[redacted]

[redacted]

LAUNCH REQUIREMENTS-VEHICLE 1173/J-15

Attached is the launch requirements and limitations for Vehicle 1173/J-15

[redacted]

[redacted]

[redacted]

[redacted]

LAUNCH REQUIREMENTS - VEHICLE 1173/T-15

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 H_2 PRESSURE

The H_2 must be connected and flowing when the system is on the launch pad. Maximum off time is one-half hour per day.

[redacted]

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 13 Link I and points listed below. The primary commutated points must be verified during payload confidence after mating and payload checkout tank.

LAUNCH REQUIREMENTS - VEHICLE 1179/J-13(Cont'd)

MONITOR	VERIFICATION					
	PRIMARY			ALTERNATE		
Function	CH-LK-1T	Volts	Tol.	CH-LK-P'	Volts	Tol.
Inst. 1 Cycle Count 1	13-1-22	.55 step	± .15	13-1-25	4.05 or greater	4.05 or greater
Inst. 1 Cycle Count 10	13-1-23	.55 step	± .15	13-1-25	"	"
Inst. 1 Cycle Count 100	13-1-24	.55 step	± .15	13-1-25	"	"
Film Footage Pot Inst. 1	13-1-25	4.05 or greater	4.05 or greater	8-2-56	"	"
Inst. 2 Cycle Count 1	13-1-27	.55 step	± .15	13-1-31	9 or less	9 or less
Inst. 2 Cycle Count 10	13-1-28	.55 step	± .15	13-1-31	"	"
Inst. 2 Cycle Count 100	13-1-29	.55 step	± .15	13-1-31	"	"
Calibrate Plus	13-1-30	5	--	13-1-07	5	--
Calibrate Plus	13-1-30	5	--	13-1-14	5	--
Inst. 2 Film Footage Pot	13-1-31	9 or	9 or	8-2-47		
Inst. 1 Door Eject	13-1-35	1.3	± .2			
Inst. 2 Door Eject	13-1-45	1.3	± .2	"	--	--
Film Door Closure	13-1-47	4.7	± .2	"	--	--
Fairing Separation	13-1-49	1.3	± .2	"	--	--
Continuity Loop SRV-1	13-1-51	5.38	± .2			
Separation Monitor-SRV's	13-1-52	0.5	+ .1 - .1	16-1-25	0.5	+ .1 - .1
Recovery Battery SRV-1	13-1-53	0	± .2	None	--	--
Continuity Loop SRV-2	13-1-54	5.38	± .2	"	--	--
Recovery Battery SRV-2	13-1-55	0	± .2	"	--	--
Calibrate Zero	13-1-57	0	--	13-1-04	0	--
Calibrate Zero	13-1-57	0	--	13-1-11	0	--
Calibrate Zero	13-1-57	0	--	13-1-17	0	--
Sync.	13-1-58	5.5	± .2	13-1-59	5.5	± .2
Sync.	13-1-58	5.5	± .2	13-1-60	5.5	± .2
Propellant Pressure	13-1-37	3.0 or greater		11-1-11	3.0 or greater	--

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

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 in a loaded condition 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 1172/-15 (Continued)

12.1.1 Final System Weight, in Lbs._____

12.1.2 Cycle counter film footage pot and leader length readings for both instruments, in accordance with J1210 Para. 18, Item 5.4.1.

	MASTER	SLAVE
a. Cycle Counter	_____	_____
b. Film Footage Pot in Volts	_____	_____
c. Leader Lengths in Feet	_____	_____

12.1.3 Cycle counter, film footage pot and leader length readings for both instruments, in accordance with J1210, Para. 18, Item 5.4.10.

	MASTER	SLAVE
a. Total length of leader from "A" bucket hub to flight payload splice.	_____Ft.	_____Ft.
b. Cycle Counter Readings	_____Cts.	_____Cts.
c. Take-up Pot Voltage	_____V	_____V

12.1.4 Cycle counter and film footage pot readings for both instruments, at launch, in units.

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

12.1.5 Clock error, static run, in microseconds:_____

12.1.6 Length of off-spool of both instruments, including control strips, in feet:

a. Master _____Ft.
b. Slave _____Ft.

12.1.7 Length of off-spool of both S/I Instruments, in feet:

a. S/I A Stellar _____Ft.
Index _____Ft.

b. S/I B Stellar _____Ft.
Index _____Ft.

LAUNCH REQUIREMENTS
-COMMAND SETTINGS-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENT LETTER
SHEET _____ OF _____

LAUNCH REQUIREMENTS: The following Command Settings are specified for the J-15 1173 payload. Date of issue _____(R-20) _____(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	7	13-1-2	2	.10	8-2-24	2	.10
			13-1-3	3	.15	8-2-26	3	.15
8	V/H Ramp Amplitude	4	13-1-5	1	.05	8-2-28	1	.05
			13-1-6	4	.20	8-2-30	4	.20
9	Program	4	13-1-8	1	.05	8-2-32	1	.05
			13-1-9	4	.20	8-2-34	4	.20
10	V/H Ramp Delay	6	13-1-12	2	.10	8-2-44	2	.10
			13-1-13	2	.10	8-2-45	2	.10
11	Instrument Mode	1	13-1-15	1	.05	8-2-48	1	.05
			13-1-16	1	.05	8-2-50	1	.05
[illegible]	Intermix Position	11	13-1-18	4	.20	8-2-52	4	.20
			13-1-19	4	.20	8-2-53	4	.20
[illegible]	Intermix Mode	4	13-1-20	4	.20	8-2-55	4	.20
			-	-	-	-	-	-

[redacted]

LAUNCH REQUIREMENTS - VEHICLE 1172/F-19 (Continued)

12.1.8 DOOR MONITOR CALIBRATIONS:

CONDITION	T/M VOLTAGE INST. NO. 1	INST. NO. 2	FILM DOOR
DOOR ON (CLOSED)			
DOOR OFF (OPEN)			

12.1.9 SEPARATION MONITOR CALIBRATIONS:

CONDITION	SRV-A&B	SRV A (ONLY)	T/M VOLTAGE SRV B*	FAIRING
MATED				
SEPARATED				

* = AFTER FIRST RECOVERY

12.1.10 CONTINUITY LOOP MONITOR CALIBRATIONS:

CONDITION			T/M VOLTAGE		
CONTINUITY LOOP	S/I SEAL	MAIN SEAL		SRV A	SRV B
CLOSED	OPEN	OPEN	1.84 ± 5%		
CLOSED	OPEN	CLOSED	4.30 ± 5%		
CLOSED	CLOSED	CLOSED	5.38 ± 5%		
OPEN	CLOSED	CLOSED	4.57 ± 5%		
OPEN	CLOSED	OPEN	2.16 ± 5%		
OPEN	OPEN	OPEN	.75 ± 5%		
OPEN	OPEN	CLOSED	3.42 ± 5%		
CLOSED	CLOSED	OPEN	3.12 ± 5%		

LAUNCH REQUIREMENTS
-CAMERA SYSTEM-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER
SHEET ___ OF ___

LAUNCH REQUIREMENTS: The following settings/requirements are specified for the J-15 1173 payload. Date of issue _____(R-20) _____(R-7).

PANORAMIC LENS SETTINGS:

	Instrument No. 1 (Master)	Instrument No. 2 (Slave)
Slit Dimensions	.200 X 2.278	.200 X 2.278
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	F6.8	F8.0
Speed	1/100 Sec.	1/100 Sec.
Filter	WRATTEN 25	WRATTEN 25
Take-up Horizons:		
Aperture	F8.0	F6.8
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	F1.8	F1.8
Speed	2 Sec.	2 Sec.
Filter	None	None

[redacted]

LAUNCH REQUIREMENTS
-CAMERA SYSTEM-

[redacted]

APPENDIX - I
PAYLOAD LAUNCH
REQUIREMENTS LETTER
SHEET ____ OF ____

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

STELLAR INDEX OPTICS SETTINGS:

	Stellar Index A	Stellar Index B
Index Lens:		
Aperture	F4.5	F4.5
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	7J40 - 16000	7J40 - 16000
Emul. Date	[redacted]	
Wt. & Spool No.	89.0-79.2-48-102T	88.7-79.1-48-115B
Box No.	23	23
Secondary:		
Type	7J40-16000	7J40-16000
Emul. Data	77-7-9-4	77-7-9-4
Wt. & Spool No.	88.4-79.4-48-33T	88.5-79.1-48-69B
Box No.	2	2

PANORAMIC OFFSPOOLING REQUIREMENTS:

	Master	Slave
Original Length - Ft.	16000	16000
Length to Offspool - Ft.	None ± 10	None ± 10
Length to Load - Ft.	16000	16000

[redacted]

LAUNCH REQUIREMENTS: CONTINUED Date of Issue _____(R-20) _____(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	44-30-7-4	31-4-7-4	44-30-7-4	44-30-7-4
Secondary:				
Type	3J-34-75	7J-33-135	3J-34-75	7J-33-135
Emul. Date	44-30-7-4	31-4-7-4	44-30-7-4	44-30-7-4

STELLAR INDEX FILM OFFSPOOLING REQUIREMENTS

[redacted]

	Stellar		Index		Stellar		Index	
Original 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
11.500	11.500

LAUNCH WINDOW: 21:30 - 22:30 Z

[redacted]