

Although the first Saturn V flight vehicle is at the Kennedy Space Center and in preparation for launch, several items remain to be accomplished before launch (fig. 35). The third-stage engine restart test is in progress at the Arnold Engineering Development Center; I will discuss that in just a moment. We expect to complete the dynamic testing in time to support the AS-501 flight. I have discussed the qualification program and the status of the first flight second stage. We will have a detailed flight readiness review before AS-501 will be certified for flight.

I might spend a few minutes discussing the missions of the early Saturn V launch vehicles. AS-501 will be an unmanned flight (fig. 36). The mission is to verify launch vehicle design, hardware and performance in the flight environment, and flight development of the command and service module.

Following first and second stage burn and first burn of the third stage, we are in a circular orbit of about 103 nautical miles. Second burn of the third stage will occur at an altitude of 100 nautical miles. The second burn will be less than the full duration second burn required for the lunar mission. The third stage second burn is followed by about a 10-minute coast, after which the stage and spacecraft are separated. The command and service module will reach an ellipse of about 8,000 nautical miles before reentering at a velocity of 36,000 feet per second.

The mission for AS-502 will be very much the same as AS-501.

MAJOR ITEMS TO BE ACCOMPLISHED BEFORE LAUNCH OF FIRST SATURN V

- THIRD STAGE ENGINE RESTART TEST
- DYNAMIC TESTING (CONFIGURATION I)
- COMPLETE COMPONENT QUALIFICATION
- CERTIFY AND MATE SECOND STAGE INTO VEHICLE
- HOLD FLIGHT READINESS REVIEW FOR VEHICLE
CERTIFICATION

FIGURE 35