

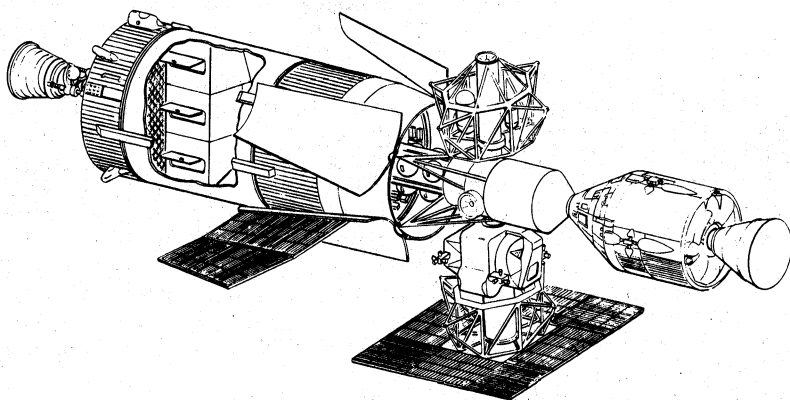
S-IVB CLUSTER

FIGURE 44

to accomplish a variety of specific tasks that will provide basic information about what can be expected in terms of the economic utilization of space by civilian and scientific personnel. The Manned Orbiting Laboratory contract that we have here at Douglas also marks a beginning step in this direction.

Basically, the near-term future space station goals must be concerned with the need to appraise what can be accomplished with multispectral sensors; and find out about the psychological and physiological reaction of men when they are subjected to the space environment for long periods of time. These first step requirements are comparable to the utilization of Gemini to develop rendezvous techniques.

The psychological and physiological aspects of this initial program will contribute much to the science of medicine and human behavior. The use of Earth sensors will demonstrate the potential value of space stations as platforms for geographical, topographical, national resource, and weather surveys. The proposed communications experiments will help to determine the utility of using manned space stations as relay and transmission systems. The economic aspects of these applications are readily apparent. To achieve economic utilization of space, there is an important requirement for developing methods of resupply. Problems such as the difficulty of transferring liquids in space must be resolved. Without this capability, the very important economic advantages that are anticipated cannot be achieved. The accomplishments of these and related near-term goals will provide the increased efficiency that had been extrapolated for the long-term future.

Ultimately, it will be necessary to get the scientist to the space station where he can operate his own testing equipment. With that purpose in view, within 10 years an astronomer on board the space station will look through a 100-200-inch telescope into space. When that day comes, this scientist is going to learn more in the first year than