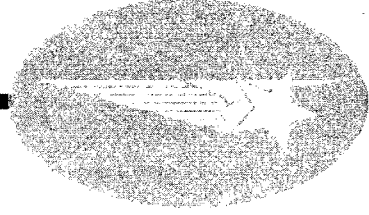


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SECTION 1

SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The first flight vehicle of Program 206-II consisted of the booster SLV-5B/66-8131, satellite control section (SCS) 58205/4751, and a forward satellite vehicle section (FSVS). The forward section included a recovery capsule.

The planned mission was as follows:

- a. Five days of stable orbit operation with recovery on orbit 83.
- b. Three days of solo operation to exercise the SCS, including yaw around maneuvers, secondary propulsion system (SPS), main engine deboost, and orientation via the backup stabilization system (BUSS).

B. FLIGHT RESULTS

The mission was accomplished according to plan, and all objectives associated with the SCS were met.

The vehicle was launched from PALC-2 Pad 3 at the Western Test Range on 29 July 1966 at 1130:19.81 PDT on the second countdown. The initial countdown on 28 July 1966 was aborted at T-1 minute because of a test fault indication at the WECO ground guidance station.

The velocity at Stage II shutdown was low by 8.8 ft/sec., due to a slightly early shutdown command from the WECO guidance system. The Agena velocity gained was 8634.53 ft/sec., 0.9 ft/sec. higher than the velocity meter setting. Attitude discrepancies existed in the SLV-5B and in the SS-01B, but the cumulative result gave a near-nominal trajectory.

All telemetry channels displayed two short data loss periods during Stage II ignition, one loss for 450 milliseconds and another for 105 milliseconds, separated by 85 milliseconds of data. Two unexplained data dropouts occurred at 318.46 seconds and 325.13 seconds from liftoff.

The tracking and S-band commanding was satisfactory with the exception of lower than normal signal strength after two days on orbit and some intermittent break-up of the S-band beacon pulses as received by the ground radar. These anomalies did not affect tracking or commanding.

An aerial recovery of the capsule was made on orbit 83.

During the three days of solo operations, three yaw-around maneuvers were made, and three SPS burns were accomplished.

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On orbit 130 deboost was accomplished with the main engine.

Following deboost, orientation via the BUSS to the local magnetic vector was successfully accomplished.

C. CONCLUSIONS

The operation was conducted according to plan and all objectives were accomplished. The problems encountered did not degrade the mission.

D. RECOMMENDATIONS

1. Full advantage should be taken on future flights of the opportunity to accumulate additional data on performance of the Secondary Propulsion System during solo flight.
2. Conduct a study and test program on the susceptibility of the S-band RF cable assemblies to define the leakage mechanism.
3. Monitor future operations closely to obtain good time correlation of any S-band anomalies regarding signal strength and beacon characteristics.
4. Record vehicle time along with other recorded data by the vehicle tape recorder.
5. Efforts should continue to evaluate the possible cause and analyze the effects of the vehicle motion during the period between SECO and Stage II-Agena separation.

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