[redacted]

LAUNCH REQUIREMENTS- J04 VEHICLE 1614

20 APRIL 1965

ATTACHED IS THE LAUNCH REQUIREMENTS AND LIMITATIONS FOR PAYLOAD J04 VEHICLE 1614.

[redacted]

CHIEF
PAYLOAD INTERATION

1.0 SCOPE

1.1 GENERAL.

THE FOLLOWING REQUIREMENTS GOVERN THE CONDITIONS UNDER WHICH THE VEHICLE WILL BE LAUNCHED WITH THE A/P PAYLOAD SYSTEM. ANY DEVIATION FROM THE PRESCRIBED LIMITS SHALL BE CAUSE FOR HOLD. ANY STATUS CHANGES MUST BE REPORTED TO PAYLOAD INTREGRATION IMMEDIATELY AFTER OCCURRENCE FOR EVALUATION. ALL DISCREPANCIES AND DEVIATIONS MUST BE CORRECTED PRIOR TO RESUMPTION OF VEHICLE LAUNCH COUNT-DOWN.

2.0 PAYLOAD INTERNAL TEMPERATURE.

65 +/- 10 DEG. F. FROM T-24 TO T-4 HOURS.
65 +/- 5 DEG. F. FROM T-4 THROUGH LAUNCH.

TEMPERATURE OF PAYLOAD SYSTEM SHALL BE MONITORED AND LOGGED EVERY ONE-HALF HOUR FROM T-4 HOURS TO LAUNCH

3.0 RELATIVE HUMIDITY.

50 PERCENT OR LESS AT ALL TIMES.

[redacted]

[redacted] MUST BE CONNECTED AND FLOWING WHEN THE SYSTEM IS ON THE LAUNCH PAD. MAXIMUM OFF TIME IS ONE-HALF HOUR PER DAY.

5.0 SRV TRANSMISSION FREQUENCY

RECOVERY TLM	228.2 +/- 0.1 MC
RECOVERY BEACON	235.0 +/- 0.1 MC

6.0 POWER.

POWER MUST BE APPLIED TO THE PAYLOAD INTERFACE WHENEVER THE PAYLOAD IS RAISED OR LOWERED.

7.0 THERMAL BLANKET

THERMAL BLANKET MUST REMAIN ON THE PAYLOAD FROM MATING UNTIL LAUNCH.

8.0 PRIMARY TELEMETRY READOUTS.

PAYLOAD CHECKOUT (MUST BE VERIFIED THROUGH VEHICLE TELEMETRY)

8.1 LENS ROTATION, HORIZON IDLER, AND CENTER OF FORMAT INSTRUMENT 1 CHANNEL 09, LINK I. NO BACK UP CHANNEL IS AVAILABLE.

[redacted]

8.2 LENS ROTATION, HORIZON IDLER, AND CENTER OF FORMAT INSTRUMENT 2 CHANNEL 10, LINK I. NO BACK UP CHANNEL IS AVAILABLE.

8.3 RING A CUMMUTATOR (.4 X 60) CHANNEL 13, LINK I AND POINTS LISTED BELOW. THE PRIMARY COMMUTATED POINTS MUST BE VERIFIED DURING PAYLOAD CONFIDENCE AFTER MATING AND CHECKOUT TASKS RUNS.

MONITOR FUNCTION	PRIMARY VERIFICATION CH-LK-PT	VOLTS	TOL.	ALTERNATE VERIFICATION CH-LK-PT	VOLTS	TOL.
INSTR.1 CYCLE COUNT 1	13-1-22	0.55 STEP	+/-.15	13-1-25	4.05 OR GREATER	4.05 OR GREATER
INSTR.1 CYCLE COUNT 10	13-1-23	0.55 STEP	+/-.15	13-1-25	4.05 OR GREATER	4.05 OR GREATER
INSTR.1 CYCLE COUNT 100	13-1-24	0.55 STEP	+/-.15	13-1-25	4.05 OR GREATER	4.05 OR GREATER
[redacted] FOOTAGE POT INSTR. 1	13-1-25	4.05 OR GREATER	4.05 OR GREATER	8-2-56	4.05 OR GREATER	4.05 OR GREATER
[redacted] INSTR.2 CYCLE COUNT 1	13-1-27	0.55 STEP	+/-.15	13-1-31	0.9 OR LESS	0.9 OR LESS
INSTR.2 CYCLE COUNT 10	13-1-28	0.55 STEP	+/-.15	13-1-31	0.9 OR LESS	0.9 OR LESS
INSTR.2 CYCLE COUNT 100	13-1-29	0.55 STEP	+0-.15	13-1-31	0.9 OR LESS	0.9 OR LESS
CALIBRATE PLUS	13-1-30	5.0	--	13-1-07	5.0	---
CALIBRATE PLUS	13-1-30	5.0	--	13-1-14	5.0	---
FOOTAGE POT INSTR. 2	13-1-31	0.9 OR LESS	0.9 OR LESS	8-2-47	0.9 OR LESS	0.9 OR LESS
INSTR. 1 DOOR EJECT	13-1-35	1.3	+/-.2	NONE	---	---
MODE MONITOR REC1/REC2	13-1-36	1.0	+/-.2	NONE	---	---
N2 BOTTLE PRESSURE	13-1-37	3.0 OR GREATER	---	11-1-11	3.0 OR GREATER	---
INSTR. 2 DOOR EJECT	13-1-45	1.3	+/-.2	NONE	---	---

FILM DOOR CLOSURE	13-1-47	4.7	+/-.2	NONE	---	---
FAIRING SEPARATION	13-1-49	1.3	+/-.2	NONE	---	---
CONTINUITY LOOP SRV-1	13-1-51	5.38	+/-.2	NONE	---	---
SEPARATION MONITOR SRV	13-1-52	0.28	+/-.1	16-1-25	0.28	+/-.1
RECOVERY BATTERY SRV-1	13-1-53	0.0	+/-.2	NONE	---	---
CONTINUITY LOOP SRV-2	13-1-54	5.38	+/-.2	NONE	---	---
RECOVERY BATTERY SRV-2	13-1-55	0.0	+/-.2	NONE	---	---
CALIBRATE ZERO	13-1-57	0.0	---	13-1-04	0.0	---
CALIBRATE ZERO	13-1-57	0.0	---	13-1-11	0.0	---
CALIBRATE ZERO	13-1-57	0.0	---	13-1-17	0.0	---
SYC. PULSE	13-1-58	5.5	+/-.2	13-1-59	5.5	+/-.2
SYC. PULSE	13-1-58	5.5	+/-.2	13-1-60	5.5	+/-.2

ALL COMMAND SELECTOR POINTS AS LISTED PER LAUNCH REQUIREMENTS LIST IN [redacted]

9.0 HOMING OF CAMERA SCAN ARMS.

9.1 BOTH CAMERA SCAN ARMS MUST BE PROPERLY HOMED PRIOR TO TERMINAL COUNT.

10.0 LAUNCH REQUIREMENTS COMMAND SETTINGS.

10.1 ALL STEPPING SWITCHES MUST BE POSITIONED IN ACCORDANCE WITH THE COMMAND SETTINGS LIST IN APPENDIX I PRIOR TO TERMINAL COUNT.

11.0 FILM CONSUMPTION PRIOR TO LAUNCH.

11.1 MINIMUM FILM CONSUMPTION PRIOR TO LAUNCH SHALL BE 100 CYCLES ON EACH INSTRUMENT.

11.2 SHOULD THE PAYLOAD SYSTEM STAY IN A LOADED CONDITION FOR AN EXTENDED PERIOD, THE SYSTEM SHALL BE OPERATED FOR 10 CYCLES EVERY FOUR DAYS.

[redacted]

12.0 RESPONSIBILITY.

12.1 IT SHALL BE THE RESPONSIBILITY OF THE SENIOR A/P PAYLOAD ENGINEER TO ENSURE THE IMPLEMENTATION OF THE RESTRICTIONS AND REQUIREMENTS LISTED HEREIN. IN ADDITION, HE IS CHARGED WITH THE RESPONSIBILITY OF SUPPLYING THE FOLLOWING SYSTEM INFORMATION IMMEDIATELY PRIOR TO LAUNCH TO FLIGHT OPERATIONS AND COMPUTER SERVICES BY TELEPHONE.

12.1.1 FINAL FLIGHT SYSTEM WEIGHTS

12.1.1.1 TOTAL SYSTEM WEIGHT, IN POUNDS. .....

	A SRV S/N	B SRV S/N ....
12.1.1.2 TOTAL SRV OR NOSE CONE WEIGHT, LBS.	.....	.....
12.1.1.3 RECOVERY VEHICLE WEIGHT, LBS.	.....	.....
12.1.1.4 SUSPENDED CAPSULE WEIGHT, LBS.	.....	.....
12.1.1.5 DUMMY PAYLOAD WEIGHTS		
A. NUMBER 1, LBS.	.....	.....
[redacted]	.....	.....
C. NUMBER 3, LBS.	.....	.....
D. NUMBER 4, LBS.	.....	.....
12.1.1.6 RETRO ROCKET WEIGHT, LBS.	.....	.....
12.1.1.7 PARACHUTE WEIGHT, LBS.	.....	.....

12.1.2 AT THE TIME THE FLIGHT FILM IS FIRST SPLICED TO THE SYSTEM, RECORD THE CYCLE COUNTER READINGS, CASSETTE FOOTAGE POT VOLTAGE AND LENGTH OF TAKE-UP CASSETTE LEADER ON EACH INSTRUMENT.

	MASTER	SLAVE
A. CYCLE COUNTERS, CYCLES	.....	.....
B. FOOTAGE POT VOLTAGE, VOLTS	.....	.....
C. ~~[redacted]~~ TOTAL LEADER, FT.	.....	.....

~~12.1.3~~ AT ~~THE TIME THE FINAL SPLICE IS MADE BETWEEN THE FLIGHT FILM~~ AND THE TAKE-UP LEADER, ~~RECORD THE CYCLE COUNTER READINGS, CASSETTE FOOTAGE POT VOLTAGES, AND REMAINING LENGTH OF LEADER IN THE TAKE-UP CASSETTES.~~

OMIT THIS PARAGRAPH

[redacted] COPY NO [redacted]

	MASTER	SLAVE
A. ~~CYCLE COUNTERS, CYCLES~~	.....	.....
B. FOOTAGE POT VOLTAGE, ~~VOLTS~~	.....	.....
C. ~~REMAINING TAKE-UP LEADER, FT.~~	.....	.....

12.1.4 CYCLE COUNTER AND FILM FOOTAGE POT READINGS FOR EACH INSTRUMENT, AT LAUNCH.

	MASTER	SLAVE
A. CYCLE COUNTERS, CYCLES	.....	.....
B. FOOTAGE POT VOLTAGE, VOLTS	.....	.....

12.1.5 CLOCK ERROR, STATIC RUN, IN MICROSECONDS .....

12.1.6 TOTAL LENGTH OF FLIGHT FILM OFF-SPOOLED FROM EACH SUPPLY SPOOL INCLUDING ALL CONTROL STRIPS AND SAMPLES.

A. MASTER ..... FT.

B. SLAVE ..... FT.

[redacted] OFF-SPOOLED FROM EACH S/I INSTRUMENT.

A. S/I A STELLAR ..... FT.

A INDEX ..... FT.

B. S/I B STELLAR ..... FT.

B INDEX ..... FT.

12.1.8 DOOR POSITION MONITORS.

		TLM VOLTAGE		
A. INSTR. 1 MAIN DOOR	ON		OFF	
B. INSTR. 2 MAIN DOOR	ON		OFF	
C. FILM LIGHT DOOR	OPEN		CLOSED	

[redacted]

12.1.9 SRV SEPARATION MONITORS

	CONDITIONS			TLM VOLTAGE
	SRV-1	SRV-2	P-29 SW-OVER	
A.	MATED	MATED	MATED 1ST. REC.	.....
B.	SEP.	MATED	MATED 1ST. REC.	.....
C.	SEP.	SEP.	MATED 1ST. REC.	.....
D.	MATED	SEP.	MATED 1ST. REC.	.....
E.	SEP.	MATED	SEP. 2ND. REC.	.....
F.	SEP.	SEP.	SEP. 2ND. REC.	.....

12.1.10 FAIRING SEPARATION MONITORS

	CONDITION	TLM VOLTAGE
A.	MATED	.....
B.	SEPARATED	.....

[redacted] CALIBRATIONS

	CONDITIONS			TLM VOLTAGE		
	CONTINUITY LOOP	S/I SEAL	MAIN SEAL	NOMINAL +/-5PCT	SRV-A	SRV-B
A.	CLOSED	CLOSED	CLOSED	1.84	.....	.....
B.	CLOSED	CLOSED	OPEN	4.30	.....	.....
C.	CLOSED	OPEN	OPEN	5.38	.....	.....
D.	OPEN	OPEN	OPEN	4.57	.....	.....
E.	OPEN	OPEN	CLOSED	2.16	.....	.....
F.	OPEN	CLOSED	CLOSED	0.75	.....	.....
G.	OPEN	CLOSED	OPEN	3.42	.....	.....
H.	CLOSED	OPEN	CLOSED	3.12	.....	.....

[redacted]

[redacted]

LAUNCH REQUIREMENTS: The following Command Settings are specified for the J-04 payload. Date of issue ________ (R-20) 8/24/65 (R-7)

COMMAND SELECTOR			VERIFICATION					
			PRIMARY			SECONDARY		
NO.	FUNCTION	POSITION	CH-LK-Pt	Volts	Tol ±	CH-LK-Pt	Volts	Tol ±
6	V/H Ramp Level	8	13-1-2	2.0	.10	8-2-26	2.0	.10
			13-1-3	4.0	.20	8-2-28	4.0	.20
[illegible]	[illegible]	5	13-1-5	1.0	.05	8-2-28	1.0	.05
			13-1-6	3.0	.15	8-2-30	3.0	.15
9	[illegible]	[illegible]	13-1-8	1.0	.05	8-2-32?	1.0	.05
			13-1-9	4.0	.20	8-2-34?	4.0	.20
10	V/H Ramp Delay	6	13-1-12	2.0	.10	8-2-44	2.0	.10
			13-1-13	2.0	.10	8-2-45	2.0	.10
11	Instrument	[illegible]	13-1-15	1.0	.05	8-2-48	1.0	.05
[redacted]								
			[illegible]	1.0	.10	[illegible]	[illegible]	[illegible]
[illegible]	Mode	4	13-1-20	4.0	.20	8-2-55	4.0	.20
			--	--	--	--	--	--

[illegible] will be responsible during loading [illegible]

[illegible] Primary
Alternate
Prime [illegible]
Alternate
[illegible]

[redacted]

SECRET
[redacted]

LAUNCH REQUIREMENTS
-AGENA SYSTEM-

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER
SHEET 2 OF 4

LAUNCH REQUIREMENTS: The following settings/requirements are specified for the J-04 payload. Date of issue _____ (R-20) 5/28/65 (R-7).

PANORAMIC LENS SETTINGS:

	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Slit Dimensions	.218+.005	.218+.005
Filter Type	Wratten 25	Wratten 21

NOTE: SLIT DIMENSIONS MUST BE MEASURED PRIOR TO INSTALLATION

Measured by _____

Verified by _____

HORIZON OPTICS SETTINGS:

	Instrument No. 1 (Master)	Instrument No. 2
[redacted]		
	1/100	1/100
Filter	Wratten 25	Wratten 25
Take-up Horizon:		
Aperture	f 8.0	f 8.0
	1/100	1/100
Filter	Wratten 25	Wratten 25
SOLAR INDEX OPTICS:		
	[redacted] Under	[redacted] Under
Solar		
Aperture	f 1.8	f 1.8
Speed	2.0 Sec.	2.0 Sec.
Filter	None	None

[redacted]

SECRET

[redacted]

LAUNCH REQUIREMENTS
-CORONA SYSTEM-

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS NUMBER
SHEET 3 OF 4

LAUNCH REQUIREMENTS: CONTINUED Date of Issue _____ (R-20) 3/24/65 (R-1)
STELLAR INDEX OPTICS SETTINGS:

	Stellar Index A	Stellar Index 1
Index Lens:		
Aperture	F 4.5	F 4.5
Speed	1/500	1/500
Filter	Wratten 21	Wratten 21
PANORAMIC NOMENCLATURE		
Panoramic Instruments:		
	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Primary:		
Type	7J-40-16000	7J-40-16000
[redacted]	[redacted]	[redacted]
Box No.	29	29
Secondary:		
Type	7J-40-16000	7J-40-16000
Emul. Data	78-8-4-½-12-4	84-11-4-12-4
Wt. & Spool No.	89.5-80.0-8a-121F	88.0-79.4-4a-129B
Box No.	29	29

PANORAMIC OFFSPOOLING REQUIREMENTS:

	Master	Slave
Original Length - Ft.	16000	16000
Length to Offspool - Ft.	0 ± 10	0 ± 10
Length to Load - Ft.	16000 less control samples	16000 less control samples

[redacted]

SECRET

[redacted]

TITLE
LAUNCH REQUIREMENTS
CAMERA SYSTEM

LOCKHEED MISSILES & SPACE COMPANY

[redacted]

TEST PROCEDURE
APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER

SHEET 4 OF 4 SHEETS

LAUNCH REQUIREMENTS: CONTINUED Date of Issue _____ (R-20) 4/20/65 (R-7)

FILM NOMENCLATURE: CONTINUED

Stellar Index:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Primary:				
Type	3J-34-75	7J-33-135	3J-34-75	7J-33-135
Emul. Date	54-2-9-4	57-1-12-4	54-2-9-4	57-1-12-4
Secondary:				
Type	3J-34-75	7J-33-135	3J-34-75	7J-33-135
Emul. Date	54-2-9-4	57-1-12-4	54-2-9-4	57-1-12-4

STELLAR INDEX FILM OFFSPOOLING REQUIREMENTS

[redacted]

Segment Length - Ft.	75		135		75		135	
Length to Offspool - Ft.	30	+1 -0	45	+1 -0	30	+1 -0	45	+1 -0
Length to Load - Ft.	45		90		45		90	

CYCLE RATIO STELLAR INDEX TO PANORAMIC 1 to 7

STELLAR BAFFLE TYPE:

Stellar A	Stellar B
11.300	5.000

LAUNCH WINDOW: 2100 - 2300Z

cc: [redacted]

Operations and Analysi [redacted] ate 4/[illegible]
Program Integration ate 4/[illegible]
Resident Officer ate 4/[illegible]

[redacted]