BYE-8381-70
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6 March 1970

MEMORANDUM FOR: Director of Special Projects

SUBJECT : Photo Reconnaissance Systems Report No. 30

I. CORONA

A. Accomplishments

Mission 1109 with CR-10 STB payload was successfully launched on 4 March 1970. A slightly "cold" burn from the booster that was not compensated for by the Agena resulted in a "short" orbital period. DMU's have been used to adjust the orbit to planned parameters, with the exception of perigee location which remains about 20 degrees further north than desired. The present 97.4 nm perigee altitude will be raised to approximately 100 nm sometime later in the mission, depending on the utilization rate of the five remaining DMU's. The mission is progressing well with no apparent problems.

B. Projected Status

1. CR-11 completed the first block test with STB. Data is being analyzed. A second block test will probably be run today.

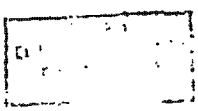
2. CR-12 is completing block preparations.

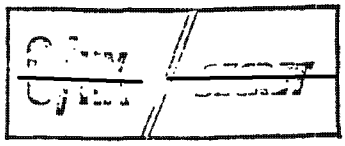
3. CR-13 is in tracking with STB.

4. CR-14 is in acceptance.

II. HEXAGON

A. General





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1. P.E. has been given a go-ahead to study four of their proposed design improvements. These are Brush Motors, Large Capacity Buffer, two areas under the Improved Sequencer, and In-flight Changeable Filters and Material Change Detector. The study to delete the Supply Caging Mechanism is being delayed until the problem of EK limits on core pressure is resolved (this problem was reported in the last weekly). The Large Capacity Buffer study was expanded to include a supply radius sensor. The latter had originally been part of the Modified Film Transport study which is not being pursued at this time as the Large Capacity Buffer study overlaps this area.

2. P.E. has modified the vibration acceptance test procedure on Flight Model #1 to include three axes vice a single axis. A CCR is being submitted for this change. The Project Office's position is that the complexity of the sensor subsystem, the criticality of alignment, and the large number of vibration sensitive elements leaves no question but that a three-axis shake is required and is in scope.

3. An informal review of P.E.'s AVE spares conditioning plan was held on Wednesday. P.E. is proposing to condition (outgas and burn-in) ten electronic boxes in-house for $120,000 and have not yet provided satisfactory backup data to the Project Office to justify these costs. P.E. claimed that RadInc had quoted $275,000 to do the conditioning, but it was discovered that RadInc had quoted on a vastly different work statement than what is now planned. P.E. is to request another bid from RadInc based on the current plans for spares conditioning.

4. Eastman Kodak delivered the second 105K foot roll of P-1 film and about 90% of the photo lab equipment spare parts this week. Eighty thousand feet of light struck film was also delivered to RCA in 10,000 foot rolls. Seven new 26,000 ft-roll shipping containers were received by E.K.

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5. SSPO was represented at the AC Monthly Managers' review on 3 March 1970. The delivery schedule of SSTC #4 has slipped one month due to changes directed by SSPO and SSC, and the WCPO has agreed to the presently scheduled 15 April 1970 delivery date. SSTC #5 is on schedule. Work on the modifications necessary to interface the SSTC data with the 360/65 computer is beginning to show signs of progress. A more detailed report on this Management Review has been prepared for the Director, PRS.

6. The DM-4 take-up was subjected to the three axis qual shock and vibration following the first axis shock failure. A pin holding the motor came loose on each side, causing a slip in the rotor/stator phasing. DM-4 and P1-1 have to be torn down to incorporate a change to hold the pin in place. P1-2 will be delivered (with the fix) before P1-1 or DM-4.

B. Development Model

The supply radius sensing pot was inadvertently set at zero and sent a false signal to the supply servo. This caused an over tension condition in the film path, and a film jam in the "B" camera during the in-air testing in Chamber "A". The camera system was removed from the chamber, the film jam cleared, and it is back in the chamber running. The cause and extent of the damage is not know, but P.E. is proceeding with the testing.

C. Flight Article #1

1. Both platens have completed acceptance vibration testing. The platen "A" slit width stepper motor moved during vibration. The anomaly is being investigated. A fiber optics bundle on platen "B" failed (low transmission) after vibration, and the fiber optics were replaced. Both platens have been reassembled into the TCA.

2. TCA in-air baseline tests are being run in Ready Room "B". Camera "A" is running well. A visible dust buildup on a Camera "B" twister has occurred, resulting in film scratching. A possible cause is a low gas flow through one airbar, and this airbar has been replaced.

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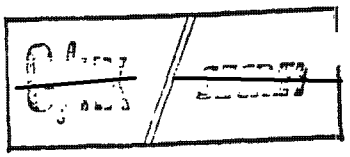

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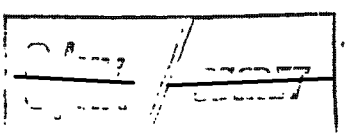
3. TCA three-axis vibration should start early next week. Since this is the first TCA to be vibrated, acceptance vibration levels will be approached gradually. The first run will be at a low level, the second will be one-half acceptance levels, the third will be at acceptance levels. Seventeen tri-axial and nine single-axis vibration transducers will be mounted on the TCA.

4. A film tear which occurred recently is believed to be the result of misalignment between crossover and film drive rollers. This same misalignment problem occurred on the "D" Model between Ready Room "B" and "A". The misalignment causes the film to wander laterally off the roller during recycle. It is postulated that the film was nicked as a result of the wander. Film tension then caused a 30-inch diagonal tear through the film. It is planned to check this alignment both before and after TCA vibration tests.

IV. Meetings Requiring Participation of Headquarters Personnel

Date	Subject	Attendees
HQS		
9 Mar	PRS Software Briefing by DAD	Staff
10 Mar	HEX Nuclear Vulnerability Discussions with the Air Force	Patterson, [redacted]
11 Mar	Project AXUMITE Discussions	[redacted] Kohler,
LMSC		
10-11 Mar	RV IFWG	[redacted]
10-11 Mar	A&T IFWG	
11 Mar	Ops IFWG	



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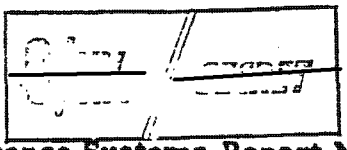

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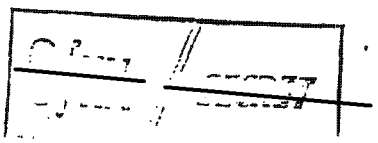
Date	Subject	Attendees
LMSC (cont'd)		
11-12 Mar	S&M IFWG	
12-13 Mar	TT&C IFWG	
12 Mar	RV System Design and Operation Briefing by McDonnell	Burks,
P.E.		
10 Mar	Spares Provisioning Conference	
10 Mar	Pre-PIM Review	Kohler
ITEK		
10 Mar	Review CORONA Tech Data Book	
HORIZONS		
12 Mar	Review Technical Progress	Kohler

Donald W. Patterson
D/PRS/OSP



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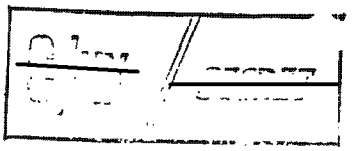

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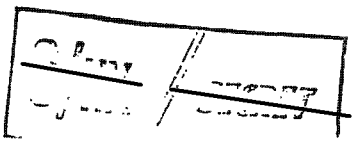
Distribution:
Cy 1 - D/OSP
Cy 2 - DD/OSP
Cy 3 - D/PRS/OSP
Cy 4 - EO/OSP
Cy 5 - C/D&AD/OSP
Cy 6 - CB/OSP
Cy 7 - C/PAD/OSP
Cy 8 - C/SB/OSP
Cy 9 - C/SS/OSP
Cy 10 - RB/OSP
Cy 11 - PRS/File
Cy 12 - PRS/Chrono
Cy 13 -
Cy 14 -



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