E356
UNLOAD	*	LR	9E01A	POSN	*	LR	9E030	VCUNT	*	LR	9E5F0	MEMBER	*	LR	9F132	FTRAP	*	LR	9F222
FOLLOW	*	LR	9E240	FUNITAOL*	SD	9E260	FLLI	*	SD	A0320	FOUND167*	SD	A0320	FBRASC	*	SD	A0330		
INCNAMEL*	SD	A03A0	INTSWTCH*	LR	A03A0	FARNL*	*	LR	A09A*	INCECCMH*	SD	A0E70	16CCM*	*	LR	A0E70			
FDIOCS*	LR	A0F2C	ITI	*	LR	A10A8	INCCOWH2*	SC	A10D8	SEUDASD	*	LR	A2150	FTF	*	SD	A2438		
ITISECT*	SD	A2428	BITST	*	SD	A2698	EXFLT	*	SD	A2540	FIXFLT	*	LR	A2540	TRANSLTE	*	SD	A2498	
TRANS	*	LR	A2588	FCVADJTP*	LR	A2942	INTCOATA*	LR	A2698	OTDUN	*	LR	A27C8	INCFVTH*	*	SD	A2598		
ADCCN*	LR	A2998	FCVADJTP*	LR	A2942	FCVLOUTP*	LR	A29D2	FCVLOUTP*	LR	A29D2	FCVLOUTP*	LR	A2822	FCVLOUTP*	LR	A2822		
FCVLOUTP*	LR	A3302	FCVLOUTP*	LR	A358C	INTGACH*	LR	A3803	INCFIOS*	SD	A3A38	FLCCS*	*	LR	A3A38				
FCVLOUTP*	LR	A3A38	INCFIOS2*	SD	A4960	INCCERN*	SD	A4960	ERRAON	*	LR	A4E90	INCCERN*	*	LR	A4E90			
INCCERN*	SD	A4960	INCCERN*	LR	A4A48	AJJSWICH*	LR	A4A04	INCCERN*	SD	A5020	INCCERN*	*	SD	A5020	INCCERN*	*	SD	A5020
INCCERN*	SD	A6310	INCCERN*	LR	A6310	ERRTRA	*	LR	A6318										

TOTAL LENGTH 9590
ENTRY ADDRESS 9D010

SATID HELIOS-A 00RBIT TAPE #=CRA43
7404701 ORB 74-152 000000-181 000000-0201-01 740723 301 01 01 E7 X

HELIOS-A

YEAR 1979.

LAUNCH TIME 141151992. 0.

MM	DD	HH	MM	SS	HELIOS ECL LONG	HELIOS ECL LAT	SUN-HELIOS DIST(A.U)	EARTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELICS-V(A.U/DAY) RADIAL	NORMAL
6	1	0	0	0	97.83	-0.02	0.47	1.17	56.79	57.83	7.22	0.013	0.03
6	2	0	0	0	97.85	-0.02	0.48	1.20	56.68	59.85	7.20	0.013	0.02
6	3	0	0	0	101.71	-0.02	0.60	1.22	56.73	101.71	7.19	0.013	0.02
6	4	0	0	0	103.42	-0.02	0.51	1.24	56.95	103.42	7.11	0.013	0.02
6	5	0	0	0	105.01	-0.02	0.52	1.26	57.30	105.01	7.04	0.013	0.02
6	6	0	0	0	106.47	-0.02	0.54	1.27	57.78	106.47	6.97	0.013	0.02
6	7	0	0	0	107.82	-0.02	0.55	1.29	58.38	107.82	6.88	0.013	0.02
6	8	0	0	0	109.07	-0.02	0.56	1.31	58.88	109.07	6.79	0.012	0.02
6	9	0	0	0	110.22	-0.02	0.57	1.33	59.08	110.22	6.70	0.012	0.02
6	10	0	0	0	111.23	-0.02	0.58	1.34	59.88	111.23	6.60	0.012	0.02
6	11	0	0	0	112.24	-0.02	0.60	1.36	60.77	112.24	6.50	0.012	0.02
6	12	0	0	0	113.17	-0.02	0.61	1.37	62.79	113.17	6.39	0.012	0.02
6	13	0	0	0	114.01	-0.02	0.62	1.39	64.91	114.01	6.28	0.012	0.02
6	14	0	0	0	114.77	-0.02	0.63	1.40	67.05	114.77	6.17	0.011	0.02
6	15	0	0	0	115.44	-0.02	0.64	1.42	69.32	115.44	6.06	0.011	0.02
6	16	0	0	0	116.13	-0.02	0.65	1.43	71.61	116.13	5.95	0.011	0.02
6	17	0	0	0	116.73	-0.02	0.67	1.44	73.95	116.73	5.83	0.011	0.02
6	18	0	0	0	117.28	-0.02	0.68	1.46	76.34	117.28	5.72	0.011	0.02
6	19	0	0	0	117.74	-0.02	0.69	1.47	78.77	117.74	5.60	0.010	0.02
6	20	0	0	0	118.24	-0.02	0.70	1.48	81.24	118.24	5.49	0.010	0.02
6	21	0	0	0	118.66	-0.02	0.71	1.49	83.74	118.66	5.37	0.010	0.02
6	22	0	0	0	119.04	-0.02	0.72	1.50	86.28	119.04	5.26	0.010	0.02
6	23	0	0	0	119.38	-0.02	0.73	1.51	88.85	119.38	5.15	0.010	0.02
6	24	0	0	0	119.69	-0.02	0.74	1.52	91.46	119.69	5.03	0.009	0.02
6	25	0	0	0	119.97	-0.02	0.75	1.53	94.09	119.97	4.92	0.009	0.02
6	26	0	0	0	120.22	-0.02	0.76	1.54	96.74	120.22	4.81	0.009	0.02
6	27	0	0	0	120.44	-0.02	0.77	1.55	99.43	120.44	4.70	0.009	0.02
6	28	0	0	0	120.63	-0.02	0.78	1.56	102.13	120.63	4.59	0.008	0.02
6	29	0	0	0	120.79	-0.02	0.78	1.57	104.86	120.79	4.48	0.008	0.01
6	30	0	0	0	120.94	-0.02	0.79	1.58	107.60	120.94	4.37	0.008	0.01

END OF FILE ON ORBIT TAPE

IEF1421	- STEP WAS EXECUTED - COND CODE 0000	KEPT	DDNAME=SYSLIB -1	0 EXCPS
IEF2851	M2.Z9RTC.S0002.LOAD	KEPT	DDNAME=SYSLIB -2	17 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -3	61 EXCPS
IEF2851	SYS2.DEBLKUNV	KEPT	DDNAME=SYSLIB -4	28 EXCPS
IEF2851	VOL SER NOS= M2SYS2.	KEPT	DDNAME=SYSLIB -5	3 EXCPS
IEF2851	SYS1.FORTLIB	KEPT	DDNAME=SYSLIB -6	0 EXCPS
IEF2851	VOL SER NOS= K3ITL0.	KEPT	DDNAME=SYSLIB -7	0 EXCPS
IEF2851	SYS2.FORTLIB	KEPT	DDNAME=SYSLIB -8	0 EXCPS
IEF2851	VOL SER NOS= K3SYS2.	KEPT	DDNAME=SYSLIB -9	0 EXCPS
IEF2851	SYS1.PL1LIB	KEPT	DDNAME=SYSLIB -10	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -11	0 EXCPS
IEF2851	SYS1.FORTSS0	KEPT	DDNAME=SYSLIB -12	0 EXCPS
IEF2851	VOL SER NOS= K3ITL5.	KEPT	DDNAME=SYSLIB -13	0 EXCPS
IEF2851	SYS2.CDDLIR	KEPT	DDNAME=SYSLIB -14	0 EXCPS
IEF2851	VOL SER NOS= M2SYS1.	KEPT	DDNAME=SYSLIB -15	0 EXCPS
IEF2851	SYS1.ALCGLIB	KEPT	DDNAME=SYSLIB -16	0 EXCPS
IEF2851	VOL SER NOS= K3SYS2.	KEPT	DDNAME=SYSLIB -17	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000001	SYSOUT	DDNAME=SYSLIB -18	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=SYSLIB -19	7 EXCPS
IEF2851	M2.Z9RTC.S0002.LOAD	KEPT	DDNAME=SYSLIB -20	0 EXCPS
IEF2851	VOL SER NOS= DISK15.	KEPT	DDNAME=SYSLIB -21	0 EXCPS
IEF2851	SYS80025.T115834.RV000.ZBJHBCAS.S0000008	SYSIN	DDNAME=FT05F001	2 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT05F001	2 EXCPS
IEF2851	SYS80025.T115834.RV000.ZBJHBCAS.S0000008	DELETED	DDNAME=FT05F001	2 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT06F001	1 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000002	SYSOUT	DDNAME=FT06F001	1 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT07F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000003	DELETED	DDNAME=FT07F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT08F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000004	DELETED	DDNAME=FT08F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT09F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000005	DELETED	DDNAME=FT09F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT10F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000006	DELETED	DDNAME=FT10F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT11F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000007	DELETED	DDNAME=FT11F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT12F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000008	DELETED	DDNAME=FT12F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT13F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000009	DELETED	DDNAME=FT13F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT14F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000010	DELETED	DDNAME=FT14F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT15F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000011	DELETED	DDNAME=FT15F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT16F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000012	DELETED	DDNAME=FT16F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT17F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000013	DELETED	DDNAME=FT17F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT18F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000014	DELETED	DDNAME=FT18F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT19F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000015	DELETED	DDNAME=FT19F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT20F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000016	DELETED	DDNAME=FT20F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT21F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000017	DELETED	DDNAME=FT21F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT22F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000018	DELETED	DDNAME=FT22F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT23F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000019	DELETED	DDNAME=FT23F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT24F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000020	DELETED	DDNAME=FT24F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT25F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000021	DELETED	DDNAME=FT25F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT26F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000022	DELETED	DDNAME=FT26F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT27F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000023	DELETED	DDNAME=FT27F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT28F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000024	DELETED	DDNAME=FT28F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT29F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000025	DELETED	DDNAME=FT29F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT30F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000026	DELETED	DDNAME=FT30F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT31F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000027	DELETED	DDNAME=FT31F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT32F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000028	DELETED	DDNAME=FT32F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT33F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000029	DELETED	DDNAME=FT33F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT34F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000030	DELETED	DDNAME=FT34F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT35F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000031	DELETED	DDNAME=FT35F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT36F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000032	DELETED	DDNAME=FT36F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT37F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000033	DELETED	DDNAME=FT37F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT38F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000034	DELETED	DDNAME=FT38F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT39F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000035	DELETED	DDNAME=FT39F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT40F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000036	DELETED	DDNAME=FT40F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT41F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000037	DELETED	DDNAME=FT41F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT42F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000038	DELETED	DDNAME=FT42F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT43F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000039	DELETED	DDNAME=FT43F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT44F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000040	DELETED	DDNAME=FT44F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT45F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000041	DELETED	DDNAME=FT45F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT46F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000042	DELETED	DDNAME=FT46F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT47F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000043	DELETED	DDNAME=FT47F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT48F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000044	DELETED	DDNAME=FT48F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT49F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000045	DELETED	DDNAME=FT49F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT50F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000046	DELETED	DDNAME=FT50F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT51F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000047	DELETED	DDNAME=FT51F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT52F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000048	DELETED	DDNAME=FT52F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT53F001	0 EXCPS
IEF2851	SYS80025.T115834.SV000.ZBJHBCAS.R0000049	DELETED	DDNAME=FT53F001	0 EXCPS
IEF2851	VOL SER NOS= K3SCRA.	KEPT	DDNAME=FT54F001	0 EXCPS</

JOBNAME=

[illegible]

BOX-

8888888888	FFFFFFFFFFFF	33333333	From To
8888888888	FFFFFFFFFFFF	33333333	
88	FF	33	From To
88	FF	33	
88	FF		From To
8888888888	FFFFFFFF	3333	
8888888888	FFFFFFFF	3333	From To
88	FF	33	
88	FF		From To
88	FF	33	
8888888888	FF	33333333	From To
8888888888	FF	33333333	

SAC 330/91

READER NUMBER-P. 616

~~CLASS-~~

ORA 46

$$2/1/79 - 7/31/79$$

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X/SYSLIN DD DSN=609JMOD.DISP=(OLD,DELETE)
XX DD DNAME=OBJECT
XXF05F001 DD DNAME=DATA5
XXF05F001 DD SYSOUT=6OUT.DCB=(RECFM=VBA,LRECL=137,3,3,SIZE=63,BLKSIZE=7265)
IEF6531 SUBSTITUTION JCL - SYSOUT=A.DCB=(RECFM=VBA,LRECL=137,3,3,SIZE=63,BLKSIZE=7265)
XX SPACE=(CYL,(2,2))
XXF07F001 DD SYSOUT=B.DCB=(RECFM=VBA,LRECL=90,3,3,SIZE=7230)
XX SPACE=(CYL,(0,1))
XXSYSPRINT DD SYSOUT=6OUT,UNIT=(2314,3),SPACE=(CYL,(3,2))
IEF6531 SUBSTITUTION JCL - SYSOUT=A,UNIT=(2314,3),SPACE=(CYL,(0,2))
XX FCB=(RECFM=VBA,LRECL=137,3,3,SIZE=63,BLKSIZE=7265)
IEF6531 SUBSTITUTION JCL - DCB=(RECFM=VBA,LRECL=137,3,3,SIZE=7265)
XXSYSTEM DD SYSOUT=6OUT
IEF6531 SUBSTITUTION JCL - SYSOUT=A
//SYSUDJMP DD SYSOUT=A
X/SYSUDJMP DD SYSOUT=A,SPACE=(CYL,(5))
//GO, GENTAP DD UNIT=(7TRACK,,DEFER),
// VCL=SER=ORTAPE, LABEL=(,NL,,IN),DISP=(OLD,KLEP),
// DCB=(RECFM=U, BLKSIZE=1544, JEN=2)
//DATA5 DD *
IEF2371 ALLLOC FOR SDHFC043-60
IEF2371 323 ALLLOCATED TO SYSLIB
IEF2371 330 ALLLOCATED TO
IEF2371 451 ALLLOCATED TO
IEF2371 451 ALLLOCATED TO
IEF2371 244 ALLLOCATED TO
IEF2371 244 ALLLOCATED TO
IEF2371 452 ALLLOCATED TO SYSLOUT
IEF2371 323 ALLLOCATED TO SYSLIN
IEF2371 450 ALLLOCATED TO FIC5F001
IEF2371 452 ALLLOCATED TO FIC6F001
IEF2371 452 ALLLOCATED TO FIC7F001
IEF2371 452 ALLLOCATED TO SYSPRINT
IEF2371 212 ALLLOCATED TO SYSPRINT
IEF2371 234 ALLLOCATED TO SYSPRINT
IEF2371 233 ALLLOCATED TO SYSPRINT
IEF2371 452 ALLLOCATED TO SYSTEM
IEF2371 452 ALLLOCATED TO SYSUDJMP
IEF2371 CCI ALLLOCATED TO GENTAP

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OS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=180224, JABE=**GO
CP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	168810	CNVRTSCT*	SD	169670	CNVRT	*	LR 169670	DBGEN	*	SD 169958	DBFEQV	*	LR 169859
FREAD	*	SD 169260	DFEAD3	*	LR 169F88	FWRITE	*	LR 16A070	REWINO	*	LR 16A030	LEAVI	*	LR 16A366
UNLOAD	*	LR 16A410	PCSN	*	LR 16A530	MCUNT	*	LR 16A750	MEMBER	*	LR 16A930	FTAP	*	LR 16AA22
PALOW	*	LR 16A4A0	PCUNIT43L*	SD	16BAC0	FPL1	*	SD 16B020	PCNLIST*	SD	16B020	PCNMS3	*	SD 16B030
INCHAMEL*	SD	16B8AC	FRNLN*	LR	16B8AC	INWNL*	*	LR 16C1A4	INCFCHMH*	SD	16C070	13CCM*	*	LR 16C070
F110CS*	LR	16C720	INTSWTCH*	LR	16C586	INCCOM42*	SD	16C013	SFOCASE*	LR	16C050	FTF	*	SD 16C030
ITISECT	SD	16C0C8	ITI	*	LR 16C0C8	FXFLT	*	SD 16C0A0	FXFLT	*	LR 16C0A0	TRANSLT*	SD	16C0B8
TRANS	LR	16C0B8	BITST	SD	16C0F8	CNTGDATA*	LR	16C098	CIJUN	*	SD 16C0F8	INCFCVTH*	SD	16C098
ADCON*	LR	16C098	FCVQJTP*	LR	16C142	FCVLOUT*	LR	16C1E2	FCVQJTP*	LR	16C322	FCVIGJTP*	LR	16E6C3
FCVQJTP*	LR	16F8L2	FCVQJTP*	LR	16EDFC	INT65401*	LR	16F0C3	INCFEIOS*	SD	16F238	FIDCS*	*	LR 16F238
FIDCSF0*	LR	16F231	INCFICS2*	SD	17C160	INCLRR4*	SD	170050	FEHMON	*	LR 170050	INCFRPF	*	LR 1706A9
INCFICVTH*	SD	170C60	ARIT4*	LR	170C60	INJ5W124*	LR	171154	INCU01	*	SD 171150	INCUATCL*	SD	171409
INCETRCH*	SD	171B10	INCETRCH*	LR	171B10	ENETRA	*	LR 171B18						

TOTAL LENGTH 5597
ENTRY ADDRESS 168810

SATID HELIOS-A 000011 TAPE #000000
7409701-003 74-182-000000 012 000000 0015 01 740000 235 01 01 07 X

HELIOS-A YEAR 1979. LAUNCH TIME 1437A3992. J.

WM	DATE	WM	SC	HELIOS ECL,LONG	HELIOS ECL,LAT	SUN-HELIOS DIST(A.U.)	ERTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN (EARTH(DEC))	HELIOS HEL-LFT(DFG)	HELIOS-V(A.U./DAY) RADIAL	NORMA.
7	1	0	0	121.16	-0.02	0.81	1.00	32.57	121.16	4.25	0.000	0.01
7	2	0	0	121.15	-0.02	0.81	1.00	32.16	121.16	4.15	0.000	0.01
7	3	0	0	121.23	-0.02	0.81	1.00	32.96	121.03	4.04	0.000	0.01
7	4	0	0	121.29	-0.02	0.82	1.00	32.78	121.09	3.94	0.000	0.01
7	5	0	0	121.33	-0.02	0.83	1.00	32.61	121.33	3.83	0.000	0.01

[illegible]

STEP	STEP WAS EXECUTED - COND CODE 0000	KEPT	DUNAME=SYSLIB	-1	EXCPS
1FF1421	M2,ZBRTC,SDC02,LOAD	KEPT	DUNAME=SYSLIB	-2	17 EXCPS
1FF2051	VOL SER NOS= JISK15	KEPT	DUNAME=SYSLIB	-3	89 EXCPS
1FF2051	SY52,DELKUNV	KEPT	DUNAME=SYSLIB	-4	3 EXCPS
1FF2051	VOL SER NOS= M2SYS2	KEPT	DUNAME=SYSLIB	-5	3 EXCPS
1FF2051	SY51,FORTLIB	KEPT	DUNAME=SYSLIB	-6	3 EXCPS
1FF2051	VOL SER NOS= K3ITL0	KEPT	DUNAME=SYSLIB	-7	7 EXCPS
1FF2051	SY52,FORTLIB	KEPT	DUNAME=SYSLIB	-8	2 EXCPS
1FF2051	VOL SER NOS= K3ITL0	KEPT	DUNAME=SYSLIB	-9	3 EXCPS
1FF2051	SY51,FORTLIB	KEPT	DUNAME=SYSLIB	-10	3 EXCPS
1FF2051	VOL SER NOS= K3ITL5	KEPT	DUNAME=SYSLIB	-11	3 EXCPS
1FF2051	SY51,FORTSSP	KEPT	DUNAME=SYSLIB	-12	3 EXCPS
1FF2051	VOL SER NOS= K3ITL5	KEPT	DUNAME=SYSLIB	-13	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000001	SY580023	DUNAME=SYSLIB	-14	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-15	3 EXCPS
1FF2051	M2,ZBRTC,SDC02,LOAD	KEPT	DUNAME=SYSLIB	-16	3 EXCPS
1FF2051	VOL SER NOS= JISK15	KEPT	DUNAME=SYSLIB	-17	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,SV0000008	SY580023	DUNAME=SYSLIB	-18	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-19	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,SV0000008	SY580023	DUNAME=SYSLIB	-20	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-21	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000001	SY580023	DUNAME=SYSLIB	-22	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-23	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000003	SY580023	DUNAME=SYSLIB	-24	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-25	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000004	SY580023	DUNAME=SYSLIB	-26	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-27	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000005	SY580023	DUNAME=SYSLIB	-28	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-29	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000006	SY580023	DUNAME=SYSLIB	-30	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-31	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000007	SY580023	DUNAME=SYSLIB	-32	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-33	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000008	SY580023	DUNAME=SYSLIB	-34	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-35	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000009	SY580023	DUNAME=SYSLIB	-36	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-37	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000010	SY580023	DUNAME=SYSLIB	-38	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-39	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000011	SY580023	DUNAME=SYSLIB	-40	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-41	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000012	SY580023	DUNAME=SYSLIB	-42	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-43	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000013	SY580023	DUNAME=SYSLIB	-44	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-45	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000014	SY580023	DUNAME=SYSLIB	-46	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-47	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000015	SY580023	DUNAME=SYSLIB	-48	3 EXCPS
1FF2051	VOL SER NOS= SCRC01	KEPT	DUNAME=SYSLIB	-49	3 EXCPS
1FF2051	SY580023,T152727,SV000,SDHFLCA3,R0000016	SY580023	DUNAME=SYSLIB	-50	3 EXCPS</

[illegible]

RAH7

ORA47

8/1/79 - 10/30/79

~~37 March~~

~~8/1/77 8/13/77~~

[illegible][illegible]

ORA48

ORA48

11/1/79-11/30/79

11/11/79 - 11/30/79

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X/SYSLIN DD DSN=00BJWD,DISP=(OLD,DELETE)
XX DD DDNAME=OBJECT
XX/T05F01 DD DNAME=DATA5
XX/T16F01 DD SYSOUT=6OUT,DCB=(RECFM=VBA,LRECL=137,3,4,SIZE=60LKS,SIZE=7265)
IEF653I SUBSTITUTION JCL - SYSOUT=A,DCB=(RECFM=VBA,LRECL=137,3,4,SIZE=7265)
XX SPACE=(CYL,(2,2))
XX/T07F01 DD SYSOUT=9,DCB=(RECFM=FB,LRECL=90,BLKSIZE=7200)
XX SPACE=(CYL,(C,1))
XXSYSPRINT DD SYSOUT=6OUT,UNIT=(2314,3),SPACE=(CYL,(3,2))
IEF653I SUBSTITUTION JCL - SYSOUT=A,UNIT=(2314,3),SPACE=(CYL,(0,2))
XX (CB=(RECFM=VBA,LRECL=137,BLKSIZE=60LKS,SIZE=7265)
IEF653I SUBSTITUTION JCL - DCB=(RECFM=VBA,LRECL=137,3,4,SIZE=7265)
X/SYSTERM DD SYSOUT=6TERMOUT
IEF653I SUBSTITUTION JCL - SYSOUT=A
//SYSDUMP DD SYSOUT=A
//SYSDUMP DD SYSOUT=A,SPACE=(CYL,(C,5))
//GO GENTAP DD UNIT=(7TRACK,DEFER)
// VOL=SER=ORTAPE,LABEL=(,NL,,IN),DISP=(OLD,KEEP)
// DCB=(RECFM=U,BLKSIZE=1944,GEN=2)
//DATA5 DD *
IEF244I ZBJFNDA5,GO - GENTAP - UNABLE TO ALLOCATE
IEF247I ZBJFNDA5 ALLOCATION RECOVERY
IEF247I ZBJFNDA5 OCC2,CC7,CCC OFFLINE
IEF238A REPLY DEVICE NAME, *WAIT*, OR *CANCEL*
IEF236I ALLOC FOR ZBJFNDA5 GO
IEF237I 323 ALLOCATED TO SYSLIB
IEF237I 330 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 451 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 244 ALLOCATED TO
IEF237I 450 ALLOCATED TO SYSLOUT
IEF237I 323 ALLOCATED TO SYSLIN
IEF237I 450 ALLOCATED TO FT05F01
IEF237I 452 ALLOCATED TO FT06F01
IEF237I 450 ALLOCATED TO FT07F01
IEF237I 212 ALLOCATED TO SYSPRINT
IEF237I 232 ALLOCATED TO SYSPRINT
IEF237I 233 ALLOCATED TO SYSPRINT
IEF237I 452 ALLOCATED TO SYSTERM
IEF237I 450 ALLOCATED TO SYSDUMP
IEF237I 000 ALLOCATED TO GENTAP

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OS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=18032,INFILE=K3J
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	265313	CONVRTSC*	SD	265E73	CONVRT	*	LR 265E73	DBGEN	*	SC 266198	DBFEQV	*	LR 266358
FRPAD	*	SD 266560	FRPADB	*	LR 266788	FRPITE	*	LR 26687C	REXND	*	LR 266A32	LEAVE	*	LR 266065
UNLAD3	*	LR 256C1A	PCSV	*	LR 266D33	MCOUNT	*	LR 266F53	REXND	*	LR 266A32	LEAVE	*	LR 266065
PA_LLOW	*	LR 26724C	FUNITABL*	SD	2662C3	FPL1	*	SD 263323	FONLIST*	SD	266132	FTRAP	*	LR 267222
INCHANEL*	SD	2683A0	FRONL*	*	LR 2683A3	FWFNLY	*	LR 2633A4	INCECMH*	SD	268323	FERMS	*	SD 268339
FIIOCS*	LR	268F2C	INTSWTCH*	LR	269DB5	INCCOM12*	SD	268A18	SEOCASD*	LR	268E7C	13CCM*	*	LR 258E73
ITISECT*	SD	26A4E8	ITI	*	LR 26A4E8	FXFLT	*	SD 26A5A1	FIXFLT	*	LR 26A5A1	FTF	*	SD 26A439
TRANS	*	LR 26A538	BITST	*	SD 26A609	ENTGAT*	LR	26A638	STON	*	SD 26A728	TRANSLT*	SD	26A588
ADCON*	LR	26AB98	FCVADJTP*	LR	26A5A2	FCVLCJTP*	LR	26A5A2	FCVLCJTP*	LR	26A3C2	FCVICJTP*	LR	26A5D7
FCVEQJTP*	LR	26B3D2	FCVCDJTP*	LR	26B5CC	INT6SC4*	LR	2633E3	INCEFIOS*	SD	26A5A8	FIIOCS*	*	LR 268A39
FIIOCS3P*	LR	26BABE	INCFIOG2*	SL	26C9C1	INCFIOG4*	SL	26C19C	FRXFN	*	LR 26C3C0	14CFRT*	LR	26CFA3
INCFENTH*	SD	26C4E8	ACITH*	*	LR 26C4C9	ADJSTWC*	LR	26C9C4	INCUPT	*	SC 26C9C1	14CUATRL*	SD	26CDB8
INCETRCH*	SD	26E210	INCETRCH*	LR	26E212	ERRTRA	*	LR 26E31B						

TOTAL LENGTH 9560
ENTRY ADDRESS 265313

SATID HELIOS-A ORBIT TAPE #0R143
7489701 ORB 79 305 000000 324 000000 0015 01 000115 015 01 01 E7 X

HELIOS-A YEAR 1979. -AJNC1 TIME 154371064. 0.

DATE	MM	DD	HR	MN	SC	HELICS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELICS-SUN	HELIOS	HELIOS-V(A.U./DAY)
11	1	3	0	0	0	123.37	0.02	DIST(A.U.)	DIST(A.U.)	39.37	123.37	-7.27	0.015

11	2	0	0	125.14	0.002	0.49	1.33	37.46	125.14	-7.22	-0.013	0.02
11	3	0	0	127.35	0.002	0.47	1.33	36.43	127.35	-7.22	-0.013	0.02
11	4	0	0	129.14	0.002	0.46	1.33	35.26	129.14	-7.21	-0.013	0.03
11	5	0	0	131.43	0.002	0.45	1.33	33.96	131.40	-7.16	-0.013	0.03
11	6	0	0	136.84	0.002	0.44	1.33	32.40	136.84	-7.09	-0.013	0.03
11	7	0	0	139.42	0.002	0.42	1.33	30.84	139.42	-6.93	-0.013	0.03
11	8	0	0	142.55	0.002	0.41	1.33	29.03	142.55	-6.85	-0.013	0.03
11	9	0	0	145.06	0.002	0.39	1.33	27.05	145.06	-6.66	-0.012	0.03
11	10	0	0	148.64	0.002	0.37	1.33	24.68	148.64	-6.43	-0.012	0.03
11	11	0	0	153.61	0.002	0.36	1.33	22.16	153.61	-6.14	-0.011	0.03
11	12	0	0	157.89	0.002	0.35	1.33	19.33	157.89	-5.78	-0.010	0.03
11	13	0	0	162.47	0.002	0.34	1.33	16.33	162.47	-5.36	-0.009	0.03
11	14	0	0	167.35	0.002	0.33	1.33	13.44	167.35	-4.86	-0.008	0.04
11	15	0	0	172.53	0.002	0.33	1.33	9.61	172.53	-4.29	-0.007	0.04
11	16	0	0	177.08	0.002	0.33	1.33	5.52	177.08	-3.64	-0.006	0.04
11	17	0	0	183.66	0.002	0.32	1.33	2.78	183.66	-2.91	-0.004	0.04
11	18	0	0	189.53	0.002	0.31	1.33	1.25	189.53	-2.13	-0.003	0.04
11	19	0	0	195.52	0.002	0.31	1.33	0.83	195.52	-1.29	-0.001	0.04
11	20	0	0	201.56	0.002	0.31	1.33	0.47	201.56	-0.41	-0.000	0.04
11	21	0	0	207.52	0.002	0.31	1.33	0.22	207.52	-0.21	-0.000	0.04
11	22	0	0	213.52	0.002	0.31	1.33	0.03	213.52	-0.01	-0.000	0.04
11	23	0	0	219.33	0.002	0.30	1.33	0.03	219.33	-0.01	-0.000	0.04
11	24	0	0	224.87	0.002	0.30	1.33	0.03	224.87	-0.01	-0.000	0.04
11	25	0	0	231.19	0.002	0.30	1.33	0.03	231.19	-0.01	-0.000	0.04
11	26	0	0	236.23	0.002	0.30	1.33	0.03	236.23	-0.01	-0.000	0.04
11	27	0	0	242.96	0.002	0.30	1.33	0.03	242.96	-0.01	-0.000	0.04
11	28	0	0	249.39	0.002	0.30	1.33	0.03	249.39	-0.01	-0.000	0.04
11	29	0	0	256.31	0.002	0.30	1.33	0.03	256.31	-0.01	-0.000	0.04

END OF FILE ON ORBIT TAPE

LINE	DESCRIPTION	KEY	CDNAME	EXCPS
1FF1421	STP WAS EXECUTED - COND CODE 0000	KEY	CDNAME=SYSLIB -1	1 EXCPS
1FF2851	M2.ZBRTC.SDCC2.LOAD	KEY	CDNAME=SYSLIB -2	17 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -3	89 EXCPS
1FF2851	SYS2.CRTLIB	KEY	CDNAME=SYSLIB -4	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -5	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -6	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -7	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -8	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -9	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -10	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -11	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -12	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -13	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -14	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -15	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -16	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -17	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -18	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -19	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -20	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -21	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -22	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -23	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -24	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -25	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -26	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -27	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -28	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -29	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -30	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -31	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -32	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -33	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -34	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -35	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -36	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -37	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -38	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -39	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -40	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -41	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -42	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -43	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -44	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -45	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -46	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -47	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -48	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -49	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -50	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -51	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -52	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -53	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -54	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -55	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -56	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -57	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -58	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -59	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -60	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -61	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -62	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -63	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -64	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -65	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -66	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -67	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -68	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -69	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -70	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -71	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -72	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -73	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -74	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -75	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -76	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -77	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -78	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -79	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -80	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -81	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -82	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -83	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -84	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -85	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -86	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -87	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -88	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -89	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -90	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -91	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -92	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -93	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -94	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -95	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -96	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -97	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -98	1 EXCPS
1FF2851	VOL SER NOS= K3ITL0	KEY	CDNAME=SYSLIB -99	1 EXCPS
1FF2851	SYS1.CRTLIB	KEY	CDNAME=SYSLIB -100	1 EXCPS

- SJCHARGES=(DRIVES A,JC=100,TAPE MOUNTS=000,CORE=100,PA=100),PRIORITY=00001SECS;
 // EXRC NOTIFYS
 XXDEFALT PROC MOD=USRID=MSG=USERID=10 *LAR/21/1/17
 XXNOTIFYS EXEC PGM=NOTIFYTS,REGION=20K,COND=EVFN,
 KK=PARM=CH03E,USRI=USRI10001,MSG=...
 IFF6531 SUBSTITUTION JCL - PAFM=...
 IFF1421 - STEP WAS EXECUTED - COND CODE 0000
 IFF3731 STEP /NOTIFYTS/ START 80023.1846
 IFF3741 STEP /NOTIFYTS/ STOP 80023.1846 CPU (MIN 00.000000 MAIN BK LCS BK

Z	DATE				HELIOS	HELIOS	SUN-HELIOS	EARTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	NORMAL	
	MM	DO	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)		RADIAL
11	12	1	0	0	0	252.33	-0.02	0.38	1.16	58.14	107.67	6.51	0.012	0.03
11	12	2	0	0	0	255.86	-0.02	0.39	1.13	58.51	104.14	6.75	0.013	0.03
11	12	3	0	0	0	259.12	-0.02	0.40	1.13	58.64	100.88	6.93	0.013	0.03
11	12	4	0	0	0	262.13	-0.02	0.42	1.12	60.55	97.67	7.05	0.013	0.03
11	12	5	0	0	0	264.90	-0.02	0.43	1.11	62.24	95.10	7.14	0.013	0.03
11	12	6	0	0	0	267.45	-0.02	0.44	1.10	63.73	92.55	7.20	0.013	0.03
11	12	7	0	0	0	269.20	-0.03	0.46	1.09	65.04	90.04	7.22	0.013	0.03
11	12	8	0	0	0	271.96	-0.02	0.47	1.08	66.18	86.05	7.21	0.013	0.02
11	12	9	0	0	0	273.95	-0.02	0.48	1.07	67.18	82.04	7.17	0.013	0.02
11	12	10	0	0	0	275.77	-0.02	0.49	1.06	68.03	78.23	7.12	0.013	0.02
11	12	11	0	0	0	277.46	-0.02	0.51	1.05	68.76	74.54	7.12	0.013	0.02

12	12	00	00	00	279.00	-0.02	0.52	1.04	69.37	81.00	7.05	0.013	0.02
12	13	00	00	00	280.43	-0.02	0.53	1.03	69.87	79.57	6.98	0.013	0.02
12	14	00	00	00	281.73	-0.02	0.55	1.02	70.28	78.27	6.90	0.013	0.02
12	15	00	00	00	282.94	-0.02	0.56	1.02	70.60	77.06	6.81	0.012	0.02
12	16	00	00	00	284.08	-0.02	0.57	1.01	70.84	75.96	6.72	0.012	0.02
12	17	00	00	00	285.06	-0.02	0.58	1.01	71.00	74.54	6.62	0.012	0.02
12	18	00	00	00	285.49	-0.02	0.59	1.00	71.10	74.01	6.51	0.012	0.02
12	19	00	00	00	286.85	-0.02	0.61	1.00	71.14	73.15	6.41	0.012	0.02
12	20	00	00	00	287.63	-0.02	0.62	0.99	71.12	72.37	6.30	0.012	0.02
12	21	00	00	00	288.35	-0.02	0.63	0.99	71.06	71.65	6.19	0.011	0.02
12	22	00	00	00	289.03	-0.02	0.64	0.93	70.95	71.00	6.08	0.011	0.02
12	23	00	00	00	289.60	-0.02	0.65	0.93	70.80	70.40	5.97	0.011	0.02
12	24	00	00	00	290.14	-0.02	0.66	0.98	70.62	69.86	5.85	0.011	0.02
12	25	00	00	00	290.63	-0.02	0.67	0.98	70.40	69.37	5.74	0.011	0.02
12	26	00	00	00	291.08	-0.02	0.68	0.98	70.16	68.92	5.62	0.010	0.02
12	27	00	00	00	291.48	-0.02	0.70	0.97	69.89	68.52	5.51	0.010	0.02
12	28	00	00	00	291.84	-0.02	0.71	0.97	69.59	68.16	5.40	0.010	0.02
12	29	00	00	00	292.16	-0.02	0.72	0.97	69.28	67.84	5.28	0.010	0.02
12	30	00	00	00	292.45	-0.02	0.73	0.97	68.95	67.55	5.17	0.010	0.02
12	31	00	00	00	292.70	-0.02	0.73	0.97	68.61	67.30	5.05	0.009	0.02

END OF FILE ON ORBIT TAPE

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IEF1421 - STEP WAS EXECUTED - COND CODE 0000          KERT          DDNAME=SYSLIB -1          0 EXCPS
IEF2851 42.ZBRTC.S0002.LCAD
IEF2851 VOL SER NOS= DISK15.          KERT          DDNAME=SYSLIB -2          17 EXCPS
IEF2851 SYS2.D.BULKUNV
IEF2851 VOL SER NOS= M2SYS2.          KERT          DDNAME=SYSLIB -3          61 EXCPS
IEF2851 SYS1.FORTLIB
IEF2851 VOL SER NOS= K3ITL0.          KERT          DDNAME=SYSLIB -4          29 EXCPS
IEF2851 SYS2.FORTLIB
IEF2851 VOL SER NOS= K3SYS2.          KERT          DDNAME=SYSLIB -5          0 EXCPS
IEF2851 SYS1.PLILIB
IEF2851 VOL SER NOS= K3ITL5.          KERT          DDNAME=SYSLIB -6          0 EXCPS
IEF2851 SYS1.FORTISS
IEF2851 VOL SER NOS= K3ITL5.          KERT          DDNAME=SYSLIB -7          0 EXCPS
IEF2851 SYS2.COULIB
IEF2851 VOL SER NOS= M2SYS1.          KERT          DDNAME=SYSLIB -8          0 EXCPS
IEF2851 SYS1.ALGLIB
IEF2851 VOL SER NOS= K3SYS2.          SYSDUT          DDNAME=SYSDUT          1 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000001
IEF2851 VOL SER NOS= K3SCR5.          KERT          DDNAME=SYSLIN -1          7 EXCPS
IEF2851 ALZARIC.S0002.LCAD
IEF2851 VOL SER NOS= DISK15.          SYSIN          DDNAME=FT05F001          2 EXCPS
IEF2851 SYS80056.T121947.RV000.ZBJHBCAB.S0000008
IEF2851 VOL SER NOS= K3SCR2.          DELETED          DDNAME=FT05F001          2 EXCPS
IEF2851 SYS80056.T121947.RV000.ZBJHBCAB.S0000008
IEF2851 VOL SER NOS= K3SCR2.          SYSDUT          DDNAME=FT06F001          1 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000002
IEF2851 VOL SER NOS= K3SCR5.          DELETED          DDNAME=FT07F001          0 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000004
IEF2851 VOL SER NOS= K3SCR5.          DELETED          DDNAME=SYSPRINT          0 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000004
IEF2851 VOL SER NOS= K3SCR5.          DELETED          DDNAME=SYSTEM          0 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000005
IEF2851 VOL SER NOS= K3SCR2.          DELETED          DDNAME=SYSUDUMR          0 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000006
IEF2851 VOL SER NOS= K3SCR5.          KERT          DDNAME=GENIAR          724 EXCPS
IEF2851 SYS80056.T121947.SV000.ZBJHBCAB.R0000007
IEF2851 VOL SER NOS= UFA49.
IEF2851 K 000.0FA49.ZBJHBCAB.00
IEF3731 STEP /GO / START 80056.1220
IEF3741 STEP /GO / STOP 80056.1230 CPU 0MIN 12.94SEC MAIN 200K LCS OK
- STEP 01 - RETURN CODE = 0000          IO IN SECS. DISK= 11.12.DRUM= .00.TAPE= .00.CELL= .00.OTHR= .16
- SURCHARGES=(DRIVES ALLOC=000.TAPE MOUNTS=000.CCPE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME= .51 MINS.
// EXEC NOTIFY
XXOFFAULT PROC MODE=,USRID=,MSGZ,USERID=,ID= NOTIFY. EAC/21JUN73 00000010
*** SEND BACKGROUND JOB REPORT TO TSO USER 00000020
XXNOTIFYTS EXEC PGM=NOTIFYTS,REGION=20K,COND=EVEN. 00000030
XX PARM=EMODE,CLSRID,CLSRID,CLSRID,EMSG 00000040
IEF6531 SUBSTITUTION JCL - PARMS=1.
IEF1421 - STEP WAS EXECUTED - COND CODE 0000
IEF3731 STEP /NOTIFYTS/ START 80056.1230
IEF3741 STEP /NOTIFYTS/ STOP 80056.1230 CPU 0MIN 00.05SEC MAIN 200K LCS OK
- STEP 02 - RETURN CODE = 0000          IO IN SECS. DISK= .22.DRUM= .00.TAPE= .00.CELL= .00.OTHR= .06
- SURCHARGES=(DRIVES ALLOC=000.TAPE MOUNTS=000.CCPE=000.PAPER=000.PRIORITY=00000)SECS. TOTAL STP TIME=00000.00 MINS.
IEF3751 JOB /ZBJHBCAB/ START 80056.1220

```

04570

1003751 JOB ZSDH0001/ 31401 81031.1151
 1003751 JOB ZSDH0001/ 31401 81031.1153 CPU JMIN 13.59SEC
 - SYSTEM=FEL21.9F (04-01-79) K3
 - JOB 0027-

TOTAL TIME = .51 MINS (CPU) = .22 MINS (IO) = .29 MINS (CEL) = .00 MINS (OTH) = .20 MINS
 TIME=11.53.46.48 DATE=01-31-81
 - SURCHARGES=(DRIVES ALLOC=000, TAPE MOUNTS=000, COPE=000, PAPER=000, PRIORITY=00000) SECS. TOTAL JOB TIME= .51 MINS.
 THERE WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.

DS/360 LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194550,NAME=**GO
 ED=03811

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ORBIT	SD	6B010	CONVTSCT*	SD	63E70	CONVTS	* LR	63E70	DBGEN	* SD	6C199	DBFECH	* LR	6C358
FREEAD	* SD	6C550	FREEAD*	LP	6C738	FWFITE	* LR	6C87C	FEWIND	* LR	5CA32	LEAVE	* LR	6C866
UNLCAD	* LR	5CC1A	PCSN	* LR	6C030	MCUNT	* LR	6C850	MEMBER	* LR	6D132	FTFAP	* LR	6D222
FALLCS	* LR	6D2A0	FJNITABL*	SD	6E250	FPL1	* SD	6E329	FJDNLIST*	SD	6E330	FEFMSG	* SD	6E338
INCHAMEL*	SD	6E3A0	FJONL*	LR	6E3A0	FWENL*	LR	6E9A4	INCECCMH*	SD	6E270	IBCOM*	* LR	6E670
FOICCC*	* LR	6E62C	INTSATCH*	LR	6E036	INCCDMH2*	SD	6E033	SEODASD	* LR	70150	FTF	* SD	70448
ITISECT*	SD	704F8	ITIS	* LR	704F8	EXFLT	* SD	70550	FIXFLT	* LR	70550	TPNSLTE	* SD	70598
TRANS	* LR	70598	BITST	* SD	70648	CNTGDATA*	LR	70648	DTDUN	* SD	70708	INCFVTH*	SD	70878
ADCCN*	* LR	70848	FCVACUTP*	LR	70952	FCVLCUTP*	LR	70952	FCVZCUTP*	LR	70332	FCVICJTP*	LR	70870
FCVFCUTP*	LR	713E2	FCVLCUTP*	LR	715FC	INT6SWCH*	LR	718E3	INCEFIDS*	SD	71A48	FIDCS*	* LR	71A48
FIDCFECP*	LR	71A4E	INCEFIDS2*	SD	72970	INCEPRM*	SD	72E40	ELPMON	* LR	72E40	INCEPRE	* LR	72F88
INCEFNTH*	SD	73478	ADJITM*	LR	73478	ADJSATCH*	LR	73814	INCUPT	* SD	739C0	INCUATBL*	SD	73CE8
INCEFTCH*	SD	74320	INCHTCH	* LR	74320	ERETRA	* LR	74328						
TOTAL LENGTH	9549													
ENTRY ADDRESS	6E010													

SATID HELIOS-A ORBIT TAPE #02A56
 7409701 (P3) 80 183 009800 213 000000 0252 01 801112 262 01 01 37 0

HELIOS-A YEAR 1980. LAUNCH TIME 175366392. 0.

DATE	MM	DD	HH	MM	SC	HELIOS ECL. LONG	HELIOS ECL. LAT	SUN-HELIOS DIST(A.U.)	EARTH-HELIOS DIST(A.U.)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U./DAY) RADIAL	NORMAL
7 1 0 0 0 0	7	1	0	0	0	102.17	-0.02	0.66	1.32	48.60	102.17	5.87	0.011	0.02
7 2 0 0 0 0	7	2	0	0	0	102.73	-0.02	0.67	1.34	47.98	102.73	5.76	0.011	0.02
7 3 0 0 0 0	7	3	0	0	0	103.25	-0.02	0.68	1.35	47.20	103.25	5.64	0.011	0.02
7 4 0 0 0 0	7	4	0	0	0	103.72	-0.02	0.69	1.36	46.57	103.72	5.53	0.010	0.02
7 5 0 0 0 0	7	5	0	0	0	104.16	-0.02	0.70	1.37	45.99	104.16	5.41	0.010	0.02
7 6 0 0 0 0	7	6	0	0	0	104.55	-0.02	0.71	1.39	45.43	104.55	5.30	0.010	0.02
7 7 0 0 0 0	7	7	0	0	0	104.90	-0.02	0.72	1.39	44.92	104.90	5.19	0.010	0.02
7 8 0 0 0 0	7	8	0	0	0	105.22	-0.02	0.73	1.40	44.44	105.22	5.07	0.010	0.02
7 9 0 0 0 0	7	9	0	0	0	105.51	-0.02	0.74	1.41	43.90	105.51	4.96	0.009	0.02
7 10 0 0 0 0	7	10	0	0	0	105.77	-0.02	0.75	1.42	43.57	105.77	4.85	0.009	0.02
7 11 0 0 0 0	7	11	0	0	0	105.00	-0.02	0.76	1.43	43.18	106.00	4.74	0.009	0.02
7 12 0 0 0 0	7	12	0	0	0	105.20	-0.02	0.77	1.44	42.82	105.20	4.63	0.009	0.02
7 13 0 0 0 0	7	13	0	0	0	105.37	-0.02	0.78	1.44	42.48	105.37	4.52	0.009	0.02
7 14 0 0 0 0	7	14	0	0	0	105.52	-0.02	0.79	1.45	42.17	105.52	4.41	0.008	0.02
7 15 0 0 0 0	7	15	0	0	0	105.65	-0.02	0.80	1.45	41.87	105.65	4.30	0.008	0.01
7 16 0 0 0 0	7	16	0	0	0	105.75	-0.02	0.80	1.47	41.60	105.75	4.19	0.008	0.01
7 17 0 0 0 0	7	17	0	0	0	105.84	-0.02	0.81	1.47	41.34	105.84	4.08	0.008	0.01
7 18 0 0 0 0	7	18	0	0	0	105.90	-0.02	0.82	1.48	41.11	106.00	3.93	0.008	0.01
7 19 0 0 0 0	7	19	0	0	0	105.95	-0.02	0.83	1.48	40.89	105.95	3.77	0.007	0.01
7 20 0 0 0 0	7	20	0	0	0	105.99	-0.02	0.83	1.49	40.69	106.00	3.70	0.007	0.01
7 21 0 0 0 0	7	21	0	0	0	106.00	-0.02	0.84	1.50	40.50	105.99	3.66	0.007	0.01
7 22 0 0 0 0	7	22	0	0	0	106.00	-0.02	0.85	1.50	40.33	106.00	3.56	0.007	0.01
7 23 0 0 0 0	7	23	0	0	0	106.06	-0.02	0.85	1.51	40.18	106.06	3.45	0.007	0.01
7 24 0 0 0 0	7	24	0	0	0	106.12	-0.02	0.86	1.51	40.03	106.02	3.35	0.006	0.01
7 25 0 0 0 0	7	25	0	0	0	106.18	-0.02	0.87	1.52	39.90	105.99	3.25	0.006	0.01
7 26 0 0 0 0	7	26	0	0	0	106.21	-0.02	0.87	1.52	39.70	105.91	3.15	0.006	0.01
7 27 0 0 0 0	7	27	0	0	0	106.24	-0.02	0.88	1.52	39.68	105.74	3.05	0.006	0.01
7 28 0 0 0 0	7	28	0	0	0	106.25	-0.02	0.89	1.53	39.59	105.65	2.95	0.006	0.01
7 29 0 0 0 0	7	29	0	0	0	106.55	-0.01	0.89	1.53	39.50	105.55	2.85	0.006	0.01
7 30 0 0 0 0	7	30	0	0	0	106.44	-0.01	0.90	1.53	39.43	105.44	2.75	0.005	0.01

OPTIONS PD - PRINT,MAP,NOLET,CALL.RES,NOTERM.SIZE=194560,NAME=GO
EP=ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR									
ORBIT	SD	4D810	CNVRTSCT*	SD	4E670	CNVRT	*	LR	4E670	DRGEN	*	SD	4E998	DBFEQV	*	LR	4E858						
FREAD	*	SD	4E660	FREACB	*	LR	4E668	FWRITE	*	LR	4F07C	REWIND	*	LR	4F282	LEAVE	*	LR	4F366				
UNLOAD	*	LR	4F41A	POSN	*	LR	4F530	MCUNT	*	LR	4F750	MEMBER	*	LR	4F932	FTRAP	*	LR	4FA22				
FALLOW	*	LP	4FAA0	FUNITABL*	SD	50A60	FPL1	*	SD	50828	FDOPLIST*	SD	50830	FERMSG	*	SD	50B38	IBCCM#	*	LR	51670		
IHCNAMEL*	SD	50810	FFONL#	*	LR	508A0	FANL#	*	LR	511A4	IHCCECMH*	SD	51670	FTF	*	SD	52C48	TRANSLTE	*	SD	52058		
FUIOCS#	*	LR	5172C	INTSWTCH*	LR	525B6	IHCCECMH2*	SD	525D8	SEODASD	*	LR	52960	IHCFCVTH*	SD	530A8	FCVIOUPT*	LR	536E0	IHCERRE	*	LR	556B8
ITISFCT	*	SD	52CF8	ITI	*	LR	52CF8	FXFLT	*	SD	52050	DTDUN	*	SD	52F08	IHCERRE	*	LR	556B8	IHCUTBL*	SD	556A8	
TRANS	*	LR	52098	BITST	*	SD	52EA8	CNTGDATA*	LR	531E2	FCVLOUTP*	LR	53332	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8				
ADCON#	*	LR	530A8	FCVADUTP*	LR	53152	FCVLOUTP*	LR	531E2	IHCFCVTH*	SD	53332	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8					
FCVADUTP*	LR	530E2	FCVADUTP*	LR	530FC	IHCFCVTH*	SD	540E3	IHCFCVTH*	SD	54248	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8						
FIOCSBEP*	LR	5424E	IHCFCVTH*	SD	5517C	IHCFCVTH*	SD	556A0	IHCFCVTH*	SD	556A0	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8						
IHCFCVTH*	SD	55C78	ARITH#	*	LR	55C78	ADJSWTCH*	LR	56014	IHCUTBL*	SD	561C0	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8					
IHCETRCH*	SD	56020	IHCETRCH*	LR	56020	ERRTRA	*	LR	56B28	IHCUTBL*	SD	561C0	IHCUTBL*	SD	556A8	IHCUTBL*	SD	556A8					

TOTAL LENGTH 95A0
ENTRY ADDRESS 4D810

SATID HELIOS-A ORBIT TAPE #=DRA55
7409701 ORB 80 214 000000 244 000000 0290 01 801016 290 01 01 B7 X

HELIOS-A

YEAR 1980.

LAUNCH TIME 178044664. 0.

DATE	HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM DD HR MN SC	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL	NORMAL
8 1 0 0 0	105.19	-0.01	0.91	1.54	39.31	105.19	2.56	0.005	0.01
8 2 0 0 0	105.05	-0.01	0.91	1.54	39.27	105.05	2.46	0.005	0.01
8 3 0 0 0	105.91	-0.01	0.92	1.54	39.23	105.91	2.37	0.005	0.01
8 4 0 0 0	105.75	-0.01	0.92	1.54	39.20	105.75	2.27	0.005	0.01
8 5 0 0 0	105.58	-0.01	0.93	1.55	39.18	105.58	2.18	0.004	0.01
8 6 0 0 0	105.41	-0.01	0.93	1.55	39.17	105.41	2.08	0.004	0.01
8 7 0 0 0	105.23	-0.01	0.93	1.55	39.17	105.23	1.99	0.004	0.01
8 8 0 0 0	105.04	-0.01	0.94	1.55	39.17	105.04	1.89	0.004	0.01
8 9 0 0 0	104.85	-0.01	0.94	1.55	39.18	104.85	1.80	0.004	0.01
8 10 0 0 0	104.65	-0.01	0.95	1.55	39.20	104.65	1.71	0.004	0.01
8 11 0 0 0	104.44	-0.01	0.95	1.55	39.23	104.44	1.62	0.003	0.01
8 12 0 0 0	104.23	-0.01	0.95	1.55	39.26	104.23	1.52	0.003	0.01
8 13 0 0 0	104.01	-0.01	0.96	1.55	39.29	104.01	1.43	0.003	0.01
8 14 0 0 0	103.79	-0.01	0.96	1.55	39.34	103.79	1.34	0.003	0.01
8 15 0 0 0	103.56	-0.01	0.96	1.55	39.39	103.56	1.25	0.003	0.01
8 16 0 0 0	103.33	-0.01	0.96	1.55	39.44	103.33	1.16	0.003	0.01
8 17 0 0 0	103.09	-0.01	0.97	1.55	39.50	103.09	1.07	0.002	0.01
8 18 0 0 0	102.85	-0.01	0.97	1.55	39.57	102.85	0.98	0.002	0.01
8 19 0 0 0	102.61	-0.01	0.97	1.55	39.64	102.61	0.89	0.002	0.01
8 20 0 0 0	102.36	-0.01	0.97	1.55	39.71	102.36	0.80	0.002	0.01
8 21 0 0 0	102.11	-0.01	0.98	1.55	39.79	102.11	0.71	0.002	0.01
8 22 0 0 0	101.86	-0.01	0.98	1.54	39.88	101.86	0.62	0.002	0.01
8 23 0 0 0	101.60	-0.01	0.98	1.54	39.97	101.60	0.53	0.001	0.01
8 24 0 0 0	101.34	-0.01	0.98	1.54	40.06	101.34	0.45	0.001	0.01
8 25 0 0 0	101.08	-0.01	0.98	1.54	40.16	101.08	0.36	0.001	0.01
8 26 0 0 0	100.82	-0.01	0.98	1.53	40.27	100.82	0.27	0.001	0.01
8 27 0 0 0	100.56	-0.01	0.98	1.53	40.38	100.56	0.18	0.001	0.01
8 28 0 0 0	100.29	-0.01	0.98	1.53	40.49	100.29	0.09	0.001	0.01
8 29 0 0 0	100.03	-0.01	0.98	1.52	40.61	100.03	0.01	0.000	0.01
8 30 0 0 0	99.76	-0.01	0.98	1.52	40.73	99.76	-0.08	0.000	0.01
8 31 0 0 0	99.49	-0.01	0.98	1.52	40.85	99.49	-0.17	0.000	0.01

END OF FILE ON ORBIT TAPE

SDHELA55:- FTIO - 80/308 @ 17:10:10.6 - PLEASE MOUNT TAPE # DRA55 ON DRIVE 0C1.

- SURCHARGE=(DRIVES ALOC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=00000)SECS. TOTAL CEL=00.00,OTHR=00.00
 IEF370 JCB /SDHELCP1/ START 81031.1152
 IEF370 JCB /SDHELCP1/ STOP 81031.1156 CPU 0MIN 03.99SEC
 - SYSTEM=TEL21.PF (04-01-79) K3
 JOB 9229
 TIME=11.57.49.86 DATE=01-31-81
 TOTAL TIME=03 MINS-16.29
 7.12,CEL= / .00,OTHR=.20
 TOTAL JOB TIME= .43 MINS.
 - SURCHARGE=(DRIVES ALOC=000,TAPE MOUNTS=000,CORE=000,PAPER=000,PRIORITY=00000)SECS. TOTAL CEL=00.00,OTHR=00.00
 THERE WERE 01 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.

DS360 LOADER

OPTIONS USED - REINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=194550,NAME=**GO
 EP=000IT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
CBRT	SD	6010	CONVTSCT*	SD	6070	CONVPT	LR	6070	D3GEN	SD	60139	DRFEOV	LR	60358
FEAD	SD	60360	FEFADR	LR	60738	FWRITE	LR	60870	FEWIND	LR	60432	LEAVE	LR	60066
UNLCAD	LR	6001A	PCSN	LR	60730	MDUNT	LR	60650	MEMBER	LR	60132	ETAP	LR	60222
FALLDW	LR	602A0	FUNITABL*	SD	60260	FPLI	SD	60328	FDDNLIST*	SD	60330	FERMSG	SD	60338
IHCNAVEL*	SD	603A0	FFDML*	LR	603A0	FWFNL*	LR	609A4	IHCCECMH*	SD	60E70	IBCOM*	LR	60E70
ITISECT*	SD	704F8	INTSVTCH*	LR	60336	IHCCECMH2*	SD	60938	SCDASD*	LR	70150	FTF	SD	70448
TRANS	LR	70538	ITI	LR	704F8	FXFLT	SD	70550	FIXFLT	LR	70350	TRANSLT*	SD	70508
ADCCN*	LR	70538	BITST	SD	706A8	CNTGDATA*	LR	706A8	DTDUN	SD	70708	IHCFCVTH*	SD	708A8
FCVOUTP*	LR	713E2	FCVAGUT*	LR	70952	FCVJOUTP*	LR	709E2	FCVZOUTP*	LR	70332	FCVJOUTP*	LR	70EE0
FIQCSREP*	LR	71A4E	FCVOUTP*	LR	715FC	INT6SWCH*	LR	718E3	IHCCEIOS*	SD	71A48	FIQCS*	LR	71A48
IHCENH*	SD	73A78	IHCCEIOS2*	SD	72970	IHCCECM*	SD	72EA0	FERMON	LR	72E80	IHCCEP*	LR	72E88
IHCETECH*	SD	74320	ARITH*	LR	73A78	ADJSWCH*	LR	73814	IHCUCPT*	SD	739C0	IHCUTABL*	SD	73CE8
			IHCETECH*	LR	74320	ERRTPA	LR	74328						

TOTAL LENGTH 9540
 ENTRY ADDRESS 6010

SATIO HELIOS-A 0000IT TAPE *-31A57
 7409701 DFB 80 245 000000 274 000000 0308 01 801106 308 01 01 E7 U

HELIOS-A

YEAR 1990.

LAUNCH TIME 180723192. 0.

DATE	MM	DD	HH	MM	SS	HELIOS ECL (DEG)	HELIOS ECL (LAT)	SUN-HELIOS DIST (A.U.)	EARTH-HELIOS DIST (A.U.)	EARTH-HELIOS SUN (DEG)	HELIOS-SUN EARTH (DEG)	HELIOS HEL LET (DEG)	HELIOS-V (A.U./DAY)	PARIAL	NORMAL
01	01	01	00	00	00	99.22	-0.01	0.98	1.52	40.98	99.22	-0.26	-0.000	0.01	0.01
02	01	01	00	00	00	99.95	-0.01	0.98	1.52	41.12	98.95	-0.35	-0.000	0.01	0.01
03	01	01	00	00	00	99.69	-0.00	0.98	1.51	41.26	98.58	-0.43	-0.000	0.01	0.01
04	01	01	00	00	00	99.41	-0.00	0.98	1.51	41.40	98.41	-0.52	-0.000	0.01	0.01
05	01	01	00	00	00	99.14	-0.00	0.98	1.50	41.55	98.14	-0.61	-0.001	0.01	0.01
06	01	01	00	00	00	97.86	-0.00	0.98	1.50	41.70	97.86	-0.70	-0.001	0.01	0.01
07	01	01	00	00	00	97.60	-0.00	0.98	1.50	41.85	97.60	-0.79	-0.001	0.01	0.01
08	01	01	00	00	00	97.33	-0.00	0.98	1.49	42.01	97.33	-0.87	-0.001	0.01	0.01
09	01	01	00	00	00	97.06	-0.00	0.98	1.49	42.17	97.06	-0.96	-0.001	0.01	0.01
10	01	01	00	00	00	96.79	-0.00	0.98	1.48	42.34	96.79	-1.05	-0.001	0.01	0.01
11	01	01	00	00	00	96.53	-0.00	0.98	1.48	42.50	96.53	-1.14	-0.002	0.01	0.01
12	01	01	00	00	00	96.26	-0.00	0.98	1.47	42.68	96.26	-1.22	-0.002	0.01	0.01
13	01	01	00	00	00	95.99	-0.00	0.97	1.47	42.85	96.00	-1.31	-0.002	0.01	0.01
14	01	01	00	00	00	95.74	-0.00	0.97	1.47	43.03	95.74	-1.40	-0.002	0.01	0.01
15	01	01	00	00	00	95.49	-0.00	0.97	1.46	43.21	95.49	-1.49	-0.002	0.01	0.01
16	01	01	00	00	00	95.24	-0.00	0.97	1.46	43.40	95.24	-1.58	-0.002	0.01	0.01
17	01	01	00	00	00	94.99	-0.00	0.96	1.45	43.59	94.98	-1.67	-0.003	0.01	0.01
18	01	01	00	00	00	94.74	-0.00	0.96	1.45	43.78	94.74	-1.76	-0.003	0.01	0.01
19	01	01	00	00	00	94.50	-0.00	0.96	1.44	43.98	94.50	-1.85	-0.003	0.01	0.01
20	01	01	00	00	00	94.26	-0.00	0.96	1.44	44.18	94.26	-1.93	-0.003	0.01	0.01
21	01	01	00	00	00	94.02	-0.00	0.95	1.43	44.38	94.02	-2.02	-0.003	0.01	0.01
22	01	01	00	00	00	93.79	-0.00	0.95	1.43	44.58	93.79	-2.11	-0.003	0.01	0.01
23	01	01	00	00	00	93.57	-0.00	0.95	1.42	44.80	93.57	-2.21	-0.004	0.01	0.01
24	01	01	00	00	00	93.35	-0.00	0.94	1.42	45.01	93.35	-2.30	-0.004	0.01	0.01
25	01	01	00	00	00	93.13	-0.00	0.94	1.41	45.23	93.13	-2.39	-0.004	0.01	0.01
26	01	01	00	00	00	92.92	-0.00	0.93	1.40	45.44	92.92	-2.48	-0.004	0.01	0.01
27	01	01	00	00	00	92.73	-0.00	0.93	1.40	45.67	92.73	-2.57	-0.004	0.01	0.01
28	01	01	00	00	00	92.53	-0.00	0.93	1.39	45.89	92.53	-2.66	-0.005	0.01	0.01
29	01	01	00	00	00	92.33	-0.00	0.92	1.39	46.12	92.33	-2.75	-0.005	0.01	0.01
30	01	01	00	00	00	92.15	-0.00	0.92	1.38	46.35	92.15	-2.85	-0.005	0.01	0.01

DS/360-LOADER

OPTIONS USED - PRINT,MAP,NCLFT,CALL,RES,NOTEPM,SIZE=194560,NAME=**GO
EP#ORBIT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR									
ORBIT	SD	57010	CNVRTSCT*	SD	57E70	CNVRT	*	LR	57E70	DBGEN	*	SD	58198	DBFEQV	*	LR	58358						
FREAD	*	SD	58560	FREADB	*	LR	58788	FWRITE	*	LR	5887C	REWIND	*	LR	58A82	LEAVE	*	LR	58B66				
UNLOAD	*	LR	58C1A	POSN	*	LR	58D30	MOUNT	*	LR	58F50	MEMBER	*	LR	59132	FTRAP	*	LR	59222				
FOLLOW	*	LR	592A0	FUNITABL*	SD	5A260	FPL1	*	SD	5A328	FDDNLST*	SD	5A330	FERMSG	*	SD	5A338	IBCOM#	*	LR	5AE70		
IHCNMF*	SD	5A3A0	FRONL#	*	LR	5A3A0	FWRNL#	*	LR	5A9A4	IHCCEM#	SD	5AE70	FTF	*	SD	5C448	TRANSLTE	*	SD	5C598		
FIQCS#	*	LR	5AF2C	INTSWTCH*	LR	5BDB6	IHCCEM2*	SD	5BDD8	SEQDSD	*	LR	5C160	IHCFCVTH*	SD	5C8A8	FCVIOUT*	LR	5CEE0	FIQCS#	*	LR	5DA48
ITISECT	*	SD	5C4F9	ITI	*	LR	5C4F8	FXFLT	*	SD	5C550	FCVZDUIP*	LR	5CB32	IHCERRE	*	LR	5EEB8	IHCJOPT	*	SD	5F9C0	
TRANS	*	LR	5C598	BITST	*	SD	5C6A8	CNTGDATA*	LR	5C6A8	DTJUN	*	SD	5C7D8	IHCJATBL*	SD	5FCE8						
ADCON*	*	LR	5C8A8	FCVADUIP*	LR	5C952	FCVLOUTP*	LR	5C952	FCVZDUIP*	LR	5CB32											
FCVEOUTP*	LR	5D3E2	FCVCCOUTP*	LR	5D5FC	INT6SWCH*	LR	5D8E3	IHCCEM#	SD	5DA48												
FIQCS#	*	LR	5DA4E	IHCFIOS2*	SD	5E970	IHCERRM	*	SD	5EEA0													
IHCENFTH*	SD	5F478	ARITH#	*	LR	5F478	ADJSWTCH*	LR	5F814														
IHCETRCH*	SD	60320	IHCETRCH	*	LR	60320	ERRTRA	*	LR	60328													

TOTAL LENGTH 95A0
ENTRY ADDRESS 57010

SATID HELIOS-A ORBIT TAPE #=ORA58
7409701 ORB 80 275 000000 305 000000 0344 01 901211 344 01 01 E7 U

HELIOS-A YEAR 1980. LAUNCH TIME 183315192. 0.

DATE	MM	DD	HR	MN	SC	HELIOS FCL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U)	ERTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEC)	HELIOS-SUN EARTH(DEC)	HELIOS HEL-LET(DEC)	HELIOS-V(A.U/DAY) RADIAL	NORMAL
10 1 0 0 0 0	91.58	0.00	0.91	1.38	46.58	91.58	-2.94	-0.005	0.01					
10 2 0 0 0 0	91.81	0.00	0.91	1.37	46.81	91.81	-3.03	-0.005	0.01					
10 3 0 0 0 0	91.65	0.00	0.90	1.37	47.05	91.65	-3.13	-0.005	0.01					
10 4 0 0 0 0	91.51	0.00	0.90	1.36	47.29	91.51	-3.22	-0.005	0.01					
10 5 0 0 0 0	91.37	0.01	0.89	1.36	47.53	91.37	-3.32	-0.006	0.01					
10 6 0 0 0 0	91.24	0.01	0.89	1.35	47.77	91.24	-3.41	-0.006	0.01					
10 7 0 0 0 0	91.12	0.01	0.88	1.34	48.01	91.12	-3.51	-0.006	0.01					
10 8 0 0 0 0	91.01	0.01	0.87	1.34	48.26	91.01	-3.61	-0.006	0.01					
10 9 0 0 0 0	90.92	0.01	0.87	1.33	48.51	90.92	-3.70	-0.006	0.01					
10 10 0 0 0 0	90.83	0.01	0.86	1.33	48.75	90.83	-3.80	-0.006	0.01					
10 11 0 0 0 0	90.76	0.01	0.85	1.32	49.00	90.76	-3.90	-0.007	0.01					
10 12 0 0 0 0	90.71	0.01	0.85	1.32	49.24	90.71	-4.00	-0.007	0.01					
10 13 0 0 0 0	90.67	0.01	0.84	1.31	49.49	90.67	-4.10	-0.007	0.01					
10 14 0 0 0 0	90.64	0.01	0.83	1.31	49.73	90.64	-4.20	-0.007	0.01					
10 15 0 0 0 0	90.63	0.01	0.83	1.30	49.98	90.63	-4.30	-0.007	0.01					
10 16 0 0 0 0	90.64	0.01	0.82	1.30	50.22	90.64	-4.40	-0.008	0.01					
10 17 0 0 0 0	90.67	0.01	0.81	1.29	50.46	90.67	-4.50	-0.008	0.01					
10 18 0 0 0 0	90.71	0.01	0.80	1.29	50.69	90.71	-4.60	-0.008	0.01					
10 19 0 0 0 0	90.78	0.01	0.80	1.28	50.92	90.78	-4.70	-0.008	0.01					
10 20 0 0 0 0	90.87	0.01	0.79	1.28	51.15	90.87	-4.80	-0.008	0.02					
10 21 0 0 0 0	90.98	0.01	0.78	1.27	51.37	90.98	-4.91	-0.009	0.02					
10 22 0 0 0 0	91.11	0.01	0.77	1.27	51.58	91.11	-5.01	-0.009	0.02					
10 23 0 0 0 0	91.27	0.01	0.76	1.27	51.79	91.27	-5.12	-0.009	0.02					
10 24 0 0 0 0	91.46	0.01	0.75	1.26	51.98	91.46	-5.22	-0.009	0.02					
10 25 0 0 0 0	91.67	0.01	0.74	1.26	52.17	91.67	-5.32	-0.009	0.02					
10 26 0 0 0 0	91.92	0.01	0.73	1.25	52.35	91.92	-5.43	-0.010	0.02					
10 27 0 0 0 0	92.16	0.01	0.72	1.25	52.51	92.16	-5.53	-0.010	0.02					
10 28 0 0 0 0	92.50	0.01	0.71	1.25	52.66	92.50	-5.64	-0.010	0.02					
10 29 0 0 0 0	92.85	0.01	0.70	1.25	52.79	92.85	-5.74	-0.010	0.02					
10 30 0 0 0 0	93.24	0.02	0.69	1.24	52.90	93.24	-5.85	-0.010	0.02					
10 31 0 0 0 0	93.67	0.02	0.68	1.24	52.99	93.67	-5.95	-0.011	0.02					

END OF FILE ON ORBIT TAPE

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SATID HELIOS-A ORBIT TAPE #0RA59
7409701 ORB 80 306 000000 366 000000 1029 01 810129 029 01 01 E7 U

HELIOS-A

YEAR 1980.

LAUNCH TIME 185993464. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	MM	SS	ECL.LONG	ECL.LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-LST(DEC)	RADIAL	NORMAL
11	1	0	0	0	94.14	0.02	0.67	1.24	53.06	54.14	-6.05	-0.011	0.02
11	2	0	0	0	94.66	0.02	0.66	1.24	53.10	54.66	-6.16	-0.011	0.02
11	3	0	0	0	95.22	0.02	0.65	1.23	53.12	55.22	-6.26	-0.011	0.02
11	4	0	0	0	95.85	0.02	0.64	1.23	53.10	55.85	-6.36	-0.011	0.02
11	5	0	0	0	96.53	0.02	0.63	1.23	53.05	56.53	-6.46	-0.011	0.02
11	6	0	0	0	97.27	0.02	0.62	1.23	52.95	57.27	-6.55	-0.012	0.02
11	7	0	0	0	98.08	0.02	0.60	1.23	52.82	58.08	-6.65	-0.012	0.02
11	8	0	0	0	98.96	0.02	0.59	1.23	52.63	58.96	-6.74	-0.012	0.02
11	9	0	0	0	99.92	0.02	0.58	1.23	52.39	59.92	-6.82	-0.012	0.02
11	10	0	0	0	100.96	0.02	0.57	1.23	52.09	100.96	-6.90	-0.012	0.02
11	11	0	0	0	102.09	0.02	0.56	1.23	51.73	102.09	-6.98	-0.012	0.02
11	12	0	0	0	103.33	0.02	0.54	1.23	51.29	103.33	-7.05	-0.013	0.02
11	13	0	0	0	104.66	0.02	0.53	1.24	50.78	104.66	-7.11	-0.013	0.02
11	14	0	0	0	106.11	0.02	0.52	1.24	50.17	106.11	-7.16	-0.013	0.02
11	15	0	0	0	107.69	0.02	0.51	1.24	49.47	107.69	-7.19	-0.013	0.02
11	16	0	0	0	109.40	0.02	0.49	1.24	48.65	109.40	-7.22	-0.013	0.02
11	17	0	0	0	111.26	0.02	0.48	1.25	47.72	111.26	-7.23	-0.013	0.02
11	18	0	0	0	113.29	0.02	0.47	1.25	46.66	113.29	-7.21	-0.013	0.03
11	19	0	0	0	115.48	0.02	0.45	1.25	45.45	115.48	-7.18	-0.013	0.03
11	20	0	0	0	117.87	0.02	0.44	1.26	44.08	117.87	-7.12	-0.013	0.03
11	21	0	0	0	120.46	0.03	0.43	1.26	42.54	120.46	-7.03	-0.013	0.03
11	22	0	0	0	123.27	0.03	0.41	1.26	40.81	123.27	-6.90	-0.013	0.03
11	23	0	0	0	126.32	0.02	0.40	1.27	38.88	126.32	-6.73	-0.012	0.03
11	24	0	0	0	129.63	0.02	0.39	1.27	36.72	129.63	-6.51	-0.012	0.03
11	25	0	0	0	133.21	0.02	0.38	1.28	34.32	133.21	-6.24	-0.011	0.03
11	26	0	0	0	137.08	0.02	0.37	1.28	31.67	137.08	-5.91	-0.010	0.03
11	27	0	0	0	141.25	0.02	0.36	1.28	28.75	141.25	-5.61	-0.010	0.03
11	28	0	0	0	145.73	0.02	0.35	1.29	25.50	145.73	-5.03	-0.009	0.03
11	29	0	0	0	150.51	0.02	0.34	1.29	22.10	150.51	-4.48	-0.008	0.04
11	30	0	0	0	155.60	0.02	0.33	1.29	18.37	155.60	-3.86	-0.007	0.04
12	1	0	0	0	160.96	0.02	0.32	1.30	14.38	160.96	-3.16	-0.006	0.04
12	2	0	0	0	166.56	0.01	0.32	1.30	10.18	166.56	-2.39	-0.005	0.04
12	3	0	0	0	172.37	0.01	0.31	1.30	5.79	172.37	-1.56	-0.003	0.04
12	4	0	0	0	178.32	0.01	0.31	1.30	1.27	178.32	-0.70	-0.002	0.04
12	5	0	0	0	184.35	0.01	0.31	1.29	3.31	175.65	0.19	0.000	0.04
12	6	0	0	0	190.39	0.00	0.31	1.29	7.91	169.61	1.07	0.001	0.04
12	7	0	0	0	196.36	0.00	0.31	1.29	12.44	163.64	1.93	0.003	0.04
12	8	0	0	0	202.19	-0.00	0.32	1.28	16.95	157.81	2.75	0.005	0.04
12	9	0	0	0	207.83	-0.01	0.32	1.28	21.09	152.17	3.50	0.006	0.04
12	10	0	0	0	213.23	-0.01	0.33	1.27	25.11	146.77	4.18	0.007	0.04
12	11	0	0	0	218.36	-0.01	0.34	1.27	28.88	141.64	4.75	0.008	0.04
12	12	0	0	0	223.19	-0.01	0.34	1.26	32.38	136.82	5.32	0.009	0.03
12	13	0	0	0	227.71	-0.01	0.35	1.25	35.61	132.29	5.76	0.010	0.03
12	14	0	0	0	231.92	-0.02	0.35	1.24	38.56	128.08	6.14	0.011	0.03
12	15	0	0	0	235.83	-0.02	0.38	1.24	41.24	124.17	6.44	0.011	0.03
12	16	0	0	0	239.45	-0.02	0.39	1.23	43.67	120.55	6.69	0.012	0.03
12	17	0	0	0	242.80	-0.02	0.40	1.22	45.85	117.20	6.88	0.012	0.03
12	18	0	0	0	245.88	-0.02	0.41	1.21	47.80	114.12	7.02	0.013	0.03
12	19	0	0	0	248.72	-0.02	0.43	1.21	49.53	111.28	7.12	0.013	0.03
12	20	0	0	0	251.34	-0.02	0.44	1.20	51.08	108.66	7.18	0.013	0.03
12	21	0	0	0	253.75	-0.02	0.45	1.19	52.44	106.25	7.22	0.013	0.03
12	22	0	0	0	255.96	-0.02	0.46	1.18	53.64	104.04	7.23	0.013	0.03
12	23	0	0	0	258.00	-0.02	0.48	1.18	54.69	102.00	7.21	0.013	0.02
12	24	0	0	0	259.88	-0.02	0.49	1.17	55.50	100.12	7.18	0.013	0.02
12	25	0	0	0	261.60	-0.02	0.50	1.17	56.39	98.40	7.13	0.013	0.02
12	26	0	0	0	263.19	-0.02	0.52	1.16	57.06	96.61	7.08	0.013	0.02
12	27	0	0	0	264.65	-0.03	0.53	1.16	57.63	95.35	7.00	0.013	0.02
12	28	0	0	0	265.99	-0.03	0.54	1.16	58.11	94.01	6.93	0.013	0.02
12	29	0	0	0	267.22	-0.03	0.55	1.15	58.50	92.78	6.84	0.013	0.02
12	30	0	0	0	268.36	-0.02	0.57	1.15	58.82	91.64	6.75	0.012	0.02
12	31	0	0	0	269.40	-0.02	0.58	1.15	59.07	90.60	6.65	0.012	0.02

END OF FILE ON ORBIT TAPE

SATID HELIOS-A ORBIT TAPE #=CRA60
 7-09701 ORB 81 001 000000 031 000000 1063 1 810306 063 01 01 E7 (

HELIOS-A

YEAR 1981.

LAUNCH TIME 19126J992. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL	NORMAL
1	1	0	0	0	270.36	-0.02	0.59	1.14	59.25	89.64	6.55	0.012	0.02
1	2	0	0	0	271.24	-0.02	0.60	1.14	59.38	88.76	6.44	0.012	0.02
1	3	0	0	0	272.04	-0.02	0.61	1.14	59.46	87.96	6.33	0.012	0.02
1	4	0	0	0	272.80	-0.02	0.63	1.14	59.50	87.21	6.22	0.012	0.02
1	5	0	0	0	273.47	-0.02	0.64	1.14	59.49	86.53	6.11	0.011	0.02
1	6	0	0	0	274.08	-0.02	0.65	1.14	59.44	85.92	6.00	0.011	0.02
1	7	0	0	0	274.64	-0.02	0.66	1.14	59.36	85.36	5.89	0.011	0.02
1	8	0	0	0	275.15	-0.02	0.67	1.14	59.25	84.85	5.77	0.011	0.02
1	9	0	0	0	275.61	-0.02	0.68	1.14	59.11	84.39	5.66	0.011	0.02
1	10	0	0	0	276.02	-0.02	0.69	1.14	58.95	83.98	5.54	0.010	0.02
1	11	0	0	0	276.40	-0.02	0.70	1.14	58.76	83.60	5.43	0.010	0.02
1	12	0	0	0	276.73	-0.02	0.71	1.14	58.56	83.27	5.32	0.010	0.02
1	13	0	0	0	277.03	-0.02	0.72	1.15	58.34	82.97	5.20	0.010	0.02
1	14	0	0	0	277.29	-0.02	0.73	1.15	58.11	82.71	5.09	0.010	0.02
1	15	0	0	0	277.52	-0.02	0.74	1.15	57.86	82.48	4.98	0.009	0.02
1	16	0	0	0	277.71	-0.02	0.75	1.15	57.60	82.29	4.86	0.009	0.02
1	17	0	0	0	277.88	-0.02	0.76	1.16	57.34	82.12	4.75	0.009	0.02
1	18	0	0	0	278.02	-0.02	0.77	1.16	57.06	81.98	4.64	0.009	0.02
1	19	0	0	0	278.14	-0.02	0.78	1.16	56.78	81.86	4.53	0.009	0.02
1	20	0	0	0	278.23	-0.02	0.79	1.17	56.49	81.77	4.42	0.008	0.02
1	21	0	0	0	278.29	-0.02	0.79	1.17	56.20	81.71	4.31	0.008	0.01
1	22	0	0	0	278.34	-0.02	0.80	1.18	55.90	81.66	4.20	0.008	0.01
1	23	0	0	0	278.36	-0.02	0.81	1.18	55.60	81.64	4.10	0.008	0.01
1	24	0	0	0	278.37	-0.02	0.82	1.18	55.30	81.62	3.99	0.008	0.01
1	25	0	0	0	278.35	-0.02	0.83	1.19	55.00	81.65	3.88	0.007	0.01
1	26	0	0	0	278.32	-0.02	0.83	1.19	54.69	81.68	3.78	0.007	0.01
1	27	0	0	0	278.27	-0.02	0.84	1.20	54.39	81.73	3.67	0.007	0.01
1	28	0	0	0	278.21	-0.02	0.85	1.20	54.09	81.79	3.57	0.007	0.01
1	29	0	0	0	278.13	-0.02	0.85	1.21	53.78	81.87	3.47	0.007	0.01
1	30	0	0	0	278.04	-0.02	0.86	1.21	53.48	81.96	3.37	0.007	0.01
1	31	0	0	0	277.53	-0.02	0.87	1.22	53.18	82.07	3.26	0.006	0.01

END OF FILE ON ORBIT TAPE

SATAC HELIOS-A ORBIT TAP #OPA61
7405701 CR8 81 032 000000 059 000000 1097 01 810408 067 01 01 E7 U

HELIOS-A

YEAR 1981.

LAUNCH TIME 193942264. 0.

MM	DD	HR	MN	SC	HELIOS ECL.LONG	HELIOS ECL.LAT	SUN-HELIOS DIST(A.U)	ERTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEG)	HELIOS-SUN EARTH(DEG)	HELIOS HEL-LEFT(DEG)	HELIOS-V(A.U/DAY) RADIAL	NORMAL
2	1	0	0	0	277.81	-0.02	0.87	1.22	52.28	82.19	3.16	0.006	0.01
2	2	0	0	0	277.67	-0.02	0.88	1.23	52.59	82.33	3.06	0.006	0.01
2	3	0	0	0	277.53	-0.02	0.88	1.24	52.29	82.47	2.96	0.006	0.01
2	4	0	0	0	277.37	-0.02	0.89	1.24	52.00	82.63	2.86	0.006	0.01
2	5	0	0	0	277.21	-0.02	0.90	1.25	51.71	82.79	2.77	0.005	0.01
2	6	0	0	0	277.03	-0.02	0.90	1.25	51.43	82.97	2.67	0.005	0.01
2	7	0	0	0	276.85	-0.02	0.91	1.26	51.15	83.15	2.57	0.005	0.01
2	8	0	0	0	276.65	-0.01	0.91	1.26	50.87	83.35	2.47	0.005	0.01
2	9	0	0	0	276.45	-0.01	0.92	1.27	50.60	83.55	2.38	0.005	0.01
2	10	0	0	0	276.24	-0.01	0.92	1.27	50.33	83.75	2.28	0.005	0.01
2	11	0	0	0	276.02	-0.01	0.93	1.28	50.06	83.98	2.19	0.004	0.01
2	12	0	0	0	275.76	-0.01	0.93	1.29	49.80	84.21	2.09	0.004	0.01
2	13	0	0	0	275.56	-0.01	0.93	1.29	49.54	84.44	2.00	0.004	0.01
2	14	0	0	0	275.32	-0.01	0.94	1.30	49.28	84.68	1.91	0.004	0.01
2	15	0	0	0	275.08	-0.01	0.94	1.30	49.03	84.92	1.81	0.004	0.01
2	16	0	0	0	274.83	-0.01	0.95	1.31	48.79	85.17	1.72	0.004	0.01
2	17	0	0	0	274.58	-0.01	0.95	1.31	48.54	85.43	1.63	0.003	0.01
2	18	0	0	0	274.31	-0.01	0.95	1.32	48.31	85.69	1.54	0.003	0.01
2	19	0	0	0	274.05	-0.01	0.96	1.33	48.07	85.95	1.45	0.003	0.01
2	20	0	0	0	273.76	-0.01	0.96	1.33	47.85	86.22	1.35	0.003	0.01
2	21	0	0	0	273.51	-0.01	0.96	1.34	47.62	86.46	1.26	0.003	0.01
2	22	0	0	0	273.23	-0.01	0.96	1.34	47.40	86.77	1.17	0.003	0.01
2	23	0	0	0	272.95	-0.01	0.97	1.35	47.19	87.05	1.08	0.002	0.01
2	24	0	0	0	272.67	-0.01	0.97	1.35	46.98	87.33	0.99	0.002	0.01
2	25	0	0	0	272.36	-0.01	0.97	1.36	46.77	87.62	0.90	0.002	0.01
2	26	0	0	0	272.09	-0.01	0.97	1.36	46.57	87.91	0.81	0.002	0.01
2	27	0	0	0	271.80	-0.01	0.97	1.37	46.37	88.20	0.72	0.002	0.01
2	28	0	0	0	271.51	-0.01	0.98	1.37	46.19	88.49	0.64	0.002	0.01

END OF FILE ON ORBIT TAP

ORA61

2/1/81 - 2/28/81

SATID HELIOS-A
7405701 CRB

OCRBIT TAPE #=ORA62
81 060 000000 090 000000 1131 01 810511 131 01 01 E7 U

HELICS-A

YEAR 1981.

LAUNCH TIME 196361464. 0.

MM	DD	HH	MM	SC	HELIOS ECL.LONG	HELICS ECL.LAT	SUN-HELIOS DIST(A.U)	ERTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEG)	HELICS-SUN EARTH(DEG)	HELICS HEL-LET(DEG)	HELIOS-V (A.U/DAY) RADIAL	NORMAL
01	01	00	00	00	271.21	-0.01	0.98	1.38	45.99	88.79	0.55	0.001	0.01
01	02	00	00	00	270.91	-0.01	0.98	1.38	45.80	89.09	0.46	0.001	0.01
01	03	00	00	00	270.61	-0.01	0.98	1.39	45.62	89.39	0.37	0.001	0.01
01	04	00	00	00	270.31	-0.01	0.98	1.39	45.45	89.69	0.28	0.001	0.01
01	05	00	00	00	270.01	-0.01	0.98	1.40	45.28	89.99	0.19	0.001	0.01
01	06	00	00	00	269.71	-0.01	0.98	1.40	45.11	90.29	0.10	0.001	0.01
01	07	00	00	00	269.41	-0.01	0.98	1.40	44.95	90.59	0.02	0.001	0.01
01	08	00	00	00	269.11	-0.01	0.98	1.41	44.79	90.89	-0.07	0.000	0.01
01	09	00	00	00	268.80	-0.01	0.98	1.41	44.64	91.20	-0.16	0.000	0.01
01	10	00	00	00	268.50	-0.01	0.98	1.42	44.49	91.50	-0.25	0.000	0.01
01	11	00	00	00	268.20	-0.01	0.98	1.42	44.35	91.80	-0.33	-0.000	0.01
01	12	00	00	00	267.90	-0.01	0.98	1.42	44.21	92.10	-0.42	-0.000	0.01
01	13	00	00	00	267.60	-0.01	0.98	1.43	44.08	92.40	-0.51	-0.000	0.01
01	14	00	00	00	267.30	-0.00	0.98	1.43	43.95	92.70	-0.60	-0.001	0.01
01	15	00	00	00	267.01	-0.00	0.98	1.43	43.82	92.99	-0.68	-0.001	0.01
01	16	00	00	00	266.71	-0.00	0.98	1.44	43.71	93.29	-0.77	-0.001	0.01
01	17	00	00	00	266.42	-0.00	0.98	1.44	43.59	93.58	-0.86	-0.001	0.01
01	18	00	00	00	266.13	-0.00	0.98	1.44	43.48	93.87	-0.95	-0.001	0.01
01	19	00	00	00	265.84	-0.00	0.98	1.45	43.38	94.16	-1.04	-0.001	0.01
01	20	00	00	00	265.55	-0.00	0.98	1.45	43.28	94.45	-1.12	-0.002	0.01
01	21	00	00	00	265.27	-0.00	0.98	1.45	43.19	94.73	-1.21	-0.002	0.01
01	22	00	00	00	264.99	-0.00	0.97	1.45	43.11	95.01	-1.30	-0.002	0.01
01	23	00	00	00	264.71	-0.00	0.97	1.45	43.02	95.29	-1.39	-0.002	0.01
01	24	00	00	00	264.44	-0.00	0.97	1.46	42.95	95.56	-1.48	-0.002	0.01
01	25	00	00	00	264.17	-0.00	0.97	1.46	42.88	95.83	-1.57	-0.002	0.01
01	26	00	00	00	263.90	-0.00	0.96	1.46	42.82	96.10	-1.65	-0.003	0.01
01	27	00	00	00	263.64	-0.00	0.96	1.46	42.76	96.36	-1.74	-0.003	0.01
01	28	00	00	00	263.39	-0.00	0.96	1.46	42.71	96.61	-1.83	-0.003	0.01
01	29	00	00	00	263.14	-0.00	0.96	1.46	42.66	96.86	-1.92	-0.003	0.01
01	30	00	00	00	262.89	-0.00	0.95	1.46	42.63	97.11	-2.01	-0.003	0.01
01	31	00	00	00	262.65	0.00	0.95	1.46	42.60	97.35	-2.10	-0.003	0.01

END OF FILE ON ORBIT TAPE

ORA62

3/1/81 - 3/31/81

SAT ID HELIOS-A ORBIT TAPE #ORA63
7409701 CFB 81 051 000000 151 000000 1151 01 E10E15 151 01 01 E7 U

HELIOS-A YEAR 1981. LAUNCH TIME 198039592. 0.

DAYE					HEL IOS	HEL IOS	SUN-HEL IOS	ERTH-HEL IOS	EARTH-HEL IOS	HEL IOS-SUN	HEL IOS	HEL IOS-V (A.U./DAY)	
MM	DD	HR	MIN	SEC	ECL. LONG	ECL. LAT	DIST (A.U.)	DIST (A.U.)	SLN (DEG)	EARTH (DEG)	HEL-LET (DEG)	FACIAL	NORMAL
4	1	0	0	0	262.41	0.00	0.55	1.46	42.57	97.59	-2.19	-0.04	0.01
4	2	0	0	0	262.19	0.00	0.54	1.46	42.55	97.81	-2.28	-0.04	0.01
4	3	0	0	0	261.96	0.00	0.54	1.46	42.54	98.04	-2.37	-0.04	0.01
4	4	0	0	0	261.75	0.00	0.54	1.46	42.54	98.25	-2.47	-0.04	0.01
4	5	0	0	0	261.54	0.00	0.53	1.46	42.55	98.46	-2.56	-0.04	0.01
4	6	0	0	0	261.34	0.00	0.53	1.46	42.56	98.66	-2.65	-0.04	0.01
4	7	0	0	0	261.15	0.00	0.52	1.46	42.56	98.85	-2.74	-0.04	0.01
4	8	0	0	0	260.96	0.00	0.52	1.46	42.61	99.04	-2.84	-0.04	0.01
4	9	0	0	0	260.79	0.00	0.51	1.46	42.65	99.21	-2.93	-0.04	0.01
4	10	0	0	0	260.62	0.00	0.51	1.46	42.70	99.38	-3.02	-0.04	0.01
4	11	0	0	0	260.46	0.00	0.50	1.46	42.76	99.54	-3.12	-0.04	0.01
4	12	0	0	0	260.32	0.00	0.50	1.45	42.82	99.68	-3.21	-0.04	0.01
4	13	0	0	0	260.18	0.00	0.49	1.45	42.91	99.82	-3.31	-0.04	0.01
4	14	0	0	0	260.06	0.01	0.49	1.45	43.00	99.94	-3.40	-0.04	0.01
4	15	0	0	0	259.95	0.01	0.48	1.45	43.10	100.05	-3.50	-0.04	0.01
4	16	0	0	0	259.85	0.01	0.47	1.44	43.22	100.15	-3.59	-0.04	0.01
4	17	0	0	0	259.76	0.01	0.47	1.44	43.34	100.24	-3.69	-0.04	0.01
4	18	0	0	0	259.69	0.01	0.46	1.44	43.46	100.31	-3.79	-0.04	0.01
4	19	0	0	0	259.63	0.01	0.46	1.43	43.64	100.37	-3.89	-0.04	0.01
4	20	0	0	0	259.58	0.01	0.45	1.43	43.81	100.42	-3.98	-0.04	0.01
4	21	0	0	0	259.56	0.01	0.44	1.42	43.95	100.44	-4.08	-0.04	0.01
4	22	0	0	0	259.54	0.01	0.43	1.42	44.15	100.46	-4.18	-0.04	0.01
4	23	0	0	0	259.55	0.01	0.43	1.41	44.40	100.45	-4.28	-0.04	0.01
4	24	0	0	0	259.57	0.01	0.42	1.41	44.64	100.43	-4.38	-0.04	0.01
4	25	0	0	0	259.61	0.01	0.41	1.40	44.85	100.39	-4.48	-0.04	0.01
4	26	0	0	0	259.68	0.01	0.40	1.40	45.16	100.32	-4.59	-0.04	0.01
4	27	0	0	0	259.76	0.01	0.40	1.39	45.45	100.24	-4.69	-0.04	0.01
4	28	0	0	0	259.87	0.01	0.39	1.38	45.76	100.13	-4.79	-0.04	0.01
4	29	0	0	0	259.99	0.01	0.38	1.38	46.10	100.01	-4.89	-0.04	0.02
4	30	0	0	0	260.15	0.01	0.37	1.37	46.46	99.85	-5.00	-0.04	0.02
5	1	0	0	0	260.33	0.01	0.36	1.36	46.84	99.67	-5.10	-0.04	0.02
5	2	0	0	0	260.54	0.01	0.35	1.35	47.26	99.46	-5.21	-0.04	0.02
5	3	0	0	0	260.77	0.01	0.34	1.35	47.70	99.23	-5.31	-0.04	0.02
5	4	0	0	0	261.04	0.01	0.33	1.34	48.17	98.96	-5.41	-0.04	0.02
5	5	0	0	0	261.34	0.01	0.32	1.33	48.68	98.66	-5.52	-0.04	0.02
5	6	0	0	0	261.68	0.01	0.31	1.32	49.22	98.32	-5.62	-0.04	0.02
5	7	0	0	0	262.05	0.01	0.31	1.31	49.80	97.95	-5.73	-0.04	0.02
5	8	0	0	0	262.46	0.02	0.29	1.30	50.42	97.54	-5.84	-0.04	0.02
5	9	0	0	0	262.92	0.02	0.28	1.29	51.08	97.08	-5.94	-0.04	0.02
5	10	0	0	0	263.42	0.02	0.27	1.28	51.79	96.58	-6.04	-0.04	0.02
5	11	0	0	0	263.96	0.02	0.26	1.27	52.55	96.04	-6.14	-0.04	0.02
5	12	0	0	0	264.56	0.02	0.25	1.25	53.36	95.44	-6.25	-0.04	0.02
5	13	0	0	0	265.21	0.02	0.24	1.24	54.23	94.79	-6.35	-0.04	0.02
5	14	0	0	0	265.92	0.02	0.23	1.23	55.17	94.08	-6.44	-0.04	0.02
5	15	0	0	0	266.70	0.02	0.22	1.21	56.17	93.30	-6.54	-0.04	0.02
5	16	0	0	0	267.54	0.02	0.21	1.20	57.24	92.46	-6.63	-0.04	0.02
5	17	0	0	0	268.45	0.02	0.20	1.19	58.40	91.55	-6.72	-0.04	0.02
5	18	0	0	0	269.44	0.02	0.19	1.17	59.64	90.56	-6.81	-0.04	0.02
5	19	0	0	0	270.51	0.02	0.18	1.16	60.98	89.49	-6.89	-0.04	0.02
5	20	0	0	0	271.68	0.02	0.17	1.14	62.42	88.32	-6.97	-0.04	0.02
5	21	0	0	0	272.94	0.02	0.16	1.12	63.95	87.06	-7.04	-0.04	0.02
5	22	0	0	0	274.31	0.02	0.15	1.11	65.66	85.69	-7.10	-0.04	0.02
5	23	0	0	0	275.79	0.02	0.14	1.09	67.48	84.21	-7.15	-0.04	0.02
5	24	0	0	0	277.40	0.02	0.13	1.07	69.45	82.60	-7.19	-0.04	0.02
5	25	0	0	0	279.14	0.02	0.12	1.05	71.58	80.86	-7.22	-0.04	0.02
5	26	0	0	0	281.02	0.02	0.11	1.04	73.89	78.98	-7.23	-0.04	0.02
5	27	0	0	0	283.07	0.02	0.10	1.02	76.41	76.93	-7.22	-0.04	0.03
5	28	0	0	0	285.29	0.02	0.09	1.00	79.15	74.71	-7.19	-0.04	0.03
5	29	0	0	0	287.70	0.02	0.08	0.97	82.12	72.30	-7.13	-0.04	0.03
5	30	0	0	0	290.31	0.03	0.07	0.95	85.28	69.69	-7.04	-0.04	0.03
5	31	0	0	0	293.15	0.03	0.06	0.93	88.53	66.85	-6.92	-0.04	0.03

END OF FILE ON ORBIT TAPE

ORA63

4/1/81 - 5/31/81

SATID HELIOS-A ORBIT TAPE A=CRAFA
 7409701 DRB E1 152 000000 181 000000 1247 01 E10905 247 01 01 E7 (

HELIOS-A

YEAR 1981.

LAUNCH TIME 204310264. 0.

DATE				HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V (A.U./DAY)	HELIOS	HELIOS
MM	DD	HH	SS	ECL. LONG	ECL. LAT	DIST (A.U.)	DIST (A.U.)	SLN (DEG)	ECL. (DEG)	HEL. LET (DEG)	HEL. LET (DEG)	HEL. LET (DEG)	HEL. LET (DEG)
1	1	0	0	295.22	0.02	0.40	0.91	52.80	63.78	-6.15	-0.012	0.03	0.03
1	2	0	0	299.54	0.02	0.39	0.89	57.03	60.46	-6.54	-0.012	0.03	0.03
1	3	0	0	303.14	0.02	0.38	0.87	101.65	56.86	-6.93	-0.012	0.03	0.03
1	4	0	0	307.03	0.02	0.37	0.85	106.65	52.97	-7.32	-0.011	0.03	0.03
1	5	0	0	311.21	0.02	0.36	0.82	112.17	48.79	-7.71	-0.010	0.03	0.03
1	6	0	0	315.70	0.02	0.35	0.80	118.12	44.30	-8.10	-0.010	0.03	0.03
1	7	0	0	320.50	0.02	0.34	0.78	124.57	39.50	-8.49	-0.009	0.03	0.03
1	8	0	0	325.60	0.02	0.33	0.77	131.50	34.40	-8.88	-0.008	0.04	0.04
1	9	0	0	330.98	0.02	0.32	0.75	138.90	29.02	-9.27	-0.006	0.04	0.04
1	10	0	0	336.62	0.01	0.32	0.73	146.74	23.38	-9.66	-0.005	0.04	0.04
1	11	0	0	342.46	0.01	0.31	0.72	154.68	17.54	-10.05	-0.003	0.04	0.04
1	12	0	0	348.46	0.01	0.31	0.71	162.46	11.54	-10.44	-0.002	0.04	0.04
1	13	0	0	354.54	0.01	0.31	0.71	170.37	5.46	-10.83	-0.001	0.04	0.04
1	14	0	0	0.64	0.00	0.31	0.71	178.06	0.64	-11.22	0.000	0.04	0.04
1	15	0	0	6.68	0.00	0.32	0.71	185.97	6.68	-11.61	0.000	0.04	0.04
1	16	0	0	12.63	-0.00	0.32	0.72	193.88	12.60	-12.00	0.000	0.04	0.04
1	17	0	0	18.33	-0.01	0.33	0.73	201.79	18.33	-12.39	0.000	0.04	0.04
1	18	0	0	23.83	-0.01	0.33	0.74	209.70	23.83	-12.78	0.000	0.04	0.04
1	19	0	0	29.06	-0.01	0.34	0.76	217.61	29.06	-13.17	0.000	0.03	0.03
1	20	0	0	33.98	-0.01	0.35	0.77	225.52	33.98	-13.56	0.000	0.03	0.03
1	21	0	0	38.61	-0.02	0.36	0.79	233.43	38.61	-13.95	0.000	0.03	0.03
1	22	0	0	42.93	-0.02	0.37	0.81	241.34	42.93	-14.34	0.000	0.03	0.03
1	23	0	0	46.94	-0.02	0.39	0.83	249.25	46.94	-14.73	0.000	0.03	0.03
1	24	0	0	50.66	-0.02	0.40	0.85	257.16	50.66	-15.12	0.000	0.03	0.03
1	25	0	0	54.11	-0.02	0.41	0.87	265.07	54.11	-15.51	0.000	0.03	0.03
1	26	0	0	57.29	-0.02	0.42	0.89	272.98	57.29	-15.90	0.000	0.03	0.03
1	27	0	0	60.23	-0.02	0.44	0.91	280.89	60.23	-16.29	0.000	0.03	0.03
1	28	0	0	62.94	-0.02	0.45	0.93	288.80	62.94	-16.68	0.000	0.03	0.03
1	29	0	0	65.42	-0.02	0.46	0.94	296.71	65.42	-17.07	0.000	0.03	0.03
1	30	0	0	67.74	-0.02	0.46	0.94	304.62	67.74	-17.46	0.000	0.03	0.03

END OF FILE ON ORBIT TAPE

HELIOS-A

YEAR 1983.

LAUNCH TIME 269974264. 0.

DATE	HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)
MM DD HR MN SC	ECL. LONG	ECL. LAT	DIST(A.U.)	DIST(A.U.)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL
7 1 0 0 0	265.72	0.02	0.41	1.12	64.37	94.28	-6.86	-0.013
7 2 0 0 0	268.91	0.02	0.40	1.10	67.67	91.09	-6.67	-0.012
7 3 0 0 0	272.35	0.02	0.39	1.07	71.28	87.65	-6.44	-0.012
7 4 0 0 0	276.08	0.02	0.37	1.05	75.22	83.92	-6.15	-0.011
7 5 0 0 0	280.10	0.02	0.36	1.02	79.53	79.90	-5.80	-0.011
7 6 0 0 0	284.43	0.02	0.35	0.99	84.22	75.57	-5.37	-0.010
7 7 0 0 0	289.06	0.02	0.34	0.96	89.33	70.94	-4.88	-0.009
7 8 0 0 0	293.99	0.02	0.33	0.93	94.85	66.01	-4.31	-0.008
7 9 0 0 0	299.23	0.02	0.33	0.90	100.81	60.77	-3.66	-0.007
7 10 0 0 0	304.73	0.02	0.32	0.87	107.20	55.27	-2.93	-0.006
7 11 0 0 0	310.47	0.01	0.32	0.85	113.99	49.53	-2.15	-0.004
7 12 0 0 0	316.39	0.01	0.31	0.82	121.17	43.61	-1.31	-0.003
7 13 0 0 0	322.44	0.01	0.31	0.79	128.67	37.56	-0.43	-0.001
7 14 0 0 0	328.54	0.01	0.31	0.77	136.43	31.46	0.46	0.000
7 15 0 0 0	334.63	0.00	0.31	0.75	144.37	25.37	1.33	0.002
7 16 0 0 0	340.63	0.00	0.31	0.73	152.42	19.37	2.18	0.004
7 17 0 0 0	346.47	-0.00	0.32	0.71	160.48	13.53	2.98	0.005
7 18 0 0 0	352.11	-0.00	0.32	0.70	168.46	7.89	3.72	0.006
7 19 0 0 0	357.49	-0.01	0.33	0.69	176.28	2.51	4.38	0.008
7 20 0 0 0	2.59	-0.01	0.34	0.68	176.12	2.59	4.96	0.009
7 21 0 0 0	7.39	-0.01	0.35	0.67	168.80	7.39	5.46	0.010
7 22 0 0 0	11.88	-0.01	0.36	0.67	161.81	11.88	5.89	0.010
7 23 0 0 0	16.07	-0.02	0.37	0.67	155.18	16.07	6.24	0.011
7 24 0 0 0	19.95	-0.02	0.38	0.67	148.93	19.95	6.52	0.012
7 25 0 0 0	23.55	-0.02	0.39	0.68	143.06	23.55	6.75	0.012
7 26 0 0 0	26.88	-0.02	0.40	0.68	137.57	26.88	6.92	0.012
7 27 0 0 0	29.95	-0.02	0.42	0.69	132.45	29.95	7.05	0.013
7 28 0 0 0	32.78	-0.02	0.43	0.69	127.69	32.78	7.14	0.013
7 29 0 0 0	35.39	-0.02	0.44	0.70	123.27	35.39	7.20	0.013
7 30 0 0 0	37.80	-0.02	0.45	0.71	119.17	37.80	7.22	0.013
7 31 0 0 0	40.02	-0.02	0.47	0.72	115.36	40.02	7.23	0.013
8 1 0 0 0	42.07	-0.02	0.48	0.73	111.83	42.07	7.21	0.013
8 2 0 0 0	43.96	-0.02	0.49	0.74	108.55	43.96	7.17	0.013
8 3 0 0 0	45.70	-0.02	0.51	0.75	105.51	45.70	7.12	0.013
8 4 0 0 0	47.31	-0.02	0.52	0.76	102.69	47.31	7.06	0.013
8 5 0 0 0	48.80	-0.02	0.53	0.78	100.07	48.80	6.98	0.013
8 6 0 0 0	50.16	-0.02	0.55	0.79	97.63	50.16	6.90	0.013
8 7 0 0 0	51.43	-0.02	0.56	0.80	95.36	51.43	6.81	0.013
8 8 0 0 0	52.59	-0.02	0.57	0.81	93.24	52.59	6.72	0.012
8 9 0 0 0	53.67	-0.02	0.58	0.82	91.26	53.67	6.62	0.012
8 10 0 0 0	54.66	-0.02	0.59	0.83	89.42	54.66	6.52	0.012
8 11 0 0 0	55.58	-0.02	0.61	0.84	87.69	55.58	6.41	0.012
8 12 0 0 0	56.42	-0.02	0.62	0.85	86.08	56.42	6.30	0.012
8 13 0 0 0	57.20	-0.02	0.63	0.86	84.57	57.20	6.19	0.011
8 14 0 0 0	57.91	-0.02	0.64	0.86	83.15	57.91	6.08	0.011
8 15 0 0 0	58.57	-0.02	0.65	0.87	81.82	58.57	5.97	0.011
8 16 0 0 0	59.17	-0.02	0.66	0.88	80.57	59.17	5.86	0.011
8 17 0 0 0	59.72	-0.02	0.67	0.89	79.40	59.72	5.74	0.011
8 18 0 0 0	60.22	-0.02	0.68	0.90	78.30	60.22	5.63	0.010
8 19 0 0 0	60.68	-0.02	0.70	0.91	77.26	60.68	5.51	0.010
8 20 0 0 0	61.10	-0.02	0.71	0.91	76.28	61.10	5.40	0.010
8 21 0 0 0	61.48	-0.02	0.72	0.92	75.36	61.48	5.28	0.010
8 22 0 0 0	61.82	-0.02	0.73	0.93	74.49	61.82	5.17	0.010
8 23 0 0 0	62.13	-0.02	0.73	0.93	73.67	62.13	5.06	0.009
8 24 0 0 0	62.40	-0.02	0.74	0.94	72.90	62.40	4.95	0.009
8 25 0 0 0	62.64	-0.02	0.75	0.94	72.17	62.64	4.83	0.009
8 26 0 0 0	62.86	-0.02	0.76	0.95	71.49	62.86	4.72	0.009
8 27 0 0 0	63.04	-0.02	0.77	0.95	70.84	63.04	4.61	0.009
8 28 0 0 0	63.20	-0.02	0.78	0.96	70.22	63.20	4.50	0.009
8 29 0 0 0	63.34	-0.02	0.79	0.96	69.65	63.34	4.39	0.008
8 30 0 0 0	63.45	-0.02	0.80	0.97	69.10	63.45	4.28	0.008
8 31 0 0 0	63.54	-0.02	0.80	0.97	68.58	63.54	4.18	0.008
9 1 0 0 0	63.61	-0.02	0.81	0.97	68.10	63.61	4.07	0.008
9 2 0 0 0	63.65	-0.02	0.82	0.98	67.64	63.65	3.96	0.008
9 3 0 0 0	63.68	-0.02	0.83	0.98	67.20	63.68	3.86	0.007
9 4 0 0 0	63.69	-0.02	0.83	0.99	66.79	63.69	3.75	0.007
9 5 0 0 0	63.66	-0.02	0.84	0.99	66.41	63.69	3.65	0.007
9 6 0 0 0	63.62	-0.02	0.84	0.99	66.05	63.66	3.54	0.007
9 7 0 0 0	63.57	-0.02	0.86	0.99	65.70	63.62	3.44	0.007
9 8 0 0 0	63.50	-0.02	0.87	0.99	65.38	63.57	3.34	0.006
9 9 0 0 0	63.42	-0.02	0.87	1.00	65.08	63.50	3.24	0.006
9 10 0 0 0	63.33	-0.02	0.88	1.00	64.80	63.42	3.14	0.006
9 11 0 0 0	63.22	-0.02	0.89	1.00	64.53	63.33	3.04	0.006
9 12 0 0 0	63.10	-0.02	0.89	1.00	64.28	63.22	2.94	0.006
9 13 0 0 0			0.89	1.00	64.05	63.10	2.84	0.006

9 14	0	0	0	62.98	-0.02	0.90	1.00	63.83	62.98	2.74	0.005	0.01
9 15	0	0	0	62.84	-0.02	0.90	1.00	63.63	62.84	2.64	0.005	0.01
9 16	0	0	0	62.69	-0.02	0.91	1.00	63.44	62.69	2.55	0.005	0.01

HELIOS-A

YEAR 1983.

LAUNCH TIME 276630552. 0.

DATE	MM	DD	HR	MM	SC	HELIOS ECL. LONG	HELIOS ECL. LAT	SUN-HELIOS DIST(A.U)	ERTH-HELIOS DIST(A.U)	EARTH-HELIOS SUN(DEG)	HELIOS-SUN EARTH(DEG)	HELIOS HEL-LET(DEG)	HELIOS-V(A.U/DAY) RADIAL	NORMAL
9 17	0	0	0	0	0	62.33	-0.02	0.91	1.00	63.27	62.53	2.45	0.005	0.01
9 18	0	0	0	0	0	62.36	-0.02	0.92	1.00	63.11	62.36	2.35	0.005	0.01
9 19	0	0	0	0	0	62.18	-0.02	0.92	1.00	62.96	62.18	2.26	0.005	0.01
9 20	0	0	0	0	0	62.00	-0.01	0.93	1.00	62.83	62.00	2.16	0.004	0.01
9 21	0	0	0	0	0	61.81	-0.01	0.94	0.99	62.71	61.81	2.07	0.004	0.01
9 22	0	0	0	0	0	61.61	-0.01	0.94	0.99	62.60	61.61	1.98	0.004	0.01
9 23	0	0	0	0	0	61.40	-0.01	0.94	0.99	62.50	61.40	1.88	0.004	0.01
9 24	0	0	0	0	0	61.18	-0.01	0.95	0.99	62.41	61.18	1.79	0.004	0.01
9 25	0	0	0	0	0	60.96	-0.01	0.95	0.99	62.34	60.96	1.70	0.004	0.01
9 26	0	0	0	0	0	60.74	-0.01	0.95	0.99	62.27	60.74	1.60	0.003	0.01
9 27	0	0	0	0	0	60.50	-0.01	0.96	0.98	62.22	60.50	1.51	0.003	0.01
9 28	0	0	0	0	0	60.26	-0.01	0.96	0.98	62.18	60.26	1.42	0.003	0.01
9 29	0	0	0	0	0	60.02	-0.01	0.96	0.98	62.15	60.02	1.33	0.003	0.01
9 30	0	0	0	0	0	59.77	-0.01	0.96	0.98	62.12	59.77	1.24	0.003	0.01
10 1	0	0	0	0	0	59.52	-0.01	0.96	0.98	62.11	59.52	1.15	0.003	0.01
10 2	0	0	0	0	0	59.26	-0.01	0.97	0.97	62.11	59.26	1.06	0.002	0.01
10 3	0	0	0	0	0	58.99	-0.01	0.97	0.97	62.11	58.99	0.97	0.002	0.01
10 4	0	0	0	0	0	58.73	-0.01	0.97	0.97	62.13	58.73	0.88	0.002	0.01
10 5	0	0	0	0	0	58.46	-0.01	0.97	0.96	62.15	58.46	0.79	0.002	0.01
10 6	0	0	0	0	0	58.18	-0.01	0.98	0.96	62.19	58.18	0.70	0.002	0.01
10 7	0	0	0	0	0	57.91	-0.01	0.98	0.95	62.23	57.91	0.61	0.002	0.01
10 8	0	0	0	0	0	57.63	-0.01	0.98	0.95	62.28	57.63	0.52	0.001	0.01
10 9	0	0	0	0	0	57.35	-0.01	0.98	0.95	62.34	57.35	0.44	0.001	0.01
10 10	0	0	0	0	0	57.06	-0.01	0.98	0.94	62.41	57.06	0.35	0.001	0.01
10 11	0	0	0	0	0	56.78	-0.01	0.98	0.94	62.49	56.78	0.26	0.001	0.01
10 12	0	0	0	0	0	56.49	-0.01	0.98	0.93	62.58	56.49	0.17	0.001	0.01
10 13	0	0	0	0	0	56.20	-0.01	0.98	0.93	62.68	56.20	0.08	0.001	0.01
10 14	0	0	0	0	0	55.91	-0.01	0.98	0.92	62.78	55.91	-0.01	0.000	0.01
10 15	0	0	0	0	0	55.61	-0.01	0.98	0.92	62.90	55.61	-0.09	0.000	0.01
10 16	0	0	0	0	0	55.32	-0.01	0.98	0.92	63.02	55.32	-0.18	0.000	0.01
10 17	0	0	0	0	0	55.03	-0.01	0.98	0.92	63.15	55.03	-0.27	0.000	0.01
10 18	0	0	0	0	0	54.73	-0.01	0.98	0.91	63.29	54.73	-0.36	0.000	0.01
10 19	0	0	0	0	0	54.44	-0.01	0.98	0.91	63.45	54.44	-0.44	0.000	0.01
10 20	0	0	0	0	0	54.14	-0.01	0.98	0.90	63.61	54.14	-0.53	0.001	0.01
10 21	0	0	0	0	0	53.85	-0.01	0.98	0.89	63.77	53.85	-0.62	0.001	0.01
10 22	0	0	0	0	0	53.55	-0.01	0.98	0.89	63.95	53.55	-0.71	0.001	0.01
10 23	0	0	0	0	0	53.26	-0.01	0.98	0.88	64.14	53.26	-0.80	0.001	0.01
10 24	0	0	0	0	0	52.97	-0.01	0.98	0.88	64.34	52.97	-0.88	0.001	0.01
10 25	0	0	0	0	0	52.68	-0.01	0.98	0.87	64.55	52.68	-0.97	0.001	0.01
10 26	0	0	0	0	0	52.39	-0.00	0.98	0.87	64.76	52.39	-1.06	0.001	0.01
10 27	0	0	0	0	0	52.10	-0.00	0.97	0.86	64.99	52.10	-1.15	0.002	0.01
10 28	0	0	0	0	0	51.81	-0.00	0.97	0.85	65.23	51.81	-1.23	0.002	0.01
10 29	0	0	0	0	0	51.52	-0.00	0.97	0.85	65.48	51.52	-1.32	0.002	0.01
10 30	0	0	0	0	0	51.24	-0.00	0.97	0.84	65.73	51.24	-1.41	0.002	0.01
10 31	0	0	0	0	0	50.96	-0.00	0.97	0.84	66.00	50.96	-1.50	0.002	0.01
11 1	0	0	0	0	0	50.68	-0.00	0.97	0.83	66.28	50.68	-1.59	0.002	0.01
11 2	0	0	0	0	0	50.41	-0.00	0.96	0.83	66.57	50.41	-1.68	0.003	0.01
11 3	0	0	0	0	0	50.14	-0.00	0.96	0.82	66.87	50.14	-1.77	0.003	0.01
11 4	0	0	0	0	0	49.87	-0.00	0.96	0.82	67.19	49.87	-1.86	0.003	0.01
11 5	0	0	0	0	0	49.61	-0.00	0.95	0.81	67.51	49.61	-1.95	0.003	0.01
11 6	0	0	0	0	0	49.35	-0.00	0.95	0.80	67.84	49.35	-2.04	0.003	0.01
11 7	0	0	0	0	0	49.09	-0.00	0.95	0.80	68.19	49.09	-2.13	0.003	0.01
11 8	0	0	0	0	0	48.84	-0.00	0.94	0.79	68.55	48.84	-2.22	0.004	0.01
11 9	0	0	0	0	0	48.60	-0.00	0.94	0.79	68.92	48.60	-2.31	0.004	0.01
11 10	0	0	0	0	0	48.36	0.00	0.93	0.78	69.30	48.36	-2.40	0.004	0.01
11 11	0	0	0	0	0	48.13	0.00	0.93	0.78	69.69	48.13	-2.49	0.004	0.01
11 12	0	0	0	0	0	47.90	0.00	0.93	0.77	70.09	47.90	-2.58	0.004	0.01
11 13	0	0	0	0	0	47.68	0.00	0.92	0.77	70.51	47.68	-2.67	0.004	0.01
11 14	0	0	0	0	0	47.47	0.00	0.92	0.76	70.94	47.47	-2.77	0.005	0.01
11 15	0	0	0	0	0	47.26	0.00	0.91	0.76	71.38	47.26	-2.86	0.005	0.01
11 16	0	0	0	0	0	47.07	0.00	0.91	0.75	71.83	47.07	-2.95	0.005	0.01
11 17	0	0	0	0	0	46.88	0.00	0.90	0.75	72.30	46.88	-3.05	0.005	0.01
11 18	0	0	0	0	0	46.70	0.00	0.89	0.74	72.77	46.70	-3.14	0.005	0.01
11 19	0	0	0	0	0	46.53	0.00	0.89	0.74	73.26	46.53	-3.24	0.005	0.01
11 20	0	0	0	0	0	46.37	0.00	0.88	0.74	73.76	46.37	-3.33	0.006	0.01
11 21	0	0	0	0	0	46.22	0.00	0.88	0.73	74.27	46.22	-3.43	0.006	0.01
11 22	0	0	0	0	0	46.08	0.00	0.87	0.73	74.79	46.08	-3.52	0.006	0.01
11 23	0	0	0	0	0	45.95	0.00	0.87	0.73	75.33	45.95	-3.62	0.006	0.01
11 24	0	0	0	0	0	45.84	0.01	0.86	0.73	75.87	45.84	-3.72	0.006	0.01
11 25	0	0	0	0	0	45.73	0.01	0.85	0.72	76.42	45.73	-3.81	0.007	0.01
11 26	0	0	0	0	0	45.64	0.01	0.85	0.72	76.98	45.64	-3.91	0.007	0.01
11 27	0	0	0	0	0	45.57	0.01	0.85	0.72	77.55	45.57	-4.01	0.007	0.01

12	1	0	0	0	45.43	0.01	0.82	0.71	79.89	45.43	-4.41	-.008	0.01
12	2	0	0	0	45.43	0.01	0.81	0.71	80.49	45.43	-4.31	-.008	0.01
12	3	0	0	0	45.46	0.01	0.80	0.71	81.08	45.46	-4.61	-.008	0.01
12	4	0	0	0	45.51	0.01	0.79	0.71	81.68	45.51	-4.72	-.008	0.01
12	5	0	0	0	45.58	0.01	0.79	0.71	82.27	45.58	-4.82	-.008	0.02
12	6	0	0	0	45.67	0.01	0.78	0.71	82.86	45.67	-4.92	-.009	0.02
12	7	0	0	0	45.79	0.01	0.77	0.71	83.44	45.79	-5.03	-.009	0.02
12	8	0	0	0	45.94	0.01	0.76	0.71	84.02	45.94	-5.13	-.009	0.02
12	9	0	0	0	46.11	0.01	0.75	0.71	84.58	46.11	-5.24	-.009	0.02
12	10	0	0	0	46.31	0.01	0.74	0.71	85.13	46.31	-5.34	-.009	0.02
12	11	0	0	0	46.54	0.01	0.73	0.72	85.67	46.54	-5.44	-.010	0.02
12	12	0	0	0	46.80	0.01	0.72	0.72	86.19	46.80	-5.55	-.010	0.02
12	13	0	0	0	47.10	0.01	0.71	0.72	86.68	47.10	-5.65	-.010	0.02
12	14	0	0	0	47.44	0.01	0.70	0.73	87.15	47.44	-5.76	-.010	0.02
12	15	0	0	0	47.82	0.01	0.69	0.73	87.59	47.82	-5.86	-.010	0.02
12	16	0	0	0	48.23	0.01	0.68	0.73	88.00	48.23	-5.97	-.011	0.02
12	17	0	0	0	48.70	0.01	0.67	0.74	88.37	48.70	-6.07	-.011	0.02
12	18	0	0	0	49.21	0.02	0.66	0.75	88.70	49.21	-6.17	-.011	0.02
12	19	0	0	0	49.77	0.02	0.65	0.75	88.99	49.77	-6.28	-.011	0.02
12	20	0	0	0	50.39	0.02	0.64	0.76	89.23	50.39	-6.38	-.011	0.02
12	21	0	0	0	51.07	0.02	0.63	0.77	89.41	51.07	-6.47	-.012	0.02
12	22	0	0	0	51.81	0.02	0.61	0.77	89.54	51.81	-6.57	-.012	0.02
12	23	0	0	0	52.61	0.02	0.60	0.78	89.60	52.61	-6.66	-.012	0.02
12	24	0	0	0	53.50	0.02	0.59	0.79	89.59	53.50	-6.75	-.012	0.02
12	25	0	0	0	54.46	0.02	0.58	0.80	89.51	54.46	-6.84	-.012	0.02
12	26	0	0	0	55.50	0.02	0.57	0.81	89.35	55.50	-6.92	-.012	0.02
12	27	0	0	0	56.64	0.02	0.55	0.82	89.09	56.64	-6.99	-.013	0.02
12	28	0	0	0	57.88	0.02	0.54	0.83	88.74	57.88	-7.06	-.013	0.02
12	29	0	0	0	59.22	0.02	0.53	0.85	88.29	59.22	-7.12	-.013	0.02
12	30	0	0	0	60.69	0.02	0.52	0.86	87.72	60.69	-7.16	-.013	0.02
12	31	0	0	0	62.28	0.02	0.50	0.87	87.03	62.28	-7.20	-.013	0.02

END OF FILE ON ORBIT TAPE

HELIOS-A YEAR 1984. LAUNCH TIME 285871864. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)
MM	DD	HR	MM	SC	ECL. LONG	ECL. LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RADIAL
1	1	0	0	0	64.80	0.02	0.49	0.89	86.20	64.00	-7.22	-0.13
1	2	0	0	0	65.88	0.02	0.48	0.90	85.24	65.88	-7.23	-0.13
1	3	0	0	0	67.92	0.02	0.46	0.92	84.11	67.92	-7.21	-0.13
1	4	0	0	0	70.14	0.02	0.45	0.93	82.82	70.14	-7.17	-0.13
1	5	0	0	0	72.56	0.02	0.44	0.95	81.35	72.56	-7.11	-0.13
1	6	0	0	0	75.18	0.02	0.42	0.97	79.68	75.18	-7.01	-0.13
1	7	0	0	0	78.03	0.02	0.41	0.98	77.80	78.03	-6.87	-0.13
1	8	0	0	0	81.12	0.02	0.40	1.00	75.70	81.12	-6.70	-0.12
1	9	0	0	0	84.47	0.02	0.39	1.02	73.36	84.47	-6.47	-0.12
1	10	0	0	0	88.10	0.02	0.38	1.04	70.76	88.10	-6.19	-0.11
1	11	0	0	0	92.02	0.02	0.36	1.06	67.89	92.02	-5.84	-0.11
1	12	0	0	0	96.24	0.02	0.35	1.08	64.75	96.24	-5.43	-0.10
1	13	0	0	0	100.77	0.02	0.34	1.10	61.33	100.77	-4.94	-0.09
1	14	0	0	0	105.61	0.02	0.34	1.12	57.64	105.61	-4.38	-0.08
1	15	0	0	0	110.75	0.02	0.33	1.14	53.68	110.75	-3.73	-0.07
1	16	0	0	0	116.16	0.02	0.32	1.16	49.47	116.16	-3.02	-0.06
1	17	0	0	0	121.80	0.01	0.32	1.18	45.05	121.80	-2.24	-0.04
1	18	0	0	0	127.64	0.01	0.31	1.20	40.47	127.64	-1.40	-0.03
1	19	0	0	0	133.62	0.01	0.31	1.22	35.77	133.62	-0.53	-0.01
1	20	0	0	0	139.65	0.01	0.31	1.24	31.02	139.65	0.35	0.00
1	21	0	0	0	145.68	0.00	0.31	1.25	26.29	145.68	1.23	0.00
1	22	0	0	0	151.63	0.00	0.31	1.27	21.63	151.63	2.09	0.00
1	23	0	0	0	157.43	-0.00	0.32	1.28	17.12	157.43	2.89	0.00
1	24	0	0	0	163.03	-0.00	0.32	1.30	12.80	163.03	3.64	0.00
1	25	0	0	0	168.38	-0.01	0.33	1.31	8.71	168.38	4.30	0.00
1	26	0	0	0	173.45	-0.01	0.34	1.32	4.88	173.45	4.90	0.00
1	27	0	0	0	178.22	-0.01	0.35	1.33	1.31	178.22	5.41	0.00
1	28	0	0	0	182.69	-0.01	0.36	1.34	1.97	177.31	5.84	0.01
1	29	0	0	0	186.84	-0.02	0.37	1.35	4.99	173.16	6.20	0.01
1	30	0	0	0	190.70	-0.02	0.38	1.36	7.74	169.30	6.49	0.01
1	31	0	0	0	194.27	-0.02	0.39	1.37	10.23	165.73	6.73	0.01
2	1	0	0	0	197.56	-0.02	0.40	1.37	12.50	162.44	6.91	0.01
2	2	0	0	0	200.60	-0.02	0.41	1.38	14.54	159.40	7.04	0.01
2	3	0	0	0	203.40	-0.02	0.43	1.39	16.38	156.60	7.13	0.01
2	4	0	0	0	205.98	-0.02	0.44	1.40	18.03	154.02	7.19	0.01
2	5	0	0	0	208.35	-0.02	0.45	1.40	19.51	151.65	7.22	0.01
2	6	0	0	0	210.54	-0.02	0.47	1.41	20.84	149.47	7.25	0.01
2	7	0	0	0	212.54	-0.02	0.48	1.41	22.03	147.46	7.21	0.01
2	8	0	0	0	214.39	-0.02	0.49	1.42	23.10	145.61	7.13	0.01
2	9	0	0	0	216.10	-0.02	0.51	1.43	24.04	143.90	7.06	0.01
2	10	0	0	0	217.66	-0.02	0.52	1.43	24.89	142.34	6.99	0.01
2	11	0	0	0	219.11	-0.02	0.53	1.44	25.64	140.89	6.91	0.01
2	12	0	0	0	220.43	-0.02	0.54	1.44	26.30	139.57	6.82	0.01
2	13	0	0	0	221.66	-0.02	0.56	1.45	26.88	138.34	6.73	0.01
2	14	0	0	0	222.78	-0.02	0.57	1.46	27.40	137.22	6.63	0.01
2	15	0	0	0	223.81	-0.02	0.58	1.46	27.85	136.19	6.53	0.01
2	16	0	0	0	224.77	-0.02	0.59	1.47	28.25	135.23	6.42	0.01
2	17	0	0	0	225.64	-0.02	0.61	1.48	28.59	134.36	6.32	0.01
2	18	0	0	0	226.44	-0.02	0.62	1.48	28.88	133.56	6.21	0.01
2	19	0	0	0	227.18	-0.02	0.63	1.49	29.14	132.82	6.09	0.01
2	20	0	0	0	227.85	-0.02	0.64	1.50	29.35	132.15	5.98	0.01
2	21	0	0	0	228.46	-0.02	0.65	1.52	29.52	131.54	5.87	0.01
2	22	0	0	0	229.02	-0.02	0.66	1.51	29.67	130.98	5.75	0.01
2	23	0	0	0	229.53	-0.02	0.67	1.52	29.78	130.47	5.64	0.01
2	24	0	0	0	230.00	-0.02	0.68	1.52	29.87	130.00	5.53	0.01
2	25	0	0	0	230.42	-0.02	0.69	1.53	29.94	129.58	5.41	0.01
2	26	0	0	0	230.80	-0.02	0.70	1.54	29.98	129.21	5.30	0.01
2	27	0	0	0	231.13	-0.02	0.71	1.54	30.00	128.87	5.19	0.01
2	28	0	0	0	231.44	-0.02	0.72	1.55	30.00	128.56	5.07	0.01
2	29	0	0	0	231.71	-0.02	0.73	1.56	29.99	128.29	5.07	0.01

END OF FILE ON ORBIT TAPE

AP179

HELIOS-A

YEAR 1984.

LAUNCH TIME 291055864. 0.

IM	DATE	HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)			
DD	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U)	SUN(DEC)	EARTH(DEC)	HEL-LET(DEC)	RADIAL	NORMAL	
3	1	0	0	231.94	-0.02	0.74	1.56	29.96	128.06	4.96	0.009	0.02
3	2	0	0	232.15	-0.02	0.75	1.57	29.91	127.85	4.85	0.009	0.02
3	3	0	0	232.33	-0.02	0.76	1.58	29.85	127.67	4.74	0.009	0.02
3	4	0	0	232.48	-0.02	0.77	1.58	29.79	127.52	4.62	0.009	0.02
3	5	0	0	232.60	-0.02	0.78	1.59	29.71	127.40	4.51	0.009	0.02
3	6	0	0	232.70	-0.02	0.79	1.60	29.62	127.30	4.41	0.008	0.01
3	7	0	0	232.78	-0.02	0.80	1.60	29.52	127.22	4.30	0.008	0.01
3	8	0	0	232.84	-0.02	0.80	1.61	29.42	127.16	4.19	0.008	0.01
3	9	0	0	232.88	-0.02	0.81	1.62	29.30	127.12	4.08	0.008	0.01
3	10	0	0	232.90	-0.02	0.82	1.62	29.19	127.10	3.98	0.008	0.01
3	11	0	0	232.90	-0.02	0.83	1.63	29.06	127.10	3.87	0.007	0.01
3	12	0	0	232.88	-0.02	0.83	1.64	28.93	127.12	3.76	0.007	0.01
3	13	0	0	232.85	-0.02	0.84	1.64	28.80	127.15	3.66	0.007	0.01
3	14	0	0	232.80	-0.02	0.85	1.65	28.66	127.20	3.56	0.007	0.01
3	15	0	0	232.74	-0.02	0.85	1.66	28.52	127.26	3.45	0.007	0.01
3	16	0	0	232.66	-0.02	0.86	1.66	28.37	127.34	3.35	0.006	0.01
3	17	0	0	232.57	-0.02	0.87	1.67	28.22	127.43	3.25	0.006	0.01
3	18	0	0	232.47	-0.02	0.87	1.68	28.07	127.53	3.15	0.006	0.01
3	19	0	0	232.35	-0.02	0.88	1.68	27.92	127.65	3.05	0.006	0.01
3	20	0	0	232.23	-0.02	0.89	1.69	27.76	127.77	2.95	0.006	0.01
3	21	0	0	232.09	-0.02	0.89	1.70	27.60	127.91	2.85	0.006	0.01
3	22	0	0	231.95	-0.02	0.90	1.70	27.44	128.05	2.75	0.005	0.01
3	23	0	0	231.79	-0.02	0.90	1.71	27.28	128.21	2.66	0.005	0.01
3	24	0	0	231.62	-0.02	0.91	1.71	27.12	128.38	2.56	0.005	0.01
3	25	0	0	231.45	-0.02	0.91	1.72	26.95	128.55	2.46	0.005	0.01
3	26	0	0	231.27	-0.02	0.92	1.73	26.79	128.73	2.37	0.005	0.01
3	27	0	0	231.08	-0.02	0.92	1.73	26.63	128.92	2.27	0.005	0.01
3	28	0	0	230.88	-0.02	0.93	1.74	26.46	129.12	2.18	0.004	0.01
3	29	0	0	230.68	-0.01	0.93	1.74	26.29	129.32	2.08	0.004	0.01
3	30	0	0	230.47	-0.01	0.93	1.75	26.13	129.53	1.99	0.004	0.01
3	31	0	0	230.25	-0.01	0.94	1.75	25.96	129.75	1.89	0.004	0.01
4	1	0	0	230.03	-0.01	0.94	1.76	25.80	129.97	1.80	0.004	0.01
4	2	0	0	229.80	-0.01	0.95	1.77	25.63	130.20	1.71	0.004	0.01
4	3	0	0	229.56	-0.01	0.95	1.77	25.47	130.44	1.62	0.003	0.01
4	4	0	0	229.33	-0.01	0.95	1.78	25.30	130.67	1.52	0.003	0.01
4	5	0	0	229.08	-0.01	0.96	1.78	25.14	130.92	1.43	0.003	0.01
4	6	0	0	228.84	-0.01	0.96	1.78	24.97	131.16	1.34	0.003	0.01
4	7	0	0	228.59	-0.01	0.96	1.79	24.81	131.41	1.25	0.003	0.01
4	8	0	0	228.33	-0.01	0.96	1.79	24.65	131.67	1.16	0.003	0.01
4	9	0	0	228.08	-0.01	0.97	1.80	24.49	131.92	1.07	0.002	0.01
4	10	0	0	227.82	-0.01	0.97	1.80	24.33	132.18	0.98	0.002	0.01
4	11	0	0	227.55	-0.01	0.97	1.81	24.17	132.45	0.89	0.002	0.01
4	12	0	0	227.29	-0.01	0.97	1.81	24.01	132.71	0.80	0.002	0.01

IC208I IBCOM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS 078D000D92111B4A . REGISTER CONTAINED FC4062B458000000

RACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

&&BK 0031 6210CC6E 0010CE70 00000000 0010C28C

ORBIT 0001C0B0 0010C010 00104F5C 00104F80

TRY POINT= 0010C010

ANDARD FIXUP TAKEN , EXECUTION CONTINUING

IHC208I IBCOM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW 078D000DA2111B4A . REGISTER CONTAINED 7A3A7A0CC 00000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1
&&BK 0031 6210CC6E 0010CE70 00000000 0010C28C
ORBIT 0001C0B0 0010C010 00104F5C 00104F80

ENTRY POINT= 0010C010

STANDARD FIXUP TAKEN , EXECUTION CONTINUING

IHC208I IBCOM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS 078D000D92111B4A . REGISTER CONTAINED FB4310F340000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1
&&BK 0031 6210CC6E 0010CE70 00000000 0010C28C
ORBIT 0001C0B0 0010C010 00104F5C 00104F80

ENTRY POINT= 0010C010

STANDARD FIXUP TAKEN , EXECUTION CONTINUING

IHC208I IBCOM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS 078D000DA2111B4A . REGISTER CONTAINED 7DDB3E9ED0000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1
&&BK 0031 6210CC6E 0010CE70 00000000 0010C28C
ORBIT 0001C0B0 0010C010 00104F5C 00104F80

ENTRY POINT= 0010C010

STANDARD FIXUP TAKEN , EXECUTION CONTINUING

IHC208I IBCOM - PROGRAM INTERRUPT (P) - UNDERFLOW OLD PSW IS 078D000D92111B4A . REGISTER CONTAINED FC4062B458000000

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1
&&BK 0031 6210CC6E 0010CE70 00000000 0010C28C
ORBIT 0001C0B0 0010C010 00104F5C 00104F80

ENTRY POINT= 0010C010

STANDARD FIXUP TAKEN , EXECUTION CONTINUING

4 13	0	0	0	227.02	-0.01	0.98	1.81	23.86	132.98	0.71	0.002	0.01
4 14	0	0	0	226.75	-0.01	0.98	1.82	23.70	133.25	0.62	0.002	0.01
4 15	0	0	0	226.48	-0.01	0.98	1.82	23.55	133.52	0.54	0.001	0.01
4 16	0	0	0	226.21	-0.01	0.98	1.82	23.40	133.79	0.45	0.001	0.01
4 17	0	0	0	225.93	-0.01	0.98	1.83	23.25	134.07	0.36	0.001	0.01
4 18	0	0	0	225.66	-0.01	0.98	1.83	23.10	134.34	0.27	0.001	0.01
4 19	0	0	0	225.38	-0.01	0.98	1.83	22.95	134.62	0.18	0.001	0.01
4 20	0	0	0	225.11	-0.01	0.98	1.84	22.81	134.89	0.09	0.001	0.01
4 21	0	0	0	224.83	-0.01	0.98	1.84	22.67	135.17	0.01	0.000	0.01
4 22	0	0	0	224.55	-0.01	0.98	1.84	22.52	135.45	-0.08	0.000	0.01
4 23	0	0	0	224.28	-0.01	0.98	1.84	22.38	135.72	-0.17	0.000	0.01
4 24	0	0	0	224.00	-0.01	0.98	1.85	22.25	136.00	-0.26	-0.000	0.01
4 25	0	0	0	223.72	-0.01	0.98	1.85	22.11	136.28	-0.35	-0.000	0.01

4	26	0	0	0	223.45	-0.01	0.98	1.85	21.98	136.55	-0.43	-.000	0.01
4	27	0	0	0	223.17	-0.01	0.98	1.85	21.85	136.83	-0.52	-.000	0.01
4	28	0	0	0	222.90	-0.01	0.98	1.85	21.72	137.10	-0.61	-.001	0.01
4	29	0	0	0	222.63	-0.01	0.98	1.85	21.59	137.37	-0.70	-.001	0.01
4	30	0	0	0	222.36	-0.01	0.98	1.85	21.47	137.64	-0.78	-.001	0.01
5	1	0	0	0	222.09	-0.01	0.98	1.86	21.34	137.91	-0.87	-.001	0.01
5	2	0	0	0	221.82	-0.01	0.98	1.86	21.22	138.18	-0.96	-.001	0.01
5	3	0	0	0	221.56	-0.01	0.98	1.86	21.11	138.44	-1.05	-.001	0.01
5	4	0	0	0	221.30	-0.00	0.98	1.86	20.99	138.70	-1.14	-.002	0.01
5	5	0	0	0	221.04	-0.00	0.97	1.86	20.88	138.96	-1.22	-.002	0.01
5	6	0	0	0	220.78	-0.00	0.97	1.86	20.78	139.22	-1.31	-.002	0.01
5	7	0	0	0	220.53	-0.00	0.97	1.86	20.67	139.47	-1.40	-.002	0.01
5	8	0	0	0	220.28	-0.00	0.97	1.86	20.57	139.72	-1.49	-.002	0.01
5	9	0	0	0	220.04	-0.00	0.97	1.86	20.47	139.96	-1.58	-.002	0.01
5	10	0	0	0	219.80	-0.00	0.96	1.86	20.38	140.20	-1.67	-.003	0.01
5	11	0	0	0	219.56	-0.00	0.96	1.86	20.29	140.44	-1.76	-.003	0.01
5	12	0	0	0	219.33	-0.00	0.96	1.85	20.20	140.67	-1.84	-.003	0.01
5	13	0	0	0	219.10	-0.00	0.96	1.85	20.12	140.90	-1.93	-.003	0.01
5	14	0	0	0	218.88	-0.00	0.95	1.85	20.04	141.12	-2.02	-.003	0.01
5	15	0	0	0	218.66	-0.00	0.95	1.85	19.97	141.34	-2.11	-.003	0.01
5	16	0	0	0	218.45	-0.00	0.95	1.85	19.89	141.55	-2.21	-.004	0.01
5	17	0	0	0	218.25	-0.00	0.94	1.85	19.83	141.75	-2.30	-.004	0.01

HELIOS-A

YEAR 1984.

LAUNCH ME 297712152. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	MN	SC	ECL.LONG	ECL.LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RADIAL	NORMAL
5	18	0	0	0	218.05	-0.00	0.94	1.84	19.77	141.95	-2.39	-.004	0.01
5	19	0	0	0	217.86	-0.00	0.93	1.84	19.71	142.14	-2.48	-.004	0.01
5	20	0	0	0	217.68	0.00	0.93	1.84	19.66	142.32	-2.57	-.004	0.01
5	21	0	0	0	217.50	0.00	0.93	1.84	19.62	142.50	-2.66	-.004	0.01
5	22	0	0	0	217.33	0.00	0.92	1.83	19.58	142.67	-2.76	-.005	0.01
5	23	0	0	0	217.17	0.00	0.92	1.83	19.54	142.83	-2.85	-.005	0.01
5	24	0	0	0	217.02	0.00	0.91	1.83	19.52	142.98	-2.94	-.005	0.01
5	25	0	0	0	216.88	0.00	0.91	1.82	19.49	143.12	-3.04	-.005	0.01
5	26	0	0	0	216.74	0.00	0.90	1.82	19.48	143.26	-3.13	-.005	0.01
5	27	0	0	0	216.62	0.00	0.90	1.81	19.47	143.38	-3.22	-.005	0.01
5	28	0	0	0	216.51	0.00	0.89	1.81	19.47	143.49	-3.32	-.006	0.01
5	29	0	0	0	216.41	0.00	0.89	1.80	19.48	143.59	-3.41	-.006	0.01
5	30	0	0	0	216.32	0.00	0.88	1.80	19.49	143.69	-3.51	-.006	0.01
5	31	0	0	0	216.24	0.00	0.87	1.79	19.52	143.76	-3.61	-.006	0.01
6	1	0	0	0	216.17	0.00	0.87	1.79	19.55	143.83	-3.70	-.006	0.01
6	2	0	0	0	216.12	0.00	0.86	1.78	19.59	143.88	-3.80	-.006	0.01
6	3	0	0	0	216.08	0.01	0.85	1.78	19.64	143.92	-3.90	-.007	0.01
6	4	0	0	0	216.06	0.01	0.85	1.77	19.71	143.94	-4.00	-.007	0.01
6	5	0	0	0	216.05	0.01	0.84	1.76	19.78	143.95	-4.10	-.007	0.01
6	6	0	0	0	216.06	0.01	0.83	1.76	19.86	143.94	-4.20	-.007	0.01
6	7	0	0	0	216.09	0.01	0.83	1.75	19.96	143.91	-4.30	-.007	0.01
6	8	0	0	0	216.13	0.01	0.82	1.74	20.07	143.87	-4.40	-.008	0.01
6	9	0	0	0	216.20	0.01	0.81	1.74	20.20	143.80	-4.50	-.008	0.01
6	10	0	0	0	216.28	0.01	0.80	1.73	20.33	143.72	-4.60	-.008	0.01
6	11	0	0	0	216.38	0.01	0.79	1.72	20.49	143.62	-4.70	-.008	0.01
6	12	0	0	0	216.51	0.01	0.79	1.71	20.66	143.49	-4.81	-.008	0.02
6	13	0	0	0	216.66	0.01	0.78	1.70	20.85	143.34	-4.91	-.009	0.02
6	14	0	0	0	216.84	0.01	0.77	1.70	21.05	143.16	-5.01	-.009	0.02
6	15	0	0	0	217.04	0.01	0.76	1.69	21.28	142.96	-5.12	-.009	0.02
6	16	0	0	0	217.27	0.01	0.75	1.68	21.52	142.73	-5.22	-.009	0.02
6	17	0	0	0	217.53	0.01	0.74	1.67	21.79	142.47	-5.33	-.009	0.02
6	18	0	0	0	217.82	0.01	0.73	1.66	22.09	142.18	-5.43	-.010	0.02
6	19	0	0	0	218.14	0.01	0.72	1.65	22.40	141.86	-5.54	-.010	0.02
6	20	0	0	0	218.50	0.01	0.71	1.64	22.75	141.50	-5.64	-.010	0.02
6	21	0	0	0	218.89	0.01	0.70	1.62	23.12	141.11	-5.75	-.010	0.02
6	22	0	0	0	219.32	0.01	0.69	1.61	23.53	140.68	-5.85	-.010	0.02
6	23	0	0	0	219.80	0.01	0.68	1.60	23.97	140.20	-5.95	-.011	0.02
6	24	0	0	0	220.32	0.01	0.67	1.59	24.45	139.68	-6.06	-.011	0.02
6	25	0	0	0	220.89	0.02	0.66	1.58	24.96	139.11	-6.16	-.011	0.02
6	26	0	0	0	221.51	0.02	0.65	1.56	25.52	138.49	-6.26	-.011	0.02
6	27	0	0	0	222.18	0.02	0.64	1.55	26.12	137.82	-6.36	-.011	0.02
6	28	0	0	0	222.92	0.02	0.63	1.54	26.77	137.08	-6.46	-.011	0.02
6	29	0	0	0	223.71	0.02	0.62	1.52	27.48	136.29	-6.56	-.012	0.02
6	30	0	0	0	224.58	0.02	0.60	1.51	28.25	135.42	-6.65	-.012	0.02

ND OF FILE ON ORBIT TAPE

HELIOS-A

YEAR 1984.

LAUNCH TIME 301596664. 0.

DATE					HELIOS	HELIOS	SUN-HELIOS	ERTH-HELIOS	EARTH-HELIOS	HELIOS-SUN	HELIOS	HELIOS-V(A.U./DAY)	
MM	DD	HR	MN	SC	ECL. LONG	ECL. LAT	DIST(A.U)	DIST(A.U)	SUN(DEG)	EARTH(DEG)	HEL-LET(DEG)	RADIAL	NORMAL
7	1	0	0	0	225.51	0.02	0.59	1.49	29.07	134.49	-6.74	-.012	0.02
7	2	0	0	0	226.53	0.02	0.58	1.48	29.97	133.47	-6.83	-.012	0.02
7	3	0	0	0	227.63	0.02	0.57	1.46	30.94	132.37	-6.91	-.012	0.02
7	4	0	0	0	228.82	0.02	0.56	1.44	32.00	131.18	-6.98	-.013	0.02
7	5	0	0	0	230.11	0.02	0.54	1.43	33.14	129.89	-7.05	-.013	0.02
7	6	0	0	0	231.51	0.02	0.53	1.41	34.38	128.49	-7.11	-.013	0.02
7	7	0	0	0	233.02	0.02	0.52	1.39	35.74	126.98	-7.16	-.013	0.02
7	8	0	0	0	234.66	0.02	0.50	1.37	37.21	125.34	-7.20	-.013	0.02
7	9	0	0	0	236.44	0.02	0.49	1.35	38.81	123.56	-7.22	-.013	0.02
7	10	0	0	0	238.36	0.02	0.48	1.33	40.55	121.64	-7.23	-.013	0.02
7	11	0	0	0	240.45	0.02	0.47	1.31	42.46	119.55	-7.21	-.013	0.03
7	12	0	0	0	242.71	0.02	0.45	1.29	44.54	117.29	-7.18	-.013	0.03
7	13	0	0	0	245.17	0.02	0.44	1.27	46.81	114.83	-7.12	-.013	0.03
7	14	0	0	0	247.83	0.02	0.43	1.24	49.29	112.17	-7.02	-.013	0.03
7	15	0	0	0	250.71	0.02	0.41	1.22	52.01	109.29	-6.89	-.013	0.03
7	16	0	0	0	253.84	0.02	0.40	1.19	54.98	106.16	-6.72	-.012	0.03
7	17	0	0	0	257.22	0.02	0.39	1.17	58.24	102.78	-6.50	-.012	0.03
7	18	0	0	0	260.88	0.02	0.38	1.14	61.79	99.12	-6.22	-.011	0.03
7	19	0	0	0	264.83	0.02	0.37	1.11	65.67	95.17	-5.89	-.011	0.03
7	20	0	0	0	269.08	0.02	0.36	1.08	69.91	90.92	-5.48	-.010	0.03
7	21	0	0	0	273.63	0.02	0.35	1.05	74.51	86.37	-5.01	-.009	0.03
7	22	0	0	0	278.50	0.02	0.34	1.02	79.49	81.50	-4.45	-.008	0.04
7	23	0	0	0	283.66	0.02	0.33	0.99	84.86	76.34	-3.82	-.007	0.04
7	24	0	0	0	289.10	0.02	0.32	0.96	90.62	70.90	-3.11	-.006	0.04
7	25	0	0	0	294.78	0.02	0.32	0.93	96.75	65.22	-2.34	-.005	0.04
7	26	0	0	0	300.66	0.01	0.31	0.90	103.22	59.34	-1.51	-.003	0.04
7	27	0	0	0	306.68	0.01	0.31	0.87	110.00	53.32	-0.64	-.002	0.04
7	28	0	0	0	312.78	0.01	0.31	0.84	117.03	47.22	0.24	-.000	0.04
7	29	0	0	0	318.87	0.00	0.31	0.81	124.24	41.13	1.12	0.002	0.04
7	30	0	0	0	324.90	0.00	0.31	0.78	131.58	35.10	1.98	0.003	0.04
7	31	0	0	0	330.78	-0.00	0.32	0.75	138.97	29.22	2.79	0.005	0.04
8	1	0	0	0	336.47	-0.00	0.32	0.73	146.35	23.53	3.54	0.006	0.04
8	2	0	0	0	341.91	-0.01	0.33	0.71	153.65	18.09	4.22	0.007	0.04
8	3	0	0	0	347.08	-0.01	0.34	0.69	160.83	12.92	4.82	0.008	0.04
8	4	0	0	0	351.95	-0.01	0.35	0.67	167.84	8.05	5.35	0.009	0.03
8	5	0	0	0	356.51	-0.01	0.36	0.66	174.63	3.49	5.79	0.010	0.03
8	6	0	0	0	0.76	-0.02	0.37	0.65	178.81	0.76	6.16	0.011	0.03
8	7	0	0	0	4.72	-0.02	0.38	0.64	172.51	4.72	6.46	0.011	0.03
8	8	0	0	0	8.38	-0.02	0.39	0.63	166.48	8.38	6.70	0.012	0.03
8	9	0	0	0	11.76	-0.02	0.40	0.63	160.75	11.76	6.89	0.012	0.03
8	10	0	0	0	14.89	-0.02	0.41	0.62	155.30	14.89	7.03	0.013	0.03
8	11	0	0	0	17.78	-0.02	0.43	0.62	150.15	17.78	7.12	0.013	0.03
8	12	0	0	0	20.44	-0.02	0.44	0.62	145.29	20.44	7.19	0.013	0.03
8	13	0	0	0	22.89	-0.02	0.45	0.62	140.71	22.89	7.22	0.013	0.03
8	14	0	0	0	25.15	-0.02	0.46	0.62	136.40	25.15	7.23	0.013	0.03
8	15	0	0	0	27.23	-0.02	0.48	0.63	132.36	27.23	7.21	0.013	0.02
8	16	0	0	0	29.16	-0.02	0.49	0.63	128.57	29.16	7.18	0.013	0.02
8	17	0	0	0	30.93	-0.02	0.50	0.64	125.01	30.93	7.13	0.013	0.02
8	18	0	0	0	32.56	-0.02	0.52	0.64	121.68	32.56	7.07	0.013	0.02
8	19	0	0	0	34.07	-0.02	0.53	0.65	118.56	34.07	7.00	0.013	0.02
8	20	0	0	0	35.46	-0.02	0.54	0.65	115.63	35.46	6.92	0.013	0.02
8	21	0	0	0	36.74	-0.02	0.56	0.66	112.89	36.74	6.84	0.013	0.02
8	22	0	0	0	37.93	-0.02	0.57	0.66	110.33	37.93	6.74	0.012	0.02
8	23	0	0	0	39.02	-0.02	0.58	0.67	107.92	39.02	6.64	0.012	0.02
8	24	0	0	0	40.03	-0.02	0.59	0.68	105.66	40.03	6.54	0.012	0.02

8	25	0	0	1	40.95	-0.02	0.60	0.68	→	103.54	40.95	6.44	0.012	0.02
8	26	0	0		41.81	-0.02	0.62	0.69		101.55	41.81	6.33	0.012	0.02
8	27	0	0	0	42.59	-0.02	0.63	0.69		99.68	42.59	6.22	0.011	0.02
8	28	0	0	0	43.32	-0.02	0.64	0.70		97.91	43.32	6.11	0.011	0.02
8	29	0	0	0	43.98	-0.02	0.65	0.71		96.26	43.98	6.00	0.011	0.02
8	30	0	0	0	44.59	-0.02	0.66	0.71		94.70	44.59	5.88	0.011	0.02
8	31	0	0	0	45.14	-0.02	0.67	0.72		93.23	45.14	5.77	0.011	0.02

END OF FILE ON ORBIT TAPE

DUMP OF TAPE SO-20

INPUT TAPE SO-20 ON TAO
DATA INPUT H9 NF 1 FL 1 1 1

4-10-1001
D-100088 C-2-2
12/15/74-2/12/84
74-097A-088

FILE	1	RECORD	1	LENGTH	5120BYTES
(0)	00030078	77777777	C8C5D3C9	D6E260C1	40404040 40C6D3E4 E740C6D6 D940E3C8 C540D7C5 D9C9D6C4
(40)	40F1F261	F1F561F7	F44040F0	7A40F07A	40F040E3 D640F1F2 61F1F961 F7F440F2 F37A40F0 7A40F040
(80)	40404040	40404040	40404040	40404040	40404040 40404040 40404040 40404040 40404040 40404040
(120)	40404040	40404040	40404040	40404040	40404040 C1407E40 4DD9F140 6140F24B F2F0F0C5 60F0F15D
(160)	40404040	40404040	40404040	40404040	40404040 40404040 40404040 40404040 40404040 40404040
(200)	D9F1407E	404DC1F2	4BD2F14E	C1F148C3	F15D4BC2 4B5FC3F3 40404040 40404040 40404040 40404040
(240)	40404040	40404040	40404040	40404040	40404040 40404040 40404040 C2407E40 4DD9F3C1
(280)	406140F4	4BF4F0F0	C560F0F1	5D404040	40404040 40404040 40404040 40404040 40404040 40404040
(320)	40404040	40404040	40404040	D9F3C140	7E40C1F2 4BC248C3 F3404040 40404040 40404040 40404040
(360)	40404040	40404040	40404040	40404040	40404040 40404040 40404040 40404040 40404040 40404040
(400)	40404040	C3407E40	4DD9F1F2	C1406140	F148F5F0 F0C560F0 F15D4040 40404040 40404040 40404040
(440)	40404040	40404040	40404040	40404040	40404040 D9F1F2C1 407E40C4 F14BC4F2 4BC5F14B
(480)	5FC64040	40404040	40404040	40404040	40404040 40404040 40404040 40404040 40404040 40404040
(520)	40404040	40404040	40404040	40404040	77777777 77777777 77777777 77777777 77777777 77777777
(560)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(600)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(640)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(680)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(720)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(760)	77777777	77777777	77777777	77777777	77777777 77777777 77777777 77777777 77777777 77777777
(800)	004A000C	000F0000	00000000	00000000	C1100000 00000000 C1100000 00000000 C1100000 004A000C
(840)	000F0001	00000000	00000000	C1100000	00000000 C1100000 00000000 C1100000 004A000C 000F0002
(880)	00000000	00000000	C1100000	00000000	C1100000 00000000 C1100000 004A000C 000F0003 00000000
(920)	00000000	C1100000	00000000	C1100000	00000000 C1100000 004A000C 000F0004 00000000 00000000
(960)	C1100000	00000000	C1100000	00000000	C1100000 004A000C 000F0005 00000000 00000000 C1100000
(1000)	00000000	C1100000	00000000	C1100000	004A000C 000F0006 00000000 00000000 C1100000 00000000
(1040)	C1100000	00000000	C1100000	004A000C	000F0007 00000000 00000000 C1100000 00000000 C1100000
(1080)	00000000	C1100000	004A000C	000F0008	00000000 00000000 C1100000 00000000 C1100000 00000000
(1120)	C1100000	004A000C	000F0009	00000000	00000000 C1100000 00000000 C1100000 00000000 C1100000
(1160)	004A000C	000F000A	00000000	00000000	C1100000 00000000 C1100000 00000000 C1100000 004A000C
(1200)	000F000B	00000000	00000000	C1100000	00000000 C1100000 00000000 C1100000 004A000C 000F000C
(1240)	00000000	00000000	C1100000	00000000	C1100000 00000000 C1100000 004A000C 000F000D 00000000
(1280)	00000000	C1100000	00000000	C1100000	00000000 C1100000 004A000C 000F000E 00000000 00000000
(1320)	C1100000	00000000	C1100000	00000000	C1100000 004A000C 000F000F 00000000 00000000 C1100000
(1360)	00000000	C1100000	00000000	C1100000	004A000C 000F0010 00000000 00000000 C1100000 00000000
(1400)	C1100000	00000000	C1100000	004A000C	000F0011 00000000 00000000 C1100000 00000000 C1100000
(1440)	00000000	C1100000	004A000C	000F0012	00000000 00000000 C1100000 00000000 C1100000 00000000
(1480)	C1100000	004A000C	000F0013	00000000	00000000 C1100000 00000000 C1100000 00000000 C1100000
(1520)	004A000C	000F0014	00000000	00000000	C1100000 00000000 C1100000 00000000 C1100000 004A000C
(1560)	000F0015	00000000	00000000	C1100000	00000000 C1100000 00000000 C1100000 004A000C 000F0016
(1600)	00000000	00000000	C1100000	00000000	C1100000 00000000 C1100000 004A000C 000F0017 00000000
(1640)	00000000	C1100000	00000000	C1100000	00000000 C1100000 004A000C 00100000 00000000 00000000
(1680)	C1100000	00000000	C1100000	00000000	C1100000 004A000C 00100001 00000000 00000000 C1100000
(1720)	00000000	C1100000	00000000	C1100000	004A000C 00100002 00000000 403E7DD8 3F5CD5CE 401E455D
(1760)	3F3F0E1B	3F16FC43	3F16FC43	004A000C	00100003 00000000 40353CFF 3F836FFF 401923EA 3F57C6E8
(1800)	00000000	00000000	004A000C	00100004	00000000 408316AF 3FAD9566 4017B425 3F50D8B8 3FB4997F
(1840)	3F50C440	004A000C	00100005	00000000	4048A3F0 3F5064EA 401791AB 3F2D1295 3EFCDD6E9 3EFCDD6E9
(1880)	004A000C	00100006	00000000	403ABCE8	3F484AF6 4021B6A6 3F36C4F3 3F104FEE 3F104FEE 004A000C
(1920)	00100007	00000000	40429AFF	3F4A9CF1	401CBB54 3F31014B 3F2C9E65 3F19C2B9 004A000C 00100008
(1960)	00000000	40390581	3F4590CA	401AC5D4	3F2F4E11 3F1EA5AF 3F15ABBD 004A000C 00100009 00000000
(2000)	404236B2	3F517E65	40218538	3F3A849A	3F25752C 3F1A7C91 004A000C 0010000A 00000000 403F8829
(2040)	3F4DBC05	401CDC2A	3F3551C9	3F483D68	3F241EB3 004A000C 0010000B 00000000 403BF641 3F54CC8B
(2080)	40176C31	3F34FFD5	3F41F548	3F261488	004A000C 0010000C 00000000 4046089F 3F8AFC59 401E2B18
(2120)	3F5B3873	3F329162	3F329162	004A000C	0010000D 00000000 40369721 3F46D886 401DA12F 3F328954
(2160)	3F4F0329	3F2355DC	004A000C	0010000E	00000000 4003E12CF 3F477D87 401A723F 3F2F03FD 3EEDF76F
(2200)	3EEDF76F	004A000C	0010000F	00000000	4045F367 3F4D0CBC 401C67BF 3F30B9CF 00000000 00000000
(2240)	004A000C	00100010	00000000	403DDDB0	3F4A315C 401F046A 3F32EAB6 3F344FC6 3F1E33BE 004A000C
(2280)	00100011	00000000	421198B6	4026F201	401B45D1 3F307C1E 3F1EA5AF 3F15ABBD 004A000C 00100012

(2320)	00000000	40376948	3F45A804	401923EA	3F2DD70C	3EFCDD6E9	3EFCDD6E9	004A000C	00100013	00000000
(2360)	403D9DBD	3F48E072	401CF4CB	3F31F578	3F2F684C	3F1B5EE4	004A000C	00100014	00000000	403A041C
(2400)	3F462B6D	4017E7DD	3F2D64B4	3F4F0329	3F2355DC	004A000C	00100015	00000000	40453472	3F55AF08
(2440)	401EAA66	3F390972	3F26E5FC	3F1B815B	004A000C	00100016	00000000	404278FF	3F4ED624	401E870A
(2480)	3F34FA8F	3F329162	3F1D3204	004A000C	00100017	00000000	4038EEC3	3F47DFD1	401B45D1	3F307C1E
(2520)	3EFCDD6E9	3EFCDD6E9	004A000C	00110000	00000000	00000000	C1100000	00000000	C1100000	00000000
(2560)	C1100000	004A000C	00110001	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000
(2600)	004A000C	00110002	00000000	4040A57F	4010B10F	401AEF9F	3FC0BD0F	00000000	00000000	004A000C
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(2680)	00000000	4048DB03	3F4FDF24	401D31F7	3F32F79E	3F5ED098	3F26B53E	004A000C	00110005	00000000
(2720)	40404C85	3F48A336	401A112E	3F3028D8	3F413FB8	3F209FDC	004A000C	00110006	00000000	40381869
(2760)	3F4615C0	401B45D1	3F307C1E	3F2F684C	3F1B5EE4	004A000C	00110007	00000000	403D28BD	3F685557
(2800)	402611CF	3F53AB08	3F241EB3	3F241EB3	004A000C	00110008	00000000	403F0FDF	3F47868A	401AC5D4
(2840)	3F2F4E11	3F3B7DD0	3F1DBEEE	004A000C	00110009	00000000	403CAB10	3F47C16E	401E09A9	3F321B3F
(2880)	3F2F684C	3F1B5EE4	004A000C	0011000A	00000000	40414CA9	3F49E0BB	401F5029	3F33F3CB	3F3D4B5F
(2920)	3F1EA5AF	004A000C	0011000B	00000000	403A2E8B	3F676F31	401E4D93	3F4846E4	3F1DBEEE	3F1DBEEE
(2960)	004A000C	0011000C	00000000	4041D43B	3F518106	401DE624	3F379C6A	3F38E38E	3F20D845	004A000C
(3000)	0011000D	00000000	404052BF	3F48F4BE	401BCC48	3F2FF5E4	3F1E573A	3F157442	004A000C	0011000E
(3040)	00000000	40410F95	3F53142A	401E9F3B	3F39B0CC	3F4FD814	3F27EC09	004A000C	0011000F	00000000
(3080)	403A814B	3F45940E	401B26C9	3F2F6649	3F1E573A	3F157442	004A000C	00110010	00000000	4040A57F
(3120)	3F49239E	4020A57E	3F33F9A0	3EF2B9D2	3EF2B9D2	004A000C	00110011	00000000	40383E0F	3F44383A
(3160)	401C4867	3F315FE3	3F1E573A	3F157442	004A000C	00110012	00000000	403E28FA	3F51349F	40219101
(3200)	3F3BAC74	3F26E5FC	3F1B815B	004A000C	00110013	00000000	403D0E14	3F4AEC58	401BCE0F	3F31BD2D
(3240)	3F329162	3F1D3204	004A000C	00110014	00000000	4040FDOF	3F486FAB	401BF235	3F31146D	3F413FB8
(3280)	3F209FDC	004A000C	00110015	00000000	404113D3	3F54BC1E	401B951E	3F372A3D	3F28744E	3F1C9B03
(3320)	004A000C	00110016	00000000	40373E4C	3F4A6FEE	401FEC96	3F391B93	00000000	00000000	004A000C
(3360)	00110017	00000000	403D478B	3F48AD68	401EA3C5	3F336402	3F1F9ADD	3F16591A	004A000C	00120000
(3400)	00000000	4039965E	3F4A022A	401C3C83	3F2D0FD9	3F18A8F1	004A000C	00120001	00000000	00000000
(3440)	403F9ECE	3F4AA34C	401BF235	3F31146D	00000000	00000000	004A000C	00120002	00000000	00000000
(3480)	C1100000	00000000	C1100000	00000000	C1100000	004A000C	00120003	00000000	00000000	C1100000
(3520)	00000000	C1100000	00000000	C1100000	004A000C	00120004	00000000	4047D454	3F7924CE	401E870A
(3560)	3F53C44A	3F26E5FC	3F26E5FC	004A000C	00120005	00000000	4040A410	3F4CAB61	40222E4E	3F390485
(3600)	3F22DFD9	3F18A8F1	004A000C	00120006	00000000	403A2E8B	3F4562C8	401B838E	3F2D61B3	3F48DA13
(3640)	3F21EC07	004A000C	00120007	00000000	403E0692	3F5347FE	401A7CB2	3F372C57	3F2A23D1	3F1DCC23
(3680)	004A000C	00120008	00000000	403B73A0	3F5D8A24	401CDC2A	3F414D84	3F362E0D	3F264F9B	004A000C
(3720)	00120009	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	004A000C	0012000A
(3760)	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	004A000C	0012000B	00000000
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(3840)	C1100000	00000000	C1100000	00000000	C1100000	004A000C	0012000D	00000000	00000000	C1100000
(3880)	00000000	C1100000	00000000	C1100000	004A000C	0012000E	00000000	404659BE	3F82D972	401D4AFD
(3920)	3F570871	40126FAB	3F6F7DE1	004A000C	0012000F	00000000	4080579D	3F80BC2E	406E19DB	3FA8BB6F
(3960)	3FE38E3A	3F5CE630	004A000C	00120010	00000000	403718AF	3F65CAB4	401433B7	3F40A57E	3F7E6B71
(4000)	3F3F35B9	004A000C	00120011	00000000	40749831	3FB9A01B	40368BA2	3F76C35D	3FD2B318	3F5E3A4C
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(4120)	00000000	4080579D	3FB0BC2E	404FE903	3F878707	3F5447A3	3F3B9848	004A000C	00120015	00000000
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(4200)	3F6C26D4	40194BE3	3F437508	3F1EF5BE	3F1EF5BE	004A000C	00120017	00000000	40474E98	3F5491EE
(4240)	401CBB54	3F362D58	3F25752C	3F1A7C91	004A000C	00130000	00000000	C1100000	00000000	00000000
(4280)	C1100000	00000000	C1100000	004A000C	00130001	00000000	403A56E9	3F5898F3	401D6C24	3F37DE67
(4320)	3F26E5FC	3F1B815B	004A000C	00130002	00000000	404792AB	3F76BF86	401638E3	3F3DE4EE	3F1F9ADD
(4360)	3F1F9ADC	004A000C	00130003	00000000	4044A312	3F53BC82	4018C7F9	3F2FBB97	3F21B641	3F17D683
(4400)	004A000C	00130004	00000000	404BC394	3F7E6212	4021DCC8	3F51ADE3	3F27EC09	3F27EC09	004A000C
(4440)	00130005	00000000	4034CB6C	3F78AC63	401923EA	3F4C0460	3F3F35BA	3F2CB235	004A000C	00130006
(4480)	00000000	403CBA7F	3F5741DB	4011C71C	3F3183F0	00000000	00000000	004A000C	00130007	00000000
(4520)	4040389E	3F539EB2	402852BF	3F3B52DA	3F13F604	3F13F604	004A000C	00130008	00000000	40410801
(4560)	3F5009D8	401CAFD6	3F3678D9	3F25ED09	3F1AD153	004A000C	00130009	00000000	4035890D	3F75A88C
(4600)	401B2E4F	3F477F07	3F2A23D1	3F2A23D1	004A000C	0013000A	00000000	403B810F	3F4ACD26	401BF235
(4640)	3F31146D	3F107D52	3F107D52	004A000C	0013000B	00000000	4047C1F0	3F4D0E8C	4018E38E	3F2D61B3
(4680)	3F3CAE75	3F1E573A	004A000C	0013000C	00000000	4041558E	3F4BD662	401D8334	3F338571	3F2F684C
(4720)	3F1B5EE4	004A000C	0013000D	00000000	403E0F84	3F47A952	401BCC48	3F2FF5E4	3F3CAE75	3F1E573A
(4760)	004A000C	0013000E	00000000	4041F07C	3F49DD6D	4017EB50	3F2C7D1F	3EF2B9D2	3EF2B9D2	004A000C
(4800)	0013000F	00000000	403890CF	3F446A57	401EB502	3F32685B	3F3CAE75	3F1E573A	004A000C	00130010
(4840)	00000000	4037EB50	3F4405F8	401AD40A	3F2F1DD7	3F3CAE75	3F1E573A	004A000C	00130011	00000000
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(4920)	3F4A0C37	401B26C9	3F2F6649	3EF2B9D2	3EF2B9D2	004A000C	00130013	00000000	4041F07C	3F49DD6D

(4960)	401A814A	3F2ED4F7	3EF2B9D2	3EF2B9D2	004A000C	00130014	00000000	40355E,	3F47A91E	4023A107
(5000)	3F39E19A	3F241EB3	3F198A67	004A000C	00130015	00000000	4034225E	3F536A2C	401C97F7	3F437452
(5040)	00000000	00000000	004A000C	00130016	00000000	40471C72	3F4CB580	401B7988	3F2FAE4D	3F48DA13
(5080)	3F21EC07	004A000C	00130017	00000000	403CCC68	3F4D63CF	401E03B1	3F36601B	3F483D68	3F241EB3

FILE 1 RECORD 679 LENGTH 3104BYTES

(0)	00030040	00000000	C8C5D3C9	D6E260C1	40404040	40C6D3E4	E740C6D6	D940E3C8	C540D7C5	D9C9D6C4
(40)	4040F261	F1F061F8	F44040F0	7A40F07A	40F040E3	D64040F2	61F1F261	F8F440F1	F57A40F0	7A40F040
(80)	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040
(120)	40404040	40404040	40404040	40404040	40404040	C1407E40	4DD9F140	6140F24B	F2F0F0C5	60F0F15D
(160)	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040
(200)	D9F1407E	404DC1F2	4BD2F14E	C1F14BC3	F15D4BC2	4B5FC3F3	40404040	40404040	40404040	40404040
(240)	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	C2407E40	4DD9F3C1
(280)	406140F4	4BF4F0F0	C560F0F1	5D4D4040	40404040	40404040	40404040	40404040	40404040	40404040
(320)	40404040	40404040	40404040	D9F3C140	7E40C1F2	4BC24BC3	F3404040	40404040	40404040	40404040
(360)	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040
(400)	40404040	C3407E40	4DD9F1F2	C1406140	F14BF5F0	F0C560F0	F15D4040	40404040	40404040	40404040
(440)	40404040	40404040	40404040	40404040	40404040	40404040	D9F1F2C1	407E40C4	F14BC4F2	4BC5F14B
(480)	5FC64040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040	40404040
(520)	40404040	40404040	40404040	40404040	00000000	00000000	00000000	00000000	00000000	00000000
(560)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(600)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(640)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(680)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(720)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(760)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(800)	00540002	000A0000	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002
(840)	000A0001	00000000	402DF5A8	3F4D1601	3FEA57E9	3F2B8437	401AAAAA	3F6490F9	00540002	000A0002
(880)	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002	000A0003	00000000
(920)	4028E8BA	3F48BA2F	4011AD40	3F2FCE83	401AAAAA	3F6490F9	00540002	000A0004	00000000	00000000
(960)	C1100000	00000000	C1100000	00000000	C1100000	00540002	000A0005	00000000	00000000	C1100000
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(1080)	00000000	C1100000	00540002	000A0008	00000000	4025FAD4	3F2C51C3	40120372	3F18DCE3	401F9ADD
(1120)	3F3F35BA	00540002	000A0009	00000000	C1100000	00000000	C1100000	00000000	00000000	C1100000
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(1240)	00000000	402F7989	3F6ECC67	00000000	C1100000	00000000	C1100000	00540002	000A000D	00000000
(1280)	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002	000A000E	00000000	00000000
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(1360)	4010295F	3F2DB641	4013425E	3F557705	00540002	000A0010	00000000	401433B7	3F908DCB	00000000
(1400)	C1100000	00000000	C1100000	00540002	000A0011	00000000	00000000	C1100000	00000000	C1100000
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(1480)	3F5ED098	00540002	000A0013	00000000	402AEDE6	3F4A805B	3FF26C99	3F2C42AA	401638E3	3F5BCDD6
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(1720)	3FDA2E8B	3F1DB0D7	4017B426	3F5ED098	00540002	000B0002	00000000	40296A05	3F492CC3	3FC1F07B
(1760)	3F279674	4014BDA1	3F58B0EF	00540002	000B0003	00000000	4027A57E	3F32A049	3FEA57E9	3F1EC553
(1800)	3FE12F67	3F33A938	00540002	000B0004	00000000	4028E8BA	3F336D0B	3FF26C99	3F1F48FD	401284B0
(1840)	3F38425F	00540002	000B0005	00000000	4024DE62	3F450ADE	4010AAAA	3F2E6BB3	4017B426	3F5ED098
(1880)	00540002	000B0006	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002
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(1960)	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002	000B0009	00000000
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(2040)	3F6B343B	00000000	C1100000	00000000	C1100000	00540002	000B000B	00000000	40303B79	3F37D6E9
(2080)	4010295F	3F2052BF	4011C71C	3F3A0FDD	00540002	000B000C	00000000	40307C1F	3F37FC48	4011AD40
(2120)	3F21CDF0	4014BDA1	3F3EB6CF	00540002	000B000D	00000000	4026E38E	3F46E8A7	3FF26C99	3F2C42AA
(2160)	40104BD9	3F4E9DC5	00540002	000B000E	00000000	402A2BF6	3F3436AA	4010295F	3F2052BF	3FC97B40
(2200)	3F30DDCE	00540002	000B000F	00000000	402C71C7	3F6B343B	00000000	C1100000	00000000	C1100000
(2240)	00540002	000B0010	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002
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(2320)	00000000	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002	000B0013	00000000
(2360)	402BAFD6	3F3524AA	3FEA57E9	3F1EC553	3FD55557	3F32487C	00540002	000B0014	00000000	4027E624

(2400)	3F47D2E4	40112BF5	3F2F1E69	3FD55557	3F471C72	00540002	000B0015	00000000	402D33B7	3F360E92
(2440)	3FFE8BA2	3F201108	3FBDA130	3F2F684B	00540002	000B0016	00000000	4026E38E	3F46E8A7	3FCA052B
(2480)	3F28676E	3F76848B	3F3500CA	00540002	000B0017	00000000	4020D40A	3F412649	4013B26C	3F3276F2
(2520)	3FBDA130	3F430B51	00540002	000C0000	00000000	402913D3	3F3880EE	40122E8B	3F307C1E	40104BD9
(2560)	3F4E9DC5	00540002	000C0001	00000000	402AEDE6	3F4A805B	3FEA57E9	3F2B8437	4014BDA1	3F58B0EF
(2600)	00540002	000C0002	00000000	4025A053	3F3151C5	3FFA8149	3F1FD06D	3FC97B40	3F30DDCE	00540002
(2640)	000C0003	00000000	40235A81	3F5F9D07	3FE24339	3F2AC275	3FED0977	3F4AF52B	00540002	000C0004
(2680)	00000000	4022D936	3F431FCE	3FEA57E9	3F2B8437	3FA5ED09	3F3EB6CF	00540002	000C0005	00000000
(2720)	00000000	C1100000	00000000	C1100000	00000000	C1100000	00540002	000C0006	00000000	40307C1F
(2760)	3F6FF890	00000000	C1100000	00000000	C1100000	00540002	000C0007	00000000	00000000	C1100000
(2800)	00000000	C1100000	00000000	C1100000	00540002	000C0008	00000000	00000000	C1100000	00000000
(2840)	C1100000	00000000	C1100000	00540002	000C0009	00000000	40296A05	3F677C1E	00000000	C1100000
(2880)	00000000	C1100000	00540002	000C000A	00000000	4026219D	3F31A639	3FE24339	3F1E3C51	3F6AAAAB
(2920)	3F238E39	00540002	000C000B	00000000	402D745D	3F4CA949	3FF26C99	3F2C42AA	3F8E38E2	3F3A0FDD
(2960)	00540002	000C000C	00000000	402AEDE6	3F34AE30	4010AAAA	3F20D30B	3F76848B	3F257A95	00540002
(3000)	000C000D	00000000	4034052C	3F5202DF	3FEA57E9	3F2B8437	3FA5ED09	3F3EB6CF	00540002	000C000E
(3040)	00000000	402A6C9B	3F345E9F	4011EDE6	3F220B88	3F76848B	3F257A95	00540002	000C000F	00000000
(3080)	4024DE62	3F450ADE	40122E8B	3F307C1E	3F76848B	3F3500CA				

FILE	INPUT	DATA RECORDS	MAX.	READ ERROR SUMMARY				INPUT RETRIES	
	RECS.	INPUT	SIZE	PERM	ZERO	B	SHORT	UNDEF.	#RECS. TOTAL#
1	679	680	5120	0	0	0	0	0	0

EQJ DUMP STOPPED AFTER FILE 1 # OF PERMANENT READ ERRORS 0

START TIME 06/18/85 10:39:08 STOP TIME 06/18/85 10:40:04

DUMP OF TAPE D01

Helios-2

D-43186

01/18/76 - 03/07/80

INPUT TAPE D01 ON MT3
DATA INPUT H9 FL 1 1 1

LE	1	RECORD	1	LENGTH	5120BYTES
(0)	00030078	77777777	C8C5D3C9	D6E260C2	40404040
(40)	4040F161	F1F861F7	F64040F0	7A40F07A	40F040E3
(80)	40404040	40404040	40404040	40404040	40404040
(120)	40404040	40404040	40404040	40404040	40404040
(160)	40404040	40404040	40404040	40404040	40404040
(200)	09F1407E	404DC1F2	48D2F14E	C1F148C3	F15D4BC2
(240)	40404040	40404040	40404040	40404040	40404040
(280)	406140F4	4BF4F0F0	C560F0F1	5D404040	40404040
(320)	40404040	40404040	40404040	D9F3C140	7E40C1F2
(360)	40404040	40404040	40404040	40404040	40404040
(400)	40404040	C3407E40	4DD9F1F2	C1406140	F14BF5F0
(440)	40404040	40404040	40404040	40404040	40404040
(480)	5FC64040	40404040	40404040	40404040	40404040
(520)	40404040	40404040	40404040	40404040	77777777
(560)	77777777	77777777	77777777	77777777	77777777
(600)	77777777	77777777	77777777	77777777	77777777
(640)	77777777	77777777	77777777	77777777	77777777
(680)	77777777	77777777	77777777	77777777	77777777
(720)	77777777	77777777	77777777	77777777	77777777
(760)	77777777	77777777	77777777	77777777	77777777
(800)	004C0001	00120000	00000000	00000000	C1100000
(840)	00120001	00000000	00000000	C1100000	00000000
(880)	00000000	00000000	C1100000	00000000	C1100000
(920)	00000000	C1100000	00000000	C1100000	004C0001
(960)	C1100000	00000000	C1100000	00000000	C1100000
(1000)	00000000	C1100000	00000000	C1100000	004C0001
(1040)	C1100000	00000000	C1100000	004C0001	00120007
(1080)	00000000	C1100000	004C0001	00120008	00000000
(1120)	C1100000	004C0001	00120009	00000000	C1100000
(1160)	004C0001	0012000A	00000000	C1100000	00000000
(1200)	0012000B	00000000	00000000	C1100000	00000000
(1240)	00000000	00000000	C1100000	00000000	C1100000
(1280)	00000000	C1100000	00000000	C1100000	004C0001
(1320)	C1100000	00000000	C1100000	00000000	004C0001
(1360)	00000000	C1100000	00000000	C1100000	004C0001
(1400)	C1100000	00000000	C1100000	004C0001	00120011
(1440)	00000000	C1100000	004C0001	00120012	00000000
(1480)	C1100000	004C0001	00120013	00000000	C1100000
(1520)	004C0001	00120014	00000000	C1100000	00000000
(1560)	00120015	00000000	00000000	C1100000	00000000
(1600)	00000000	00000000	C1100000	00000000	004C0001
(1640)	00000000	C1100000	00000000	C1100000	004C0001
(1680)	C1100000	00000000	C1100000	00000000	004C0001
(1720)	00000000	C1100000	00000000	004C0001	00130002
(1760)	C1100000	00000000	C1100000	004C0001	00130003
(1800)	3F4D4D1F	3F26A68F	004C0001	00130004	00000000
(1840)	413698CA	004C0001	00130005	00000000	4047F91B
(1880)	004C0001	00130006	00000000	4037E46B	3F6228DB
(1920)	00130007	00000000	404C9E35	3F993C6A	4018C7F9
(1960)	00000000	404171CF	3F51C40D	401F4AA8	3F3478EB
(2000)	4046F414	3F61B509	402B6C93	3F3C3EDE	3F32F0C2
(2040)	C1100000	408A6F51	3F6B915D	3F382FC2	3F207077
(2080)	4053E8E7	3F53BF12	3F241EB3	3F198A67	004C0001
(2120)	3F34820B	3F104FEE	3F104FEE	004C0001	0013000D
(2160)	00000000	00000000	004C0001	0013000E	00000000
(2200)	3F150891	004C0001	0013000F	00000000	404AA6BA
(2240)	004C0001	00130010	00000000	40443CE9	3F4F353D
(2280)	00130011	00000000	4041431C	3F52CF5D	401B479F

(4960)	401FFC8D	3F34820B	3F120F59	3F120F59	004C0001	00160014	00000000	404895E4	3F53D084	4020528F
(5000)	3F33FA4B	3F3D4B5F	3F1EA5AF	004C0001	00160015	00000000	404BC7AE	3F537878	40167EDF	3F2AB922
(5040)	3F3B7DD0	3F1DBEEE	004C0001	00160016	00000000	4043EEFF	3F574E0E	401B1F2D	3F32CA33	3F344FC6
(5080)	3F1E33BE	004C0001	00160017	00000000	404D045F	3F58B371	401CF4CB	3F31E578	3F4F0329	3F2355DC

FILE	1	RECORD	303	LENGTH	1664	BYTES
(0)	00030018	77777777	C8C5D3C9	D6E260C2	40404040	40C6D3E4
(40)	4040F361	40E761F8	F04040F0	7A40F07A	40F040E3	D64040F3
(80)	40404040	40404040	40404040	40404040	40404040	40404040
(120)	40404040	40404040	40404040	40404040	40404040	40404040
(160)	40404040	40404040	40404040	40404040	40404040	40404040
(200)	D9F1407E	4040C1F2	4B02F14E	C1F14BC3	F15D4BC2	4B5FC3F3
(240)	40404040	40404040	40404040	40404040	40404040	40404040
(280)	406140F4	4BF4F0F0	C560F0F1	5B4B4040	40404040	40404040
(320)	40404040	40404040	40404040	D9F3C140	7E40C1F2	4BC24BC3
(360)	40404040	40404040	40404040	40404040	40404040	40404040
(400)	40404040	C3407E40	40D9F1F2	C1406140	F14BF5F0	F0C560F0
(440)	40404040	40404040	40404040	40404040	40404040	40404040
(480)	5FC64040	40404040	40404040	40404040	40404040	40404040
(520)	40404040	40404040	40404040	40404040	77777777	77777777
(560)	77777777	77777777	77777777	77777777	77777777	77777777
(600)	77777777	77777777	77777777	77777777	77777777	77777777
(640)	77777777	77777777	77777777	77777777	77777777	77777777
(680)	77777777	77777777	77777777	77777777	77777777	77777777
(720)	77777777	77777777	77777777	77777777	77777777	77777777
(760)	77777777	77777777	77777777	77777777	77777777	77777777
(800)	00500003	00070000	00000000	00000000	C1100000	00000000
(840)	00070001	00000000	00000000	C1100000	00000000	00000000
(880)	00000000	402FC83C	3F48B2BF	3FE24339	3F263ECF	3F12F684
(920)	402D8BDF	3F82E2CE	3FCEDE61	3F49239D	3F48DA13	3F48DA13
(960)	C1100000	00000000	C1100000	00000000	C1100000	00070005
(1000)	00000000	C1100000	00000000	C1100000	00070006	00000000
(1040)	C1100000	00000000	C1100000	00500003	00070007	00000000
(1080)	00000000	C1100000	00500003	00070008	00000000	C1100000
(1120)	C1100000	00500003	00070009	00000000	00000000	C1100000
(1160)	00500003	0007000A	00000000	00000000	C1100000	00000000
(1200)	0007000B	00000000	00000000	C1100000	00000000	C1100000
(1240)	00000000	00000000	C1100000	00000000	C1100000	00500003
(1280)	403C9B27	3FB10AA9	401433B7	3F66370B	00000000	00000000
(1320)	3F46AC18	3FF7CFBA	3F2489AC	3F1F9ADD	3F16591A	00500003
(1360)	40124507	3F288965	3F227A65	3F186134	00500003	00070010
(1400)	3F204C1F	3F2082D8	3F1A469E	00500003	00070011	00000000
(1440)	3F1E573A	3F157442	00500003	00070012	00000000	4035FC97
(1480)	3F16591A	00500003	00070013	00000000	40344471	3F43D4C1
(1520)	00500003	00070014	00000000	4036A443	3F495D44	4010D042
(1560)	00070015	00000000	40332DAF	3F4CB15D	40117002	3F2B9292
(1600)	00000000	403A0CC5	3F4602C3	401364D9	3F280F58	3EF2B9D2
(1640)	40363B30	3F469CC4	401284BD	3F27F3DB	3EFC06E9	3EFC06E9

FILE	INPUT	DATA RECORDS	MAX.	READ ERROR SUMMARY				INPUT RETRIES	
	RECS.	INPUT	SIZE	PERM	ZERO	B	SHORT	UNDEF.	#RECS. TOTAL#
1	303	304	5120	0	0	0	0	0	0

EOJ DUMP STOPPED AFTER FILE 1 # OF PERMANENT READ ERRORS 0

START TIME 06/08/81 12:47:54 STOP TIME 06/08/81 12:48:13