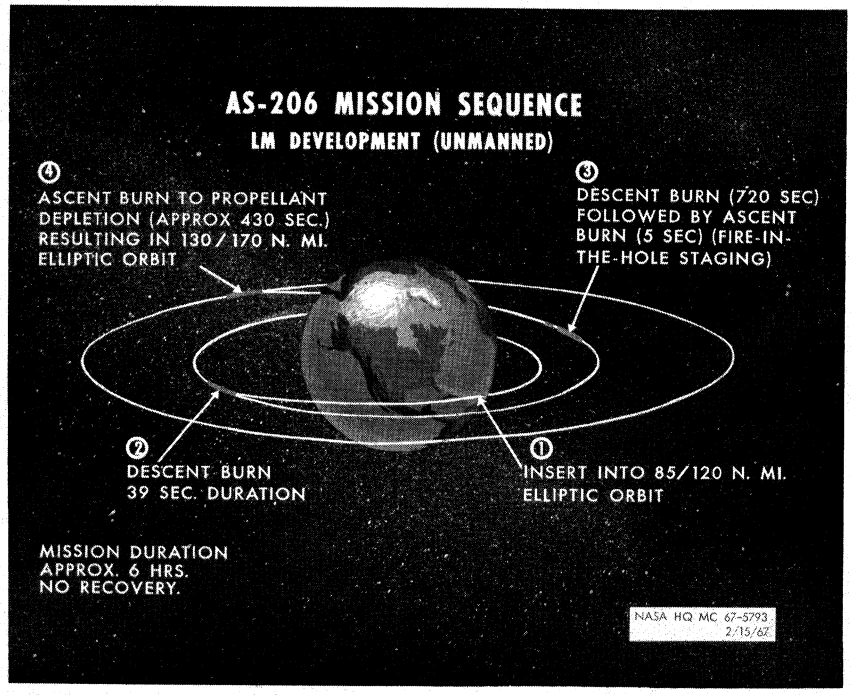

FIGURE 17

AS–501/2 unmanned missions

Unmanned flights of the Apollo/Saturn V space vehicle will begin with the AS–501 and AS–502 missions (fig. 18, MC66–10,266A). The main objectives of the unmanned flight phase are to develop the Saturn V space vehicle for manned flight and to demonstrate the adequacy of the Command Module heat protection and other systems for entry into the atmosphere at the speed of lunar return (fig. 19, MC67–5794; fig. 20, MC67–5795).

Apollo/Saturn V manned missions

The next to last phase of the Apollo program will be the use of the Apollo Saturn V space vehicle for manned lunar mission simulations in elliptical earth orbit. In these flights, all phases of a lunar landing mission will be simulated on the same time schedule as the actual mission.

Here again, we will be using open-ended flight plans. There are nine periods of continuing activity during a lunar mission in which some time is available for considered review of mission status. They are prelaunch, earth parking orbit, translunar coast, lunar orbit prior to Lunar Module descent, Lunar Module descent, lunar surface stay, Lunar Module ascent, lunar orbit after rendezvous, and transearth coast. In the earth orbital simulation mission all of these periods are available except lunar surface stay.

The first attempt at a lunar landing would be scheduled as an open-ended mission in line with previous practice. I have confidence that the mission can be carried out within the approved program of 27 uprated Saturn I and Saturn V vehicles and the associated Apollo spacecraft. Under present planning, 13 of the 15 Saturn V vehicles are to be launched by 1970. I do believe that we still have a reasonable possibility of meeting the major milestones for the Apollo program which were established in 1963. In particular, although the probability is lowered, I believe we will be able to land men on the moon and return them safely to earth before 1970.