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QUARTERLY PROGRESS REPORT

SATELLITE SYSTEMS

[redacted]

I. CORONA PROGRAM

A. Major Events

1. J-3 System Progress:

The following milestones were passed during the period:

QR-2 successfully completed qual vibration.
SRV qual vehicle successfully complete its qual test program.
CR-2 delivered and acceptance test complete.
DISIC S/N 4 delivered and acceptance tests complete.

The first flight of a J-3 vehicle (CR-1) has been slipped until September.

2. Factory to Pad Implementation

All flights are now proceeding under the factory-to-pad concept with no significant problems.

3. Program Managers' Meetings

Meetings were held at AP on 19 April, 17 May, and 20 June 1967. The Line of Balance method of analysis has been adopted for systems CR-2 and subsequent. All Contractor Program Managers are to be prepared to discuss the readiness of CR-1 for flight at the next meeting on 19 July.

4. Special Briefings

[redacted] made visit on 14 April. Messrs. Tidwell, [redacted] were given a CORONA briefing and AP tour on 24 April. [redacted] and fourteen Agency Career Trainees arrived at AP for one week's OSP indoctrination. Messrs. [redacted] and [redacted] of [redacted] at AP on 15 May for orientation and plant tour.

[redacted]

5. Pan Geometry

A new Itek pan geometry calibration technique for J-3 systems was made available to the community. The Resident Office plans to proceed with implementation of the new method on CR-5.

6. [redacted]

B. Camera

1. Component qual of both the Itek and Northern Electronics high efficiency amplifiers are completed and reports written. All CR instruments at AP including QR-2 now have incorporated the Itek model high-efficiency amplifier.

2. The improved petzval lens will be incorporated in odd numbered CR instruments beginning with No. 309 (CR-4).

3. Status of the inverter/camera power supply problem is that tests are currently being run to find a proper combination of resistors and inductors with which to modify the camera power supply so that it reduces the present 8.5 percent distortion to the Agena inverter when using a resistor modification.

4. Problems experienced on CR-3 with scan resolution have been diagnosed due to film sag in the rails. The problem has existed on all systems delivered but was first noticed on CR-3 because resolution testing was first done with flight type slits and filters in place of a narrow test slit used previously and with a flat gelatin filter (apparently there was some bowing of the filters used at [redacted] this complicated diagnosis of the problem). Corrective action for J-3 is to raise the eight drum rollers which precede the scan head and insure that filters are flat while for J-1 the main corrective action is to use faster film.

5. All remaining J-1 camera systems (J 47-50) were bought off during the quarter. J-48 and J-49 are in storage at VIDYA and J-50 will be shipped from Boston to VIDYA. J-3 system CR-2 was also accepted during the quarter.

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C. SRV

1. On the TA program, USE No.'s through 748 (J-48) have been bought off by end of quarter. VJ vehicles have been accepted through CR-3, USE 807 (5/26/67) and USE 808 (6/8/67).

2. All VJ components have completed qual testing and have been granted qual status by the ITPB. In addition, the Engineering Test Vehicle (GE qual SRV) has completed its qual testing and the report is expected in early July. An additional open sea drop test may be performed pending GE recommendations or completion of an analysis of recovery data from previous CORONA missions.

3. A decision was made by the Resident Office to trim SRV's 803 and 804 (CR-1) to minimize c.g. offset with a resultant approximately 5 pound weight penalty per SRV rather than to shim the retro to allow the rocket to fire through an offset c.g. This is regarded as a conservative approach and the practice to be followed on subsequent vehicles will be discussed upon completion of further analysis by GE and LMSC. This remains the primary unresolved item in the VJ development program.

4. The main item still outstanding from GE is the command loading restrairt matrix. This will be for the benefit of the operations duty officer, at the STC and will guide him in loading the vehicle in the case of a failure which prohibits complete loading.

D. Spacecraft

1. A final readiness review of the payload system was conducted on 18 April 1967 and each of the associate contractors presented their respective status and problem areas.

2. CR-1 will be retested in the chamber because of excessive CORONA marking and QR-2 chamber testing will be resumed after trouble-shooting following a DISIC failure. Current testing schedule for QR-2 and CR-1 is as follows:

11-12 July	Compatability CR-1/Agena
14 July	CR-1 in Chamber
19 July	CR-1 out Chamber
20 July	QR-2 in Chamber

3. Component qual units remaining in test are the switch and slope programmers, aft T/M box, PMU and STV.

E. DISIC

1. DISIC S/N 4 has been installed in CR-2 and has begun testing. S/N 3 has undergone acceptance level vibration and altitude with CR-1. CORONA marking occurred on the stellar camera film in the chamber. Roller replacement and general clean-up is being performed. S/N 2 experienced a failure in chamber with QR-2 when the stellar take up apparently caused the film to wrap around a roller thereby failing the unit at the C & S operation. This occurred immediately after the cut and splice operation. The "B" T/U is being replaced. Some CORONA marking was evident from the chamber test but was less than on S/N 3.

2. A clutch brake failure was experienced on S/N 4 in early June. The assembly was replaced with a modified unit and S/N's 2 and 3 were modified as well.

3. Fairchild procedures were completed and revised into AP format early in quarter.

4. A DISIC geometry problem wherein there was a non-repeatable shift in the lens tilt axis was found to be a mechanical interference which has been isolated and corrected.

F. Operations

1. Mission Summary:

a. Mission 1040 (J-35)

Mission 1040 was successfully launched into a nose first 85° 11 day synchronous orbit. Air recovery was successful for the "A" capsule on the fifth day followed by the "B" on the ninth day.

b. Mission 1041 (J-40)

Mission 1041 was launched into an 85° orbit but an Agena velocity meter failed during ascent, which resulted in the following orbit parameters (rev. 45).

Perigee	100.130 NM
Apogee	430.650 NM
Period	94.347 MIN
Indination	85.051 DEG
Perigee Latitude	32.986 DEG. N
Eccentricity	004460

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Air recovery was successful for the "A" capsule on the sixth day and for the "B" on the fourteenth day. The "B" impact was 225 NM S and 30 NM W of nominal. This anomaly is still under investigation.

c. Mission 1042 (J-37)

Mission 1042 was successfully launched into an 80° 11 day synchronous orbit. Air recovery was successful for the "A" capsule on the sixth day and the "B" capsule was successfully recovered from the water on the fifteenth day. Preliminary analysis indicates late parachute deployment which caused a low (18,000 feet) parachute deployment. Anomaly is under investigation but preliminary analyses points to a section of the P/N heat shield either broken away or partially so.

2. Mission Details:

Mission No.	1040	1041	1042
Booster No.	501	508	509
Agena No.	1636	1634	1633
Payload No.	J-35	J-40	J-37
Instrument No.'s	196/197	208/209	204/205
SI No.'s	D78/D92	D105/D102	D97/D98
DRCG No.	539	536	528
SRV No.'s	721/722	731/732	725/726
Flight Date	3/30/67	5/9	6/16
Pounds Payload Flown	79.3/79.1	88.5/88.2	80.5/78.1
Pounds Payload Trans.	76.28/82.12	80.14/78.95	78.4/80.2
Recovery Dates	4/4/67 4/8/67	5/15/67 5/23/67	6/22/67 7/1/67

3. Third quarter flight schedule.

J-42 (PG-3) is scheduled for launch on 1 August and CR-1 in September.