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40 Pages
(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-14

VEHICLE NO. 1611

MISSION NO. 1017-1

CAMERA NOS. 140 & 165

Prepared by [redacted]

Checked by: _____

Approved by: _____

Approved by: _____ Manager

Distribution:

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SYSTEM NO. I-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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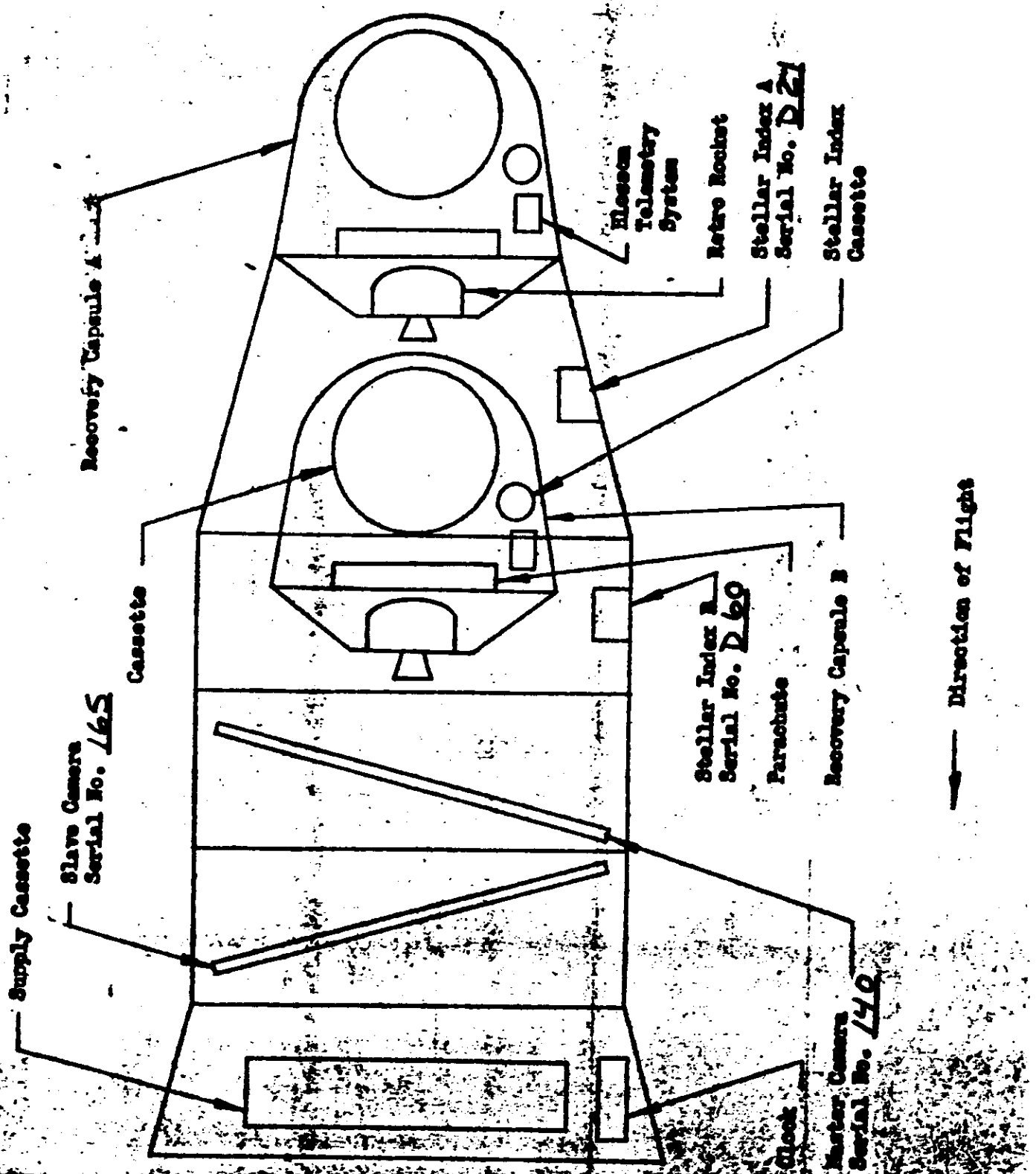
VEHICLE LAYOUT:



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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140-165

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GENERAL FLIGHT DATA:

Master Camera Serial No. 140

Slave Camera Serial No. 165

Stellar Index "A" Serial No. D 21/21/21

Stellar Index "B" Serial No. D 60/68/1

Launch Date 2/25/65

Reactivation Date N/A

Reactivation Orbit No. N/A

Orbital Parameters: (Rev. 40)

Period 89.99 Min. Eccentricity 0.0145

Perigee 97.29 NM Perigee Latitude 25.98 Deg. N DESC.

Apogee 201.90 NM Inclination Angle 25.07 Deg.

Recovery Orbit No. 81

Recovery Date 2 MARCH 1965

REMARKS:

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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

LENS SETTINGS AND FILM TYPES:

Panoramic Camera Settings:	Camera No. 140	Camera No. 165
Panoramic Optics Slit Width	0.250 in.	0.175 in.
Panoramic Optics Filter Type	WRATTEN 25	WRATTEN 21
Horizon Optics Exp. Time	1/100 sec.	1/100 sec.
Horizon Optics Aperture	F6.8 SUPPLY F8.0 TAKE-UP	F8.0 SUPPLY F6.8 TAKE-UP
Horizon Optics Filter Type	WRATTEN 25	WRATTEN 25

Stellar Index Camera Settings:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Exposure Time	2.0	1/500	2.0	1/500
Aperture Setting	F1.8	F4.5	F1.8	F4.5
Filter Type	NONE	WRATTEN 21	NONE	WRATTEN 21

Ratio: One Stellar Index Frame Per 7 Master Camera Frames.

Film:

Panoramic Cameras:	Camera No. 140	Camera No. 165
Type	SO-132	SO-132
Length	16000 ft.	16000 ft.
Splices	5	4
Emul. Data	85-51-12-4	85-51-12-4

Stellar Index Cameras:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Type	SO-102	SO-130	SO-102	SO-130
Emul. Data	31-4-9-4	31-4-9-4	31-4-9-4	31-4-9-4

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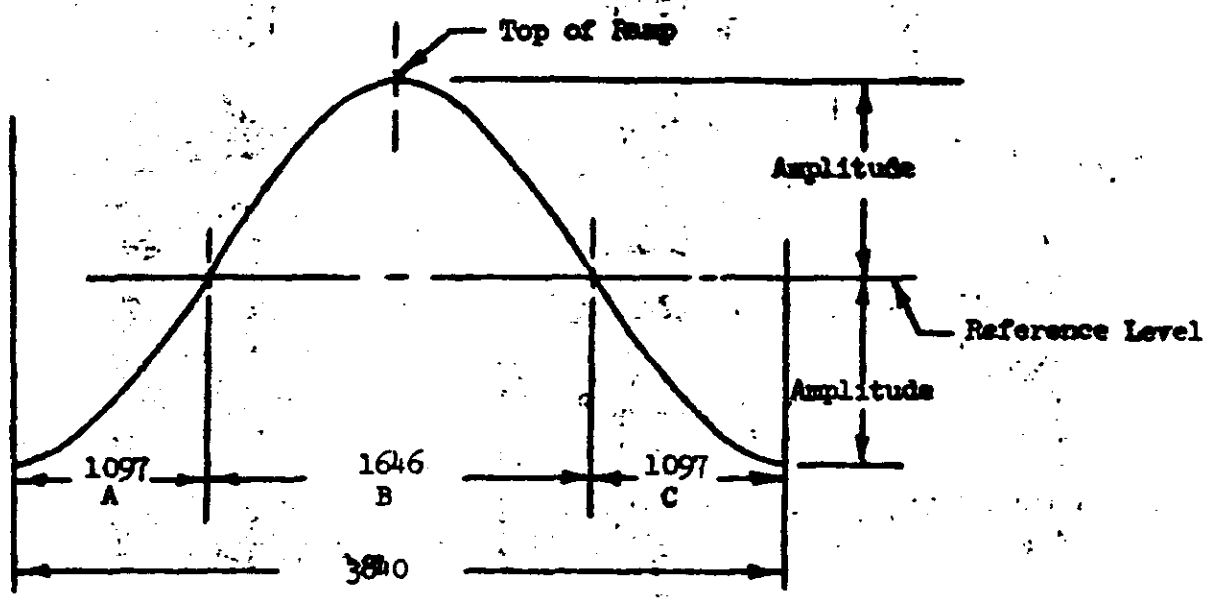
V/H RAMP CONFIGURATION AND CONSTANTS:



Cycle Rate Computation:

A. 0 to 1097 Sec Up Ramp: CPS = R+A Sin (1.5 X -1.5707963)

B. 1097 to 2743 Sec Up Ramp: CPS = R+A Sin (2 X -2.0943951) ≤ .4625

C. 2743 to 3840 Sec Up Ramp: CPS = R+A Sin (1.5 X -0.7853982)

FMC Rate Computation:

$$\text{FMC Rate (In/Sec)} = 2\pi \left(\frac{0.3223}{CP}\right) = 2.02507 \times CPS$$

$$\text{FMC Rate (Radians/Sec)} = 2\pi \frac{(0.3224)}{(24\ CP)} = 0.84378 \times CPS$$

Scan Velocity Computation:

$$\text{Scan Velocity (In/Sec)} = \frac{48\pi}{CP} = 150.796 \times CPS$$

$$\text{Scan Velocity (Radians/Sec)} = \frac{48\pi}{24\ CP} = 6.28319 \times CPS$$

$$\text{Exposure Time (Milliseconds)} = 1000 \left(\frac{CP \times SLIT}{48\pi}\right) = 6.63146 \left(\frac{SLIT}{CPS}\right)$$

WHERE: $X = \frac{\text{Time Up Ramp (Seconds)}}{1047.6942}$ $R = \frac{1}{2}$ (CPS(top) + CPS(bottom))

$A = \frac{1}{2}$ (CPS top - CPS bottom) CP = Camera Cycle Period in Sec/Cycle

CPS = Camera Cycle Rate in Cycles/Sec

SLIT = Slit Width in Inches

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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Time Up Ramp Sec
		Master	Slave	
5	6	4.226	4.253	125
5	6	2.308	2.285	1617
5	6	4.198	4.223	174
5	6	2.283	2.260	1658
4	6	2.225	2.226	1645
4	6	2.215	2.221	1765

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
5	6	4.085	4.115	9	125
5	6	2.320	2.298	16	1617
5	6	4.064	4.108	25	174
5	6	2.278	2.281	32	1658
4	6	2.240	2.235	98	1645
4	6	2.215	2.217	63	1765

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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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LENS DATA SUMMARY: Master Camera No. 140

Lens Serial No. 1192435

Slit Width 0.250 Inch

Filter Type WRATTEN 25

Equivalent Operational Focal Length 609.628 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	153	SO-132	LOW
Other	237	SO-132	HIGH

Dynamic:

Itek [redacted]	165	SO132	HIGH
Itek [redacted]	129	SO-132	LOW
AP	171	SO-132	HIGH
AP	120	SO-132	LOW
Other			

Note: Itek Post Vibration Resolution of 171 lines/MM Reported In Message No. [redacted] dated 2/26/65

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.007	.005	.001	.000	.001	.004	.007		

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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 163

[redacted]

COPY NO. _____

LENS DATA SUMMARY: (Horizon Cameras for [redacted] Camera No. 140)

	Take-Up	Supply
Lens Serial No.	812314	813524
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F8.0	F6.8
Operational Focal Length	55.13 MM	55.22 MM
Radial Distortion:		
10° off Axis	.002 MM	.000 MM
20° off Axis	.005 MM	.008 MM
Tangential Distortion (Maximum Vector)	.008 MM	.009 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	22.5	0	5	10	15	20	25	22.5
Radial Resolution	116	116	96	53	65	66	51	161	145	128	112	103	118	91
Tangential Resolution	116	102	95	73	68	51	42	161	129	119	102	91	60	51

79 Lines/MM Avg. 112 Lines/MM Avg.

Note:

1. Distortion and resolution are read at equivalent operational focal length.
2. Resolution in lines per mm on SO-132 Film and HIGH contrast target.

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SYSTEM NO. J-14

VEHICLE NO. 1611

MISSION NO. 1017-1

CAMERA NOS. 140 & 165

[redacted]

COPY NO. _____

LENS DATA SUMMARY: Slave Camera No. 165

Lens Serial No. 143 2435

Slit Width 0.175 Inch

Filter Type WRATTEN 21

Equivalent Operational Focal Length 609.58 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	239	SO-132	HIGH
Other	140	SO-132	LOW

Dynamic:

Itek [redacted]	183	SO-132	HIGH
Itek [redacted]	130	SO-132	LOW
AP	182	SO-132	HIGH
AP	113	SO-132	LOW
Other			

NOTE: Itek Post Vibration Resolution of 182 lines/MM Reported In Message No. [redacted] dated 7/25/65

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.002	.001	.000	.000	.001	.003	.004		

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SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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LENS DATA SUMMARY: (Horizon Cameras for SLAVE Camera No. 165)

	Take-Up	Supply
Lens Serial No.	814026	813552
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F6.8	F8.0
Operational Focal Length	54.60 MM	54.11 MM
Radial Distortion:		
10° off Axis	.000 MM	.003 MM
20° off Axis	.006 MM	.010 MM
Tangetial Distortion (Maximum Vector)	.003 MM	.007 MM

Resolution:

Angle off Axis Deg.	0	10	15	20	25	27.5	
Radial Resolution	170	105	72	63	65	51	
Tangetial Resolution	170	104	80	63	65	46	

0	10	15	20	25	27.5	
165	140	114	101	77	48	
165	138	112	94	55	42	

88 Lines/MM Avg. 104 Lines/MM Avg.

NOTE:

1. Distortion and resolution are read at equivalent operational focal length.
2. Resolution in lines per MM on SO-132 film and 416H contrast target.

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DEFINITION OF PANORAMIC CAMERA FORMAT CALIBRATIONS

1.0 Measurements are made with respect to collimator targets fixed with respect to the mechanical interface between the total payload assembly and the orbital vehicle.

2.0 Two sets of three targets each, are aligned to be coplanar within ±5" of arc so positioned to form an angle of -35.00° ±5" to the mechanical interface for master camera calibrations and an angle of +15.00° ±5" to the mechanical interface for slave camera calibrations.

2.1 One target, Target 1 of each set is imaged on the Terrain format.

2.2 The second and third targets of each set are at angles of 75.00° ±5" from target one and are imaged on the horizon formats.

3.0 The indicated center of format for the panoramic cameras is given by the intersection of a line through the center of mass of the central shrinkage marker drawn normal to the edge of format containing the shrinkage marker and a line parallel to the same edge located at a position half-way between the format edges.

4.0 The indicated principal points of the horizon cameras are the points of intersection of lines joining opposite fiducials.

5.0 Ivo and Yvo are the offsets of Target 1 from the indicated center of format of the panoramic cameras as defined in Paragraph 3.

6.0 Xs, Ys and Xt, Yt are the offsets of Targets 2 and 3 from the indicated principal points of the supply and take-up horizon cameras respectively.

7.0 The indicated flight direction is the direction of vehicle travel during orbit. The forward edge of format is the edge opposite the shrinkage markers for the master camera and is the edge containing the shrinkage markers for the slave camera.

8.0 Dimensions A, B and C are the spacings of the shrinkage markers and dimensions D and E are the spacings of the Y Axis fiducials. Techniques for exact measurement of these dimensions have not been developed. The figures quoted are measurements made on hand processed film without control of shrinkage.

9.0 The format dimensions are measured to the best estimate of format edge.

10.0 Measurement of the angle between the indicated axis of the panoramic cameras and the line of intersection of the plane defined in Paragraph 2 on the format is obtained from the offset dimensions Dax and Day of Target 1 for each camera.

11.0 Measurement of the angle between the indicated axis of the horizon cameras and the line of intersection of the plane defined in Paragraph 2 on the format is made by measuring the beam direction offset of the targets defined in Paragraph 2.2 at a fixed distance from the target center in the Y direction. Dimensions Dax, Day, Dbx and Dby are the offsets of these measurements.

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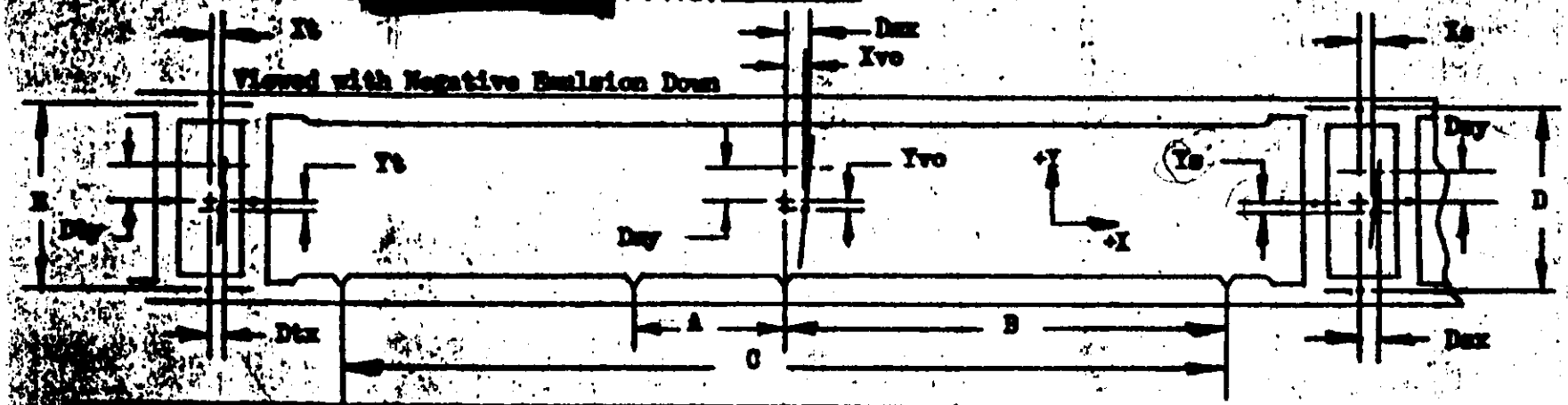

Camera No. 140	Vehicle Motion		Seam Direction	
A 76.1	Xt	-.200	Dtx	-.203
B 354.5	Yt	+.082	Dty	+2.601
C 709.4	Xs	+.144	Dsx	+.141
D 56,475	Ys	-.126	Dsy	+2.442
E 56,460	Xvo	+.740	Dtx	+.733
	Yvo	+1.082	Dty	+4.082

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	55.968	N/A	N/A
Width	755.6	N/A	N/A

Camera No. 165	Vehicle Motion		Seam Direction	
A 76.1	Xt	+.126	Dtx	-.124
B 355.2	Yt	-.178	Dty	+1989
C 710.1	Xs	-.003	Dsx	-.016
D 56,430	Ys	+.014	Dsy	-2.205
E 56,489	Xvo	-.703	Dtx	-.704
	Yvo	+.233	Dty	+3.233

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	56.004	N/A	N/A
Width	755.3	N/A	N/A

Notes: 1. All dimensions are in millimeters and are average dimensions of three formats.
2. Height of main format is taken at center of format.
3. At Dt, Ds, De, X and Y dimensions are taken 10MM above point defining target center.
4. Format Sign Convention

-X+Y	+X+Y
-X-Y	+X-Y

[redacted]

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VEHICLE NO. 7611-1
MISSION NO. 1011-1
CAMERA NOS. 140 & 165

FORMAT DIMENSIONS: (PANORAMIC CAMERAS)

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MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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FORMAT LAYOUT: (PANORAMIC CAMERAS)

[redacted]

COPY NO. _____

[redacted]

SYSTEM NO. J-14
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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LENS DATA SUMMARY STELLAR INDEX D21/21/21 : A MISSION

	Stellar	Index
Lens Serial No.	10485	811711
Reseau Serial No.	21	21
Filter Type	NONE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2.0 Sec.	1/500 Sec.
Equivalent Focal Length	85 (NOM.) MM	38.19 MM

Resolution:

Angle Off Axis	0	10	20	30	35
Resolution L/MM High Contrast	74/80	76/75	101/78	90/48	77/33

NOTE: Index Resolution of 70.0 Lines/MM AWAR

Read From 4400 Film.

Distortion:

All distortions less than maximum allowable. Full Data to be reported as part of Photogeometer Data Reduction.

Alignment:

.0013 "/.937 Inches .0013 "/2.25 Inches

[redacted]

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CAMERA NOS. 140 & 165

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COPY NO. _____

LENS DATA SUMMARY STELLAR INDEX D60/68/01: B MISSION

	Stellar	Index
Lens Serial No.	10554	817015
Reseau Serial No.	01	68
Filter Type	NONE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2.0 Sec.	1/500 Sec.
Equivalent Focal Length	85 (NOM.) MM	38.06 MM

Resolution:

Angle Off Axis	0	10	20	30	35
Resolution L/MM High Contrast	104/104	117/104	104/93	75/42	75/30

NOTE: Index Resolution of 71.7 Lines/MM AWAR

Read From 4400 Film.

Distortion:

All distortions less than maximum allowable. Full Data to be reported as part of Photogoniometer Data Reduction.

Alignment:

.0010 "/.937 Inches .0005 "/2.25 Inches

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SYSTEM NO. J-74
VEHICLE NO. 1611
MISSION NO. 1017-1
CAMERA NOS. 140 & 165

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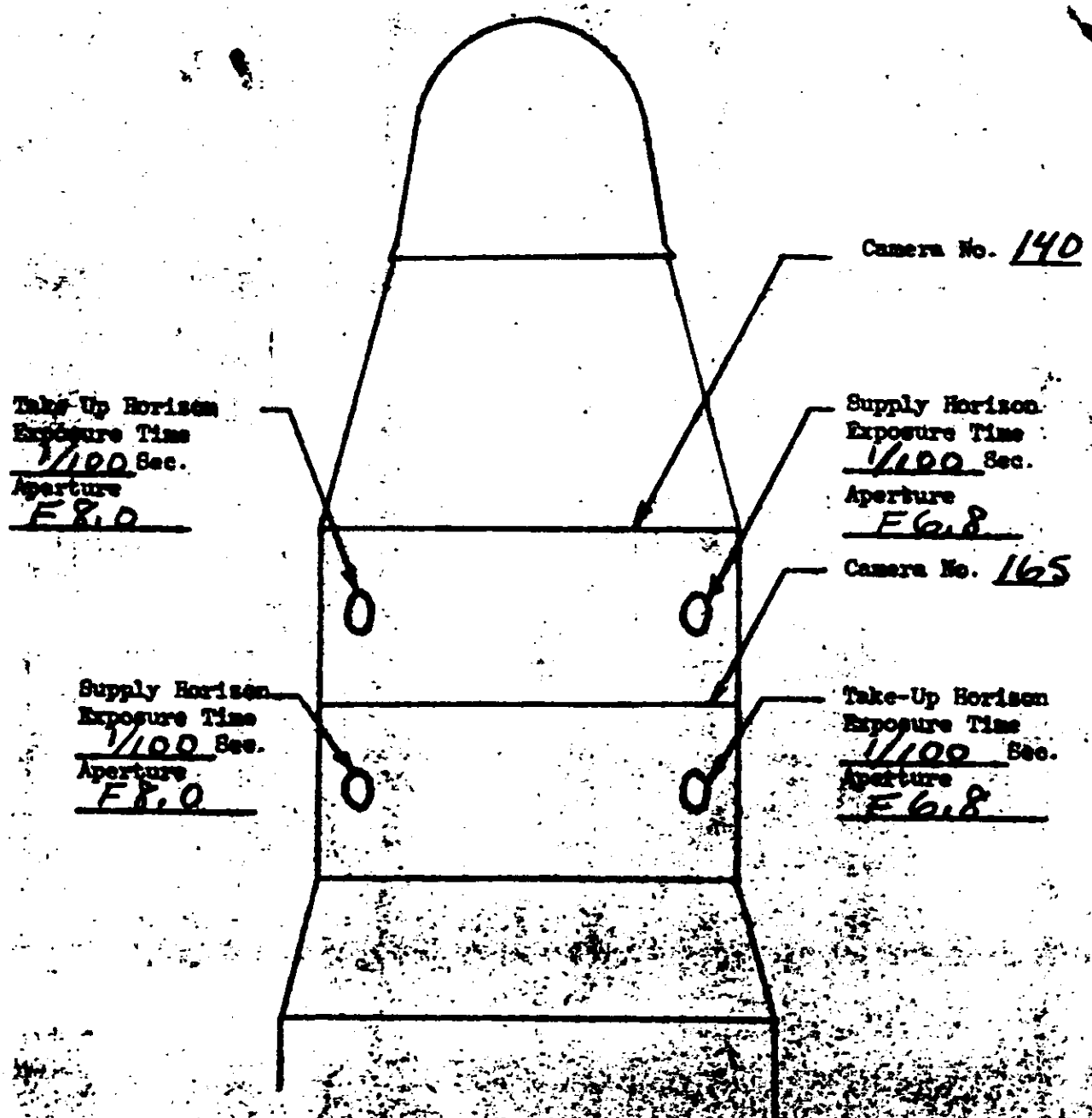
HORIZON LEVEL SETTINGS (Viewed from top of vehicle looking forward)



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A. 1017-1
B. DRY
C. PERFORMANCE ESTIMATE

PERFORMANCE ESTIMATE - MISSION 1017-1, LAUNCH 2144Z 2-25-65
OPERATIONS SUMMARY
FWD PAN CAMERA NUMBER 140

OPN	NO	FRA		LAT	LONG	HEIGHT	RANGE	DA	S-TIM	L-TIM
PRE-FLT		163		34.8	-120.5	122	1			
1	4 0	9	ON	52.4	-152.0	687839	712947	25	83628	13 05
			OFF	51.0	-151.1	681247	706107	25	83652	13 10
2	1 1	26	ON	74.3	135.3	832868	863488	26	02186	09 37
			OFF	72.2	150.8	806739	836360	26	02261	10 40
2	1 2	71	ON	70.7	157.3	793414	822527	26	02299	11 07
			OFF	60.8	177.7	728774	755431	26	02493	12 32
4	7 1	50	ON	69.5	116.0	781045	809687	26	13135	11 22
			OFF	62.4	130.2	735489	762401	26	13272	12 21
4	7 2	30	ON	51.6	140.4	681501	706370	26	13452	13 05
			OFF	47.2	143.0	662593	686750	26	13524	13 17
5	7 1	76	ON	70.4	90.2	787020	815890	26	18517	11 09
			OFF	59.3	111.2	717506	743736	26	18729	12 36
5	7 2	29	ON	52.6	117.0	684742	709734	26	18840	13 02
			OFF	48.1	119.8	665493	689759	26	18912	13 14
5	7 3	24	ON	40.7	123.4	638241	661482	26	19029	13 30
			OFF	37.1	124.7	627314	650145	26	19084	13 37
6	7 1	72	ON	71.4	63.9	793669	822792	26	23897	10 53
			OFF	61.2	86.2	726815	753397	26	24099	12 26
6	7 2	30	ON	57.6	90.2	707511	733363	26	24161	12 43
			OFF	53.1	94.0	685858	710892	26	24236	12 59
6	7 3	45	ON	28.6	104.8	606571	628624	26	24618	13 49
			OFF	22.1	106.5	597180	618882	26	24718	13 57
7	5 1	29	ON	55.9	69.0	698046	723540	26	29592	12 49
			OFF	51.4	72.4	677493	702211	26	29665	13 03
7	5 2	30	ON	47.9	74.5	662861	687028	26	29721	13 13
			OFF	43.4	76.8	645723	669245	26	29793	13 23
7	5 3	38	ON	35.0	80.1	619942	642497	26	29924	13 39
			OFF	29.4	81.8	607385	629469	26	30009	13 47
8	3 1	32	ON	65.7	34.0	750598	778083	26	34823	11 56
			OFF	61.0	41.1	723129	749572	26	34909	12 26
9	4 0	11	ON	38.9	-115.7	1086575	1127013	26	39189	03 10
			OFF	41.8	-114.6	1073915	1113857	26	39236	03 15
9	4 1	53	ON	51.8	26.7	677336	702048	26	40464	13 01
			OFF	43.4	31.3	644057	667517	26	40598	13 22
10	8 1	75	ON	5.1	19.4	598340	620084	26	46584	14 14
			OFF	-6.5	21.8	622630	645284	26	46760	14 26
16	8 0	16	ON	38.1	-125.4	621990	644621	26	78494	13 26
			OFF	35.7	-124.5	615482	637869	26	78532	13 30
20	4 1	28	ON	67.8	117.2	749832	777287	27	13206	11 28
			OFF	63.7	124.9	725125	751644	27	13284	12 01
20	4 2	29	ON	52.0	136.8	667987	692347	27	13482	12 51
			OFF	47.5	139.5	650308	674003	27	13553	13 03
21	4 1	38	ON	72.6	77.6	786077	814911	27	18495	10 18
			OFF	67.8	94.3	749480	776922	27	18606	11 27
21	4 2	35	ON	63.9	102.0	725408	751937	27	18681	11 59
			OFF	58.6	108.6	697526	723000	27	18774	12 27
21	4 3	29	ON	53.0	113.4	671751	696253	27	18867	12 48

				OFF	48.5	116.3	653638	677458	27	18939	13	00
22	4	1	28	ON	70.6	63.4	768460	796623	27	23946	10	52
				OFF	66.8	74.0	741949	769106	27	24028	11	36
22	4	2	28	ON	57.9	86.6	693546	718870	27	24187	12	29
				OFF	53.5	90.3	673662	698236	27	24259	12	45
22	4	3	23	ON	41.9	96.8	630736	653695	27	24443	13	14
				OFF	38.4	98.2	620562	643140	27	24498	13	21
22	4	4	37	ON	29.0	101.3	600346	622166	27	24643	13	36
				OFF	23.4	102.8	593515	615079	27	24728	13	43
23	3	1	41	ON	57.8	63.9	692682	717974	27	29589	12	28
				OFF	51.4	69.0	664379	688604	27	29694	12	51
23	3	2	30	ON	48.9	70.6	654392	678241	27	29735	12	58
				OFF	44.4	73.0	638290	661533	27	29806	13	08
23	3	3	41	ON	35.5	76.6	612978	635271	27	29945	13	25
				OFF	29.4	78.5	600943	622786	27	30039	13	34
24	9	1	55	ON	68.7	24.1	752406	779959	27	34792	11	16
				OFF	60.4	38.5	704910	730663	27	34946	12	16
24	9	2	57	ON	55.8	43.1	682819	707738	27	35023	12	35
				OFF	46.9	49.0	646700	670259	27	35167	13	02
24	9	3	23	ON	44.7	50.1	639097	662370	27	35202	13	07
				OFF	41.3	51.7	628189	651053	27	35256	13	14
25	8	0	12	ON	38.8	-119.1	1065067	1104664	27	39217	02	57
				OFF	41.8	-117.9	1051796	1090874	27	39265	03	02
25	8	1	75	ON	51.9	23.3	665362	689623	27	40488	12	48
				OFF	40.4	29.3	625328	648084	27	40670	13	15
25	8	2	35	ON	32.4	32.2	606319	628363	27	40793	13	28
				OFF	27.3	33.7	598010	619743	27	40871	13	35
30	5	1	24	ON	41.1	-84.5	625882	648660	27	67661	13	09
				OFF	37.5	-83.1	616377	638797	27	67717	13	16
32	2	0	16	ON	38.2	-128.7	617409	639869	27	78507	13	13
				OFF	35.7	-127.8	611580	633821	27	78546	13	17
33	2	1	21	ON	70.7	173.6	758647	786437	27	83352	10	43
				OFF	67.9	-178.2	739606	766674	27	83412	11	17
35	8	1	47	ON	72.5	119.9	772212	800518	28	07704	10	08
				OFF	66.7	138.9	730802	757535	28	07835	11	26
36	8	1	39	ON	72.5	97.2	771401	799677	28	13103	10	07
				OFF	67.8	113.8	736655	763610	28	13213	11	15
36	8	2	29	ON	59.9	126.7	693743	719075	28	13358	12	09
				OFF	55.5	130.9	673795	698374	28	13432	12	27
39	8	1	76	ON	59.8	58.6	691247	716485	28	29558	12	07
				OFF	48.4	67.7	644418	667891	28	29746	12	46
39	8	2	25	ON	41.9	70.9	624279	646996	28	29848	13	01
				OFF	38.3	72.3	615102	637475	28	29904	13	07
41	8	1	22	ON	55.8	17.1	671902	696409	28	40424	12	22
				OFF	52.4	19.8	658138	682127	28	40480	12	33
41	8	2	36	ON	49.9	21.4	648592	672222	28	40521	12	41
				OFF	44.4	24.4	630547	653499	28	40608	12	54
48	8	0	16	ON	38.0	-131.8	611301	633532	28	78499	13	01
				OFF	35.4	-130.9	606168	628206	28	78538	13	05
50	1	1	53	ON	70.6	148.1	742456	769632	01	02339	10	31
				OFF	63.6	164.0	701612	727241	01	02478	11	37
52	1	1	38	ON	70.6	102.4	741170	768297	01	13134	10	28
				OFF	65.7	115.1	711074	737061	01	13236	11	20
52	1	2	29	ON	59.8	123.6	681981	706869	01	13341	11	56
				OFF	55.5	127.8	663711	687910	01	13413	12	14

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52	1	3	68	ON	51.9	130.5	649971	673653	01	13472	12	26
				OFF	41.9	135.9	619139	641663	01	13630	12	50
54	8	1	64	ON	69.6	60.4	732593	759394	01	23953	10	40
				OFF	60.5	77.5	683572	708520	01	24126	11	51
54	8	2	40	ON	56.8	81.3	667638	691985	01	24188	12	08
				OFF	50.9	85.8	645027	668523	01	24285	12	27
54	8	3	24	ON	42.4	90.3	619482	642019	01	24419	12	48
				OFF	38.8	91.7	611078	633301	01	24474	12	54
54	8	4	39	ON	34.9	93.2	603442	625379	01	24535	13	01
				OFF	29.3	94.9	595633	617276	01	24621	13	10
55	6	1	30	ON	70.6	34.4	738337	765357	01	29329	10	26
				OFF	66.7	45.2	713762	739850	01	29412	11	10
55	6	2	34	ON	54.9	60.2	659197	683227	01	29618	12	14
				OFF	49.8	63.8	640831	664169	01	29700	12	30
55	6	3	28	ON	47.6	65.0	633812	656887	01	29735	12	35
				OFF	43.4	67.1	621673	644293	01	29801	12	45
56	8	1	77	ON	61.8	30.5	688090	713209	01	34899	11	43
				OFF	50.3	40.8	642115	665502	01	35090	12	27
63	3	1	24	ON	32.9	-110.4	598134	619871	01	73143	12	57
				OFF	29.4	-109.3	594153	615741	01	73197	13	02
67	6	1	31	ON	70.5	122.4	727312	753913	02	07697	10	18
				OFF	66.6	133.0	703879	729594	02	07779	11	01
68	6	1	86	ON	53.8	126.1	647394	670980	02	13400	12	07
				OFF	41.3	133.1	611433	633669	02	13599	12	39
70	5	1	127	ON	65.9	66.4	697668	723148	02	23983	11	05
				OFF	47.6	84.7	626515	649316	02	24292	12	23
70	5	2	25	ON	42.0	87.4	612421	634694	02	24379	12	35
				OFF	38.5	88.8	605199	627201	02	24434	12	42
71	7	1	23	ON	70.7	31.1	724910	751420	02	29280	10	12
				OFF	67.9	39.5	707295	733139	02	29342	10	47
71	7	2	121	ON	54.0	57.9	646332	669878	02	29586	12	04
				OFF	36.5	66.9	601363	623221	02	29862	12	45
72	6	1	64	ON	61.5	27.9	675002	699627	02	34857	11	32
				OFF	52.2	36.6	639542	662832	02	35012	12	09
72	6	2	65	ON	50.0	38.0	632615	655646	02	35047	12	16
				OFF	40.5	42.7	608404	630526	02	35196	12	37
78	4	1	24	ON	49.9	-98.1	629266	652171	02	67425	12	11
				OFF	46.4	-96.1	619594	642135	02	67491	12	20
81	8	1	36	ON	75.0	128.0	765639	793695	02	83070	07	36
				OFF	73.2	152.0	735539	762453	02	83172	09	14
81	8	2	47	ON	69.6	168.0	708963	734870	02	83265	10	19
				OFF	63.6	-179.1	677856	702588	02	83383	11	13

OPERATIONS SUMMARY

AFT PAN CAMERA NUMBER 165

OPN	NO	FRA		LAT	LONG	HEIGHT	RANGE	DA	S-TIM	L-TIM
PRE-FLT		156		34.8	-120.5	122	1			
1	4	0	8	ON	53.4	-152.8	687839	712947	25	83628	13	02
				OFF	51.9	-151.7	681247	706107	25	83652	13	07
2	1	1	26	ON	74.7	130.8	832868	863488	26	02186	09	19
				OFF	72.8	147.4	806739	836360	26	02261	10	27
2	1	2	73	ON	71.4	154.4	793414	822527	26	02299	10	55
				OFF	61.7	176.5	728774	755431	26	02493	12	27
4	7	1	51	ON	70.2	113.5	781045	809687	26	13135	11	12
				OFF	63.3	128.9	735489	762401	26	13272	12	16
4	7	2	30	ON	52.6	139.7	681501	706370	26	13452	13	02

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				OFF	48.1	142.5	662593	686750	26	13524	13 15
5	7	1	77	ON	71.1	87.5	787020	815890	26	18517	10 58
				OFF	60.2	110.1	717506	743736	26	18729	12 32
5	7	2	30	ON	53.5	116.3	684742	709734	26	18840	12 59
				OFF	49.0	119.2	665493	689759	26	18912	13 12
5	7	3	24	ON	41.6	122.9	638241	661482	26	19029	13 28
				OFF	38.0	124.4	627314	650145	26	19084	13 35
6	7	1	73	ON	72.0	60.8	793669	822792	26	23897	10 41
				OFF	62.1	85.0	726815	753397	26	24099	12 21
6	7	2	30	ON	58.5	89.3	707511	733363	26	24161	12 39
				OFF	54.0	93.2	685858	710892	26	24236	12 56
6	7	3	46	ON	29.5	104.4	606571	628624	26	24618	13 48
				OFF	22.9	106.2	597180	618882	26	24718	13 56
7	5	1	29	ON	56.8	68.2	698046	723540	26	29592	12 45
				OFF	52.3	71.7	677493	702211	26	29665	13 01
7	5	2	30	ON	48.8	73.9	662861	687028	26	29721	13 11
				OFF	44.3	76.3	645723	669245	26	29793	13 21
7	5	3	38	ON	35.8	79.7	619942	642497	26	29924	13 37
				OFF	30.2	81.5	607385	629469	26	30009	13 46
8	3	1	31	ON	66.6	32.3	750598	778083	26	34823	11 49
				OFF	61.9	39.9	723129	749572	26	34909	12 21
9	4	0	11	ON	37.4	-116.4	1086575	1127013	26	39189	03 07
				OFF	40.3	-115.3	1073915	1113857	26	39236	03 12
9	4	1	54	ON	52.7	26.0	677336	702048	26	40454	12 58
				OFF	44.3	30.9	644057	667517	26	40598	13 20
10	8	1	76	ON	6.0	19.2	598340	620084	26	46584	14 13
				OFF	-5.6	21.5	622630	645284	26	46760	14 25
16	8	0	16	ON	39.0	-125.8	621990	644621	26	78494	13 24
				OFF	36.5	-124.9	615482	637869	26	78532	13 29
20	4	1	28	ON	68.6	115.1	749832	777287	27	13206	11 20
				OFF	64.5	123.5	725125	751644	27	13284	11 55
20	4	2	29	ON	52.8	136.1	667987	692347	27	13482	12 49
				OFF	48.4	139.0	650308	674003	27	13553	13 01
21	4	1	38	ON	73.1	74.1	786077	814911	27	18495	10 04
				OFF	68.6	92.2	749480	776922	27	18606	11 19
21	4	2	35	ON	64.7	100.5	725408	751937	27	18681	11 53
				OFF	59.5	107.6	697526	723000	27	18774	12 23
21	4	3	29	ON	53.8	112.7	671751	696253	27	18867	12 45
				OFF	49.4	115.7	653638	677458	27	18939	12 58
22	4	1	28	ON	71.3	60.7	768460	796623	27	23946	10 41
				OFF	67.6	72.1	741949	769106	27	24028	11 28
22	4	2	28	ON	58.8	85.6	693546	718870	27	24187	12 25
				OFF	54.4	89.6	673662	698236	27	24259	12 42
22	4	3	23	ON	42.8	96.4	630736	653695	27	24443	13 12
				OFF	39.3	97.8	620562	643140	27	24498	13 19
22	4	4	37	ON	29.8	101.0	600346	622166	27	24643	13 34
				OFF	24.3	102.6	593515	615079	27	24728	13 42
23	3	1	41	ON	58.7	63.0	692682	717974	27	29589	12 25
				OFF	52.3	68.4	664379	688604	27	29694	12 48
23	3	2	29	ON	49.8	70.0	654392	678241	27	29735	12 55
				OFF	45.3	72.5	638290	661533	27	29806	13 06
23	3	3	41	ON	36.3	76.2	612978	635271	27	29945	13 23
				OFF	30.2	78.2	600943	622786	27	30039	13 33
24	9	1	55	ON	69.4	21.9	752406	779959	27	34792	11 07
				OFF	61.3	37.3	704910	730663	27	34946	12 11

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24	9	2	58	ON	56.7	42.2	682819	707738	27	35023	12	32
				OFF	47.8	48.5	646700	670259	27	35167	13	00
24	9	3	23	ON	45.6	49.6	639097	662370	27	35202	13	05
				OFF	42.1	51.2	628189	651053	27	35256	13	12
25	8	0	12	ON	37.4	-119.7	1065067	1104664	27	39217	02	54
				OFF	40.4	-118.6	1051796	1090874	27	39265	03	00
25	8	1	75	ON	52.8	22.6	665362	689623	27	40488	12	45
				OFF	41.2	28.9	625328	648084	27	40670	13	13
25	8	2	35	ON	33.3	31.8	606319	628363	27	40793	13	27
				OFF	28.2	33.4	598010	619743	27	40871	13	34
30	5	1	23	ON	42.0	-84.9	625882	648660	27	67661	13	08
				OFF	38.4	-83.4	616377	638797	27	67717	13	14
32	2	0	16	ON	39.1	-129.1	617409	639869	27	78507	13	11
				OFF	36.6	-128.2	611580	633821	27	78546	13	16
33	2	1	21	ON	71.3	170.8	758647	786437	27	83352	10	32
				OFF	68.7	-180.3	739606	766674	27	83412	11	09
35	8	1	47	ON	73.1	116.6	772212	800518	28	07704	09	54
				OFF	67.5	137.1	730802	757535	28	07835	11	18
36	8	1	39	ON	73.1	93.8	771401	799677	28	13103	09	53
				OFF	68.6	111.7	736655	763610	28	13213	11	07
36	8	2	30	ON	60.8	125.6	693743	719075	28	13358	12	04
				OFF	56.4	130.1	673795	698374	28	13432	12	24
39	8	1	76	ON	60.7	57.6	691247	716485	28	29558	12	02
				OFF	49.2	67.1	644418	667891	28	29746	12	44
39	8	2	25	ON	42.8	70.5	624279	646996	28	29848	12	59
				OFF	39.2	72.0	615102	637475	28	29904	13	06
41	8	1	23	ON	56.7	16.3	671902	696409	28	40424	12	19
				OFF	53.3	19.1	658138	682127	28	40480	12	31
41	8	2	36	ON	50.7	20.8	648592	672222	28	40521	12	38
				OFF	45.2	23.9	630547	653499	28	40608	12	52
48	8	0	17	ON	38.8	-132.2	611301	633532	28	78499	12	59
				OFF	36.3	-131.2	606168	628206	28	78538	13	04
50	1	1	52	ON	71.2	145.4	742456	769632	01	02339	10	20
				OFF	64.5	162.6	701612	727241	01	02478	11	31
52	1	1	37	ON	71.3	99.8	741170	768297	01	13134	10	18
				OFF	66.5	113.4	711074	737061	01	13236	11	14
52	1	2	29	ON	60.7	122.6	681981	706869	01	13341	11	52
				OFF	56.4	126.9	663711	687910	01	13413	12	11
52	1	3	68	ON	52.8	129.8	649971	673653	01	13472	12	23
				OFF	42.8	135.4	619139	641663	01	13530	12	48
54	8	1	64	ON	70.4	58.0	732593	759394	01	23953	10	31
				OFF	61.4	76.4	683572	708520	01	24126	11	47
54	8	2	40	ON	57.7	80.4	667638	691985	01	24188	12	04
				OFF	51.7	85.2	645027	668523	01	24285	12	25
54	8	3	24	ON	43.2	89.8	619482	642019	01	24419	12	46
				OFF	39.7	91.3	611078	633301	01	24474	12	53
54	8	4	39	ON	35.7	92.8	603442	625379	01	24535	13	00
				OFF	30.1	94.6	595633	617276	01	24621	13	08
55	6	1	30	ON	71.3	31.8	738337	765357	01	29329	10	16
				OFF	67.5	43.4	713762	739850	01	29412	11	03
55	6	2	34	ON	55.7	59.5	659197	683227	01	29618	12	11
				OFF	50.6	63.2	640831	664169	01	29700	12	27
55	6	3	28	ON	48.5	64.5	633812	656887	01	29735	12	33
				OFF	44.2	66.7	621673	644293	01	29801	12	43
56	8	1	77	ON	62.6	29.3	688090	713209	01	34899	11	38

				OFF	51.2	40.1	642115	665502	01	35090	12 25
63	3	1	24	ON	33.7	-110.7	598134	619871	01	73143	12 56
				OFF	30.2	-109.6	594153	615741	01	73197	13 01
67	6	1	31	ON	71.2	119.9	727312	753913	02	07697	10 07
				OFF	67.4	131.3	703879	729594	02	07779	10 54
68	6	1	87	ON	54.6	125.4	647394	670980	02	13400	12 04
				OFF	42.1	132.7	611433	633669	02	13599	12 37
70	5	1	128	ON	66.7	64.7	697668	723148	02	23983	10 58
				OFF	48.4	84.2	626515	649316	02	24292	12 21
70	5	2	25	ON	42.9	87.0	612421	634694	02	24379	12 34
				OFF	39.4	88.5	605199	627201	02	24434	12 41
71	7	1	23	ON	71.4	28.5	724910	751420	02	29280	10 01
				OFF	68.6	37.6	707295	733139	02	29342	10 39
71	7	2	120	ON	54.8	57.2	646332	669878	02	29586	12 01
				OFF	37.3	66.6	601363	623221	02	29862	12 43
72	6	1	64	ON	62.3	26.8	675002	699627	02	34857	11 28
				OFF	53.0	35.9	639542	662832	02	35012	12 07
72	6	2	66	ON	50.8	37.4	632615	655646	02	35047	12 13
				OFF	41.3	42.3	608404	630526	02	35196	12 35
78	4	1	23	ON	50.7	-98.6	629266	652171	02	67425	12 09
				OFF	47.2	-96.6	619594	642135	02	67481	12 18
81	8	1	36	ON	75.1	123.6	765639	793695	02	83070	07 18
				OFF	73.7	148.5	735539	762453	02	83172	09 00
81	8	2	46	ON	70.3	165.7	708963	734870	02	83265	10 10
				OFF	64.4	-180.5	677856	702588	02	83383	11 07

NOTE - LAST 5 FRAMES OF OPERATION 081-08-2 ARE CONTAINED IN THE B MISSION CAPSULE

PHOTOGRAPHIC SUMMARY

FWD PAN CAMERA NO 140 0.2500 SLIT W/25 FILTER 4404 FILM

OPN	NO	FRA	FEET		ET	S-EL	S-DIR	EV	FULL	INT	PRI
PRE-FLT		163	431.1								
1	4 0	9	23.8	ON	233	27.6	40.1	11.72	11.94	11.34	10.74
				OFF	235	28.9	40.6	11.73	11.96	11.36	10.76
2	1 1	26	68.8	ON	199	3.4	36.6	11.49	10.20	9.60	9.00
				OFF	205	7.5	36.3	11.53	10.81	10.21	9.61
2	1 2	71	187.8	ON	209	9.6	36.3	11.56	11.05	10.45	9.85
				OFF	231	20.3	37.5	11.70	11.75	11.15	10.55
4	7 1	50	132.2	ON	210	11.2	35.9	11.57	11.20	10.60	10.00
				OFF	225	18.8	36.8	11.67	11.69	11.09	10.49
4	7 2	30	79.3	ON	246	28.5	39.7	11.79	11.95	11.35	10.75
				OFF	252	32.2	41.5	11.83	12.00	11.40	10.80
5	7 1	76	201.0	ON	205	10.1	35.7	11.53	11.09	10.49	9.89
				OFF	227	21.7	37.2	11.68	11.80	11.20	10.60
5	7 2	29	76.7	ON	240	27.7	39.2	11.76	11.94	11.34	10.74
				OFF	247	31.5	40.9	11.80	11.99	11.39	10.79
5	7 3	24	63.5	ON	258	37.4	44.5	11.86	12.05	11.45	10.85
				OFF	262	40.0	46.6	11.88	12.07	11.47	10.87
6	7 1	72	190.4	ON	204	8.8	35.5	11.53	10.96	10.36	9.76
				OFF	226	19.9	36.6	11.67	11.74	11.14	10.54
6	7 2	30	79.3	ON	233	23.4	37.4	11.72	11.85	11.25	10.65
				OFF	241	27.4	38.8	11.77	11.93	11.33	10.73
6	7 3	45	119.0	ON	270	45.9	52.7	11.93	12.10	11.50	10.90
				OFF	273	49.8	58.9	11.94	12.10	11.50	10.90

[illegible]	[illegible]	[illegible]	29	76.7	ON	233	24.9	37.7	11.72	11.89	11.29	10.69
					OFF	240	28.8	39.2	11.76	11.95	11.36	10.76
7	5	2	30	79.3	ON	246	31.8	40.5	11.80	12.00	11.40	10.80
					OFF	253	35.4	42.6	11.83	12.03	11.43	10.83
7	5	3	38	100.5	ON	263	41.8	47.6	11.89	12.08	11.48	10.88
					OFF	267	45.6	51.8	11.92	12.09	11.49	10.89
8	3	1	32	84.6	ON	216	15.5	35.4	11.61	11.52	10.92	10.32
					OFF	226	20.2	36.2	11.67	11.75	11.15	10.55
9	4	0	11	29.1	ON	140	-40.1	45.7	10.99	0.	0.	0.
					OFF	141	-38.0	44.0	10.99	0.	0.	0.
9	4	1	53	140.2	ON	232	28.6	38.6	11.71	11.95	11.35	10.75
					OFF	245	35.6	42.2	11.79	12.03	11.43	10.83
10	8	1	75	198.4	ON	260	56.8	80.6	11.87	12.07	11.47	10.87
					OFF	248	56.8	99.1	11.81	12.07	11.47	10.87
16	8	0	16	42.3	ON	253	40.3	43.5	11.84	12.07	11.47	10.87
					OFF	255	42.1	45.0	11.85	12.08	11.48	10.88
20	4	1	28	74.1	ON	211	13.4	32.8	11.57	11.38	10.78	10.18
					OFF	219	17.8	33.2	11.63	11.55	11.05	10.45
20	4	2	29	76.7	ON	241	29.0	36.1	11.77	11.96	11.36	10.76
					OFF	247	32.9	37.8	11.80	12.01	11.41	10.81
21	4	1	38	100.5	ON	197	6.9	32.5	11.48	10.73	10.13	9.53
					OFF	208	13.3	32.5	11.56	11.37	10.77	10.17
21	4	2	35	92.6	ON	218	17.7	33.0	11.62	11.64	11.04	10.44
					OFF	228	22.9	34.0	11.69	11.84	11.24	10.64
21	4	3	29	76.7	ON	238	28.2	35.6	11.75	11.95	11.35	10.75
					OFF	244	32.1	37.2	11.79	12.00	11.40	10.80
22	4	1	28	74.1	ON	201	9.8	32.3	11.51	11.07	10.47	9.87
					OFF	210	14.5	32.4	11.57	11.46	10.86	10.26
22	4	2	28	74.1	ON	229	23.6	34.0	11.69	11.86	11.26	10.66
					OFF	236	27.7	35.2	11.74	11.94	11.34	10.74
22	4	3	23	60.8	ON	253	37.7	39.9	11.83	12.05	11.45	10.85
					OFF	256	40.5	41.9	11.85	12.07	11.47	10.87
22	4	4	37	97.9	ON	263	47.6	48.7	11.89	12.10	11.50	10.90
					OFF	265	51.2	53.9	11.90	12.10	11.50	10.90
23	3	1	41	108.4	ON	228	23.7	33.8	11.69	11.86	11.26	10.66
					OFF	239	29.6	35.7	11.75	11.97	11.37	10.77
23	3	2	30	79.3	ON	243	31.9	36.6	11.78	12.00	11.40	10.80
					OFF	249	35.7	38.5	11.81	12.04	11.44	10.84
23	3	3	41	108.4	ON	259	42.9	43.5	11.87	12.08	11.48	10.88
					OFF	263	47.4	48.1	11.89	12.10	11.50	10.90
24	9	1	55	145.5	ON	204	12.4	31.9	11.53	11.30	10.70	10.10
					OFF	222	21.2	33.0	11.65	11.78	11.18	10.58
24	9	2	57	150.8	ON	231	25.6	34.1	11.70	11.90	11.30	10.70
					OFF	245	33.6	37.2	11.79	12.02	11.42	10.82
24	9	3	23	60.8	ON	248	35.5	38.1	11.81	12.03	11.43	10.83
					OFF	252	38.4	39.8	11.83	12.06	11.46	10.86
25	8	0	12	31.7	ON	141	-42.1	42.4	11.00	0.	0.	0.
					OFF	142	-39.7	40.7	11.01	0.	0.	0.
25	8	1	75	198.4	ON	238	29.3	35.1	11.75	11.97	11.37	10.77
					OFF	254	39.2	40.1	11.84	12.06	11.46	10.86
25	8	2	35	92.6	ON	261	45.4	45.2	11.88	12.09	11.49	10.89
					OFF	264	49.0	49.4	11.90	12.10	11.50	10.90
30	5	1	24	63.5	ON	251	39.0	38.5	11.83	12.06	11.46	10.86
					OFF	255	41.9	40.5	11.85	12.08	11.48	10.88
32	2	0	16	42.3	ON	257	41.5	39.6	11.86	12.08	11.48	10.88

					COPY NO. OFF	259	43.5	41.2	11.87	12.09	11.49	10.89
33	2	1	21	55.5	ON	213	9.8	30.0	11.58	11.06	10.46	9.86
					OFF	219	13.3	30.1	11.63	11.38	10.78	10.18
35	8	1	47	124.3	ON	206	6.9	29.7	11.54	10.73	10.13	9.53
					OFF	220	14.7	29.8	11.64	11.47	10.87	10.27
36	8	1	39	103.2	ON	205	6.9	29.5	11.53	10.72	10.12	9.52
					OFF	216	13.4	29.5	11.61	11.38	10.78	10.18
36	8	2	29	76.7	ON	233	22.0	30.6	11.72	11.81	11.21	10.61
					OFF	241	26.4	31.6	11.77	11.92	11.32	10.72
39	8	1	76	201.0	ON	228	22.1	29.9	11.69	11.81	11.21	10.61
					OFF	248	33.1	33.2	11.81	12.01	11.41	10.81
39	8	2	25	66.1	ON	257	38.9	36.0	11.86	12.06	11.46	10.86
					OFF	260	41.9	37.9	11.88	12.08	11.48	10.88
41	8	1	22	58.2	ON	236	26.2	30.4	11.74	11.91	11.31	10.71
					OFF	242	29.5	31.4	11.77	11.97	11.37	10.77
41	8	2	36	95.2	ON	246	31.9	32.2	11.80	12.00	11.40	10.80
					OFF	254	36.8	34.3	11.84	12.04	11.44	10.84
48	8	0	16	42.3	ON	261	42.8	35.8	11.88	12.08	11.48	10.88
					OFF	263	45.0	37.3	11.89	12.09	11.49	10.89
50	1	1	53	140.2	ON	215	0.4	27.7	11.60	9.65	9.05	8.45
					OFF	231	8.8	27.4	11.70	10.96	10.36	9.76
52	1	1	38	100.5	ON	212	0.3	27.3	11.58	9.62	9.02	8.42
					OFF	224	6.5	27.0	11.66	10.67	10.07	9.47
52	1	2	29	76.7	ON	236	12.9	27.3	11.74	11.34	10.74	10.14
					OFF	243	17.3	27.8	11.78	11.62	11.02	10.42
52	1	3	68	179.9	ON	249	20.8	28.3	11.81	11.77	11.17	10.57
					OFF	261	30.3	30.7	11.88	11.98	11.38	10.78
54	8	1	64	169.3	ON	211	1.7	26.8	11.58	9.89	9.29	8.69
					OFF	231	12.2	26.8	11.71	11.29	10.69	10.09
54	8	2	40	105.8	ON	238	16.0	27.2	11.75	11.55	10.95	10.35
					OFF	248	21.9	28.1	11.80	11.81	11.21	10.61
54	8	3	24	63.5	ON	259	29.9	30.2	11.87	11.97	11.37	10.77
					OFF	263	33.2	31.3	11.89	12.01	11.41	10.81
54	8	4	39	103.2	ON	266	36.7	32.8	11.91	12.04	11.44	10.84
					OFF	269	41.6	35.5	11.93	12.08	11.48	10.88
55	6	1	30	79.3	ON	212	0.3	26.8	11.58	9.62	9.02	8.42
					OFF	221	5.4	26.5	11.64	10.52	9.92	9.32
55	6	2	34	89.9	ON	245	18.0	27.2	11.79	11.55	11.06	10.46
					OFF	253	23.0	28.1	11.84	11.84	11.24	10.64
55	6	3	28	74.1	ON	256	25.1	28.6	11.85	11.89	11.29	10.69
					OFF	262	29.1	29.6	11.88	11.96	11.36	10.76
56	8	1	77	203.7	ON	231	10.9	26.3	11.70	11.17	10.57	9.97
					OFF	251	22.5	27.8	11.82	11.82	11.22	10.62
63	3	1	24	63.5	ON	271	39.0	31.6	11.93	12.06	11.46	10.86
					OFF	273	42.2	33.2	11.95	12.08	11.48	10.88
67	6	1	31	82.0	ON	221	0.3	24.4	11.64	9.61	9.01	8.41
					OFF	230	5.4	24.1	11.70	10.52	9.92	9.32
68	6	1	86	227.5	ON	254	19.3	24.7	11.84	11.71	11.11	10.51
					OFF	268	31.6	27.4	11.92	11.99	11.39	10.79
70	5	1	127	335.9	ON	231	6.2	23.5	11.70	10.64	10.04	9.44
					OFF	261	25.5	25.4	11.88	11.90	11.30	10.70
70	5	2	25	66.1	ON	267	30.9	26.7	11.92	11.99	11.39	10.79
					OFF	270	34.2	27.8	11.93	12.02	11.42	10.82
71	7	1	23	60.8	ON	215	-0.0	23.6	11.60	0.	0.	0.
					OFF	222	3.9	23.4	11.65	10.28	9.68	9.08