28 SEP 1964 [redacted] LOGGED

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SUPPLEMENT A

[redacted] Copy No. _____

10 Pages

(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-11 B

VEHICLE NO. 1178

MISSION NO. 1010-2

CAMERA NOS. 152 & 153

Prepared by: [redacted]

Checked by: [redacted]

Approved by: [redacted] Manager
Requirements & Analysis

Approved by: _____
Project Office

Approved by: [redacted] Manager
S. E.

[redacted]

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SYSTEM NO. J-11B
VEHICLE NO. 1178
MISSION NO. 1010-2
CAMERA NOS. 152 & 153

GENERAL FLIGHT DATA:

Master Camera Serial No. 152

Slave Camera Serial No. 153

Stellar Index "A" Serial No. D-41

Stellar Index "B" Serial No. D-44

Launch Date 9/14/64

Reactivation Date

Reactivation Orbit No.

Orbital Parameters: (Rev. 107)

Period 90.81 Min. Eccentricity 0.02181

Perigee 99.58 NM Perigee Latitude 68:38.9 Deg. N

Apogee 257.09 NM Inclination Angle 84.96 Deg. N

Recovery Orbit No. 144

Recovery Date 9/23/64

REMARKS:

CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Time Up Ramp Sec
		Master	Slave	
8	2	4.063	4.071	703
7	2	3.603	3.613	786

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
8	2	4.093	4.163	71	703
7	2	3.615	3.700	103	786

SYSTEM NO. J-11B
VEHICLE NO. 1178
MISSION NO. 1010-2
CAMERA NOS. 152 & 153

[redacted]

PRELIMINARY CLOCK CORRELATION:

ORBIT	SYSTEM TIME	CLOCK TIME	DIFFERENCE
63	80804.917	9683.618	
71	36047.035	51719.960	+.012
79	81666.310	96884.588	+.014
87	36833.562	138815.171	+.013
95	82471.732	184150.486	+.015
103	38027.705	226106.472	+.012
110	77807.469	265886.248	+.012
119	38865.991	313344.785	+.015
126	78273.001	352751.807	+.012
135	39496.433	400375.253	+.014

[redacted]

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SYSTEM NUMBER J-11
VEHICLE NUMBER 1178
MISSION NUMBER 1010
PANORAMIC CAMERA NUMBERS 152 AND 153
STELLAR/INDEX CAMERA NUMBER D44/46/44

FINAL MISSION B
PERFORMANCE ESTIMATE

SUB	PROG	CAM NO.	PAN FR.	SI FR	LAT. ON	LAT. OFF	TIME ON ZD	TIME ON ST	TUR NO	DUR SEC.	SOLAR SEC	SOLAR ON	SOLAR OFF	EXPOS. ON	EXPOS. OFF
CUT/WRAP		152	4	0											
CUT/WRAP		153	4												
65	8 0	152	13	02	222	219	19	5375	8 2	2388	34	45	46	3.2	3.3
65	8 0	153	12		223	220	19	5375	8 2	2388	34	45	46	3.5	3.6
68	8 1	152	121	17	255	236	1921	251	8 2	1918	273	29	40	2.6	2.7
68	8 1	153	121		255	237	1921	251	8 2	1918	273	29	40	2.6	2.7
69	6 1	152	57	08	271	263	1926	451	8 2	1664	129	17	23	2.7	2.6
69	6 1	153	57		272	264	1926	451	8 2	1664	129	17	23	2.7	2.6
69	6 2	152	71	11	259	249	1926	630	8 2	1842	156	26	33	2.6	2.6
69	6 2	153	71		260	250	1926	630	8 2	1842	156	25	32	2.6	2.6
69	6 3	152	93	13	242	228	1926	878	8 2	2091	215	37	44	2.6	2.8
69	6 3	153	93		243	229	1926	878	8 2	2091	215	36	44	2.6	2.8
70	3 1	152	166	24	253	227	1932	183	8 2	1948	375	31	45	2.6	2.8
70	3 1	153	166		253	228	1932	183	8 2	1948	375	30	44	2.6	2.8
71	10 0	152	10	01	139	142	1936	341	7 2	658	44-32-30			5.6	5.5
71	10 0	153	10		137	140	1936	341	7 2	658	44-33-31			5.6	5.5
71	10 1	152	168	24	260	235	1937	519	7 2	1835	375	25	41	2.6	2.7
71	10 1	153	169		261	236	1937	519	7 2	1835	375	25	41	2.6	2.7
84	6 1	152	222	32	255	220	2022	065	7 2	1931	504	29	48	2.5	2.9
84	6 1	153	222		256	221	2022	065	7 2	1931	504	29	48	2.5	2.9
85	6 1	152	51	07	260	253	2027	440	7 2	1857	107	25	31	2.5	2.5
85	6 1	153	50		261	254	2027	440	7 2	1857	107	25	30	2.5	2.5
85	6 2	152	181	26	247	219	2027	631	7 2	2048	417	34	49	2.5	3.0
85	6 2	153	180		248	219	2027	631	7 2	2048	417	34	48	2.5	3.0
86	7 1	152	163	23	259	235	2032	904	7 2	1878	358	26	42	2.5	2.7
86	7 1	153	163		260	236	2032	904	7 2	1878	358	26	41	2.5	2.7
87	3 1	152	50	07	261	254	2038	324	7 2	1851	110	25	30	2.6	2.6
87	3 1	153	50		262	255	2038	324	7 2	1851	110	24	29	2.6	2.6
87	3 2	152	56	08	251	243	2038	471	7 2	1999	124	32	37	2.6	2.7
87	3 2	153	55		252	244	2038	471	7 2	1999	124	31	37	2.6	2.7
88	3 1	152	88	13	256	243	2043	847	7 2	1929	197	28	37	2.6	2.7
88	3 1	153	88		257	244	2043	847	7 2	1929	197	28	37	2.6	2.7
88	3 2	152	39	05	233	227	2044	185	7 2	2267	93	43	46	2.8	2.9
88	3 2	153	39		234	228	2044	185	7 2	2267	93	42	45	2.8	2.9
93	4 1	152	42	06	242	236	2071	308	7 2	2152	93	38	41	2.6	2.7
93	4 1	153	42		243	236	2071	308	7 2	2152	93	37	41	2.6	2.7
98	2 1	152	51	08	255	248	2111	963	7 2	1980	110	29	34	2.5	2.5
98	2 1	153	51		256	248	2111	963	7 2	1980	110	29	34	2.5	2.6
100	4 1	152	225	32	254	218	2122	879	7 2	2003	521	30	50	2.5	3.0
100	4 1	153	223		255	219	2122	879	7 2	2003	521	29	50	2.5	3.1

[redacted]

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101	10	1	152	170	24	251	224	2128374	7	2	2051	388	32	48	2.5	2.9
101	10	1	153	168		252	225	2128374	7	2	2051	388	32	47	2.5	2.9
103	10	0	152	11	02	138	141	2137957	7	2	743	43-35-33			5.0	4.9
103	10	0	153	11		137	140	2137957	7	2	743	43-36-34			5.0	4.9
115	1	1	152	74	10	251	240	2218255	7	2	2106	168	32	40	2.6	2.7
115	1	1	153	74		252	240	2218255	7	2	2106	168	32	40	2.6	2.7
116	1	1	152	180	26	244	214	2223805	7	2	2205	435	37	52	2.6	3.2
116	1	1	153	177		245	215	2223805	7	2	2205	435	37	52	2.6	3.3
117	7	1	152	169	24	252	226	2229137	7	2	2093	387	32	48	2.5	2.9
117	7	1	153	167		253	226	2229137	7	2	2093	387	31	48	2.5	3.0
118	5	1	152	50	07	276	269	2234223	7	2	1735	111	13	19	2.7	2.6
118	5	1	153	50		277	270	2234223	7	2	1735	111	12	18	2.7	2.6
118	5	2	152	153	22	265	242	2234390	7	2	1901	347	22	39	2.6	2.8
118	5	2	153	153		266	243	2234390	7	2	1901	347	21	38	2.6	2.8
131	2	1	152	49	07	256	248	2318948	7	2	2096	111	29	34	2.7	2.7
131	2	1	153	49		257	249	2318948	7	2	2096	111	28	34	2.7	2.7
133	3	1	152	167	24	254	227	2329872	7	2	2133	391	30	47	2.5	3.0
133	3	1	153	165		255	228	2329872	7	2	2133	391	30	47	2.6	3.1
134	5	1	152	113	16	253	235	2335333	7	2	2151	257	31	43	2.5	2.8
134	5	1	153	112		254	236	2335333	7	2	2151	257	30	42	2.6	2.8
142	1	1	152	0	3	240	238	2179097					40	40		
142	1	1	153	0												

AAA BB C DDD EEE FF GHH GII JJKKKKK LL M NNNN OOO PP QQ RRR SSS

A ORBITAL TIMER SUBCYCLE NUMBER
B PROGRAM NUMBER
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

RAMP PROFILES

J- 11 RAMP R- 8 A- 2
R= 0.3238 A= 0.1427 RAMP PERIOD= 3840

[redacted]

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TIME	PERIOD	CPS	GAV
0	5.522	0.1811	0.01638
75	5.497	0.1819	0.01645
150	5.424	0.1844	0.01668
225	5.307	0.1884	0.01704
300	5.153	0.1941	0.01755
375	4.971	0.2012	0.01819
450	4.769	0.2097	0.01897
525	4.555	0.2195	0.01986
600	4.337	0.2306	0.02085
675	4.121	0.2427	0.02195
750	3.910	0.2557	0.02313
825	3.710	0.2696	0.02438
900	3.521	0.2840	0.02569
975	3.345	0.2989	0.02704
1050	3.183	0.3141	0.02841
1125	3.018	0.3313	0.02997
1200	2.844	0.3516	0.03180
1275	2.694	0.3713	0.03358
1350	2.564	0.3900	0.03527
1425	2.455	0.4073	0.03684
1500	2.364	0.4230	0.03825
1575	2.291	0.4366	0.03949
1650	2.233	0.4479	0.04051
1725	2.190	0.4566	0.04130
1800	2.179	0.4589	0.04151
1875	2.179	0.4589	0.04151
1950	2.179	0.4589	0.04151
2025	2.179	0.4589	0.04151
2100	2.183	0.4581	0.04143
2175	2.223	0.4498	0.04068
2250	2.278	0.4390	0.03971
2325	2.348	0.4258	0.03852
2400	2.436	0.4106	0.03714
2475	2.541	0.3936	0.03559
2550	2.666	0.3751	0.03392
2625	2.812	0.3556	0.03216
2700	2.981	0.3354	0.03034
2775	3.153	0.3172	0.02869
2850	3.312	0.3020	0.02731
2925	3.485	0.2870	0.02596
3000	3.671	0.2724	0.02464
3075	3.869	0.2584	0.02337
3150	4.078	0.2452	0.02218
3225	4.293	0.2329	0.02107
3300	4.512	0.2217	0.02005
3375	4.727	0.2116	0.01913
3450	4.932	0.2028	0.01834
3525	5.119	0.1954	0.01767
3600	5.279	0.1894	0.01713
3675	5.404	0.1851	0.01674
3750	5.486	0.1823	0.01649
3825	5.521	0.1811	0.01638

[redacted]

[redacted]

[redacted]

J- 11 RAMP R- 7 A- 2
R= 0.3401 A= 0.1430 RAMP PERIOD= 3840

TIME	PERIOD	CPS	GAV
0	5.074	0.1971	0.01783
100	5.036	0.1986	0.01796
200	4.928	0.2029	0.01835
300	4.760	0.2101	0.01900
400	4.547	0.2199	0.01989
500	4.307	0.2322	0.02100
600	4.054	0.2467	0.02231
700	3.801	0.2631	0.02380
800	3.558	0.2811	0.02542
900	3.330	0.3003	0.02716
1000	3.122	0.3203	0.02897
1100	2.934	0.3409	0.03083
1200	2.717	0.3680	0.03328
1300	2.537	0.3941	0.03564
1400	2.391	0.4182	0.03783
1500	2.275	0.4395	0.03975
1600	2.187	0.4572	0.04135
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	2.179	0.4589	0.04151
2300	2.237	0.4471	0.04044
2400	2.341	0.4272	0.03863
2500	2.475	0.4040	0.03654
2600	2.641	0.3786	0.03424
2700	2.843	0.3518	0.03182
2800	3.045	0.3284	0.02970
2900	3.245	0.3082	0.02787
3000	3.465	0.2886	0.02611
3100	3.702	0.2701	0.02443
3200	3.952	0.2530	0.02289
3300	4.206	0.2378	0.02150
3400	4.453	0.2245	0.02031
3500	4.679	0.2137	0.01933
3600	4.867	0.2055	0.01858
3700	5.001	0.2000	0.01809
3800	5.068	0.1973	0.01785

J-11 TIME CORRELATION-MISSION 1010-2

ORBIT	CLOCK TIME	COR SYS TM
63	009683.618	80804.917
71	051325.748	36047.035
79	096945.037	81666.310
87	138512.302	36833.562
95	184150.486	82471.732
103	226106.472	38027.705
110	265886.248	77807.469
119	313344.785	38865.991

[redacted]

[redacted]

126	352751.807	78273.001
135	400375.253	39496.433

RATIO OF CLOCK TIME TO SYSTEM TIME=1.00000028

NOTES 1) TM DATA INDICATE ALL SYSTEMS OPERATIONAL AND NORMAL ON SECOND MISSION.
2) THE LAST 5 FRAMES OF OPERATION ON REV 61 ARE IN THE MISSION B CAPSULE.
3) FMC PROGRAMMER PERIOD IS NOMINALLY 3840 SECONDS FOR SYSTEMS J-11, J-13 AND UP. THE FORMER NOMINAL WAS 4800 SECONDS.
4) RAMP PROFILES ARE NOMINAL, AND DO NOT INCLUDE ADJUSTMENT FOR INFLIGHT VARIATION.
5) ACTUAL FMC PROGRAMMER START OCCURS 30 SECONDS UP THE RAMP FOR J-11 SYSTEM. DATA REPORTED IN TUR (ITEM N) HAVE BEEN ADJUSTED TO APPROXIMATE THE EFFECTIVE TURNON TIME WHEN USED WITH THE ACCOMPANYING PROFILES.
6) TIME CORRELATION DATA HAVE HAD SYSTEM TIMES ADJUSTED TO REPRESENT THE MOST ACCURATE FIT AVAILABLE AT THIS TIME. DELTAS REPORTED ARE BELIEVED WITHIN 0.015 SEC.
7) NOTE CHANGE IN NUMBER OF FRAMES AND EXPOSURE TIMES FOR OPERATION ON REV 65.
8) PAN CAMERA FILM ESTIMATED DEPLETED DURING OPERATION ON REV 134. HOWEVER, TM INDICATED S/I PHOTOS ON 142.

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