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FLIGHT PAYLOAD SYSTEM  
ENGINEERING AUDIT

J-04

FTV-1614

INSTRUMENTS 118 and 119

SRV 626(A) and 627(3)

Declassified and Released by the N R C  
In Accordance with E. O. 12958  
on NOV 26 1997

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LAUNCH READINESS REVIEW

J-04/1614

Approved:

[REDACTED]

Manager  
VAFB A/P Payload Operations

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SECTION I

MILESTONE CHRONOLOGICAL EVENTS

J04/1614

Received Payload from Advanced Projects		25 January 1965
Replaced Forebody on 'A' and 'B' Capsules		19 February 1965
J04 Payload Re-Assigned from Vehicle 1613 to Vehicle 1614		3 March 1965
System Run No. 1		
Phase I	(with Simulator)	16 March 1965
Phase II		22 March 1965
System Run No. 2		
Phase I	(with Simulator)	20 April 1965
Phase II	(with Simulator)	21 April 1965
Payload Readiness		22 April 1965
System Assembly		23 April 1965
Romance		24
Mate		26
Launch		27

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*File 1614*

## VAFB WORK SUMMARY CHART

J04/1614

FUNCTION	STP	ATPW	LEO	SQUAWK	FEDR
Capsule Assembly -- Ship to Advanced Projects	J0402				
Tracking-Cut and Wrap Verification Capsule	J0413			72	
Int Payload	J0415				
Special Tracking Check	J0419				
AUS Flow-Leak Check	J0421				
AUS Checkout	J0434				
Doubleshoot 'B' T/C Programmer	J0435			78	
Rebody Light Leak Checks	J0441			92	
Int Seal Change - 'B' Capsule		J0430		68	V3924
Int Seal Change - 'A' Capsule		J0430		71	V3925
Pop-Off Valve Change - 'A' Capsule		J0430		70	V3927
Pop-Off Valve Change - 'B' Capsule		J0430		67	V3928
File Change			T22-603		
Thermal Paint Effectivity			T22-824		
Rebody Balance Weight - 'B' Cap.			T44-765	74	
Paint Change			T22-656		

## SECTION III

## PAYLOAD LIMITED LIFE COMPONENTS

J04/1614

COMPONENT Name and Number	No. Req. per P/L	USED IN:	Shelf Life (Months)	Shelf Life EXPIRE (Date)
M-11 Squib	42	8 - Horizon Doors 8 - S/I Doors 4 - Fairing Elect Disc 4 - "A" Spin and Despin 4 - "B" Spin and Despin 6 - Fairing Sep PP 8 - N/C Release PP	24	1-1-66  1-1-67
M-100 Squib	4	Main Doors	12	7-1-65
Squib 102B7560P4	4	P28A and P28B Disc	12	10-1-65
Squib 102B7560P5	4	W1P1 (A and B) Disc	12	6-1-65
Squib (Adapter Charge Nut) 111C5581P2	8	A and B N/C Pistons	12	1-1-66
Explosive Bolts 825C844G2	4	A and B T-C/Forebody Sep	12	5-1-66
P/M Battery GAP4007B	2	A and B Capsules	12	6-1-65
Thermal Battery 887C787G2 or G3	4	A and B Thrust Cones	30	1-1-66

## SECTION III

## PAYLOAD LIMITED LIFE COMPONENTS

J04/1614

COMPONENT Name and Number	No. Req. per P/L	USED IN:	Shelf Life (Months)	Shelf Life EXPIRES (Date)
etro-Rocket 863C772P3	2	A and B Thrust Cone	15	8-1-65
8-Harness 937C302G2	2	A and B Main Water Seals	12	7-1-65
12-Harness 922C706	2	A and B S/I Water Seals	12	7-1-65
arness 922C705	1	Payload Door	12	7-1-65
eefting Line Cutter 887C482P1	8	A and B Parachutes	12	Nov 65
ag Line Cutter 887C491P1	4	A and B Parachutes	12	Oct 65
anyard Assembly T44-733-501	2	A and B Capsule Beanie Cap	12	12-1-65
attery 5 AH 731D344P1	1	A Capsule No. 102	36 (Unactive)	Oct 64 Oct 67
			30 Days (Activated)	4-19-65 5-19-65
attery 8 AH 221E727	1	B Capsule No. 35	24 (Unactive)	Aug 63 Aug 65
			60 Days (Activated)	4-19-65 6-18-65

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PERFORMANCE EVALUATION

SECTION IV

STATION: Simulated Flight Phase 2 VEHICLE: J04/1614 RUN DATE: 24 March 1965

PREPARED BY:

ORGR: Dept. 77-11

FURTHER ACTION

REASON FOR	PROBLEMS	CORRECTIVE ACTION	RESOLUTION
	<p>No discrepancies were found during this test.</p>		

SECTION IV

Phase 1 and  
Simulation Flight Phase 2

VEHICLE J04/1014 RUN DATE 22 April 1965

NO.	MEASUREMENT	PROBLEM DESCRIPTION OR NOTES (OPERATION)	ASSC
		No discrepancies were found during this test.	

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J-04 CONFIGURATION

BASIC CONFIGURATION:

ELECTRICAL BLOCK DIAGRAM  
INSTALLATION SUMMARY DRAWING

<u>NUMBER*</u>	<u>DESCRIPTION</u>
TD-2032	LIGHTWEIGHT BLOSSOM T/M SYSTEM
2054	SRV SINK VALVE MODIFICATION
2100 GE 2101B LMSC	SIGNAL REDUNDANCY (TRANSFER AND ARM)
2106	GENEVA DRIVE FAIL-SAFE
2114	THERMAL INSTRUMENTATION IMPROVEMENT
2124	STORED STEREO/MONO PROGRAM
2125	IMPROVED DATA HEAD
EJRT-2050	SEPARATION SWITCH REWIRING
2544	SPRING SEPARATION CABLE
2653	FELT DOOR CLOSED AT ARM
2699	HOT WIRE CUTTER
2746	PRESSURE MAKE-UP SYSTEM
AWA-2616-60	ADDITIONAL BALLAST WEIGHTS FOR CAPSULE
2616-71	ADD CIRCUITRY TO TRANSFER AND FAIRING JUNCTION BOX
OTHER	
---	COMMUTATOR HARDWIRED ON
---	3840 SECOND V/H TIMER
---	IMPROVED "B" CASSETTE ROLLER CLEARANCE

\* These major changes are those which make J-04 different from J-05.

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MAJOR  
DIFFERENCE  
in  
CONFIGURATION  
BETWEEN  
J-04  
and the previous flight shipped (J-19)

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J-04 has NO YAW PROGRAMMER,  
NO DEACTIVATION CAPABILITY,  
and NO PYRO-INTERFACE CHANGE.

10-15-65, 1965

TEST HISTORY OF J-04

PRE-CHAMBER TESTING

The Receiving Inspection and Acceptance Tests (of the refurbished J-04 system) were completed in the first part of November, 1964.

CHAMBER TEST

DURING THE CHAMBER TEST (6 days, from 12/15/64 to 12/20/64) approximately 2900 cycles of Payload were programmed into each bucket. No anomalies were noted on the main instrument. Corona effect was minimal on both instruments and the system is accepted for flight.

POST-CHAMBER TESTING

The Optical Test Data was consistent between A/P and Boston Test Results.

A new "B" T/U Cassette, S/N T-100, was assigned to the system. Special test results indicated good operational compatibility between the new cassette and the rest of the system.

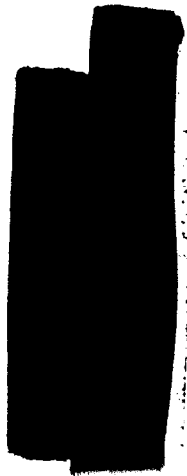
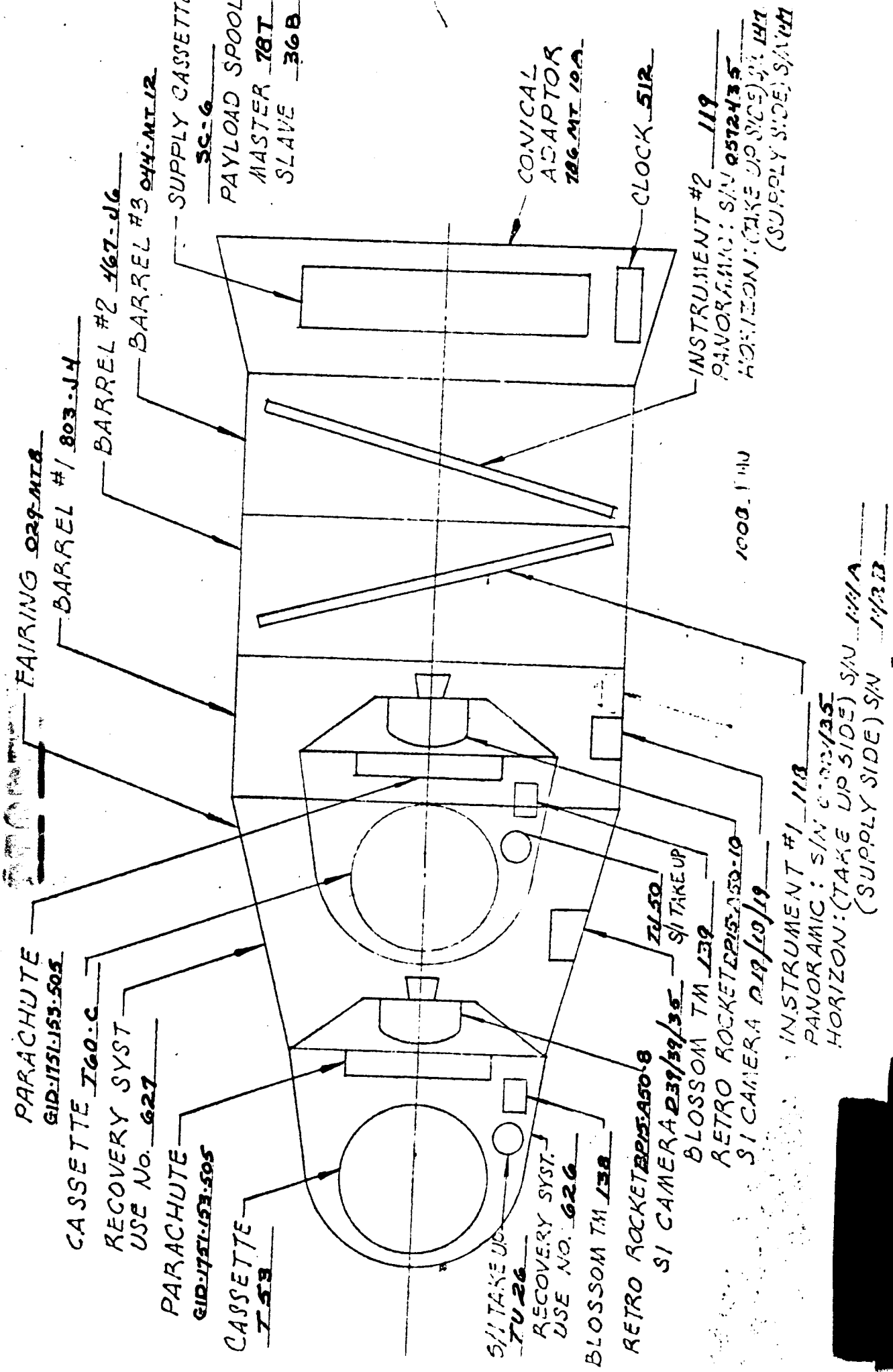
A new requirement was added to the Pre-Ship Test Procedure, to check the condition of frequency lamp cabling under the light shield drum. The cabling of each instrument was checked and found to be in excellent condition.

NO major anomalies were found during Post Chamber Test Operations.

The J-04 System was shipped to VAFB on 28 January, 1965.

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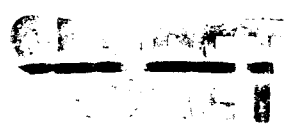
CJ SERIALIZATION FLIGHT 1614-104





J-04 STI LIST

<u>STI Number</u>	<u>TITLE</u>
J-0401	Instructions for Special Clock Test (To determine the effects of operating the clock from regulated voltage)
J-0402	Test Plan Revision
J-0403	SRV (A), USE 626, Return to Advanced Projects
J-0404	Delete System Weight Test Procedure J1101
J-0405	SRV (B), USE 627, Return to Advanced Projects
J-0406	SRV Checkout
J-0407	Pin-Puller
J-0408	Tracking and Cut/Wrap Verification
J-0409	'A' Tracking Test
J-0410	Post Pad Retrieval
J-0411	Procedure Requirements
J-0412	PMUS Verification
J-0413	Forebody Light-Leak Test
J-0431	J-04 Forebody Replacement and Squawk Re-work (This number taken out at Advanced Projects after shipment to Base. High number taken to avoid duplication with VAFB/STI numbers)





J-04 LEO LIST

LEO Number

TITLE/DESCRIPTION

T44-700

Add weights in SRV

T22-824

Paint Pattern - Thermal Control

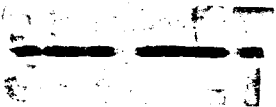
T22-301

Tape and stow Pirani Gage plug

T9-5-018

Correct Launch Requirements Document

*stage SI copy*



MAJOR EQUIPMENT LIST - PAYLOAD J-4

1614

I ASSOCIATE CONTRACTOR EQUIPMENT

<u>ITEM</u>	<u>PART NUMBER</u>	<u>SERIAL NUMBER</u>	<u>NOMENCLATURE</u>
1	42600	118	Master Instrument
2	42650	119	Slave Instrument
3	5400	D/30/30/35	"A" Double Frame Camera
4	5400	D/10/18/10	"B" Double Frame Camera
5	T22-731	626	"A" Re-entry Vehicle
6	T22-732	627	"B" Re-entry Vehicle
7	56545	506	Supply Cassette

II A/P MANUFACTURED EQUIPMENT

8	T22-562-503	104	Temp Sensor J Box
9	T22-320-513	224	Aft Pyro J Box
10	T22- <del>320</del> 509	224	Command Box
11	T22-343-523	104	T/M Pwr J Box
12	T22-380-505	104	J Box
13	T22-530-511	105	Transfer Box
14	T22-540-507	104	Fwd Pyro J Box
15	T22-554-505	104	Fairing J Box
16	T22-738	1008	Pressure Make-up Unit
17	T44-661	A 126 & 225 B 236 & 237	Water Seal

III SUB-CONTRACTOR EQUIPMENT

18	1089-B1	512	DRCG (Clock)
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FEDR/CARD SUMMARY  
 PAYLOAD J4 VEHICLE 1614  
 FEDRE AGAINST MAJOR PAYLOAD EQUIPMENT

WORK QUIP. S/N	PART OR ASSEMBLY	S/N	FEDR	DATE AREA FOUND	DESCRIPTION OF DISCREPANCY	REPAIR OR REPLACEMENT DATA & CORRECTIVE ACTION	SUPPLEMENTAL ANALYSIS AND CORRECTIVE ACTION
str. 300 N 119	Lens Assy. 050523G1	0572- 435	1737	10/7/4 Rec. Inspe.	Lens assy. out of adjustm't does not line up with stove at interlock.	1) Remove lens rotation belt pulley & locating pins. 2) Advance lens rotation shaft. 3) Reinstall L.R. pulley & hand cycle Instr. to check interlock action. 4) Repeat items 2 & 3 as required. 5) Repin pulley.	N/A
F. C. 400 N D39	HI-speed Shutter 50671	F128	1897	10/29/4 Sys. Test	This F. E. D. R. was written against J17. Index shutter is holding in open position.	1) Return DFC & control unit DE141 to Boston for evaluation and/or repair. After return to A/P it was installed in J4. Rev. "A" CARD required.	1897-1 1) D. F. C. 39 was returned to Boston for shutter re- placement. 2) 2143 test cycles run on unit before returning to field. 3) Rev. "A" CARD required.



FEDR/CARD SUMMARY  
 PAYLOAD J-4 VEHICLE 1814  
 FEDRS AGAINST MAJOR PAYLOAD EQUIPMENT  
 (DISCREPANT PART REMOVED FROM SYSTEM)



B

Sheet #5

JOX U/P. S/N	PART OR ASSEMBLY (REMOVED)	S/N	FEDR	DATE AREA FOUND	DESCRIPTION OF DISCREPANCY	REPAIR OR REPLACEMENT DATA & CORRECTIVE ACTION	SUPPLEMENTAL ANALYSIS AND CORRECTIVE ACTION
ser -736 627	Vent Seal 679D178	19	V3924	4/1/5 VAFB	Shelf life has expired, & sent to A/P.	4/5/5:- Return to GE for retest.	
ser -736 626	Vent Seal 679D17861	17	V3925	4/1/5 VAFB	Shelf life has expired, & sent to A/P.	4/5/5:- Same as above.	
ser -736 626	Pop Off Valve 102D783-3P8	3111-519	V3927	4/1/5 VAFB	Same as above.	4/5/5:- Same as above.	
ser -736 627	Pop Off Valve 102D783-3P8	3111-57	V3928	4/1/5 VAFB	Same as above.	4/5/5:- Same as above.	

1814

File J-0\*

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PAYLOAD      AGENA

07      1609      - NO REDUNDANT BRUSHES  
 - SAME CIRCUIT  
 - ALL PRE 1609 VEHICLES LIKE 1609.

14      1611      - HAD REDUNDANT BRUSHES  
 - SAME CIRCUIT  
 - COULD HAVE HAD SAME PROBLEM.

19      1612      - BRUSHES WERE NOT USED, PROGRAMED AROUND.  
 - SAME CIRCUIT.

04      1614      - DID HAVE PROBLEM.

NOTES

- POSITION OF REDUNDANT BRUSHES DETERMINED BY POSITION OF RESET (FUNCTION OF ORBITAL PARAMETER), 10 SECONDS AFTER RESET POSITION.
- FIX ON CURRENT VEHICLES, DELETE REDUNDANT BRUSHES
- FIX ON "DOWN STREAM" VEHICLES, REDESIGN CIRCUIT.