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[redacted] 1176 1006

Attached is the Launch Requirements and limitations for Vehicle J09/1176.

[redacted]

Chief System Engineer
Program I

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29-4-024

LAUNCH REQUIREMENTS - WHITE J09/1176

1.0 SCOPE

1.1 General

The following requirements govern the condition 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 System Integration 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

$65 \pm 10^{\circ}$ F from mating to T-4 hours.

$65 \pm 5^{\circ}$ F from T-4 hours thru launch.

Temperature on Payload System shall be monitored and recorded every one-half hour from mating to launch.

3.0 RELATIVE HUMIDITY

50% or less at all times.

4.0 N_2 PRESSURE

The N_2 must be connected and flowing when the system is on the launch pad. Maximum off time is one-half hour per day.

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LAUNCH REQUIREMENTS - VEHICLE 109/1176 (Cont'd)

5.0 SRV TRANSMISSION FREQUENCY

Recovery T/M	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

The thermal blanket must remain on the payload from mating until launch.

8.0 PRIMARY TLM READOUTS

Payload checkout (must be verified thru vehicle TLM).

8.1 Lens Rotation, Horizon idler, and center of format Instrument No. 1 channel 09 Link I. No backup channel is available.

8.2 Lens Rotation, Horizon idler, and center of format Instrument No. 2 channel 10 Link I. No backup channel is available.

8.3 Ring A Commutator (.4 x 60) channel 11 Link and points listed below. The primary commutated points must be verified during payload task and task 16.

[redacted]

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LAUNCH REQUIREMENTS - VEHICLE J59/1176 (Cont'd)

MONITOR	VERIFICATION					
	PRIMARY			ALTERNATE		
Function	CH-LK-PT	Volts	Tol.	CH-LK-PT	Volts	Tol.
Inst. 1 Cycle Count 1	11-1-22	.55 step	± .15	11-1-25	.9 or less	.9 or less
Inst. 1 Cycle Count 10	11-1-23	.55 step	± .15	11-1-25	"	"
Inst. 1 Cycle Count 100	11-1-24	.55 step	± .15	11-1-25	"	"
Film Footage Pot Inst. 1	11-1-25	.9 or less	.9 or less	8-2-56	"	"
Inst. 2 Cycle Count 1	11-1-27	.55 step	± .15	11-1-31	"	"
Inst. 2 Cycle Count 10	11-1-28	.55 step	± .15	11-1-31	"	"
Inst. 2 Cycle Count 100	11-1-29	.55 step	± .15	11-1-31	"	"
Calibrate Plus	11-1-30	5	--	11-1-07	5	--
Calibrate Plus	11-1-30	5	--	11-1-14	5	--
Inst. 2 Film Footage Pot	11-1-31	.9 or less	.9 or less	8-2-47	.9 or less	.9 or less
Inst. 1 Door Eject	11-1-35	1.3	± .2	None	--	--
Inst. 2 Door Eject	11-1-45	1.3	± .2	"	--	--
Film Door Closure	11-1-47	4.7	± .2	"	--	--
Fairing Separation	11-1-49	1.3	± .2	"	--	--
Continuity Loom SRV-1	11-1-51	5.38	± .2	"	--	--
Separation Monitor-SRV's	11-1-52	0.5	+ .1 - .1	16-1-25	0.5	+ .1 - .1
Recovery Battery SRV-1	11-1-53	0	± .2	None	--	--
Continuity Loop SRV-2	11-1-54	5.38	± .2	"	--	--
Recovery Battery SRV-2	11-1-55	0	± .2	"	--	--
Calibrate Zero	11-1-57	0	--	11-1-04	0	--
Calibrate Zero	11-1-57	0	--	11-1-11	0	--
Calibrate Zero	11-1-57	0	--	11-1-17	0	--
Sync.	11-1-58	5.5	± .2	11-1-59	5.5	± .2
Sync.	11-1-58	5.5	± .2	11-1-60	5.5	± .2

All Command Selector points as listed per launch requirements list in Appendix - I.

[redacted]

9.0 HOMING OF CAMERA STOVES

9.1 Both camera stoves 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 prior to terminal count. (See Appendix - I)

11.0 FILM CONSUMPTION PRIOR TO LAUNCH

11.1 Minimum film consumption prior to launch shall be 100 cycles on both Instruments.

11.2 Should the Payload System stay on the pad for an extended period, the System shall be operated 10 cycles per applicable procedure every other day.

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.

LAUNCH REQUIREMENTS - VEHICLE J09/1176 (Cont'd)

12.1.1 Final System Weight, in lbs._____

12.1.2 Cycle counter and film footage pot readings for both instruments, prior to loading, in units and volts respectively.

	Cycle Counter	Film Footage Pot
a. Master	_____	_____
b. Slave	_____	_____

12.1.3 Cycle counter and film footage pot readings for both instruments, atlaunch, in units.

	Cycle Counter	Film Footage Pot
a. Master	_____	_____
b. Slave	_____	_____

12.1.4 Clock error, static run, in microseconds:_____

12.1.5 Length of off-spool of both instruments, in feet.

a. Master _____

b. Slave _____

12.1.6 Length of off-spool of both S/I Instruments, in feet.

a. S/I A Stellar _____

Index _____

b. S/I B Stellar _____

Index _____

LAUNCH REQUIREMENTS
-COMMAND SETTINGS-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENT LETTER
SHEET 1 OF 4

LAUNCH REQUIREMENTS: The following Command Settings are specified for the 1176/J9 payload. Date of issue _____ (R-20) 5/20/64 (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	11	11-1-02	4.0	0.20	8-2-24	4.0	0.20
			11-1-03	4.0	0.20	8-2-26	4.0	0.20
8	V/H Ramp Amplitude	4	11-1-05	1.0	0.05	8-2-28	1.0	0.05
			11-1-06	4.0	0.20	8-2-30	4.0	0.20
9	Program	3	11-1-08	1.0	0.05	8-2-32	1.0	0.05
			11-1-09	3.0	0.15	8-2-34	3.0	0.15
10	V/H Ramp Delay	6	11-1-12	2.0	0.10	8-2-44	2.0	0.10
			11-1-13	2.0	0.10	8-2-45	2.0	0.10
11	Instrument Mode	1	11-1-15	1.0	0.05	8-2-48	1.0	0.05
			11-1-16	1.0	0.05	8-2-50	1.0	0.05
12	Intermix Position	11	11-1-18	4.0	0.20	8-2-52	4.0	0.20
			11-1-19	4.0	0.20	8-2-53	4.0	0.20
15	Intermix Mode	4	11-1-20	4.0	0.20	8-2-55	4.0	0.20
			-	-	-	-	-	-

NOTE: Command Settings subject to change at any time prior to flight. Personnel concerned should verify final settings on day of flight.

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LAUNCH REQUIREMENTS
-CAMERA SYSTEM-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER
SHEET 2 OF 4

LAUNCH REQUIREMENTS: The following settings/requirements are specified for the 1176/J9 payload. Date of issue _____ (R-20) 5/20/64 (R-7).

PANORAMIC LENS SETTINGS:

	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Slit Dimensions	.200 x 2.278 In.	.200 x 2.278 In.
Filter Type	Wratten 21	Wratten 21

NOTE: SLIT LENGTH AND WIDTH MUST BE MEASURED AT TIME OF INSTALLATION

Measured by _____

Verified by _____

HORIZON OPTICS SETTINGS:

	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Supply Horizons:		
Aperture	F 6.8	F 8.0
Speed	1/100 Sec.	1/100 Sec.
Filter	Wratten 25	Wratten 25
Take-up Horizons:		
Aperture	F 8.0	F 6.8
Speed	1/100 Sec.	1/100 Sec.
Filter	Wratten 25	Wratten 25

STELLAR INDEX OPTICS SETTINGS:

	Stellar Index A	Stellar Index B
Stellar Lens:		
Aperture	F 1.8	F 1.8
Speed	2.0 Sec.	2.0 Sec.
Filter	None	NONE

[redacted]

LAUNCH REQUIREMENTS: CONTINUED Date of Issue _____ (R-20) 5/20/64 (R-7)
STELLAR INDEX OPTICS SETTINGS:

	Stellar Index A	Stellar Index B
Index Lens:		
Aperture	F 4.5	F 4.5
Speed	1/500 Sec.	1/500 Sec.
Filter	Wratten 21	Wratten 21

FILM NOMENCLATURE:

Panoramic Instruments:

	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Primary:		
Type	7J-40-16000	7J-40-16000
Emul. Date	48-5-1-4	48-5-7-1-4
Wt & Spool No.	87.9-78.5-48-54T	88.0-78.5-48-97B
Box No.	20	20
Secondary:		
Type	7J-40-16000	7J-40-16000
Emul. Data	48-3-2-4	48-3-2-4
Wt. & Spool No.	88.2-78.8-68-47B	87.7-78.0-58-73T
Box No.	5	5

PANORAMIC OFFSPOOLING REQUIREMENTS:

	Master	Slave
Original Length - Ft.	16000	16000
Length to Offspool - Ft.	200 ± 10	200 ± 10
Length to Load - Ft.	15800	15800

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LAUNCH REQUIREMENTS
-CAMERA SYSTEM-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER
SHEET 4 OF 4

LAUNCH REQUIREMENTS: CONTINUED Date of Issue _____ (R-20) 5/20/64 (R-7)

FILM NOMENCLATURE: CONTINUED

Stellar Index:

	Stellar Index A		Stellar Index P	
	Stellar	Index	Stellar	Index
Primary:				
Type	3J-34-75	7J-33-135	3J-34-75	7J-33-135
Emul. Date	7-3-3-4	28-1-1-4	7-3-3-4	28-1-1-4
Secondary:				
Type	3J-34-75	7J-33-135	3J-34-75	7J-33-135
Emul. Date	7-3-3-4	25-4-3-4	7-3-3-4	25-4-3-4

STELLAR INDEX FILM OFFSPOOLING REQUIREMENTS

	Stellar Index A		Stellar Index P	
	Stellar	Index	Stellar	Index
Original Length - Ft.	75.0	135.0	75.0	135.0
Length to Offspool - Ft	32.6 $^{+1}_{0}$	50.1 $^{+1}_{0}$	32.6 $^{+1}_{0}$	53.2 $^{+1}_{0}$
Length to Load - Ft.	42.4	84.9	40.9	81.8

CYCLE RATIO STELLAR INDEX TO PANORAMIC 1 to 7

STELLAR BAFFLE TYPE:

Stellar A	Stellar B
11.500	11.500

LAUNCH WINDOW: 2300 - 2400

cc: [redacted]

[redacted]

Flight Operations [redacted] Date 4/30/64
System Integrati[redacted] Date 5-22-64
System Engineer[redacted] Date 5-28-64
Special Staff [redacted] Date 4/30/64
Resident Officer [redacted] Date 5-22-64