Now, there are certain all-up types of qualification tests, for instance, of a thermovacuum nature, that will be undertaken on the engine with the Rocketdyne injector.

Mr. GEHRIG. Is the Lunar Module now the pacing item in the program?

Mr. MATHEWS. Yes. I think you can say that, certainly as far as hardware elements are concerned, the Lunar Module has been the constraint on our next flights. The decision to delete the Lunar Module from the 503 mission has given us some schedule margins. This action allows the Lunar Module to get into flight configuration before we deliver it. It allows it to come down to the Cape with some margins for checkout over and above the normal margins in terms of now assigning Lunar Module No. 3 to the Saturn 504 flight. So, in summary, what we have done is we have picked up some margins.

Now, we are going to try our best to hold those margins on the Lunar Module as a result of these reassignments, so that we have a good orderly approach to the checkout and flying of subsequent vehicles.

The CHAIRMAN. I apologize for having to leave. I have some arrangements and I cannot wait longer.

MANNED SPACE FLIGHT PROGRAM

Mr. GEHRIG. Mr. Chairman, I have a number of other questions about the manned space flight program which, with the permission of the committee, I will insert in the record to be answered at a later time.

(The questions and answers submitted are as follows:)

Question 1. Dr. Paine, NASA will build 14 Saturn IB launch vehicles. Five of these will be used for the Apollo Program, three in the AAP, which will leave six Saturn IB launch vehicles in the inventory.

What do you see as the disposition of these six launch vehicles?

Answer. If further Saturn IB launches in the Apollo program are unnecessary, the allocations would be as follows:

Apollo, 5; Apollo Applications, 9.

In Apollo Applications, the 9 Saturn IB's could be used as indicated below:

2—Saturn I Workshop (dual launch).
2—Apollo Telescope Mount (dual launch).
1—Revisit.
2—Backup Saturn I Workshop.
2—Backup Apollo Telescope Mount.

If the backup Workshop or ATM launches are not needed, the remaining Saturn IB vehicles could be used for logistic or revisit purposes with later earth orbital spacecraft.

Question 2. Last year before the Committee Mr. Webb said that he believed that the Saturn V would not be used for near-earth orbital operations and that near-earth orbital operations with men are dependent upon the Saturn IB; that if the Saturn IB was phased out you would have to have something in place of it.

In the area of manned flight, does NASA see a continuing near-earth orbital program after the three-mission AA Program that is discussed in Dr. Paine's statement?

Answer. The current Apollo Applications Program consists of three missions made up of two dual-launch and a single-launch mission. These flights will utilize five Saturn IB launch vehicles. In addition, four Saturn IB launch vehicles have been designated as backup hardware to support the two dual missions. There is presently no firm additional requirement for Saturn IB launch vehicles or their equivalent; however, follow-on missions are now being studied, and these could involve a requirement for additional Saturn IB's or substitute launch vehicles for launch and/or resupply. The possibility of using a Saturn V for near-earth orbital missions in the 1970's is also being studied.