



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON, D.C. 20546

*Apollo / Saturn  
Nomenclature*

January 23, 1968

IN REPLY REFER TO:

MEMORANDUM FOR MR. WEBB

The "quick look" that we have taken at the data obtained from the flight of Apollo 5 indicates that the primary objectives established by Dr. Seamans and myself were accomplished. However, we will not be able to verify this completely for another 72 hours. This same quick review of the data has not revealed any significant anomalies in the operation of the spacecraft. The successful meeting of these primary objectives of the Apollo 5 mission is due to the careful planning of alternate ways to accomplish the mission objectives should an unforeseen event force a change in the mission plan and the superb performance of the alternate mission by the Mission Director, Bill Schneider, and the Flight Director, Gene Kranz and their people.

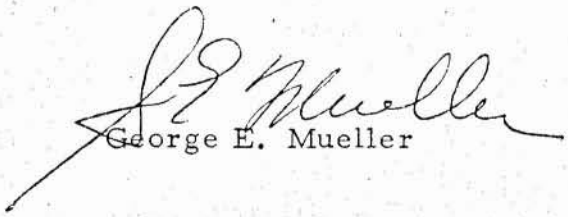
The countdown for the launch of AS-204 proceeded smoothly beginning at 10:00 a. m., January 21 and continued smoothly without hold until two hours and thirty minutes before T-0 on Monday, January 22. A failure in the ground environmental support system caused a hold of approximately two and one-half hours while a faulty bank of freon storage bottles was isolated. A failure in a power supply in the ground computer system caused an additional hold of about an hour. The flight of the Saturn 204 vehicle was completely according to plan and verified our judgment that it would be possible to store Saturn 1 B's for extended periods of time and fly them successfully. As you may recall the engines in AS 204 were over four years old at the time of the flight.

The spacecraft also performed exactly according to plan until the time of the first descent propulsion engine burn. The descent propulsion system is monitored by the computer and the inertial guidance system to be sure that its operation is normal. One of these checks on its performance is a measure of the build-up of thrust of the descent engine. If the engine thrust does not build up

within four seconds, the computer was programmed to shut the engine down so that the astronaut can review the situation and restart. In this case the system pressurization time constant was such that it would have taken some six seconds for thrust to build up to the required value. Thus the computer cut off the engine, although all systems were performing normally. The problem was analyzed and decision made to go to an alternate mission plan which provided for meeting the minimum requirements necessary to meet the primary objectives of the mission. This alternate plan was successfully executed by the flight operations team and the mission was completed at 2:45 this morning.

In summary, early examination of the data indicates that all 22 primary objectives were substantially achieved and that 32 of the 33 primary and secondary objectives were met.

After the evaluation of the data from this flight and the results of the qualification test program on the ascent engine are complete, we will be in a position to recommend to you whether the next LM flight should be manned or unmanned. I would expect that these tests and their evaluation would be complete sometime in March.



George E. Mueller