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AGENDA FOR FLIGHT READINESS MEETING

14 JULY 1970

0900

PROGRAM COMMENTS	PRS
FLIGHT READINESS - CR 12	AP/BOSTON/PHILADELPHIA
STATUS OF REMAINING CR SYSTEMS	AP
STATUS OF AP RELOCATION	AP
P-50 SRV ANOMALIES	PHILADELPHIA

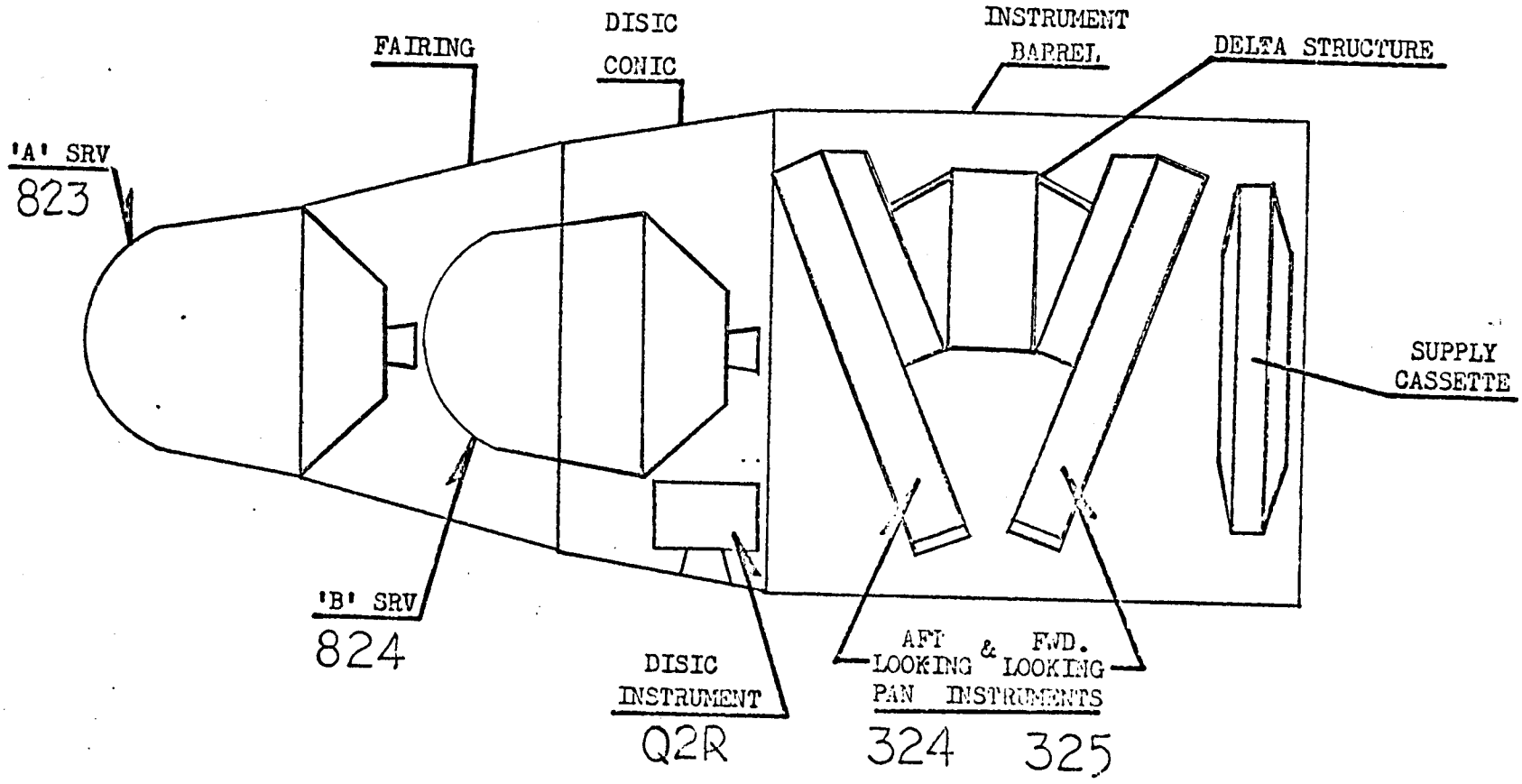
[redacted]
CONTROL SYSTEM ONLY

R-7 READINESS REVIEW

A/P PAYLOAD CR-12

70 July 14

GP-1



J3 PROFILE

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CONTROL SYSTEM ONLY

CR-12

READINESS REVIEW

RECENT FLIGHT ANOMALIES

- MISSION 1109 (CR-10) (MAR 1970)
  - NO ANOMALIES
- MISSION 1110 (CR-11) (MAY 1970)
  - NO ANOMALIES

CR-12

READINESS REVIEW

CONFIGURATION DIFFERENCES FROM LAST FLIGHT (CR-11)

- GLASS FILTERS INSTALLED IN ALTERNATE POSITION ON BOTH INSTRUMENTS.
- "B" SRV TAPE RECORDER IS FIRST ITEM OF FOLLOW-ON REDESIGN.
- SRV BLOSSOM T/M HAS NEW FREQUENCY ASSIGNED.
- FIRST FULL LOAD OF 3414 (CR-11 HAD 3404/3414).

CR-12

READINESS REVIEW

MFG. & TEST HISTORY

- A/P MFG. ASSY - AUG 68 - JUNE 69
- SUB SYSTEM ACCEPTANCE TESTS
  - DISIC - JAN 69
  - SRV - FEB 69
  - BLACK BOXES - JULY 69
  - CR INSTRUMENTS - SEPT 69
- SYSTEM TESTS (UTB)
  - FUNCTIONAL - NOV 69
  - ENVIRONMENTAL - DEC 69
  - RESOLUTION - JAN 70
- SYSTEM TESTS (STB)
  - TRACKING VERIFICATION - FEB 70
  - RESOLUTION - MARCH 70

CR-12

READINESS REVIEW

TEST HISTORY (CONT'D)

- SYSTEM STORAGE - APRIL/MAY 70
- SPECIAL TESTS
  - CR 'A' TEST - JUNE 70
  - RESOLUTION - JUNE 70
- LAUNCH PREPS BEGAN - JUNE 22, 1970
  - SRV RECYCLE AND ASSEMBLY - JULY 8
  - INSTRUMENT READINESS - JULY 10
  - SYSTEM ASSEMBLY AND OPERATIONS - JULY 13
  - TRANSPORT TO VAFB - JULY 15
  - RECEIVING C/O - JULY 16
  - PAYLOAD/VEHICLE MATE AND PAD C/O - JULY 17

CR-12

READINESS REVIEW

STI SUMMARY

CR-1201	INSPECTION OF BUTTON AND ROLLER INSTALLATIONS
1202	PCM CHECKOUT
1203	VERIFICATION OF S/C NEGATOR SPRING ASSEMBLIES
1204	REACCEPTANCE OF TUNA ASSEMBLY
1205	ENVIRONMENTAL TEST REQUIREMENTS
1206	SWITCH PROGRAMMER RETEST
1207	SWITCH PROGRAMMER REPLACEMENT (CR-11)
1208	HEA VERIFICATION
1209	W/S LOCATION VERIFICATION
1210	REVERIFICATION OF STORAGE STATUS
1211	DR. 'A' TEST
1212	ACTIVATION FOR FLIGHT

CR-12

READINESS REVIEW

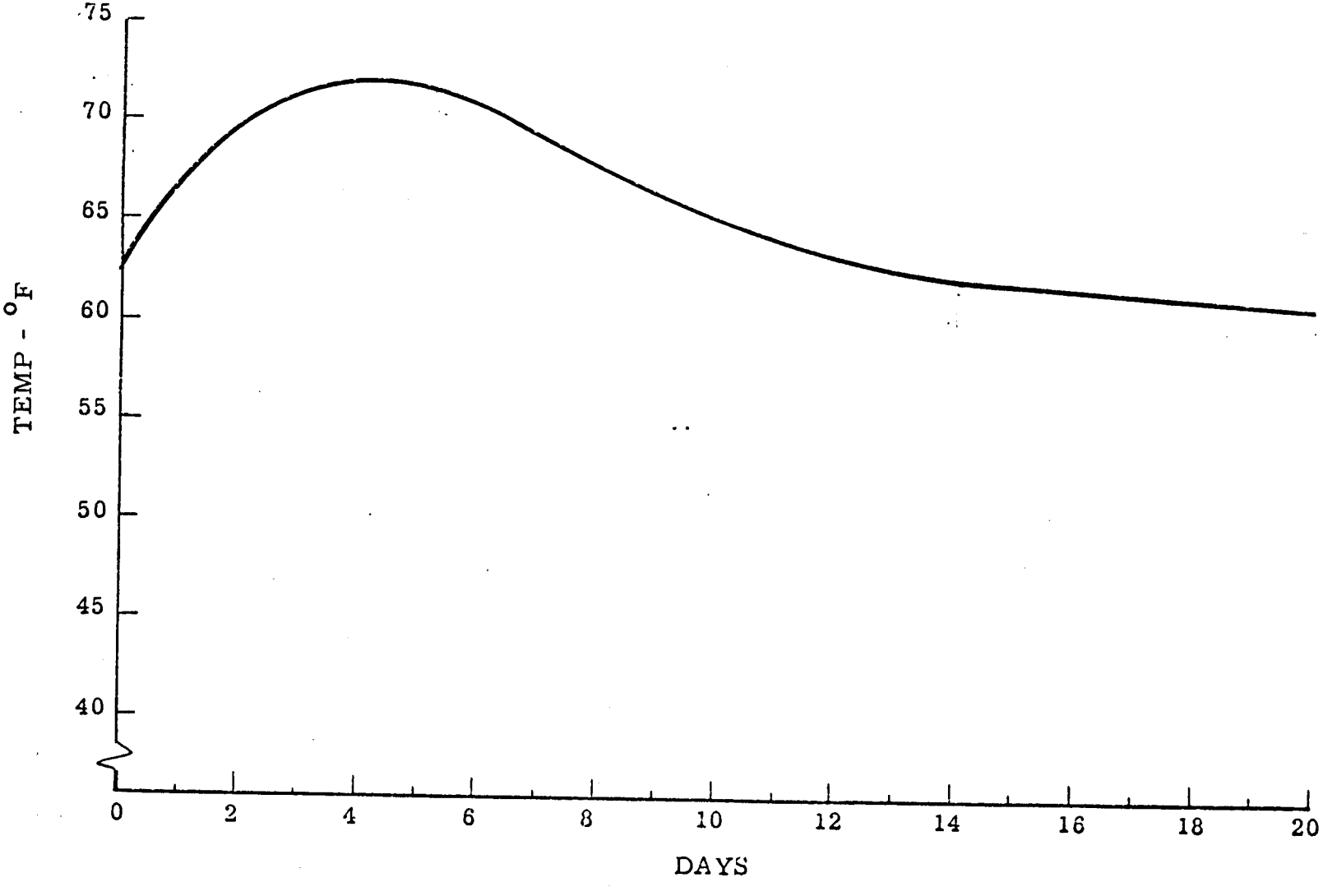
LOL/LCL STATUS

- INSTRUMENT CYCLES

o BOSTON TEST	20,292/24,825
o SYSTEM TEST (UTB)	27,397/26,413
o SYSTEM TEST (STB)	7,822/ 7,482
TOTAL	55,511/58,720

- SRV TRANSFER MODULES, FLASHING LIGHT AND VENT SEAL LCL EXTENDED SIX MONTHS TO OCTOBER 1970.
- SRV SPIN VALVE LCL EXTENDED SIX MONTHS TO DECEMBER 1970.
- SLOPE PROGRAMMER LCL EXTENDED SIX MONTHS TO AUGUST 1970.
- EARLIEST LCL EXPIRATION AUGUST 30, 1970.

THERMAL PREDICTION - MAIN INSTRUMENTS



CR-12

READINESS REVIEW

CONFIGURATION AUDITS

- FINAL ENGINEERING AUDIT OF HARDWARE CONFIGURATION VS RELEASED DOCUMENTATION.
- SYSTEMS INTEGRATION AUDIT OF SCHEMATICS, INTERFACES, AND REQUIREMENTS.
- CSE AUDIT OF PAYLOAD/VEHICLE COMPATIBILITY.
- BLACK BOX SCREENING.
- ALL FEDR'S ARE DISPOSITIONED AND CLOSED OUT.
- FLIGHT OPERATION SOFTWARE HAS BEEN REVIEWED AND VERIFIED.

CR-12

READINESS REVIEW

CERTIFICATION

- ALL SYSTEM TESTING HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH THE "GENERAL TEST PLAN FOR J3 PAYLOAD SYSTEMS (T3-6-032).
- ALL TEST DATA HAS BEEN REVIEWED BY BOSTON, PHILLY, NEW YORK AND A/P TO ENSURE REQUIREMENTS HAVE BEEN MET.
  - MAIN INSTRUMENTS 120/192 (LO CON)
  - CYCLE RATES 1% REPEATABILITY
  - DRCG ACCURACY 2 MILLISECONDS IN 12 HOURS
  - RECOVERY TIMERS 1% REPEATABILITY
- SYSTEM PARAMETERS HAVE BEEN SET AND VERIFIED PER THE "PRELAUNCH AND LAUNCH REQUIREMENTS SPEC" (T3-7-018)
- FLIGHTS LOADS HAVE BEEN VERIFIED.
- SYSTEM IS CERTIFIED TO CONTINUE LAUNCH PREPARATIONS FOR R-O ON JULY 22.

SYSTEM STATUS

70 JULY 14

QR-2

STORAGE PREPS

T/M BOX C/O (RIPPLE FILTERS)
CYCLE RATE VERIFICATION

LCL GOOD THRU AUGUST 1970

POST STORAGE COMPONENT TESTS REQUIRED TO EXTEND LCL THROUGH FEB 1970

CR-13

STORAGE PREPS

SLP REPLACEMENT
BASELINE PREPS

REBLOCK AFTER RELOCATION

CR-14

STORAGE PREPS

T/U FAILURE ANALYSIS AND RETRACKING
BASELINE

REBLOCK TO PROVE RECALIBRATION OF BLOCK

CR 12 FLIGHT READINESS REVIEW

VJ SATELLITE RECOVERY VEHICLES 823/824

I CONFIGURATION - BOTH SRV'S

AS BOUGHT OFF ON 29 APRIL, 1968: 47R19682931

AS FLIGHT PREPPED IN JULY, 1970: 47R19682931

II SRV DELIVERY DATES

A) VEHICLES (WITH SLAVE FOREBODIES) - 17 DECEMBER 1968

B) FLIGHT FOREBODIES (400/402) - 13 OCTOBER 1969

III DISCREPANCY SUMMARY (PRIOR TO BUY-OFF)

A. USE 823

1. INSPECTION

a) RECOVERY SUBSYSTEM

INERTIA SWITCH - NO EVIDENCE OF RESD SOURCE INSPECTION. TESTS WERE REPEATED DURING ACCEPTANCE TESTING AT RESD, AND SUCCESSFUL. ACCEPTED. VENDOR ERRED AND WAS OFFICIALLY NOTIFIED.

b) ELECTRICAL POWER AND DISTRIBUTION SUBSYSTEM

W2R (CAPSULE COVER) CABLE - CRACK AT ROOT OF J2300 CONNECTOR (EVD) EXTERNAL THREAD, RESULTING FROM KEYWAY BREAKTHROUGH. ACCEPTED ON BASIS IT WILL NOT AFFECT OPERATIONAL PERFORMANCE OF CONNECTOR.

c) INSTRUMENTATION AND TELEMETRY SUBSYSTEM

ANTENNA (BOTH) - CONNECTOR PIN BENT, COMPONENTS RETURNED TO THE VENDOR FOR INCORPORATION OF NEW CONNECTOR. RETURNED TO RESD, TESTED, AND ACCEPTED.

2. COMPONENT TEST

NONE

3. SYSTEMS TEST

NONE

B. USE/ S24

1. INSPECTION

a) RECOVERY SUBSYSTEM

RESISTOR MODULE - A SLIGHT PUNCTURE WAS DETECTED IN THE INSERT OF THE J2 CONNECTOR. BECAUSE THE PUNCTURE WAS SO MINUTE THE COMPONENT WAS ACCEPTED FOR PRIME USE, SUBSEQUENT RE-TESTING PROVED NO FURTHER DEGRADATION.

b) ELECTRICAL POWER AND DISTRIBUTION SUBSYSTEM

W2B (CAPSULE COVER) CABLE - CRACK AT ROOT OF J2300 CONNECTOR (IFD) EXTERNAL THREAD, RESULTING FROM KEYWAY BREAKTHROUGH. ACCEPTED ON THE BASIS IT WILL NOT AFFECT OPERATIONAL PERFORMANCE OF CONNECTOR.

c) INSTRUMENTATION AND TELEMETRY SUBSYSTEM

ANTENNA (BOTH) - CONNECTOR PIN BENT, COMPONENT RETURNED TO THE VENDOR FOR INCORPORATION OF NEW CONNECTOR. RETURNED TO MSD, TESTED, AND ACCEPTED.

2. COMPONENT TEST

a) ELECTRICAL POWER AND DISTRIBUTION

W2A (CAPSULE) CABLE - A 500 VAC HI-POT BREAKDOWN OCCURRED AT PIN E IN THE VICINITY OF ITS SOLDER SLEEVE OF P3021.
- HARNESS REWORKED BY REPLACING AND RELOCATING SOLDER SLEEVE AND WRAPPING DAMAGED WIRE INSULATION WITH GLASS TAPE. RERAN HI-POT AND MEGGER TEST, PASSED, AND ACCEPTED FOR PRIME USE.

3. SYSTEMS TEST

a) RECOVERY SUBSYSTEM

DURING THE PERFORMANCE OF THE PRE-CA RECOVERY CAPSULE FLOTATION TEST LEAKAGE WAS DETECTED THROUGH THE IFD J2300 CONNECTOR. THE WING AND THE SCREW THREADS ON THE AFT FACE OF THE IFD CONNECTOR WERE SEALED WITH RTV 102. A SUCCESSFUL FLOTATION RE-TEST WAS THEN PERFORMED ON THE CAPSULE.

IV FIELD ACTIVITY

A. USR 823

DATE	PROBLEM	CORRECTIVE ACTION
7/15/69	LCL CONSIDERATION ON EJECTION PROGRAMMER	REMOVED AND EXCHANGED WITH UNIT FROM ANOTHER SRV.
7/2 /70	BROKEN WIRE IN W2F CABLE	REMOVED DEFECTIVE UNIT AND REPLACED IT WITH ANOTHER CABLE

B. USR 824

10/6/69	FLASHING LIGHT FAILED	REMOVED AND REPLACED WITH A UNIT FROM SPARES.
2/20/70	BENT PINS DISCOVERED ON P2305 CONNECTOR ON W2A (CAPSULE) HARNESS. MATING CONNECTOR ON W2B (COVER) HARNESS J2305 REGULATED IN PUNCTURED INSERTS.	PINS OF P2305 CONNECTOR WERE STRAIGHTENED AND CHECKED FOR PROPER ALIGNMENT AND W2B CABLE WAS REPLACED WITH ONE FROM SPARES.

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[redacted]
15 July 1970
Page 1 of 6
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CR-12 FLIGHT READINESS REVIEW

SUMMARY

1.	1-14-69	SYSTEM SHIPPED FROM [redacted] FOR STORAGE AT [redacted]
		CYCLES OF OPERATION
		INST. 324 - 20292 INST. 325 - 24825
2.	8-22-69	SYSTEM RECEIVED AT A/P FACILITY.
3.	9-25-69	COMPLETED WORK ON MODS AND OPEN SQUAWKS. STARTED RECEIVING T. P.
4.	10-01-69	STARTED OPERATIONAL T. P.
5.	11-21-69	COMPLETED TRACKING AND TRANSFER FUNCTIONS.
6.	11-24-69	START FUNCTIONAL TESTING.
7.	12-05-69	START INTEGRATION - INSTRUMENTS INSTALLED IN BARRELS.
8.	12-10-69	COMPLETED VIBRATION TESTING.
9.	12-12-69	COMPLETED AMBIENT BASELINE AGT.
10.	12-21-69	COMPLETED HIVOS TESTING.
11.	1-31-70	COMPLETED RESOLUTION TESTING WITH UTB.
12.	3-02-70	COMPLETED TRACKING OF STANDARD BASE PAYLOAD 3404. ALL TESTING TO THIS POINT WAS CONDUCTED WITH UTB (SO380).

HANDLE VIA [redacted]
~~CONTROL SYSTEM ONLY~~

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CR-12 FLIGHT READINESS REVIEW

SUMMARY (CONT'D)

13.	4-24-70	COMPLETED PRE-STORAGE T.P.
14.	5-12-70	SYSTEM MADE OPERATIONAL FOR DEMO RUN. LOST MAIN POWER DURING OPERATION RESULTING IN SHEARED PINS ON BOTH INSTRUMENTS.
15.	6-13-70	COMPLETED AGT AND TRACKING WITH STANDARD BASE PAYLOAD. SYSTEM WAS REMOVED FROM BARRELS FOR STEERING ROLLER ADJUSTMENTS ON INST. 324.
16.	6-15-70	COMPLETED RESOLUTION TESTING WITH 3414 PAYLOAD. THIS TEST REPRESENTS THE LAST RESOLUTION RUN ON THIS SYSTEM AND INCLUDED THE SHIMMING CORRECTIONS TO OPTIMIZE PERFORMANCE FOR OPERATION IN THE LOWER 60 DEGREE F. RANGE.
17.	6-24-70	REMOVED MCD UNITS FROM SYSTEM.
18.	7-10-70	COMPLETED SLIT WIDTH ADJUSTMENTS AND FILTER INSTALLATION. FINAL READINESS RUN COMPLETE.
19.	7-10-70	COMPLETED FINAL LOADING. BOTH INSTRUMENTS CARRY FULL SUPPLIES OF 3414.
20.	7-13-70	COMPLETE FINAL OPERATION AT A/P

CYCLES OF OPERATION

INST. 324 - ~~55030~~ 55846 INST. 325 - ~~50144~~ 59165

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HANDLE VIA [redacted]
CONTROL SYSTEM ONLY

CR-12 LOL - LCL SUMMARY

INST. S/N	FLIGHT DATE	CURRENT CYCLES	TRANSPORT LCL	GENEVA LCL	MDM LCL	T/U S/N	LCL 2 YEAR
324	7-22-70	~~55052~~	1-3-71	11-4-70	11-6-71	T323	9-30-71
325	7-22-70	~~58248~~	1-3-71	11-4-70	11-6-71	T316	8-23-71

CR-12 FEWO SUMMARY

FEWO NO.	DATE	ITEM	SUBJECT
69-1009	2-26-69	S/C	CHANGES TO ACCOMMODATE SERVO SYSTEM.
69-1020	4-23-69	DDSC	REPLACE WITH NEW MODEL INTEGRATED CIRCUIT DDSC.
69-1031	5-26-69	BOTH SCAN HEADS	PROVIDE REGULATED - 18 VOLTS TO SLIT WIDTH SERVO FEEDBACK POTS.
69-1052	10-14-69	S/C	PROVIDE REDUNDANT +24 REG TO S/C SERVO.
70-1004	1-20-70	BOTH SCAN HEADS	PROVIDE POSITIVE POT WIPER RETENTION (SLIT WIDTH SERVO).
70-1005	1-23-70	BOTH SCAN HEADS	PROVIDE POSITIVE POT WIPER RETENTION (FILTER POSITION).
70-1015	3-02-70	SLIT WIDTH MOTORS	PREVENT OIL MIGRATION FROM MOTOR BEARINGS (VACUUM PURGE AND CLEANING).
70-1020	3-12-70	S/C	CONFIGURATION CHANGE TO DOUBLE NEGATOR C T A.
70-1031	6-24-70	MAIN INSTR.	REMOVE MCD ASSEMBLIES PER CUSTOMER DIRECTION.
70-1034	7-06-70	MAIN INSTR.	REPLACE SLIT WIDTH BLADES AND CAMS TO MEET OPERATIONAL REQUIREMENTS.

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CR-12 FEDR SUMMARY

FEDR. NO.	DATE	ITEM	SUBJECT	DISPOSITION
2904	9-27-69	OUTPUT IDLER INSTR. 324	ABRADED; CLEANED AND COATED AT BOSTON.	USE AS IS PER BOSTON INSPECTION REPORT.
3125	1-05-70	OUTPUT AO INSTR. 324	AO REMAINED OPEN SEVERAL TIMES IN HIVOS	RETURNED TO BOSTON. REPLACED SHUTTER BLADES, SPRINGS, SCREWS, AND BACK CASE. INSPECTED AND TESTED PER QUATS II.
3251	2-19-70	STARWHEEL UNIT INSTR. 325	TIMING PROBLEM AFTER FAIL-SAFE DUE TO MIS-TRACKING.	PIN HOLE ELONGATED. RETIMED AND REPINNED.
3475	5-12-70	STARWHEEL UNIT INSTR. 324	SHEARED PIN AFTER FAIL-SAFE IN SYSTEM TEST, POWER LOST TO CONSOLE.	REPLACED PIN.
3476	5-12-70	STARWHEEL UNIT INSTR. 325	SHEARED PIN AFTER FAIL-SAFE IN SYSTEM TEST, POWER LOST TO CONSOLE.	REPLACED PIN
3519	6-23-70	STARWHEEL UNIT INSTR. 325	SCRATCHES ON PAYLOAD - FOUND MISTIMING OF STARWHEEL.	REPLACED STARWHEEL UNIT.
3538	6-29-70	SENSOR ARM ASSY IN T/U T323	DUAL POT DAMAGED DURING CAPSULE TESTS.	REPLACED POT ASSEMBLY AT SRA.

CR-12 READINESS SUMMARY

1.

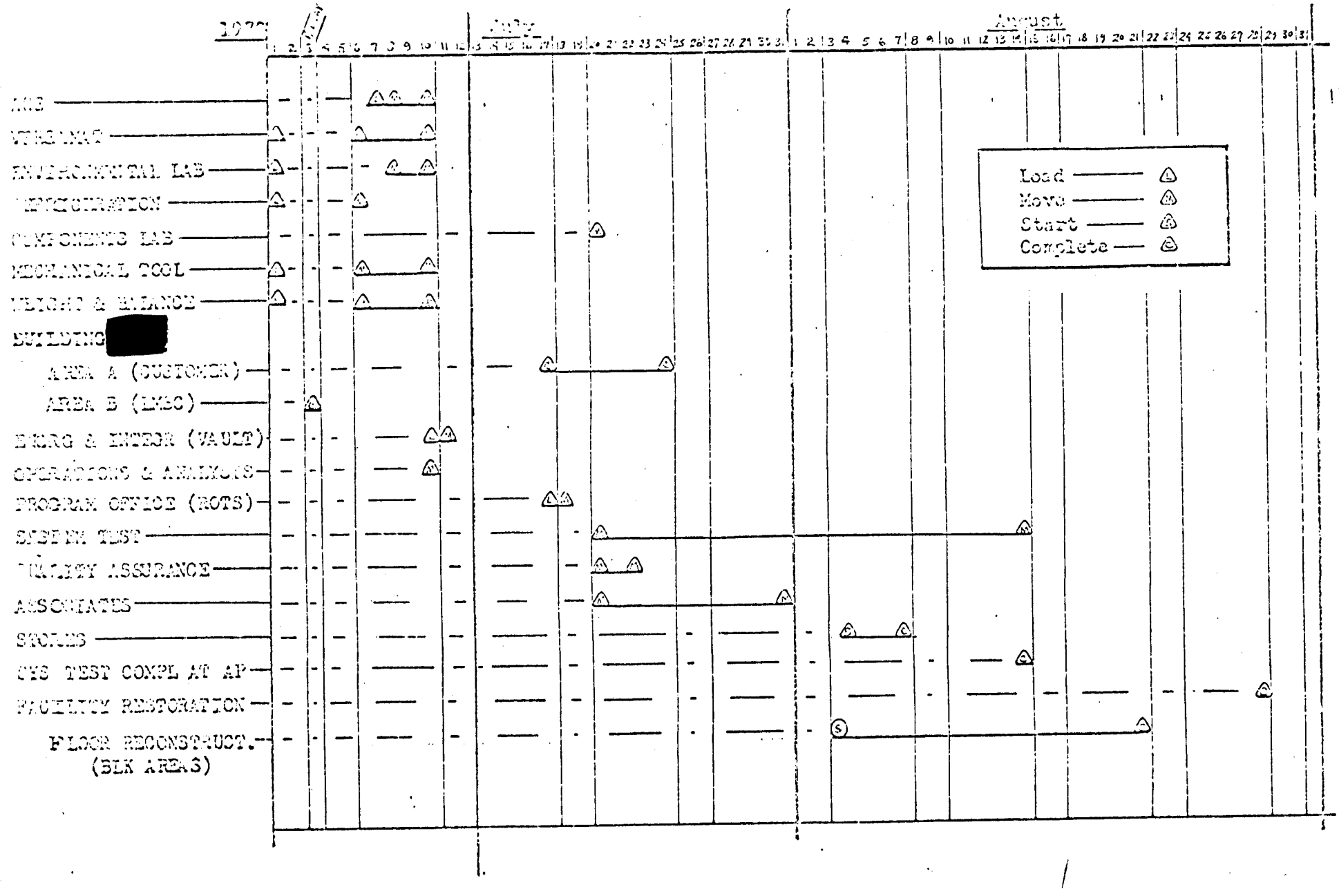
	INSTR. 324	INSTR. 325
CAM	G-7	G-2
FILTERS	WR-21 GEL (PR1)	WR-25 GEL (PR1)
	WR-21 GLASS .007 (ALT)	WR-25 GLASS .007 (ALT)
SLITS		
1	.080	.131
2	.110	.176
3	.155	.234
4	.195	.287
F.S.	.135	.189

NOTE: IT WAS NECESSARY TO INSTALL SPECIAL SLIT BLADES IN INSTRUMENT 325 TO ACHIEVE THE REQUESTED RANGE OF SLIT VALUES.

2. ALL DATA REVIEWED ON THE PROCESSED MATERIAL FROM THIS RUN WAS CONSIDERED ACCEPTABLE.

AP LOAD AND MOVE MILESTONES

...as of 7/7/70



TVB / VJ COMPARISON

1. UPON SEPARATION OF F/B QUICK DISCONNECT THE HARNESS IF FREE TO ROTATE ABOUT CAPSULE COVER CONNECTOR (WITHIN LIMITS OF HARNESS FLEXIBILITY).

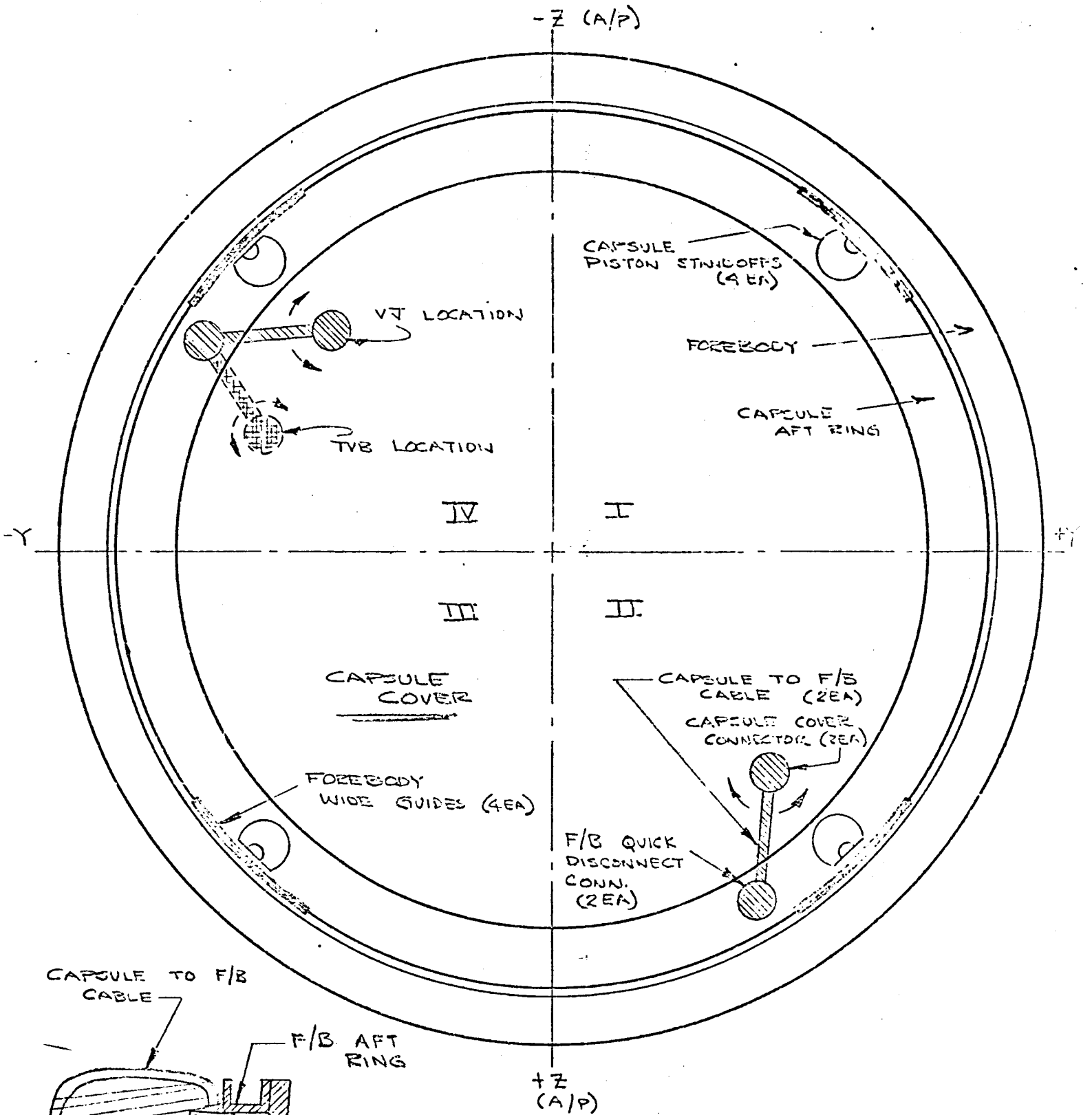
2. TVB HARNESS IN QUAD IV (AS SHOWN ON FIGURE) CAN ROTATE, DUE TO THE LOCATION OF THE CAPSULE COVER CONNECTOR, IN SUCH A WAY TO POSITION THE QUICK DISCONNECT CONNECTOR UNDER THE F/B AFT RING.

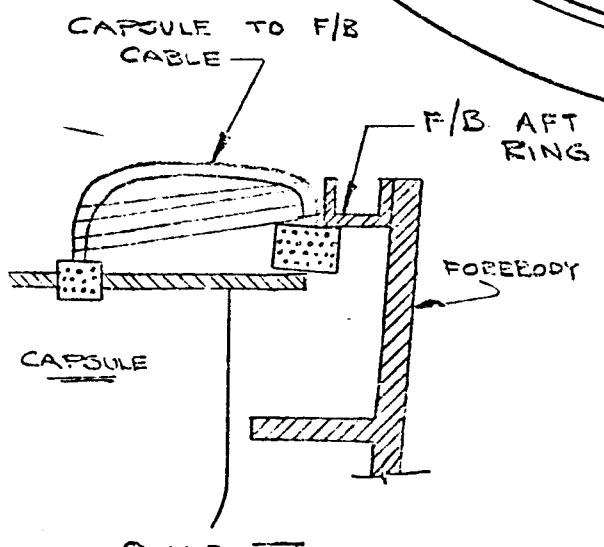
3. POSITIONING THE QUICK DISCONNECT CONNECTOR UNDER THE F/B AFT RING CAN CAUSE THE F/B TO "HANG-UP" DURING SEPARATION OF THE CAPSULE AND FOREBODY.

4. VJ/WR HARNESS LOCATION (AS SHOWN ON FIGURE) IN QUAD IV IS DIFFERENT FROM TVB HARNESS LOCATION.

5. VJ/WR QUICK DISCONNECT CONNECTOR, ALTHOUGH STILL FREE TO ROTATE UPON SEPARATION, IS PREVENTED FROM POSITIONING UNDER THE F/B AFT RING BY THE FOREBODY WIDE GUIDES.

6. RELATIVE LOCATION BETWEEN CAPSULE COVER CONNECTORS AND F/B WIDE GUIDES THEREFORE PREVENTS VJ/WR FOREBODY "HANG-UP" AS EXPERIENCED ON TVB.





QUAD IV

CVL/MSD 13 JULY 70