

*Ferry/logistics concepts*

In considering future operation of space stations which require resupply, it is important to note the relationship between the original cost of the laboratory and the costs accumulated during the ferry/resupply operations to support the laboratory. Based on the resupply cost for a single six-to-nine man orbital laboratory using a logistics system based on an Apollo Command Module, in a single year the logistics cost equals the laboratory cost. In five years these costs more than double the original laboratory costs. This type of cost analysis has led us to consider more efficient resupply systems.

We are currently considering systems made up of the components shown on this chart (fig. 113, MT5-9715). Normally a logistics system would be made up of three major modular components. The first would be the reentry crew module which will contain the six-to-nine man crew during orbit insertion and during reentry. The second section of the logistics system would contain the cargo. This cargo compartment would be designed for maximum operational flexibility. The nominal configuration would contain the fuels, oxygen and foods to support the station and crew. A specially configured version could contain a large experiment instrument such as a telescope or a complete set of experimental subsystems. The third or propulsion section of the ferry/logistics vehicle is designed to meet the differing maneuverability requirement for rendezvous and de-orbit in near-earth or in synchronous orbits.

## PLANETARY MISSIONS

Some interesting potentialities have developed as a result of recent studies in the area of advanced manned planetary missions. Considerable attention has been directed toward the formulation of an integrated planetary exploration plan that will provide the proper mix of manned and unmanned space exploration capabilities.

## MODULAR FERRY/LOGISTICS CONCEPTS

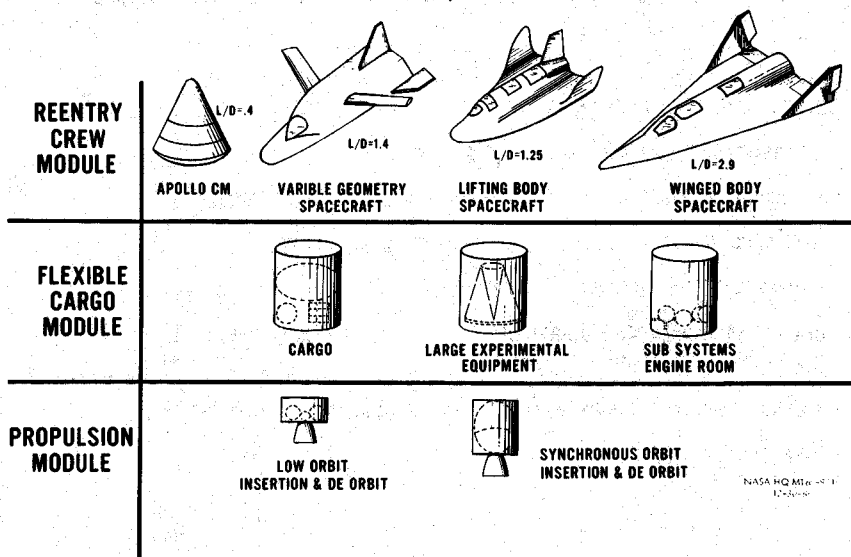


FIGURE 113