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1965-16A (2) Boom Extension

On May 21 during pass number 1014 of satellite 1965-16A, the command for boom extension of the stored boom was transmitted to the payload from the Satellite Ground Station located at Hybla Valley, Virginia. The command was received and boom extension was started at 153321Z. As signal reception faded, the last reliable telemetry reading at 154636Z indicated that the boom had not reached full extension during this period of 13 minutes and 15 seconds.

Data from Pass number 1015 indicated full extension as the telemetry signal was acquired. Since the Hybla Valley Station is the only site that obtained these two passes, the exact time of full extension cannot be determined.

The independent battery pack and extension mechanism in the satellite have been inactive during the entire flight of 73 days. However, it was assumed that the battery voltage was still 11.3 volts, the original value.

In order to compare action at a 500 mile altitude to action at atmospheric pressure, a trial operation was performed at NRL with a similar battery pack and extension mechanism at a temperature of 21.5°C. This is the temperature of the package and battery pack in the satellite during Pass number 1014. The initial battery voltage was 11.3 volts. The final battery voltage was 11.08 volts. The required time was 13 minutes and 20 seconds.

If this time had been noticeably less than that of the payload, it would indicate low battery voltage or loss of bearing lubrication in high altitude vacuum. However, since the time was not less and exact time unknown, no definite conclusion can be made as to the condition of the satellite equipment.

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