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CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-17

VEHICLE NO. 1607

MISSION NO. 1015-2

CAMERA NOS. 138 & 141

Prepared by: 

Checked by: _____

Approved by: _____

Approved by:  Manager

Declassified and Released by the N R O

In Accordance with E. O. 12958

on NOV 26 1997

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5 JAN 1965

SYSTEM NO. J-17
VEHICLE NO. 1607
MISSION NO. 1015-2
CAMERA NOS. 138 & 141

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VEHICLE NO. 1607
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GENERAL FLIGHT DATA:

Master Camera Serial No. 138

Slave Camera Serial No. 141

Stellar Index "A" Serial No. D 61/61/61

Stellar Index "B" Serial No. D 58/58/58

Launch Date DECEMBER 19, 1964

Reactivation Date DECEMBER 28, 1964

Reactivation Orbit No. 137

Orbital Parameters: (Rev. 145)

Period 90.1996 Min.

Eccentricity 0.016977

Perigee 98.141 NM

Perigee Latitude 47.144 Deg. N

Apogee 220.27 NM

Inclination Angle 74.96 Deg. N

Recovery Orbit No. 175

Recovery Date DECEMBER 30, 1964

REMARKS:

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SYSTEM NO. J-17
 VEHICLE NO. 1607
 MISSION NO. 1015-2
 CAMERA NOS. 13B & 14

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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	
6	4	4.490	4.456	346
4	5	2.197	2.174	1909
4	5	3.737	3.692	490
4	5	3.675	3.630	533
4	5	2.208	2.182	2132

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
6	4	4.566	4.570	88	346
4	5	2.240	2.240	142	1909
4	5	3.840	3.835	152	490
4	5	3.768	3.768	167	533
4	5	2.250	2.245	174	2132

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SYSTEM NO. J-17
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PRELIMINARY CLOCK CORRELATION:

ORBIT	CORRECTED SYSTEM TIME	CLOCK TIME	DIFFERENCE
* <u>142</u>	<u>69208.980</u>	<u>47855.662</u>	<u> </u>
<u>152</u>	<u>35453.039</u>	<u>100,499.745</u>	<u> </u>
<u>158</u>	<u>69484.531</u>	<u>134,531.252</u>	<u> </u>
<u>167</u>	<u>30219.576</u>	<u>181,666.319</u>	<u> </u>
<u>174</u>	<u>69659.469</u>	<u>221,106.230</u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
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* DUE TO THE VEHICLE DEACTIVATION, POWER WAS INTERRUPTED AND A CONTINUOUS CLOCK CORRELATION IS IMPOSSIBLE. ORBIT 142 WILL THEN BE THE STARTING POINT FOR PART TWO OF THE MISSION.



- A. 1015-2
- B. DRY
- C. PERFORMANCE ESTIMATE

REV	PROG	CAM NO.	PAN FR.	SI FR.	LAT. ON	TIME OFF	ON	ST	TUR NO	DUR SEC.	SOLAR SEC	ON	OFF	EXPOS. ON	OFF
CUT-WRAP		138	4	0											
CUT-WRAP		141	4												
83	5 1	138	94	14	261	247	25	8247	6 4	1405	229	4	19	4.3	3.9
83	5 1	141	93		261	247	25	8247	6 4	1405	229	3	18	3.0	2.8
84	5 1	138	33	04	253	248	25	13805	6 4	1539	77	12	17	4.1	3.9
84	5 1	141	33		254	249	25	13805	6 4	1539	77	11	17	2.9	2.8
84	5 2	138	41	06	246	240	25	13920	6 4	1654	92	20	26	3.9	3.8
84	5 2	141	40		246	240	25	13920	6 4	1654	92	19	25	2.7	2.7
84	5 3	138	66	10	233	223	25	14117	6 4	1851	147	33	42	3.8	3.8
84	5 3	141	66		234	224	25	14117	6 4	1851	147	32	42	2.7	2.7
85	5 1	138	33	04	258	253	25	19139	6 4	1449	82	6	12	4.3	4.1
85	5 1	141	33		259	254	25	19139	6 4	1449	82	5	11	3.0	2.9
85	5 2	138	28	04	243	238	25	19393	6 4	1703	64	23	27	3.9	3.9
85	5 2	141	28		243	239	25	19393	6 4	1703	64	22	26	2.8	2.7
85	5 3	138	95	14	234	219	25	19532	6 4	1842	217	32	46	3.8	3.9
85	5 3	141	93		234	220	25	19532	6 4	1842	217	31	45	2.7	2.7
86	2 1	138	48	07	261	254	25	24514	6 4	1411	118	3	11	4.3	4.1
86	2 1	141	48		262	255	25	24514	6 4	1411	118	2	10	3.0	2.9
86	2 2	138	35	05	249	243	25	24727	6 4	1624	81	17	22	4.0	3.9
86	2 2	141	35		249	244	25	24727	6 4	1624	81	16	21	2.8	2.7
87	6 1	138	142	20	258	237	25	30000	6 4	1474	327	7	28	4.1	3.7
87	6 1	141	141		259	238	25	30000	6 4	1474	327	6	27	2.9	2.6
88	3 0	138	10	01	138	141	25	34256	6 4	307	47-65-62			8.6	8.5
88	3 0	141	10		136	139	25	34256	6 4	307	47-66-64			6.0	5.9
88	3 1	138	42	06	234	227	25	35808	6 4	1859	97	32	38	3.9	3.9
88	3 1	141	42		235	228	25	35808	6 4	1859	97	31	37	2.8	2.7
89	1 0	138	5		LENS STOW FOR DEACTIVATION										
89	1 0	141	5		LENS STOW FOR DEACTIVATION										

NOTE - THE VEHICLE AND ORBITAL TIMER WERE DEACTIVATED ON REV 89 AT [REDACTED]. THE VEHICLE AND TIMER WERE REACTIVATED AT [REDACTED] ON REV 137. THE OPERATIONS TAKEN AFTER REV 137 WERE THOSE NOMINALLY PROGRAMMED FOR AN ORBITAL TIMER SUBCYCLE 48 REVS EARLIER. IN OTHER WORDS REV 138 CORRESPONDS TO ORBITAL TIMER SUBCYCLE 90, REV 139 CORRESPONDS TO ORBITAL TIMER SUBCYCLE 91, ETC.

142	9 1	138	25	03	240	237	28	69109	4 5	1857	58	24	28	4.0	4.0
142	9 1	141	25		241	237	28	69109	4 5	1857	58	23	27	2.8	2.8
145	1 1	138	36	05	261	256	28	85015	4 5	1538	83	1	7	4.0	3.9
145	1 1	141	36		262	257	28	85015	4 5	1538	83	1	6	2.8	2.7
146	1 1	138	29	04	261	257	29	4026	4 5	1540	66	1	5	4.0	3.9
146	1 1	141	29		262	258	29	4026	4 5	1540	66	0	5	2.8	2.7
146	1 2	138	30	05	249	245	29	4222	4 5	1735	65	14	19	3.8	3.7
146	1 2	141	30		250	246	29	4222	4 5	1735	65	14	18	2.6	2.6

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147	1	1	138	106	15	256	241	29	9521	4	5	1626	239	7	23	3.9	3.7
147	1	1	141	106		257	242	29	9521	4	5	1626	239	6	22	2.7	2.6
148	1	1	138	93	13	261	248	291	4848	4	5	1545	213	1	15	4.0	3.8
148	1	1	141	93		262	249	291	4848	4	5	1545	213	0	15	2.8	2.6
148	1	2	138	151	22	243	221	291	5138	4	5	1834	339	21	44	3.7	3.8
148	1	2	141	151		244	222	291	5138	4	5	1834	339	20	43	2.6	2.7
148	1	3	138	54	07	202	306	291	5760	4	5	2457	141	63	73	4.2	4.5
148	1	3	141	54		203	305	291	5760	4	5	2457	141	63	72	3.0	3.2
149	9	1	138	149	22	258	237	292	0311	4	5	1599	336	4	27	3.9	3.7
149	9	1	141	148		259	238	292	0311	4	5	1599	336	3	27	2.7	2.6
150	6	1	138	93	13	256	243	292	5756	4	5	1636	209	7	21	3.8	3.7
150	6	1	141	94		257	244	292	5756	4	5	1636	209	6	20	2.7	2.6
151	7	1	138	99	14	254	240	293	1200	4	5	1671	223	9	24	3.8	3.7
151	7	1	141	99		255	241	293	1200	4	5	1671	223	8	23	2.7	2.6
152	9	0	138	12	02	138	141	293	5390	4	5	451	48-72-69			7.2	7.0
152	9	0	141	12		137	140	293	5390	4	5	451	48-73-70			5.0	4.9
152	9	1	138	98	14	206	309	293	7346	4	5	2408	248	59	76	4.0	4.5
152	9	1	141	97		207	308	293	7346	4	5	2408	248	58	75	2.8	3.2
161	8	1	138	51	07	261	254	298	5196	4	5	1582	117	0	8	3.9	3.8
161	8	1	141	51		262	255	298	5196	4	5	1582	117	-0	7	2.7	2.7
162	8	1	138	30	04	261	257	30	4205	4	5	1584	68	0	5	3.9	3.8
162	8	1	141	30		262	258	30	4205	4	5	1584	68	-0	4	2.7	2.7
162	8	2	138	52	08	254	247	30	4322	4	5	1700	115	8	16	3.8	3.7
162	8	2	141	52		255	248	30	4322	4	5	1700	115	7	15	2.7	2.6
164	8	1	138	59	08	261	253	301	5026	4	5	1589	134	0	9	3.9	3.8
164	8	1	141	59		262	254	301	5026	4	5	1589	134	-0	8	2.7	2.7
164	8	2	138	183	26	243	216	301	5317	4	5	1879	415	20	49	3.7	4.0
164	8	2	141	183		244	217	301	5317	4	5	1879	415	19	48	2.6	2.8
165	9	1	138	129	19	260	242	302	0456	4	5	1612	291	1	21	3.9	3.7
165	9	1	141	129		261	243	302	0456	4	5	1612	291	1	21	2.7	2.6
166	8	1	138	55	08	261	254	302	5850	4	5	1596	126	0	9	3.9	3.8
166	8	1	141	54		262	254	302	5850	4	5	1596	126	-0	8	2.8	2.7
166	8	2	138	112	16	250	234	302	6030	4	5	1776	253	13	30	3.8	3.8
166	8	2	141	112		251	235	302	6030	4	5	1776	253	12	29	2.7	2.7
167	9	0	138	12	01	138	141	303	0156	4	5	494	48-73-70			7.2	7.0
167	9	0	141	12		137	140	303	0156	4	5	494	48-74-71			5.0	4.9
167	9	1	138	100	15	257	243	303	1328	4	5	1666	226	5	20	3.9	3.7
167	9	1	141	100		258	244	303	1328	4	5	1666	226	4	20	2.7	2.6
168	6	1	138	87	12	201	313	303	7598	4	5	2527	234	64	80	4.2	4.8
168	6	1	141	86		202	312	303	7598	4	5	2527	234	63	79	3.0	3.4
172	7	1	138	29	04	242	237	305	8621	4	5	1916	66	21	25	3.9	3.9
172	7	1	141	29		242	238	305	8621	4	5	1916	66	20	24	2.7	2.8
172	7	2	138	27	04	222	217	305	8927	4	5	2222	65	42	46	4.0	4.1
172	7	2	141	27		222	218	305	8927	4	5	2222	65	41	45	2.9	2.9
173	7	1	138	29	04	234	229	306	4156	4	5	2043	66	29	34	3.9	3.9
173	7	1	141	28		234	230	306	4156	4	5	2043	66	29	33	2.8	2.8
174	5	1	138	56	08	236	227	306	9535	4	5	2013	126	27	36	3.8	3.8
174	5	1	141	55		236	228	306	9535	4	5	2013	126	26	35	2.7	2.7

AAA BB C DDD EEE FF GHH GII JJKKKK LLMM NNNN OOO PP QQ RRR SSS

A REVOLUTION NUMBER

B PROGRAM NUMBER

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C OPERATION NUMBER
 D PAN. CAMERA SERIAL NUMBER (MASTER IS EVEN, SLAVE IS ODD)
 E EST. NO OF PAN FRAMES, BASED ON COUNTER READINGS INFLITE
 F EST. NUMBER OF STELLAR/INDEX FRAMES
 G QUADRANT
 H EST. LATITUDE OF FIRST FORMAT CENTER IN PASS
 I EST. LATITUDE OF LAST FORMAT CENTER IN PASS
 J ZULU DATE
 K SYSTEM TIME IN SECONDS (GMT)
 L FMC PROGRAMMER REFERENCE LEVEL
 M FMC PROGRAMMER AMPLITUDE LEVEL
 N EST. TIME UP RAMP IN SECONDS TO OPERATE COMMAND
 O EST. SECONDS DURATION OF OPERATION, BETWEEN ON AND OFF
 P SOLAR ELEVATION AT ITEM H
 Q SOLAR ELEVATION AT ITEM I
 R EST. MILLISECONDS EXPOSURE TIME AT ITEM H
 S EST. MILLISECONDS EXPOSURE TIME AT ITEM I

FRAMES TO FEET, PAN X 2.645 STELLAR X 0.099, INDEX X 0.198

NOTE - T/M DATA INDICATES NORMAL INSTRUMENT OPERATION

J- 17	RAMP	R- 6	A- 4
R=	0.3269	A=	0.1304
TIME	PERIOD	CPS	GAV
0	5.089	0.1965	0.01777
100	5.055	0.1978	0.01789
200	4.955	0.2018	0.01825
300	4.800	0.2083	0.01884
400	4.602	0.2173	0.01965
500	4.376	0.2285	0.02067
600	4.137	0.2417	0.02186
700	3.896	0.2567	0.02322
800	3.662	0.2731	0.02470
900	3.441	0.2906	0.02628
1000	3.238	0.3088	0.02793
1100	3.052	0.3276	0.02963
1200	2.838	0.3523	0.03187
1300	2.659	0.3761	0.03402
1400	2.512	0.3982	0.03601
1500	2.395	0.4176	0.03777
1600	2.306	0.4337	0.03923
1700	2.242	0.4460	0.04034
1800	2.203	0.4539	0.04105
1900	2.187	0.4572	0.04135
2000	2.194	0.4558	0.04122
2100	2.224	0.4497	0.04067
2200	2.277	0.4391	0.03972
2300	2.356	0.4245	0.03839
2400	2.461	0.4063	0.03675
2500	2.596	0.3852	0.03484
2600	2.762	0.3620	0.03274
2700	2.962	0.3376	0.03053
2800	3.162	0.3162	0.02860

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2900	3.358	0.2978	0.02694
3000	3.572	0.2800	0.02532
3100	3.801	0.2631	0.02380
3200	4.040	0.2475	0.02239
3300	4.281	0.2336	0.02113
3400	4.514	0.2215	0.02004
3500	4.725	0.2116	0.01914
3600	4.899	0.2041	0.01846
3700	5.022	0.1991	0.01801
3800	5.084	0.1967	0.01779

J- 17	RAMP	R- 4	A- 5
R=	0.3518	A=	0.1219
TIME	PERIOD	CPS	GAV
0	4.350	0.2299	0.02079
100	4.326	0.2311	0.02091
200	4.258	0.2349	0.02124
300	4.150	0.2410	0.02179
400	4.010	0.2493	0.02255
500	3.849	0.2598	0.02350
600	3.674	0.2722	0.02462
700	3.495	0.2862	0.02588
800	3.317	0.3015	0.02727
900	3.146	0.3178	0.02875
1000	2.986	0.3349	0.03029
1100	2.837	0.3525	0.03188
1200	2.663	0.3756	0.03397
1300	2.514	0.3978	0.03598
1400	2.390	0.4184	0.03784
1500	2.291	0.4366	0.03949
1600	2.214	0.4517	0.04085
1700	2.179	0.4589	0.04151
1800	2.179	0.4589	0.04151
1900	2.179	0.4589	0.04151
2000	2.179	0.4589	0.04151
2100	2.179	0.4589	0.04151
2200	2.190	0.4567	0.04131
2300	2.257	0.4430	0.04007
2400	2.347	0.4260	0.03853
2500	2.461	0.4063	0.03675
2600	2.600	0.3846	0.03479
2700	2.764	0.3618	0.03272
2800	2.925	0.3418	0.03092
2900	3.081	0.3246	0.02936
3000	3.248	0.3079	0.02785
3100	3.423	0.2922	0.02642
3200	3.602	0.2776	0.02511
3300	3.780	0.2646	0.02393
3400	3.948	0.2533	0.02291
3500	4.097	0.2441	0.02207
3600	4.219	0.2370	0.02144
3700	4.304	0.2323	0.02101
3800	4.346	0.2301	0.02081



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NOTE - THE ABOVE RAMP DATA REPRESENT THE BEST APPROXIMATION OF HOW THE RAMP PERFORMED IN-FLIGHT AND ARE NOT THE PRE-FLIGHT CALIBRATIONS FOR THESE RAMPS.

PAYLOAD J-17 MISSIONS 1015-1

TIME CORRELATION

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
37345.257	102153.10490	37345.26380	-0.00584	9	1
76952.907	141760.76090	76952.90970	-0.00180	16	1
37526.884	188734.74490	37526.88180	0.00311	25	1
72101.597	223309.46590	72101.59410	0.00388	31	1
38229.084	275836.96690	38229.08180	0.00320	41	1
72574.358	310182.25090	72574.35700	0.00190	47	1
33457.124	357465.02990	33457.12410	0.00089	56	1
73025.176	397033.09590	73025.18000	-0.00308	63	1
33482.972	443890.89890	33482.97110	0.00180	72	1
73391.545	483799.48790	73391.55000	-0.00408	79	1

A0=-0.6480781526D 05 A1= 0.999999746469D 00
 SIGMA=0.00310 NO. POINTS= 10
 RATIO OF CLOCK TIME TO SYS TIME= 0.100000025353D 01

PAYLOAD J-17 MISSIONS 1015-1

TIME CORRELATION

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
37345.257	102153.10490	37345.25960	-0.00166	9	1
76952.907	141760.76090	76952.90820	-0.00026	16	1
37526.884	188734.74490	37526.88260	0.00231	25	1
72101.597	223309.46590	72101.59600	0.00191	31	1
38229.084	275836.96690	38229.08460	0.00034	41	1
72574.358	310182.25090	72574.35990	-0.00096	47	1
33457.124	357465.02990	33457.12620	-0.00122	56	1
73025.176	397033.09590	73025.18080	-0.00388	63	1
33482.972	443890.89890	33482.96960	0.00333	72	1
73391.545	483799.48790	73391.54580	0.00010	79	1

A0=-0.6480782907D 05 A1= 0.999999860638D 00
 A2=-0.1948717952232D-12
 SIGMA=0.00192 NO. POINTS= 10

PAYLOAD J-17 VEH 1607 MISSION 1015-2

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
69208.948	47855.66190	69208.97970	-0.03070	142	1
35453.099	100499.74490	35453.03890	0.06106	152	1
69484.512	134531.25190	69484.53050	-0.01757	158	1
30219.562	181666.31890	30219.57620	-0.01330	167	1
69659.469	221106.22990	69659.46940	0.00051	174	1

A0= 0.2135333930D 05 A1= 0.999999548590D 00
 SIGMA=0.02932 NO. POINTS= 5

[REDACTED]

RATIO OF CLOCK TIME TO SYS TIME= 0.1000000451410 01

PAYLOAD J-17 VEH 1607 MISSION 1015-2

ORDER FIT 2

69208.948	47855.66190	69208.96550	-0.01654	142	1
35453.099	100499.74490	35453.04790	0.05205	152	1
69484.512	134531.25190	69484.54380	-0.03089	158	1
30219.562	181666.31890	30219.58170	-0.01870	167	1
69659.469	221106.22990	69659.45590	0.01408	174	1

A0= 0.2135328666D 05 A1= 0.100000052610D 01

A2=-0.3621859732919D-11

SIGMA=0.02734 NO. POINTS= 5

[REDACTED]

TO: [REDACTED]