

LASSO SURVEY MISSION

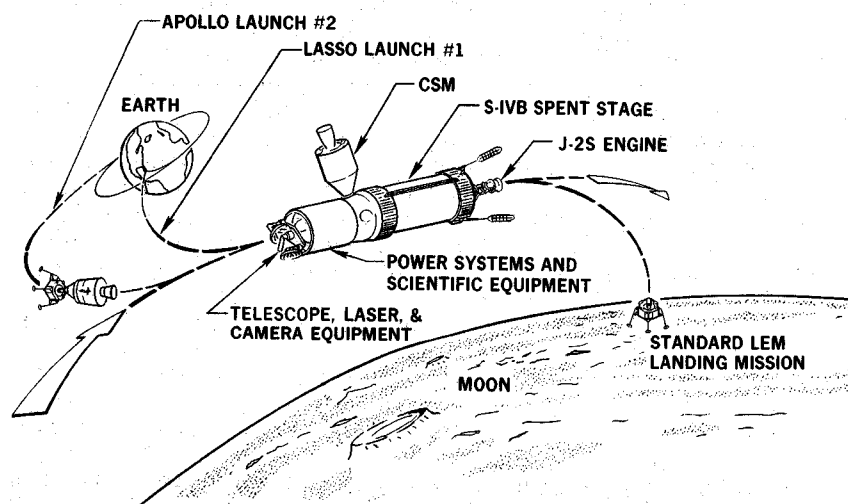


FIGURE 46

ploring the Moon, this Nation will learn enough about the origin and structure of the Earth to more than pay for the effort. Many other kinds of information and scientific opportunities will present themselves during this era. And although I will not list them here, I am personally sure that each of them will, in time, return far more than the cost of the initial adventures.

After the first missions to the Moon, when follow-on missions such as lunar applications survey are undertaken, a situation will exist which is similar to the one extrapolated for the Earth orbiting space stations. It will be necessary to have an expanded capability beyond that of the initial Apollo configuration in order to accommodate the requirements of the scientific observers who will necessarily accompany the astronaut-pilots on these missions. To meet this requirement, payloads must be greatly increased and the transportation system will have to be modified.

It appears entirely feasible to expand the basic capabilities of the Apollo hardware to facilitate greater lunar landing payloads. One possible configuration is shown in figure 47. The figure illustrates a lunar application for spent stages (LASS). This configuration can be achieved by adding two throttleable engines to, for example, the S-IVB stage. By utilizing such a system it will be possible to land appreciably larger payloads on the lunar surface. Achievement of that capability will have accomplished a large part of the objective of accommodating scientific investigators on the Moon.

The general pattern of Earth orbital activities, extended lunar orbiting, and lunar surface operations appears to be the most feasible direction to take in the near term future. The configurations of the hard-